APPENDIX F

BACKGROUND REVIEW AND SAR ASSESSMENT

ENVISION
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BACKGROUND REVIEW AND SAR ASSESSMENT

Craigleith Wastewater Treatment Plant, Craigleith, Ontario

Project #: 22-0165
Prepared for: WT Infrastructure Solutions Ltd.
Date: August 22, 2022

Report Version: 02

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August 22, 2022

WT Infrastructure Solutions Ltd.

Attention: Jamie Witherspoon

SUBJECT: BACKGROUND REVIEW AND SAR ASSESSMENT, CRAIGLEITH WASTEWATER TREATMENT PLANT, CRAIGLEITH, ONTARIO

EnVision Consultants Ltd is pleased to present the enclosed Background Review and SAR Assessment for the site described as Craigleith Wastewater Treatment Plant and Long Point Road's right of way from the Wastewater Treatment Plant south to Highway 26, Craigleith, Ontario. Please find the document attached for your review.

Thank you for the opportunity to complete this assignment. Please contact the undersigned with questions or comments.

Yours sincerely,

Mark Cece, B.Sc.
Director
mcece@envisionconsultants.ca

QUALITY MANAGEMENT

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1. INTRODUCTION

EnVision Consultants Ltd. (EnVision) was retained by WT Infrastructure Solutions Ltd. (the 'Client') to conduct a background review and a Species at Risk (SAR) Assessment at Craigleith Wastewater Treatment Plant and within Long Point Road's right of way (ROW) from the Wastewater Treatment Plan south to Highway 26, in Craigleith, Ontario; herein referred to as the 'Site'. Refer to Figure 1 for site location details.

EnVision has conducted a background review and completed a field investigation which included surveying for SAR and their associated habitats within the Site and adjacent lands. This report provides an overview of existing site conditions and applicable environmental designations.

2. METHODOLOGIES

The background review and SAR assessment is designed to assess the potential impact of proposed changes to terrestrial natural heritage features. The purpose of this assessment is to:

- Document existing conditions of the Site;
- Undertake SAR flora and fauna surveys;
- Locate, identify, delineate, and comment on SAR individuals, habitat and habitat features;
- Identify and discuss the potential impacts of the proposed works in relation to the *Endangered Species Act* (ESA) (2007).

2.1. INFORMATION RESOURCES

Relevant information resources were consulted over the course of the report preparation, as demonstrated below. Full references are provided in the Literature Cited section of this report.

- Aerial Photographs and Satellite Imagery;
- Atlas of the Breeding Birds of Ontario internet site (Bird Studies Canada, 2006);
- *Conservation Authorities Act*, Ontario Regulation 169/06 Saugeen Valley Conservation Authority;
- *Endangered Species Act*, 2007 (Government of Ontario, 2007);
- *Fisheries Act*, c. F-14 (Government of Canada, 1985);
- *Forestry Act*, C.F.26 (Government of Ontario, 2009);
- Grey County Official Plan, 2018;
- *Migratory Birds Convention Act* (Government of Canada, 1994);
- Natural Heritage Areas Mapping, including Natural Heritage Information Centre (NHIC) data (MNRF, 2022);
- Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (OMNR, 2010);
- Provincial Policy Statement (OMMAH, 2020);
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (MNRF, 2015b);
- Significant Wildlife Habitat: Technical Guide (OMNR, 2000);
- Species at Risk in Ontario (SARO) List, Ontario Regulation 230/08 (Government of Ontario, 2018);
- Species at Risk Public Registry (Government of Canada, 2015), and
- Town of Blue Mountains Official Plan (2016).

2.2. SPECIES AT RISK SURVEY (SAR) METHODS

A SAR survey was carried out to provide detailed and reliable information on SAR presence or absence, suitable habitat, habitat features, and to ensure that proposed works do not contravene the ESA. Focus was placed upon searching for SAR individuals, habitat and habitat features such as, dens, burrows, snake thermoregulation areas, vernal pools, tree cavities and basking sites. Wildlife species were identified through direct observation, evidence such as tracks, scat, browse or vocalization.

2.2.1. SAR Bat Habitat Survey

A SAR bat maternity roost survey was conducted using MNRF's *Bat and Bat Habitat: Guidelines for Wind Power Projects* (MNRF, 2011), *Survey Protocol for Species at Risk Bats within Treed Habitats. Little Brown Myotis, Northern Myotis, and Tri-colored Bat* (MNRF, 2017*)* and MECP's *Bat Survey Standard Notes (*MECP, 2021). The purpose of the bat maternity roost survey was to determine potential breeding habitat within the Site for Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*).

A review of Ecological Land Classification (ELC) vegetation communities within the Site was conducted to determine if there is potential SAR bat habitat. The MNRF's protocols state that SAR bats can be found in Deciduous Forest (FOD), Coniferous Forest (FOC), Mixed-wood Forests (FOM), Deciduous Swamps (SWD), Coniferous Swamps (SWC) and Mixed-wood Swamps (SWM).

Leaf off Survey

A leaf-off survey was conducted to determine possible maternity roost trees for Little Brown Myotis, Northern Myotis and Tri-colored Bat. A "snag" is considered to be "*any standing live or dead tree, ≥25cm diameter at breast height (DBH) with cracks, crevices, hollows, cavities, and/or loose or naturally exfoliating bark*" (MNRF, 2017). A survey should be conducted on days where there is no precipitation or snowfall, so as not to obscure the features on suitable trees and snags.

