THUNDER BAY CORRECTIONAL CENTRE – RAPID DEPLOYMENT FACILTY

ECOLOGICAL ASSESSMENT SUMMARY REPORT

PARKIN ARCHITECTS LIMITED

PROJECT NO.: 191-06494-02
DATE: MARCH 17, 2021

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1 Introduction

Parkin Architects Limited (referred herein as 'Parkin') retained WSP Canada Inc. (WSP) to complete a summary of the ecological existing conditions, potential impact, and the recommended mitigation and impact avoidance measures for the proposed construction of a corrections centre and parking lot extension at the Thunder Bay Correctional Centre (TBCC) property ('the Project'), located at 2351 Highway 61 in the Municipality of Neebing, District of Thunder Bay, Ontario.

The TBCC is an existing medium-security detention facility and is currently occupied by eight buildings that are a maximum of two-storeys in height (Men's Dormitory, Women's Dormitory, Administration, Staff Training, Kitchen, Laundry and Storage, Greenhouse and Storage). A pump house and generator facility are also present on site, along with a sewage treatment facility.

The property is bordered by agricultural fields to the north, east, and west, and Highway 61 to the south. The construction of the rapid deployment facility is expected to occur within the existing fenced area, whereas a new parking lot and access road is proposed to occur on the south/southwest side of the fence. Such areas will be referred to herein as the "Project footprint" and shown in **Figure 1 and Figure 2**.

1.1 *Purpose*

The impact avoidance and mitigation measures described in this document are intended to inform planning, engineering, construction, and operations of the proposed facility to promote compliance with relevant environmental legislation and reduce potential adverse effects on the natural heritage system. The information presented in this report represents a summary of previous ecological reports and background material. From this information, context specific mitigation, permitting requirements, and impact avoidance recommendations have been prepared based on the current proposed design.

For this report, the Study Area includes the area within 120 metres (m) of the Project footprint to account for policy requirements and setback distances outlined in the *Provincial Policy Statement* (PPS) (Ministry of Municipal Affairs and Housing (MMAH, 2020) and the accompanying *Natural Heritage Reference Manual* (NHRM) (MNR, 2010). In addition, Species at Risk (SAR), Species of Conservation Concern (SCC), and natural heritage features will be considered up to one kilometre (km) from the proposed development as it may relate to certain environmental policy or legislation.

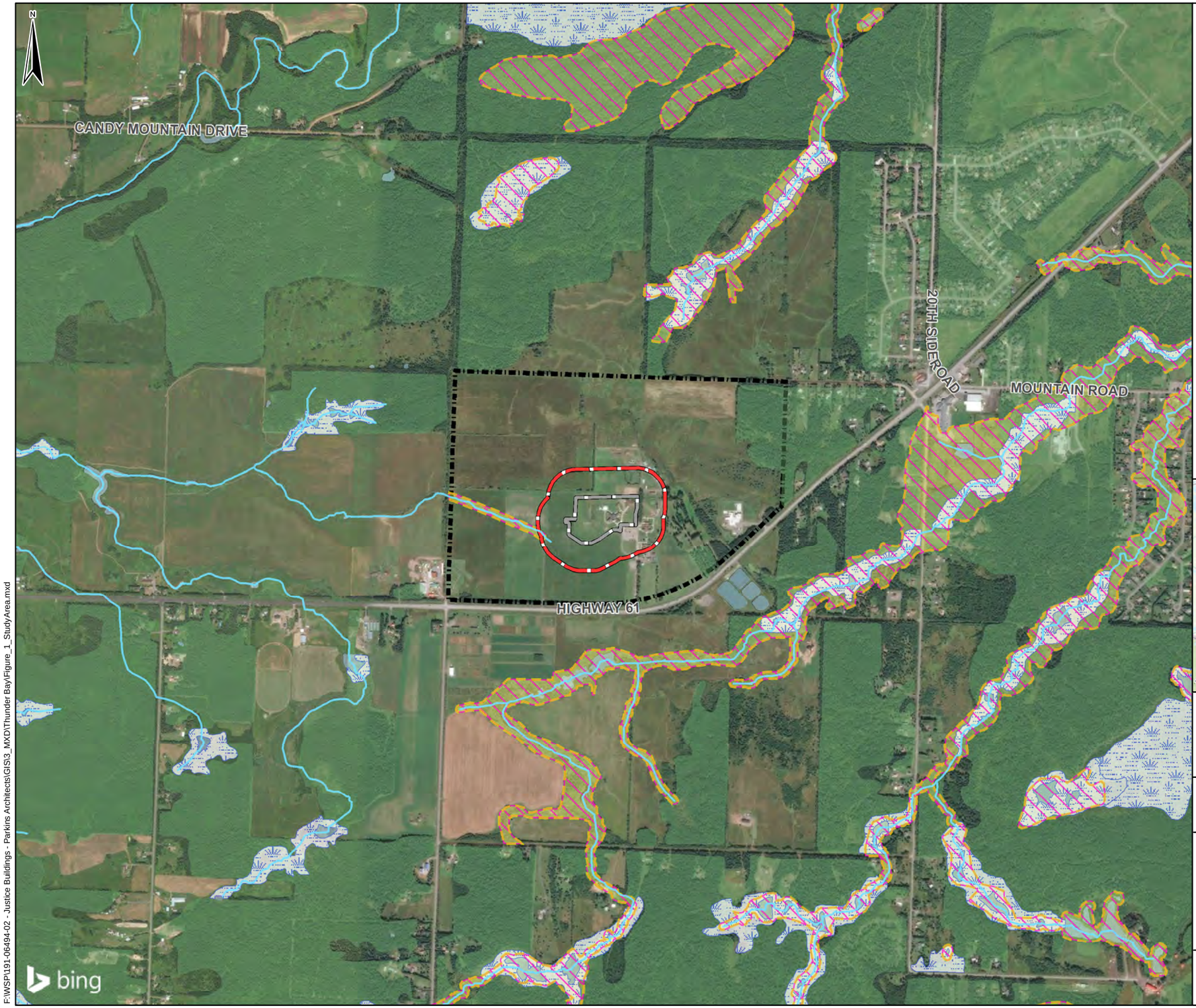
1.2 *Reference Studies*

Several Environmental Impact Assessments and studies have been completed for this project over the past three years. These studies aim to document the existing ecological features and functions to evaluate the assumed impacts of the proposed project on the natural heritage system. The scope of these studies varies based on the project information available when they were undertaken and the seasonality of the field survey. Without the benefit of reviewing any preliminary designs, the studies represent a generalized review of impacts based on conceptual designs, as well as expected construction and operational requirements. The proposed mitigation reflects this general understanding.