The snags and trees were assessed and ranked to following criteria (in order of importance):

- Tallest snag/cavity tree
- Exhibits cavities or crevices most often originating as cracks, scars, knot holes or woodpecker cavities
- Has the largest diameter breast height (>25cmDBH)
- Is within the highest density of snags/cavity trees (e.g., cluster of snags)
- Has a large amount of loose, peeling bark
- Cavity or crevice is high in snag/cavity tree (>10m)
- Tree species that provide good cavity habitat (e.g., white pine, maple, aspen, ash, oak)
- Canopy is more open (to determine canopy cover, and the percentage of the ground covered by a vertical projection of the outermost perimeter of the natural spread of the foliage of trees); and
- Exhibits early stages of decay (decay Class 1-3; refer to Watt and Caceres 1999).

Snag Density Calculation

Snag density calculation was then performed on the assessed area as potential maternity roost habitat. An area with more than 10 snags per hectare is considered to be high quality potential SAR bat maternity roost habitat and would typically require further study.

3. ENVIRONMENTAL POLICY

3.1. PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement (PPS) (Ontario Ministry of Municipal Affairs and Housing (OMMAH, 2020) is a planning document that provides a framework for, and governs development within, the Province of Ontario. In order to preserve various ecological resources deemed significant in the Province, development lands must be assessed for the presence of natural heritage features prior to construction. These natural heritage features (listed below) are both defined and afforded protections under the PPS. Linkages between natural heritage features, surface water and groundwater features are also recognized and afforded similar protections under the policy. Section 2.1.2 of the PPS also requires that the diversity and connectivity of all natural heritage features and the long-term ecological function of natural heritage systems be maintained, restored or improved where possible. Further to this, natural heritage systems within Ecoregions 6E and 7E are to be identified as per Section 2.1.3.

Under the PPS (OMMAH, 2020), development or site alteration is prohibited within significant wetlands in Ecoregions 5E, 6E and 7E and in significant coastal wetlands, but may be allowed adjacent to these features provided the adjacent lands have been evaluated and it has been demonstrated that there will be no negative impacts to these features or their ecological functions. Development may be permitted in or adjacent to significant wetlands north of Ecoregions 5E, 6E and 7E, significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River), significant wildlife habitat, and significant areas of natural and scientific interest (ANSI), provided there will be no negative impacts to these features or their ecological function due to the proposed undertaking. In addition, development and site alteration is not permitted in fish habitat unless in accordance with provincial and federal legislation.

Natural heritage features as defined by the PPS (OMMAH, 2020) include:

A. Fish Habitat;
B. Habitats of Endangered and Threatened Species;
C. Significant Areas of Natural and Scientific Interest (ANSI);
D. Significant Wetlands;
E. Significant Coastal Wetlands;
F. Other Coastal Wetlands in Ecoregions 5E, 6E and 7E;
G. Significant Wildlife Habitat;
H. Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River); and,
I. Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River).

3.2. ENDANGERED SPECIES ACT (2007)

The Ontario Regulation 230/08 issued under the *Endangered Species Act, 2007* (ESA, 2007) provides species protection and habitat protection to species listed as "Endangered (END)" or "Threatened (THR)" on the Committee on the Status of Species at Risk in Ontario (COSSARO) list. Should an activity results in adverse effects to END or THR species and/or habitat, additional action would need to be taken by a proponent to remain in compliance with the ESA. Species listed as "Special Concern (SC)" are not afforded habitat protection under the ESA.

3.3. CONSERVATION AUTHORITIES ACT

The Conservation Authorities Act gives individual conservation authorities the power to regulate development and activities in or adjacent to river or stream valleys, Great Lakes and large inland lakes and shorelines, watercourses, hazardous lands and wetlands. Regulations made under the Conservation Authorities Act specify the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations managed by individual Conservation Authorities. These regulations apply to lands within river or stream valleys, flood plains, wetlands, watercourses, lakes, hazardous lands or lands within 120 m of a Provincially Significant Wetland or wetlands greater than 2 hectares, or lands within 30 m of non-provincially significant wetlands. Development or site alteration within these regulated areas may be permitted provided development is conducted in accordance with existing policies.

The majority of the Site is within the regulated limits of the Grey Sauble Conservation Authority (GSCA). Work must be conducted in accordance with Ontario Regulation 151/06 made under the Conservation Authorities Act and must meet the requirements of the GSCA.

4. AGENCY CONSULTATION

A request for information was submitted to the Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) and GSCA so that Natural Heritage Features and species at risk with the potential to be on or adjacent to the Site were considered. At the time of the report GSCA has yet to respond. A copy of email correspondence from the regulatory agencies is provided in Appendix A.

5. EXISTING CONDITIONS

5.1. SITE INVESTIGATION

One site visit was completed on April 30, 2022, to confirm presence of natural heritage feature, general characteristics and confirm the presence of SAR species and/or habitat. Prior to commencing the site investigation, a review of background information and satellite imagery was conducted to identify the presence of Key Natural Heritage Features (KNHF)s on the Site. During the site investigation, photographs of the Site were taken, and observations of wildlife, vegetation and natural features were recorded. The site visit details are provided in Table 5-1 below.