The following studies have been referenced in this Summary Report:

— Stantec Consulting. 2017. Thunder Bay Correctional Facility Proposed Expansion – Existing Conditions and Natural Heritage Features Constraints.

- FoTenn Planning and Design. 2020. Thunder Bay Correctional Centre – Intermittent Centre – Development Feasibility Study.
- WSP Consulting. 2021. Thunder Bay Correctional Centre Ecology Screening Report.
- DST Consulting Engineers. 2021. Thunder Bay Correctional Facility – Proposed Expansion Building Species at Risk Technical Memorandum.



- Study Area
- Project Area
- Property Boundary (City of Thunder Bay, 2020)
- Watercourse (LCRCA, MNRF, 2020)
- Unevaluated Wetland (MNRF, 2020)
- Waterbody (MNRF, 2020)
- Wooded Area (MNRF, 2020)
- Regulated Area (LRCA, 2019)
- Natural Corridor / Natural Heritage System (Thunder Bay Official Plan, 2019)

Parkin Architects Limited

Thunder Bay Correctional Centre - Ecology Summary Report

2351 Highway 61, Thunder Bay, Ontario

Figure 1
Study Area

Sources:
Bing Maps, 2020
City of Thunder Bay, 2020
LIO, 2020
LRCA, 2019
MNRF, 2020

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NAD 1983 UTM Zone 16N

08 March 2021

Prepared: C. Pytlak
Reviewed: A. Orr
Project no: 191-06494-00

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2 DESCRIPTION OF THE PROPOSED PROJECT

The TBCC Rapid Deployment Facility will be constructed under the Ministry of the Solicitor General - Segregation Capital Program (SolGen) for rapid deployment facilities. The facility will consist of modular building units in order to expedite the project and will host 50 inmate cells complete with double height dayrooms, support spaces, and secured dedicated cultural outdoor courtyards.

2.1 RELEVENT DESIGN FEATURES

The TBCC Rapid Deployment Facility will occur west of the existing TBCC and consist of a single 2,500 m^2 single-story facility within the current perimeter fence, complete with exterior parking and access lanes, as well as a dedicated space for cultural outdoor courtyards. A new parking lot and access road is also proposed south of the Rapid Deployment Facility, outside of the current perimeter fencing (**Figure 2, Figure 3, Figure 4**).

This report is based on the List of Drawings for the Design Built (DB) Submission 2, dated March 13, 2021 for Infrastructure Ontario and the Ministry of the Solicitor General Segregation Capital Program – Thunder Bay Corrections Centre (Bird and exp, 2021).

Many specific features of the proposed design may have a direct or indirect effect on the natural heritage features within the project Study Area. These include the following:

- Project footprint extends beyond the existing developed area
- Changes to local grading and stormwater management
- Architectural features including; windows, overhangs, roofs
- New landscaping

2.2 CONSTRUCTION ACTIVITIES

It is assumed the development of this property will include the following major project components:

- Surveying and staking out the development
- Clearing, excavation, and grading property to accommodate construction
- Installation of storm water drainage network and related infrastructure
- Excavation to accommodate underground utilities including water, sewer, gas, and hydro
- Construction of buildings, driveways, and access roads
- Paving parking areas and access roads
- Landscaping and fencing (where appropriate)

— On-going usage and maintenance

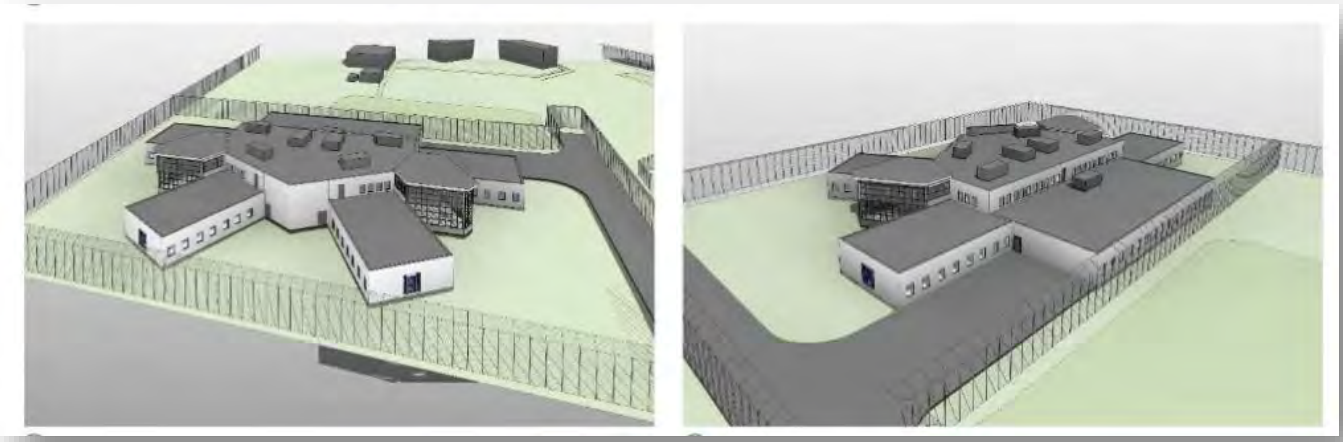


Figure 2: TBCC RDF Site Rendering

3 POLICY REVIEW

This report references regulatory and legislative agencies that are mandated to protect different elements of the natural heritage system within municipal, provincial, and federal jurisdictions.

Table 1 provides a list of the applicable policies and legislation for the protection of natural heritage features, SAR, and SCC either municipally, provincially, and/or federally. The scope of this report evaluates the natural heritage features, SAR, and SCC governed by the policies outlined in the table below.