Table 5-1 Site Visit Details

DATE	WEATHER CONDITIONS
APRIL 30, 2022	Clear skies, sunny, ± -4°C, light breeze

5.2. NATURAL HERITAGE FEATURES

The MNRF- Make a Map: Natural Heritage Areas online mapping tool was reviewed for significant natural areas. There is a provincially significant wetland (PSW) Silver Creek Wetland Complex located east adjacent to Long Point Road across from the WWTP as well as 30 m northwest of the Site. Woodlands are located adjacent to Long Point Road and one small woodlot is located on the southeast side of the WWTP property. A small pond is located northeast side of the WWTP property. There is a small tributary that drains towards the pond. Natural heritage features are found on Figure 2.

5.3. VEGETATION COMMUNITIES

Due to the early spring visit a high-level vegetation survey was undertaken as vegetation emergence had not fully occurred, ground layer vegetation was not assessed due to the time of year. The small woodllot on the south side of the WWTP was identified as a Fresh-Moist Poplar Deciduous Forest (FOD8-1). This young woodland is dominated by Trembling Aspen (*Populus tremuloides*) with associations of Green Ash (*Fraxinus pennsylvanica)* and had rare occurrences of Silver Maple (*Acer saccharinum*), Eastern Red Cedar (*Juniperus virginiana*) and Scots Pine (*Pinus sylvestris*). The understory consisted of Red-osier Dogwood (*Cornus sericea),* Common Buckthorn (*Rhamnus cathartica*), Green Ash and Trembling Aspen. The south portion of the woodlot had been disturbed with soil and old landscape dumping.

North of the woodlot is a small ephemeral tributary that exhibited low water levels at the time of the survey. This tributary was lined with cattails (*Typha sp.*) until it discharges into a pond northeast of the WWSP property. The cattail community continues along the southern bank of the pond and then again continues into the tributary that flows downstream from the pond along the west side of Long Point Road.

On the east side of Long Point Road across from the WWTP is the Silver Creek Wetland Complex. This area consists of a Deciduous Swamp and a larger woodland to the east. Our assessment was limited to the ROW of Long Point Road as shown in Figure 1and the PSW was not further examined.

Along the west side of Long Point Road there is a mapped watercourse that flows north and crosses east under Long Point Road towards Georgian Bay.

5.4. FAUNA AND WILDLIFE

A total of seven wildlife species were identified on Site and were identified through visual observation or vocalizations. Of the seven species, six were bird species and one mammal species.

5.4.1. Birds

Six species of birds were recorded during field investigations. Black-capped Chickadee (*Poecile atricapillus*), American Robin (*Turdus migratorius*), American Crow (*Corvus brachyrhynchos*), Red-winged Blackbird (*Agelaius phoeniceus*), Downy Woodpecker (*Picoides pubescens*) and Chipping Sparrow (*Spizella passerine*). All the species are protected under the *Migratory Birds Convention Act* (MBCA).

The woodland on the WWTP would provide suitable habitat for generalist forest bird species. However, due to its size, it would not be considered large enough to support breeding of sensitive interior species. Higher quality interior habitat exists east and west of the Site adjacent to the WWTP property and within the Silver Creek Wetland Complex and surrounding woodlands. Its likely that both generalist and interior bird species would prefer to utilize the habitat to the east of the subject property.

5.4.2. Mammals

One species of mammals was observed on the subject property during the field investigation: Eastern Gray Squirrel (*Sciurus carolinensis).* Although no observed, it is likely that other common small mammals, Eastern Cottontail, (*Sylvilagus floridanus*), White-tailed Deer (*Odocoileus virginianus*), Striped Skunk (*Mephitis mephitis*), Coyote (*Canis latrans*), and Raccoon (*Procyon lotor*) utilize the Site. Most species of mammals that were identified on the subject property are tolerant of anthropogenically disturbed habitats and are considered Secure (S5) in the province of Ontario.

5.4.3. Amphibians

No amphibians were observed or heard during the field investigation. The pond and adjacent wetlands is anticipated to provide suitable habitat for many amphibian species. Anuran surveys were not complete by EnVision.

5.4.4. Reptiles

Reptiles were not observed during the field investigation. The pond was surveyed for suitable basking sites and Long Point Road was surveyed for any turtle roadside nests or shells. The pond on the WWTP and the adjacent wetlands may provide suitable habitat for turtle species.

5.4.5. *Movement Corridors and Connectivity*

The natural features east of the Site include the Silver Creek Wetland Complex and larger woodlands. The wetland and woodlands are part of a large movement corridor that runs northeast. This area would foster the movement of birds and wildlife along the watercourses which connect to Georgian Bay to the northeast. This larger natural system to the east is outside of the Site and area of concern. The south woodland within the WWTP is fragmented by Long Point Road. Any removals within this woodlot would not have any adverse impacts to the connectivity present within the natura features east.

5.5. SPECIES AT RISK ASSESSMENT

5.5.1. *Leaf off Survey*

During the leaf-off survey a total of 2 trees were identified as potential candidate maternity roost habitat within the south woodland on the WWTP property. The details for each of the 2 trees is summarized below in Table 5-5.