Table 1 Policies, Legislation and Background Sources

Policy/Regulations	Reference Materials and Supporting Documents
Federal Government of Canada	
***Migratory Birds Convention Act* (MBCA, 1994) (S.C. 1994, c. 22)**	Environment and Climate Change Canada (ECCC) – online resources
***Species at Risk Act* (SARA, 2002) (S.C. 2002, c. 29)**	Federal Species at Risk Public Registry
***Fisheries Act* (1985) (R.S.C., 1985, c. F-14)**	Fisheries and Oceans Canada – online resources
Province of Ontario	
Provincial Policy Statement (PPS, 2020), under *Planning Act*, R.S.O. (1990) c. P.13 **AND** **Ontario *Endangered Species Act* (ESA, 2007) (S.O. 2007, c. 6)**	Ministry of Natural Resources and Forestry (MNRF) – Thunder Bay District
	MNRF Natural Heritage Information Centre (NHIC) – Online (Accessed: January 2021): • *Species at Risk occurrence records* • *Species of Conservation Concern* • *Natural Heritage Features*
	Natural Heritage Reference Manual (MNR, 2010)
	Significant Wildlife Habitat Technical Guide (MNR, 2000); Significant Wildlife Habitat Ecoregion 3W Criterion Schedules (MNRF, 2017)
	Ministry of the Environment, Conservation and Parks (MECP): • *Species at Risk in Ontario (SARO) List (O.Reg. 230/08)*
	Ecological Land Classification for Southern Ontario, First Approximation and its Application (Lee, et al., 1998)
	Ontario Breeding Bird Atlas (OBBA) – Online
	Ontario Reptile and Amphibian Atlas (ORAA) – Online
	Ontario Butterfly Atlas (OBA) – Online
	Atlas of the Mammals of Ontario (AMO) (Dobbyn, 1994)
City of Thunder Bay	
City of Thunder Bay Official Plan (2019)	Official Plan; Schedules A (General Land Use), B (Natural Heritage System) – Online
Lakehead Region Conservation Authority (LRCA)	

Policy/Regulations	Reference Materials and Supporting Documents
Lakehead Region Conservation Authority: *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses* (Ontario Regulation 174/06), under *Conservation Authorities Act*, (R.S.O. 1990, c. C.27)	LRCA Regulations and Watershed Mapping – Consultation and Online

3.1 PROVINCIAL POLICY STATEMENT (2020)

The PPS (2020) provides policy direction on land use planning and development matters that are of provincial interest which protect the natural environment as well as public health and safety. The natural heritage provisions of the PPS 2020 (Section 2.1.) provide protection for Significant Habitats of Endangered and Threatened Species, Provincially Significant Wetlands (PSW), Significant Woodlands, Significant Valleylands, Significant Wildlife Habitat (SWH), Significant Areas of Natural and Scientific Interest (ANSI), and Fish Habitat.

3.2 ENDANGERED SPECIES ACT (2007)

The *Endangered Species Act* (2007) (ESA) affords legal protection species designated as Threatened or Endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO), otherwise known as Species at Risk in Ontario (SARO). Under Subsection 9(1) and Clause 10(1)(a) of the ESA provide automatic protection to species at risk (SAR) and their habitats (i.e. areas essential for breeding, rearing, feeding, hibernation, and migration). To balance social and economic considerations with protection and recovery goals, the ESA also enables the Ministry of Environment, Conservation, and Parks (MECP) to issue permits or enter into agreements with proponents to authorize activities that would otherwise be prohibited by subsections 9(1) or 10(1) of the Act, provided the legal requirements of the Act are met.

3.3 FISHERIES ACT (1985)

The federal *Fisheries Act* [Fisheries and Oceans Canada (DFO), 1985], as amended on June 21, 2019, provides a framework for the proper management and control of fisheries and the conservation and protection of fish and fish habitat, including pollution. Fisheries and Oceans Canada (DFO) administers the *Fisheries Act*, in combination with relevant provisions of the *Species at Risk Act* (2002) (SARA) to regulate projects that could result in harmful impacts to fish and fish habitat. Fish habitat as defined in the *Fisheries Act* means “water frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas (habitat).”

3.4 MIGRATORY BIRDS CONVENTION ACT (1994)

The Migratory Birds Convention Act (MBCA) is legislation administered by the Environment and Climate Change Canada (ECCC), which provides protection and management direction for migratory birds, their eggs, and their nests listed in the Act. The Act prohibits the disturbance, destruction, take and killing of migratory birds listed in the Act.

To protect nesting migratory birds, no work is permitted to proceed that would result in the destruction of active nests (nests with eggs or young birds), or the wounding of killing of bird species protected under the MBCA. Construction activities should be scheduled to occur outside of the overall bird nesting season of April 1 – August 31 to avoid contravention of the MBCA.

Permits may be issued by the ECCC under the MBCA allowing disturbance, destruction, take and killing of migratory birds or their nests for scientific or agricultural purposes. Allowable purposes for issuing a permit under the MBCA do not include industrial or construction activities.

4 BACKGROUND REVIEW

4.1 AGENCY CONSULTATION

In 2017, consultation with the following agencies was initiated by Stantec Consulting in order to gather background information on known natural heritage features and SAR occurrences within 1 km of the Project Study Area. The following table (**Table 2**) provides an outline of agency consultation undertaken to date.

Table 2: Summary of Agency Consultation

AGENCY	PROPONENT	SUMMARY
Thunder Bay District Ministry of Natural Resources and Forestry (MNRF)	Stantec Consulting	-Response received on September 21, 2017 by Gwen MacIsaac (GIS Technician) regarding natural heritage features; -Response received on September 25, 2017 by Almos Mei (Information Management Specialist) regarding SAR occurrence records.
Lakehead Region Conservation Authority (LRCA)	Stantec Consulting	Response received on October 13, 2017 by Michelle Sixsmith (Water Resource Technologist) regarding aquatic features and regulated limits.
Ministry of Environment, Conservation, and Parks (MECP)	DST Consulting Engineers (DST)	In 2020, follow-up consultation was initiated by DST and the MECP as part of the information gathering and consultation process for the Category B Class Environmental Assessment for the proposed Rapid Deployment Facility at the TBCC.
MECP	DST	On December 4, 2020, Kevin Green (Northern Species at Risk Specialist) of the MECP Thunder Bay district provided a response/comments to DST's consultation letter outlining potential SAR on the Project's property.
MECP	DST	On January 21, 2021, DST submitted a technical memo addressing MECP's SAR comments and concerns.