Table 5-5- Tree/Snag Details

SNAG ID	COMMON NAME	SCIENTIFIC NAME	DBH (CM)	HEIGHT CLASS	CAVITY	LOOSE BARK	CRACK	KNOT HOLE	DECAY CLASS	HEIGHT OF CAVITY	OVERALL ROOST QUALITY
S1	Trembling Aspen	*Populus tremuloides*	34	3	Yes				1	5m	Low
S2	Trembling Aspen	*Populus tremuloides*	40	1	Yes	Yes			5	4 and 7 m	Low

5.5.2. *Snag Density Calculation*

A total of 2 snags were identified within the woodland. As per MNRF protocol, 10 snags per hectare is considered significant. The snag density results for the woodland would be 4 snag/ha (2 snags/0.5 ha = 4 snag/ha). Thought the tree species are considered to be suitable roosting habitat species, the overall roost quality for both trees would be poor. One snag had a decay classification of 5 which SAR bats prefer decay class of 1-3. The height of the cavities for both trees are lower than ideal height of at least 10 m.

6. IMPACT SAR ASSESSMENT AND MITIGATION

6.1. SIGNIFICANT HABITAT OF ENDANGERED, RARE OR THREATENED SPECIES

Endangered, rare, or threatened species as defined above refer to species that are provincially rare and are designated as S1 to S3 under ranking protocols used by the OMNRF Natural Heritage Information Centre (NHIC). It also includes those groups identified as Special Concern, Threatened or Endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO), and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and listed under the *Endangered Species Act*, 2007.

The Natural Heritage Areas online mapping tool (MNRF, 2022) was reviewed to determine if there are known rare, Threatened or Endangered species on or within 120 m of the Site. Two (2) square kilometers (km^2) quadrats (17NK5530 and 17NK5630) encompassing the Site was searched to ensure potential species at risk with the potential to be in the general area were accounted for in the search. Blanding's Turtle (*Emydoidea blandingii*) (THR), Canada Warbler (*Cardellina canadensis*) (SC), Snapping Turtle (*Chelydra serpentina*) (SC) and a Restricted Species (END) were identified within the quadrants.

In addition to the NHIC database, the Ontario Breeding Bird Atlas (OBBA) (Bird Studies Canada et al., 2006) was consulted to determine if there were endangered, rare or threatened species known to be present within the vicinity of the Site. The OBBA uses 100 km by 100 km blocks, further subdivided into 10 km by 10 km squares to compartmentalize geographical areas. The Site lies in the square identified as 17PJ38. Species with breeding evidence values within square 17NK53 as identified by the OBBA include Barn Swallow (*Hirundo rustica*) (THR), Eastern Wood-Pewee (*Contopus virens*) (SC), and Wood Thrush (*Hylocichla mustelina*) (SC).

A review of aerial photographs was also conducted to determine if there is suitable habitat for other Threatened or Endangered species on or adjacent to the Site. Based on this review it is reasonable to expect that the Site may provide habitat for Butternut (*Juglans cinerea*) (END), Little Brown Myotis (*Myotis lucifugus*) (END), Northern Myotis (*Myotis septentrionalis*) (END), and Tri-colored Bat (*Perimyotis subflavus*) (END) may also be present in the general area.

Eastern hog-nosed snake (*Heterodon platirhinos*) (END), Bank Swallow (Riparia riparia) (THR), Lake Sturgeon (*Acipenser fulvescens*) (SC), Chimney Swift (*Chaetura pelagica*) (THR), and Silver Lamprey (*Ichthyomyzon unicuspis*) (SC) have the potential to be in the general area (L.McShane, MECP, pers. comm. May 15, 2022; Appendix A).

An assessment of the habitat potential for the above-mentioned endangered, rare or threatened species on the Site is provided in Table 6-1. Special consideration was given to these species and their habitat during the site investigation.

Table 6-1 Endangered, Threatened and Species of Special Concern Habitat Potential Assessment

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD OBSERVATIONS / LIKELHOOD AND MAGNITUDE OF IMPACTS TO SPECIES OR HABITAT WITHIN SITE
BARN SWALLOW	THR	THR	Barn Swallows often live in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges and in culverts. This species forages over a wide area. They prefer unpainted, rough-cut wood, since the mud does not adhere as well to smooth surfaces. (MECP, 2021)	Low-Moderate	Low- Cup nests were not identified on existing structures within the WWTP property as well as within box culverts. Barn Swallows likely nest in the general area and could use the Site as foraging area.
BANK SWALLOW	THR	THR	Bank swallows nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable. The birds breed in colonies ranging from several to a few thousand pairs. (MNRF, 2014)	Low	Low-Suitable habitat was not identified within the Site and surrounding area. Bank Swallows likely nest in the general area and could use the Site as foraging area.
BUTTERNUT	END	END	This species is commonly found in riparian habitats, but is also found on rich, moist, well-drained loams, and well-drained gravels, particularly those of limestone origin (MECP, 2021).	High	Low-This species was not observed during site investigations. The surrounding woodlands do provide habitat for this species, yet none were encountered during the site investigation.
CANADA WARBLER	SC	SC	The species is found in a variety of forest types, but is most abundant in wet, mixed deciduous-coniferous forests with a well-developed shrub layer. Also found in riparian shrub forests (MECP, 2014).	Moderate	Moderate-Suitable habitat, such as riparian forest habitats or other wet mixed forests with a well-developed shrub layer, was not identified surrounding the WWTP. As presented under the Migratory Birds Convention Act (MBCA in order to avoid destruction of active bird nests, vegetation removals should not occur from April 1 to August 15.