The documentation and results from previous agency consultation by Stantec Consulting and DST Consulting Engineers for the TBCC Rapid Deployment Facility, as outlined above, have been reviewed and incorporated into this report where applicable.

4.2 BIODIVERISTY DATABASES

In addition to agency consultation, publicly available databases (**Table 1**) were consulted to develop a list of natural features and SAR that have a record within a 1 km^2 or 10 km^2 grid (dependent on the database being consulted) encompassing the Project area.

Documents and/or online publicly available databases mentioned in **Table 1** were searched for the presence or absence of the following:

- Natural Heritage Features
  - Provincially Significant Wetlands (PSW)
  - Significant Woodlands
  - Significant Valleylands
  - Areas of Natural and Scientific Interest (ANSI)
- Aquatic Environment
  - Fish Habitat
- Species at Risk and Species at Risk Habitat
- City of Thunder Bay Natural Heritage System

4.3 NATURAL HERITAGE FEATURES

4.3.1 VEGETATION

The Study Area is located within the Kakabeka Ecodistrict 4W-2. Natural vegetation cover within Ecodistrict 4W-2 is primarily composed of forest and approximately 89% of the ecodistrict remains as natural cover. Intolerant hardwood stands, along with upland hardwood and mixed conifer associations are sporadic throughout the area. The western portion, for which the project resides, contains an abundance of Jack Pine (*Pinus banksiana*) (Henson and Brodribb, 2005).

4.3.2 SIGNIFICANT WOODLANDS

Woodlands are treed area, woodlots or forested areas. Their significance may vary at a local, regional, or provincial level and thereby provide environmental and economic benefits to landowners and the public (MNR, 2010). The NHRM provides ecological criteria to asses the significance of a woodland and is based on species composition, tree age, location in relation to functionality and contribution to the local landscape, size and amount of forest cover, or economic importance (MNR, 2010).

Significant woodlands can either be mapped by the MNRF or municipal Official Plans. As per the PPS (MMAH, 2020) Section 2.1; planning authorities shall Significant Woodlands.

No Significant Woodlands were identified to occur within 1 km of the Study Area (Figure 1).

4.3.3 SIGNIFICANT VALLEYLANDS

Valleylands are natural areas that occur in a valley or other landform depression that has water present throughout the year (MMAH, 2020). Significance is evaluated based on ecological importance and criteria set forth in the NHRM (MNR, 2010) and identified by the MNRF and/or municipal Official Plans. As per the PPS (MMAH, 2020), Section 21; planning authorities shall protect Significant Valleylands.

No Significant Valleylands were identified to occur within 1 km of the Study Area (Figure 1).

4.3.4 AREAS OF NATURAL AND SCIENTIFIC INTEREST

Areas of Natural and Scientific Interest (ANSI) are identified by the MNRF and are features that are important for natural heritage protection, appreciation, scientific study or education. ANSIs receive protection under the PPS, Section 2.1 (MMAH, 2020).

No ANSIs were identified to occur within the vicinity of the Project Study Area and therefore, are considered absent (Figure 1).

4.3.5 WETLANDS

The information resources used to identify wetlands within the Study Area included Land Information Ontario (LIO), NHIC, and the City of Thunder Bay Official Plan (City of Thunder Bay, 2019) (**Figure 1**). Significant wetlands receive protection under the PPS (MMAH, 2020) and the City of Thunder Bay Official Plan (City of Thunder Bay, 2019).

No PSWs were identified within the Study Area and therefore, are considered absent.

Unevaluated wetlands are present up to 1 km or more from the Project Study Area and not within the Study Area itself (Figure 1).

4.3.6 CITY OF THUNDER BAY - NATURAL HERTIAGE SYSTEM

The Natural Heritage System for the Study Area is illustrated on Schedule A of the Official Plan (City of Thunder Bay, 2019). This system is formed from interconnected habitats that fill ecological roles necessary for the continued health of the natural environments within the city limits. The natural heritage system includes natural heritage features, wetlands, watercourses, shorelines, riverbanks, floodplains, valleys, ravines, woodlands, and natural corridors, all connected through ecological functions.

A Natural Corridor is present within the Study Area according to Schedule B of the Thunder Bay Official Plan (City of Thunder Bay, 2019) and shown on **Figure 1 and Figure 3.**

4.4 AQUATIC ENVIRONMENT

The Study Area is located within the Mosquito Creek watershed. The headwaters flow in a northeast direction, towards the City of Thunder bay, eventually discharging into the Kaministiquia River. The watershed is approximately 30 km^2 containing the main branch of the creek along with several tributaries (LRCA, 2020).

Due to the classification of the stream, fish habitat is not anticipated. The City of Thunder Bay OP, Schedule B classifies the watercourse as a Natural Corridor, as discussed in **Section 4.3.6.**

4.4.1 FLOODPLAIN AND REGULATED LIMIT

The LRCA is the governing body that regulates flood potential, protects natural heritage features, and enhances the ecosystems within the Lakehead Watershed. Development within regulated areas is governed by O. Reg. 174/06 *Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses.* LRCA also maintains, monitors, and collects information related to water quality/quantity, fisheries resources, forestry, land use, and wetlands.

The LRCA and City of Thunder Bay Official Plan (2019) identified Regulated Limits and Floodplain areas, as mentioned above. ***Regulated limits and floodplain areas are present in the Study Area*** and are associated with the watercourse feature mentioned above and shown in **Figure 1 and Figure 3.**

4.4.2 FISH HABITAT

Correspondence was held between Stantec Consulting and LRCA in 2017 (**Section 4.1**). It was indicated that the presence of an intermittent watercourse identified as a 'stream' and associated regulated limits are present within the Study Area (**Figure 1 and Figure 3**). However, through this correspondence in 2017, LRCA confirmed that the intermittent watercourse in proximity to the Study Area does not represent fish habitat (**Figure 1 and Figure 3**).

Fish habitat is considered absent from the Study Area.

4.5 SUMMARY OF NATURAL HERITAGE FEATURES

Based on the background records review, one natural heritage feature is present within the Study Area. A summary of results is shown in **Table 3.**

Table 3: Summary of Natural Heritage Features

Feature	Present in the Study Area (Y/N)	Description
Significant Woodland	N	No Significant Woodlands have been identified within 120 m of the Study Area.
Significant Valleyland	N	No Significant Valleylands have been identified within 120 m of the Study Area.
Areas of Natural and Scientific Interest (ANSI)	N	No ANSIs have been identified within 120 m of the Study Area.
Wetlands	N	No wetlands have been identified within 120 m of the Study Area. Unevaluated wetland features are present within 1 km of the Study Area.
City of Thunder Bay – Natural Heritage System	**Y**	One Natural Corridor is present within 120 m of the Project Study Area.

Feature	Present in the Study Area (Y/N)	Description
Aquatic Environment	**Y**	One watercourse is present within 120 m of the Project Study Area. It contains the designations of Regulated Area (LRCA, 2017), Natural Heritage System/Natural Corridor (City of Thunder Bay Official Plan, 2019).
Fish Habitat	N	No fish habitat identified within the Study Area.

4.6 SPECIES AT RISK AND SPECIES OF CONSERVATION CONCERN

Background data was collected and reviewed to identify SAR and SCC with occurrence records within the Study Area. Publicly available databases (**Table 1**) were consulted to develop a list of SAR/SCC that have a record within a 1 km^2 or 10 km^2 grid (dependent on the database being consulted) encompassing the project Study Area.

Table 4 provides a list of these species along with corresponding federal, provincial, SAR and/or SCC designations (i.e. S-Ranks). S-Ranks are a provincial status used by the NHIC to set protection priorities for rare species and is based on the number of occurrences in Ontario. The MNRF tracks species with S1 to S3 (vulnerable to critically imperiled) designations and are therefore, considered provincially rare and/or SCC.

Furthermore, species listed within **Table 4** were further evaluated based on their habitat preferences and likelihood of occurrence for the Study Area. The habitat screening was built on habitat requirements defined by the MNR (2000), background records, and air-photo interpretation in order to identify the presence of suitable habitat for SAR/SCC within the Study Area. The results of the screening are documented in **Appendix A – Species at Risk Screening**.

Table 4: Species at Risk and Species of Conservation Concern Records of Occurrence

Common Name	Scientific Name	SARA (Federal)[1]	ESA (Provincial)[1]	S-Rank[2]	Source[3]
BIRDS					
Bald Eagle	*Haliaeetus leucocephalus*	NAR	SC	S2N,S4B	OBBA
Bank Swallow	*Riparia riparia*	THR	THR	S4B	OBBA
Barn Swallow	*Hirundo rustica*	THR	THR	S5B	MECP
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4B	NHIC/MECP
Chimney Swift	*Chaetura pelagica*	THR	THR	S4B,S4N	MECP

Common Name	Scientific Name	SARA (Federal)[1]	ESA (Provincial)[1]	S-Rank[2]	Source[3]
Peregrine Falcon	*Falco peregrinus*	NAR	SC	S3B	OBBA
REPTILES					
Snapping Turtle	*Chelydra serpentina*	SC	SC	S4	ORAA
INSECTS					
Monarch	*Danaus plexippus*	SC	SC	S2N,S4B	OBA
MAMMALS					
Caribou (Boreal population)	*Rangifer tarandus*	THR	THR	S4	AMO
Gray Fox	*Urocyon cinereoargenteus*	THR	THR	S1	AMO
Little Brown Myotis	*Myotis lucifugus*	END	END	S3	AMO/MECP
Northern Myotis	*Myotis septentrionalis*	END	END	S3	MECP

[1]END = Endangered; THR = Threatened; SC = Special Concern. [2]S-Rank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5, with 5 being very common and 1 being the least common. [3]Information sources include: NHIC = Natural Heritage Information Centre; OBBA = Ontario Breeding Bird Atlas; ORAA = Ontario Reptile and Amphibian Atlas; OBA = Ontario Butterfly Atlas; AMO = Atlas of the Mammals of Ontario; MECP = Ministry of Environment, Conservation, and Parks Correspondence (DST, 2021)

5 EXISTING CONDITIONS

5.1 SCOPE OF WORK

Ecological field investigations were previously conducted by Stantec Consulting in 2017, 2018, and 2020 and were completed to identify the occurrence of terrestrial, aquatic, wetland and wildlife habitats within the Project Study Area. These surveys were carried out to characterize the existing natural heritage conditions on site and thereby assess the impacts of the Project on the natural environment. Such surveys followed industry standard protocols and are intended to establish baseline conditions. Field investigations were focused within 120 m of the Study Area as well as beyond to account for changes in design and potential impacts to SAR.

5.2 AQUATIC ASSESSMENT

During the general site investigation performed by Stantec (2017), the Study Area was searched for the presence of aquatic features by meandering on foot.

5.2.1 AQUATIC SURVEY RESULTS

An intermittent watercourse was observed within the agricultural hayfield west of the existing facility. At the time of the field investigation (July 10, 2017), the watercourse was shallow in topography, and void of water and aquatic vegetation within the channel. It was apparent that farming practices of hay harvesting was occurring throughout/overtop the aquatic channel (Stantec, 2017).

5.3 VEGETATION COMMUNITIES

Vegetation communities within the Study Area were characterized and mapped using the ELC system for southern Ontario (Lee, et al., 1998). Vegetation communities were observed and recorded at the time of the general field investigation on July 10, 2017. Subsequent to the field visit, a desktop analysis was completed by air-photo interpretation to delineate and classify individual communities.

Vegetation community sensitivity and significance was evaluated with guidance from the Significant Wildlife Habitat Technical Guide (MNR, 2000) and the NHIC – Species Lists (MNRF, 2015).

5.3.1 ELC SURVEY RESULTS

The ELC assessment identified vegetation communities throughout the Study Area. The vegetation communities identified were cultural in nature and consisted of agriculture, coniferous and deciduous hedgerows, green lands, institutional areas, and transportation areas. The location, type, and boundaries of vegetation communities are delineated in **Figure 3.**

On July 10, 2017, the agricultural units surrounding the Project Study Area were identified to be hay fields (OAGM1) that included areas with low-lying wetland pockets abundant with Sedge species (*Carex sp.*). The intermittent watercourse, mentioned in **Section 4.4 and 5.2**, was observed within the agricultural hay field west of the existing facility.