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD OBSERVATIONS / LIKELHOOD AND MAGNITUDE OF IMPACTS TO SPECIES OR HABITAT WITHIN SITE
					If tree removal (and limbing) should occur at this time a survey by a qualified individual, with knowledge of bird biology and habitat, confirms that there are no active nests within the tree(s) to be removed.
CHIMNEY SWIFT	THR	THR	The species feeds in flocks around water bodies due to the large amount of insects present. Nesting occurs in large, hollow trees or in the chimneys of houses in urban and rural areas. They are more likely to be found in and around urban settlements where they nest and roost (rest or sleep) in chimneys and other manmade structures. In Ontario, it is most widely distributed in the Carolinian zone in the south and southwest of the province (MNRF, 2014).	Low	Low- This species was not observed. Suitable nesting structures were not observed on Site. The habitat may exist within older buildings within the vicinity of the Site.
EASTERN HOG-NOSED SNAKE	END	END	The Eastern Hog-nosed Snake specializes in hunting and eating toads, and usually only occurs where toads can be found. Eastern Hog-nosed Snakes prefer sandy, well-drained habitats such as beaches and dry forests where they can lay their eggs and hibernate. They use their up-turned snout to dig burrows below the frost line in the sand where eggs are deposited. The Eastern Hog-nosed Snake has about ten per cent of its range occurring in Canada. The Canadian population is limited to Ontario where it can be found in two areas: The Carolinian Region	Low-Moderate	Low- Suitable sandy, well-drained habitats such as beaches and dry forest were no found within the WWTP property or adjacent to the Site.

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD OBSERVATIONS / LIKELHOOD AND MAGNITUDE OF IMPACTS TO SPECIES OR HABITAT WITHIN SITE
			and Great Lakes-St. Lawrence Region. (MECP, 2021)		
EASTERN WOOD-PEWEE	SC	SC	Eastern Wood-Pewee lives in mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation. (MNRF, 2014)	Moderate	Moderate- The forested area to surrounding the Site provides suitable habitat. As presented under the Migratory Birds Convention Act (MBCA in order to avoid destruction of active bird nests, vegetation removals should not occur from April 1 to August 15. If tree removal (and limbing) should occur at this time a survey by a qualified individual, with knowledge of bird biology and habitat, confirms that there are no active nests within the tree(s) to be removed.
LAKE STURGEON	END	END	Lives almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel. They are usually found at depths of five to 20 metres. They spawn in relatively shallow, fast-flowing water (usually below waterfalls, rapids, or dams) with gravel and boulders at the bottom. However, they will spawn in deeper water where habitat is available. They also are known to spawn on open shoals in large rivers with strong currents. Found in the Great Lakes basin and their major connecting waterways, including the St. Lawrence River.	Low	Low- Freshwater lakes and rivers with soft bottoms of mud, sand or gravel was not found on or within the Site.
LITTLE BROWN MYOTIS	END	END	Has adapted to using human-made structures for resting and maternity sites; also uses caves and hollow trees. Usually forages in woodland near water. In winter, they hibernate in caves, tunnels,	Moderate	Moderate- The woodland south on the WWTP property contained suitable species of trees. Cavities/Snag were noted during site investigations. These snags were identified as poor overall roosting quality.

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD OBSERVATIONS / LIKELHOOD AND MAGNITUDE OF IMPACTS TO SPECIES OR HABITAT WITHIN SITE
			abandoned mines, and similar sites. Maternity colonies commonly are in warm sites in buildings and other structures; also, infrequently in hollow trees (NatureServe, 2016).		Additionally, a snag density of 4 snags/ha was calculated confirming that significant maternity roost habitat does not exist. The Silver Creek Wetland Complex and associated wetland to the east would provide suitable foraging and suitable potential roosting habitat. Bats would prefer to utilize these habitats for maternity roosting and foraging. As such, the study area and tree removals should have negligible impacts to the limited maternity roosting habitat identified. If tree removals should occur they should still be completed during the bat inactive period (October 1 to March 31), unless a survey by a qualified individual, with knowledge of bat biology and habitat, confirms that there are no active roosts within the tree(s) to be removed.
NORTHERN MYOTIS	END	END	Generally associated with forested communities. Hibernates in caves, mines and tunnels from late fall through early spring. Hibernators frequently roost in crevices, drill holes, and similar sites, but roosting in the open is not uncommon. Caves, mines, and quarry tunnels are used as night roosts. Daytime roosting observations typically are of individuals in crevices or hollows or under loose bark on trees and in a variety of small spaces associated with buildings and other structures. Nursery colonies include barns, cabins, with the majority likely occurring under the loose bark of trees. Small, highly	Moderate	Moderate- The woodland south on the WWTP property contained suitable species of trees. Cavities/Snag were noted during site investigations. These snags were identified as poor overall roosting quality. Additionally, a snag density of 4 snags/ha was calculated confirming that significant maternity roost habitat does not exist. The Silver Creek Wetland Complex and associated wetland to the east would provide suitable foraging and suitable potential roosting habitat. Bats would prefer to utilize these habitats for maternity roosting and foraging. As such, the study area and tree