Maintained grass areas classified as Green Lands (CGL) occurred with the fenced portion of the TBCC. Such communities are generally culturally influenced with evidence of regular landscaping maintenance and other human influences such as planting of privacy hedges to separate different areas of the property, season maintenance of the grass lands, and agricultural practices of harvesting/annual crop rotation.

It is expected that the diversity of native botanical species throughout the Project Study Area is generally low, as much of the vegetation consists of common grass species likely to inhabit cultural and disturbed areas. Based on aerial imagery and a topographic survey completed by Tulloch Geomatics Inc. on October 1, 2020, the Study Area has one Cedar species (*Thuja* sp.) and one isolated unidentified tree/shrub near the existing TBCC, as shown on **Figure 3.**

No locally, or regionally rare vegetation communities or species were observed within the Study Area.

5.4 WILDLIFE AND WILDLIFE HABITAT

5.4.1 SIGNIFICANT WILDLIFE HABITAT

Wildlife habitat evaluations followed the Ontario provincial guidelines. Criteria for the identification of Significant Wildlife Habitat are described in the *SWH Technical Guide* (MNR, 2000) and the *SWH Criteria Schedules for Ecoregion 3W* (MNRF, 2017). The Project Study Area occurs in Ecoregion 4W, however, a SWH Criteria Schedule for this ecoregion has yet to be developed. Therefore, the adjacent Ecoregion of 3W (Thunder Bay) was consulted and applied.

SWH is described under four main categories:

- Seasonal concentration areas of animals
- Rare vegetation communities or specialized habitat for wildlife
- Habitat for species of conservation concern (excluding Endangered or Threatened Species)
- Animal movement corridors

Candidate SWH refers to those natural features that are potentially significant based on the presence of suitable habitat in the criteria outlined in MNRF (2017). For those habitat features that qualify as candidate SWH, it is recommended for targeted field surveys to be carried out to confirm significance. Defining criteria to determine confirmed significance is also outlined in MNRF (2017).

To determine candidate SWH within the Study Area, wildlife habitat assessments recorded the presence of features that are not easily identifiable via aerial photography. This included; the presence of candidate reptile hibernacula, seeps/springs/vernal pools, turtle nesting and wintering areas, and stick nests. Results from ELC was also used to determine the presence of candidate SWH.

5.4.1.1 SWH SURVEY RESULTS

The results from the general field investigation conducted on July 10, 2017 (Stantec, 2017) did not identify any candidate or confirmed SWH within the Study Area.

5.4.2 GRASSLAND BREEDING BIRD SURVEY

Grassland breeding bird surveys were carried out by Stantec Consulting in 2017, 2018, and 2020 within the Project Study Area as well as within grassland agricultural fields immediately adjacent to the Study Area.

The breeding bird survey was completed with an emphasis on identifying potential habitat and to confirm for the presence/absence for SAR grassland birds of Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*), both listed as Threatened and afforded protection under the ESA (2007).

The breeding bird survey followed methodology outlined in MNRF's draft *Bobolink Survey Methodology* (MNRF, 2011). Three survey visits were completed throughout the duration of 2017 to 2020 during ideal breeding bird conditions. Survey dates include July 10, 2017, July 3, 2018, and June 30, 2020.

5.4.2.1 *GRASSLAND BREEDING BIRD SURVEY RESULTS*

Throughout the three breeding bird survey dates, Bobolink (listed as Threatened, provincially and federally) individuals were detected within the active agricultural hayfields, northwest of the Study Area (DST Consulting Engineers, 2021). Bobolinks were observed during the June 20, 2020 survey and locations of individuals are shown on **Figure 3.** No individuals of Eastern Meadowlark were observed.

5.4.3 INCIDENTAL WILDLIFE OBSERVATIONS

Incidental wildlife observations of individuals and/or habitat within the Study Area were collected during the general field investigation as well as during the succeeding breeding bird surveys. Any incidental observations of wildlife (including that of SAR/SCC observations) as well as other wildlife evidence such as dens, tracks, and scat were documented by means of observational notes, photos, and UTM coordinates. Such observations were used to substantiate baseline conditions and gather conclusions on the overall ecological function of the Study Area.

5.4.3.1 *INCIDENTAL WILDLIFE SURVEY RESULTS*

No incidental wildlife observations were made during the three survey dates.

5.5 SPECIES AT RISK AND SPECIES AT RISK HABITAT

The screening was completed for the SAR/SCC with occurrence records for the Study Area, as listed in **Table 4.** The screening was based on existing conditions and presence of suitable habitat within the Study Area. Results of the screening are documented in **Appendix A – Species at Risk Screening**.

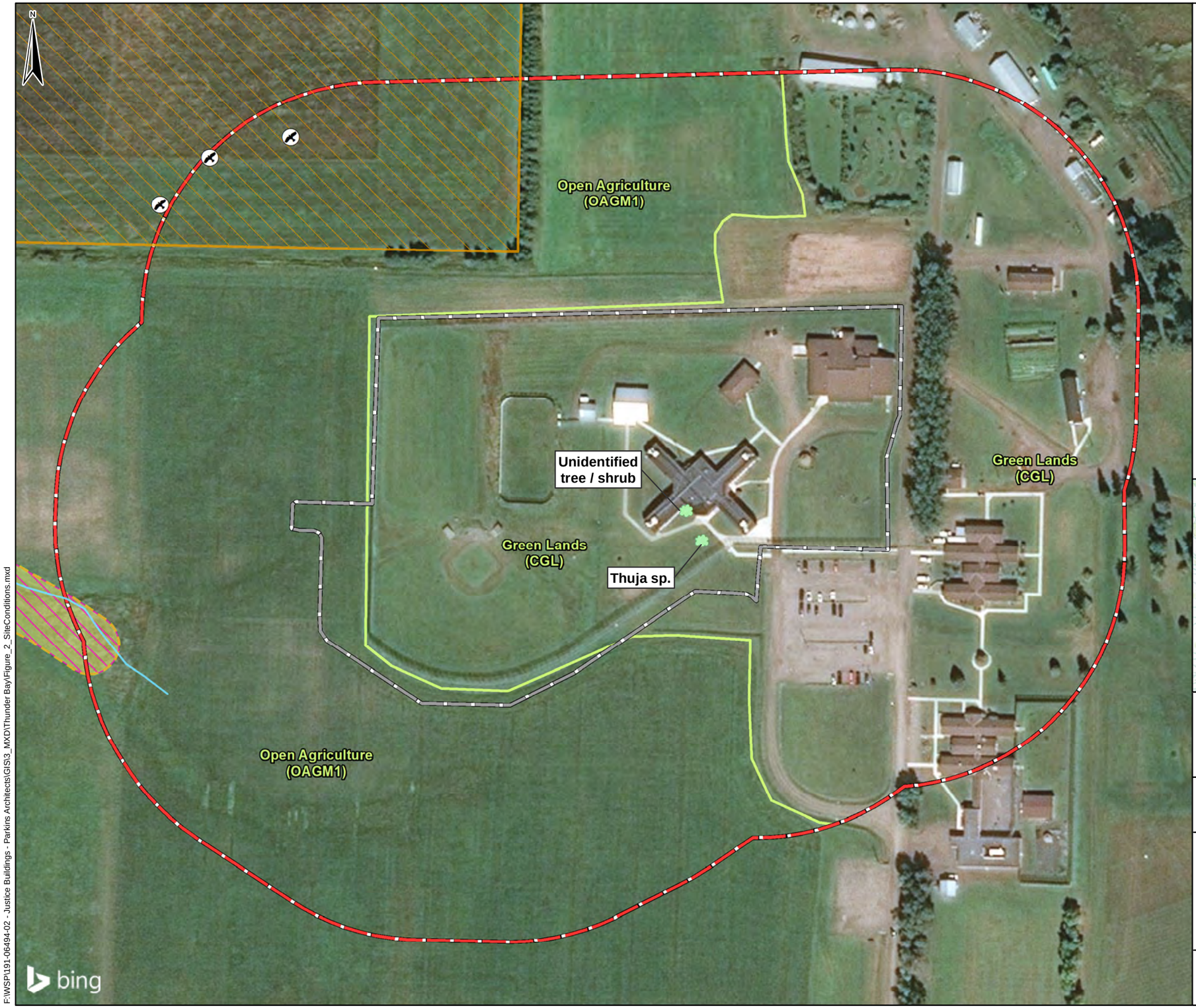
Along with the confirmed presence of Bobolink within the Study Area, three additional SAR have potential to occur. This includes; Barn Swallow (*Hirundo rustica*), Chimney Swift (*Chaetura pelagica*), and Little Brown Myotis (*Myotis lucifugus*). **Table 5** provides a summary of SAR with potential to occur and risks of interacting with Project construction works and/or permanent infrastructure.

At the time of field investigations, ***one SAR was observed with the Project Study Area and includes Bobolink.***

Table 5: Species at Risk with Potential to Occur

Species	Rationale / Legislation
BIRDS	
Barn Swallow	Suitable breeding habitat in the form of buildings with outside ledges adjacent to meadow features is present with the Study Area. This species is federally and provincially listed as Threatened and receives protection under the ESA and SARA. There is **low potential** for this species to be impacted by proposed works as no suitable existing structures are expected to be removed or altered within the work area. The Rapid Deployment Facility is proposed to be a minimum of 10 m from any existing building and therefore, it is anticipated that Barn Swallow will not be negatively impacted from the proposed works.
Bobolink	Suitable breeding habitat in the form of grassland features is present with the Study Area. This species is federally and provincially listed as Threatened and receives protection under the ESA and SARA. There is **low potential** for this species to be impacted by proposed works as the Project footprint occurs predominately in maintained lawn and a lowland wet agricultural field. This agricultural feature immediately to the west for the TBCC has been identified as a lowland feature with the wet pockets throughout and is not suitable breeding habitat for Bobolink. Therefore, it is anticipated that Bobolink will not be negatively impacted.
Chimney Swift	One chimney was observed in the vicinity of the new construction (Male Dormitory Building) that could be potential Chimney Swift roosting and breeding habitat. This species is federally and provincially listed as Threatened and receives protection under the ESA and SARA. There is **low potential** for this species to be impacted by proposed works as no suitable existing structures with chimneys are expected to be removed or altered within the work area. The Rapid Deployment Facility is proposed to be a minimum of 10 m from any existing building and therefore, it is anticipated that Chimney Swift will not be negatively impacted from the proposed works.

MAMMALS	
Little Brown Myotis	Suitable roosting habitat is present in the form of buildings with openings. This species is listed as Endangered in Ontario and Canada and receives protection under the ESA and SARA. There is low potential for this species to be impacted from the proposed works as no suitable existing structures are expected to be removed or altered within the work area. The Rapid Deployment Facility is proposed to be a minimum of 10 m from any existing building and therefore, it is anticipated that Little Brown Myotis will not be negatively impacted from the proposed works.



Study Area

Project Area

Watercourse (LRCA, MNRF, 2020)

Vegetation

ELC Community

Bobolink Observation (Stantec, 2020)

Suitable Bobolink Habitat (Stantec, 2020)

Regulated Area (LRCA, 2019)

Natural Corridor / Natural Heritage System (Thunder Bay Official Plan, 2019)

Parkin Architects Limited

Thunder Bay Correctional Centre - Ecology Summary Report

2351 Highway 61, Thunder Bay, Ontario

Figure 3
Existing Conditions

Sources:
Bing Maps, 2020
City of Thunder Bay, 2020
LIO, 2020
LRCA, 2019
MNRF, 2020