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD OBSERVATIONS / LIKELHOOD AND MAGNITUDE OF IMPACTS TO SPECIES OR HABITAT WITHIN SITE
			fragmented, or young forests that provide limited areas of subcanopy foraging habitat may not be suitable. Young forests may also lack appropriate nursery sites (NatureServe, 2016).		removals should have negligible impacts to the limited maternity roosting habitat identified. If tree removals should occur they should be completed during the bat inactive period (October 1 to March 31), unless a survey by a qualified individual, with knowledge of bat biology and habitat, confirms that there are no active roosts within the tree(s) to be removed.
SILVER LAMPREY	SC	SC	Silver lampreys require clear water so they can find fish hosts, relatively clean stream beds of sand and organic debris for larvae to live in, and unrestricted migration routes for spawning. Their use of different kinds of habitat throughout their lives (rivers for spawning and early development, and lakes for adults) makes them vulnerable to changes in their environment. (MNRF, 2014).	Low	Low- Suitable habitat was not found on Site. Lakes and clean streams with unrestricted migration routes were not found on Site.
TRI-COLOURED BAT	END	END	During the summer, the Tricoloured Bat is found in a variety. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They forage over water and along streams in the forest. Tri-colored Bats eat flying insects and spiders gleaned from webs. At the end of the summer, they travel to a location where they swarm; it is generally near the cave or underground location where they will overwinter. They overwinter in caves where they typically roost by themselves	Moderate	Moderate- The woodland south on the WWTP property contained suitable species of trees. Cavities/Snag were noted during site investigations. These snags were identified as poor overall roosting quality. Additionally, a snag density of 4 snags/ha was calculated confirming that significant maternity roost habitat does not exist. The Silver Creek Wetland Complex and associated wetland to the east would provide suitable foraging and suitable potential roosting habitat. Bats would prefer to utilize these habitats for

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD OBSERVATIONS / LIKELHOOD AND MAGNITUDE OF IMPACTS TO SPECIES OR HABITAT WITHIN SITE
			rather than part of a group (MECP, 2021).		maternity roosting and foraging. As such, the study area and tree removals should have negligible impacts to the limited maternity roosting habitat identified. If tree removals should occur they should be completed during the bat inactive period (October 1 to March 31), unless a survey by a qualified individual, with knowledge of bat biology and habitat, confirms that there are no active roosts within the tree(s) to be removed.
WOOD THRUSH	SC	THR	The wood thrush lives in mature deciduous and mixed (conifer-deciduous) forests. They seek moist stands of trees with well-developed undergrowth and tall trees for singing perches. These birds prefer large forests but will also use smaller stands of trees. They build their nests in living saplings, trees or shrubs, usually in Sugar Maple or American beech. (MNRF, 2014).	Moderate	Moderate- Forested area containing a thick understory was not identified within the vicinity of the Sites. The Silver Creek Wetland Complex and surrounding woodlands could provide suitable habitat for this species. As presented under the Migratory Birds Convention Act (MBCA in order to avoid destruction of active bird nests, vegetation removals should not occur from April 1 to August 15. If tree removal (and limbing) should occur at this time a survey by a qualified individual, with knowledge of bird biology and habitat, confirms that there are no active nests within the tree(s) to be removed.

[1] Committee on the Status of Endangered Wildlife in Canada; and [2] Species at Risk in Ontario Status; END – Endangered, THR – Threatened, SC – Special concern, '-' – Not Listed. [3] Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 – Secure, GNA – Not Applicable.

While no endangered, rare, or threatened species were observed during the site investigation, five (5) provincially listed species at Risk have the potential to find habitat on or adjacent of the Site.

Canada Warbler, Eastern Wood-pewee, Wood Thrush is listed as a species of Special Concern on the SARO List (MECP, 2014). This species likely nests in the general area and may use the Site as nesting or

foraging grounds. Nests were not identified during the site investigations. These species are listed as Special Concern on the SARO List and are not afforded habitat protection under the ESA.

In order to avoid contravention of the MBCA through the destruction of active bird nests, tree/vegetation should not occur from April 1 to August 15. If vegetation removal (and limbing) is to occur at this time, a survey by a qualified individual with knowledge of bird biology and habitat could be undertaken to mitigate the risk of contravention of the MBCA through adverse effects to nesting birds.

Little Brown Myotis, Northern Myotis and Tri-colored Bat are classified as Endangered species according to the SARO List (Government of Ontario, 2019). These species are unlikely to overwinter on the Site; however, there is potential for suitable maternity roost habitat within the woodland on and adjacent to the Site. Cavities and snag were noted in the woodland on the WWTP property during site investigations. These snags were identified as poor overall roosting quality. Additionally, a snag density of 4 snags/ha was calculated confirming that significant maternity roost habitat does not exist. The Silver Creek Wetland Complex and associated wetland to the east would provide suitable foraging and suitable potential roosting habitat. Bats would prefer to utilize these habitats for maternity roosting and foraging. As such, the study area and tree removals should have negligible impacts to the limited maternity roosting habitat identified. If tree removals should occur, they should be completed during the bat inactive period (October 1 to March 31). If tree removal is to occur outside the inactive window, a survey by a qualified individual, with knowledge of bat biology and habitat may be undertaken to mitigate the risk of adverse effects to active roosts.

7. CONCLUSIONS

The following conclusions are provided based on the results of a background review, site investigation and consultation with the regulating agencies:

- The SAR assessment field investigation was focused on determining the presence and absence of SAR individuals and habitat suitability. According to MNRF's *Bat and Bat Habitat: Guidelines for Wind Power Projects* (MNRF, 2011), *Survey Protocol for Species at Risk Bats within Treed Habitats. Little Brown Myotis, Northern Myotis, and Tri-colored Bat* (MNRF, 2017*)* and MECP's *Bat Survey Standard Notes (*MECP, 2021) the Site does not provide suitable SAR bat maternity roosting habitat as it is of poor quality, as detailed above in Section 5.5. However, to prevent a contravention of the ESA (2007) tree/vegetation removals can be undertaken between October 1st and March 31st, which is outside of the bat timing window (April 1 to September 30).
- Endangered, rare or threatened species were not identified during the site investigation; however, the forested habitats found adjacent of the Site and the woodland on the south portion of the WWTP property provide moderate habitat potential for Canada Warbler, Eastern Wood-Pewee and Wood Thrush, all species of Special Concern on the SARO List. Per the MCBA, tree/vegetation removals shall occur outside the active breeding bird period identified as April 1 to August 31. If tree removal (and limbing) is necessary during the active breeding bird period a survey by a qualified individual, with knowledge of bird biology and habitat, should confirm that there are no active nests within the tree(s) to be removed.

7.1. SIGNATURES

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This limitations statement is considered an integral part of this report.

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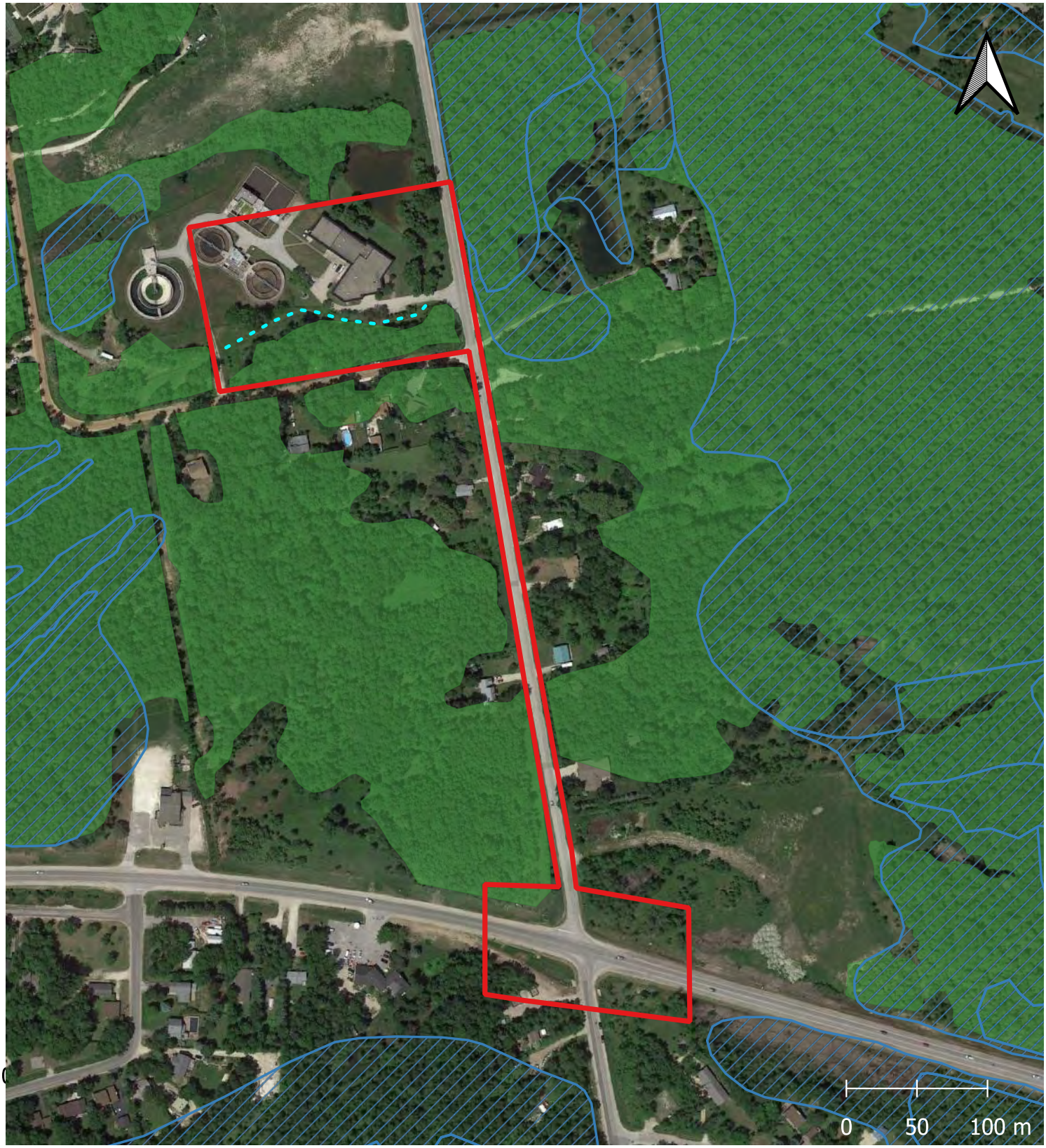
FIGURES

DRAFTED BY:

LEGEND

- Study Area
- Woodland
- Wetland
- Waterbodies

TITLE Site Location Map	**DESIGNED BY** WMB
	REVISED BY MC
PROJECT Background and SAR Assessment Craigleith Wastewater Treament Plant Craigleith, Ontario	**PROJECT NO** 22-0165
	DATE May 2022
CLIENT WT Infrastructure Solutions Ltd	**FIGURE** 1



DRAFTED BY:

LEGEND

- Wetland
- Creek
- Wooded Area

TITLE Natural Heritage Features	**DESIGNED BY** WMB
	REVISED BY MC
PROJECT Background and SAR Assessment Craigleith Wastewater Treament Plant Craigleith, Ontario	**PROJECT NO** 22-0165
	DATE May 2022
CLIENT WT Infrastructure Solutions Ltd	**FIGURE** 2

DRAFTED BY:

LEGEND

- Study Area
- Snags
- Creek
- Wooded Area

TITLE Natural Heritage Features	**DESIGNED BY** WMB
	REVISED BY MC
PROJECT Background and SAR Assessment Craigleith Wastewater Treament Plant Craigleith, Ontario	**PROJECT NO** 22-0165
	DATE May 2022
CLIENT WT Infrastructure Solutions Ltd	**FIGURE** 3

APPENDIX A:

Agency Correspondence

Whitney Black

From: Species at Risk (MECP) <SAROntario@ontario.ca>
Sent: May 18, 2022 3:11 PM
To: Anne Ha
Subject: RE: Request for Information: Blue Mountains

Hi Anne,
In addition to the species you have listed below in your pre-screening, we have records for the following species in proximity to the site;

-Eastern Hog-nosed, Bank, Sturgeon, Butternut, Chimney swift, silver lamprey, Canada warbler, Eastern wood-pee

Please note it remains the clients responsibility to:

- Carry out preliminary screening for their project,
- Obtain the best available information for all applicable information sources,
- Conduct necessary field studies or inventories to identify and confirm the presence of absence of species at risk or their habitat,
- Consider any potential impacts to species at risk that a proposed activity might cause, and
- Comply with the Endangered Species Act (ESA).

Additionally, while this data represents MECP's best current available information, it is important to note that a lack of information for a site does not mean that species at risk or their habitat are not present. There are many areas where the Government of Ontario does not currently have information, especially in more remote parts of the province. On-site assessments can better verify site conditions, identify and confirm presence of species at risk and/or their habitats. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the activities carried out on the site.

If you would like to discuss further please feel free to reach out directly.
Lisa

Lisa McShane she/her

Management Biologist – Species at Risk | Landscape Species Recovery Section, Species at Risk Branch | Ministry of Environment, Conservation and Parks | lisa.mcshane@ontario.ca | (226) 668-0527

I pledge to be anti-racist, to have the courage to speak up and treat everyone with respect and honour

---

From: Anne Ha <aha@envisionconsultants.ca>
Sent: Wednesday, April 27, 2022 1:35 PM
To: Species at Risk (MECP) <SAROntario@ontario.ca>
Cc: Whitney Black <wblack@envisionconsultants.ca>
Subject: Request for Information: Blue Mountains

To whom it may concern,

EnVision Consultants Ltd (EnVision) has been retained to complete a SAR background/assessment report for the

property at 556144 E 4930627 N (see attached .jpeg). The purpose of this email is to request any available information regarding species at risk (SAR).

A review of background information including the Natural Heritage Information Center (NHIC) data available through the Ministry of Natural Resources and Forestry Make a Map: Natural Heritage Areas application, ebird, and iNaturalist indicate the following SAR have been documented within the vicinity of the Site:

- Barn Swallow *(Hirundo rustica);*
- Eastern wood-pewee *(Contopus virens);*
- Canada Warbler *(Cardellina canadensis);*
- Snapping Turtle *(Chelydra serpentina);*
- Blanding's Turtle *(Emydoidea blandingii);* and
- Restricted Species.

If possible, please confirm:

- That there are no other records of SAR or species of conservation concern on or within the vicinity of the Site.

Any other details or information that you can provide to help our natural heritage inventory would be greatly appreciated.

Thank you,

Anne Ha, B.Sc
Junior Ecologist

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APPENDIX B:

Photo Page

PHOTO 1: WWTP southern woodlot (FOD8-1)

PHOTO 2: WWTP Creek looking west

PHOTO 3: Southern area of pond on WWTP property

PHOTO 4: Pond on WWTP property

PHOTO 5: Silver Creek Wetland Complex across from WWTP

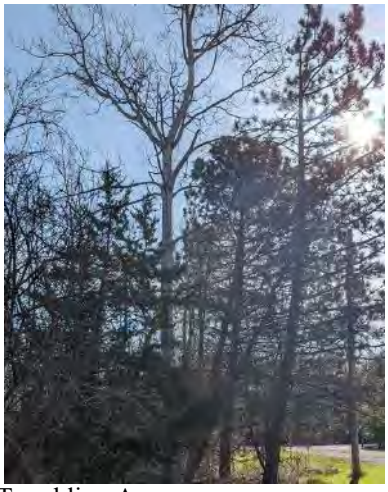

PHOTO 6: S1– Trembling Aspen

PHOTO 7: S2 Trembling Aspen

PHOTO 8: West side of Long Point Road looking north (watercourse)

PHOTO 9: Large box culvert southwest side of Highway 26