0 30 60 M

NAD 1983 UTM Zone 16N

08 March 2021

Prepared: C. Pytlak
Reviewed: A. Orr
Project no: 191-06494-00

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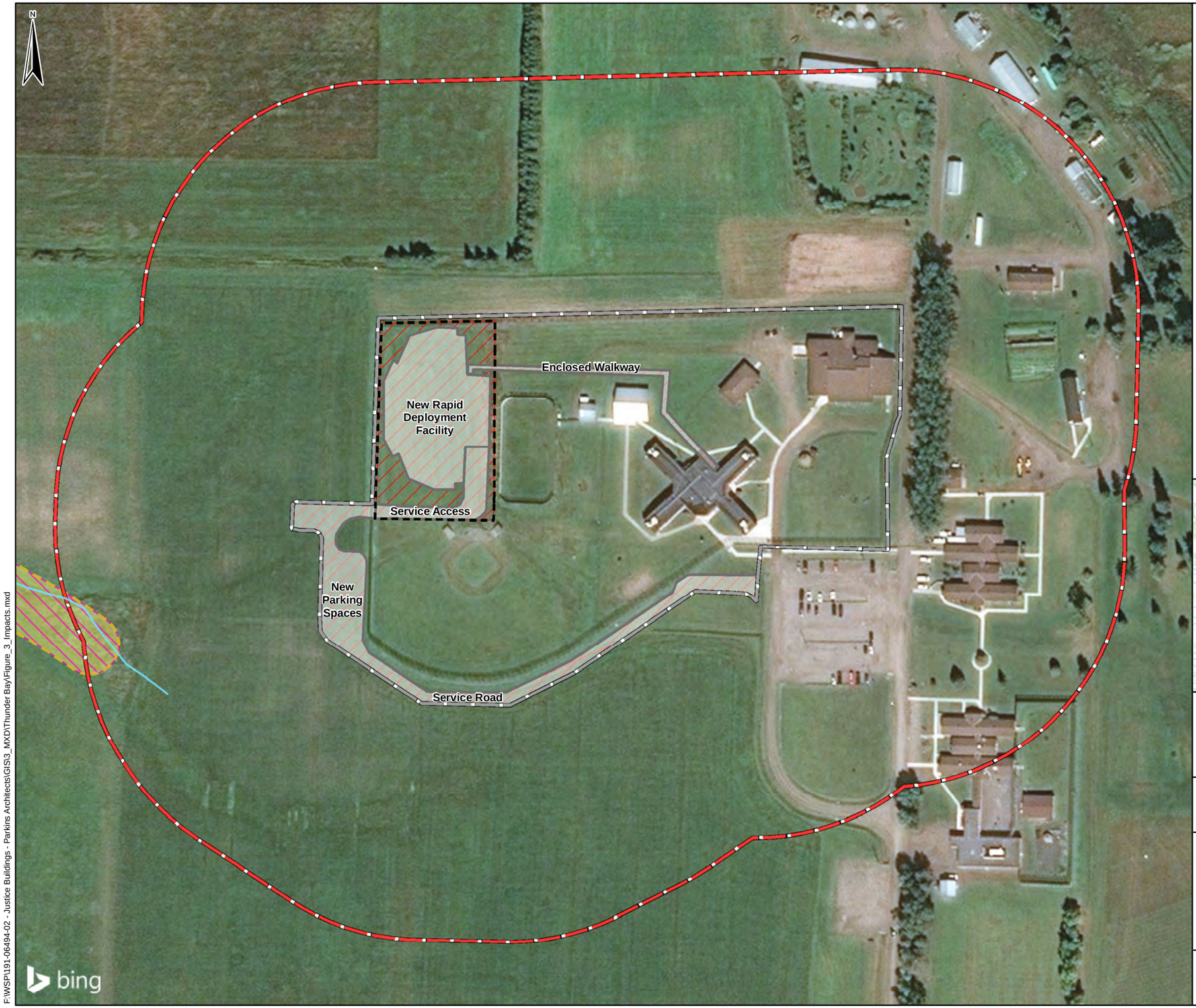

Study Area
Project Area
Proposed Site Plan
Facility Boundary
Disturbed / removed vegetation (0.95 ha)
Watercourse (LRCA, MNRF, 2020)
Regulated Area (LRCA, 2019)
Natural Corridor / Natural Heritage System (Thunder Bay Official Plan, 2019)

Parkin Architects Limited

Thunder Bay Correctional Centre - Ecology Summary Report
2351 Highway 61, Thunder Bay, Ontario

Figure 4
Impact Assessment

Sources:
Bing Maps, 2020
City of Thunder Bay, 2020
LIO, 2020
LRCA, 2019
MNRF, 2020

0 30 60 M
NAD 1983 UTM Zone 16N

09 March 2021

Prepared: C. Pytlak
Reviewed: A. Orr
Project no: 191-06494-00

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6 IMPACT ASSESSMENT AND MITIGATION

The following sections describe the anticipated impacts and mitigation to the vegetation communities, natural heritage features, and SAR habitat identified in the previous section.

6.1 AQUATIC ENVIRONMENT

The construction of the proposed TBCC Rapid Deployment Facility, new and extended parking lots with access roads/lanes will result in a permanent loss of permeable surface, totaling to approximately 0.95 ha. This will also result in a permanent increase in impervious surfaces from the proposed facility, parking lots, and access roads. It is anticipated that this will affect localized stormwater drainage and runoff within the Project Study Area (**Figure 4**).

In addition to the long-term impacts noted above, the following construction related impacts are expected:

- Potential contamination resulting from spills or other contaminants
- Sedimentation and erosion resulting from construction activities

Although located within 120 m from the Project footprint, it is anticipated that the aquatic feature (known as an intermittent watercourse) will not be directly impacted from the proposed works as it is greater than 30 m west of the Project footprint. The following mitigation measure will eliminate and/or reduce indirect impacts to the watercourse.

6.1.1 RECOMMENDED MITIGATION

The following general mitigation measures are recommended to address impacts on the aquatic environment adjacent to the development area:

- ✓ Grading plan to direct stormwater flows to appropriate drainage infrastructure
- ✓ Light-duty silt fencing (OPSD 219.110) and/or other equivalent erosion and sediment control measures should be installed around the perimeter of the work area to clearly demarcate the development area and prevent erosion and sedimentation into adjacent habitats. Erosion and sediment control measures should be monitored regularly to ensure they are functioning properly and if issues are identified should be dealt with promptly
- ✓ Materials storage sites and equipment parking will be located at a minimum distance of 30 m from any waterbody, watercourse, drainage feature, or wetland
- ✓ Stockpiling of excavated material should not occur outside the delineated work area. If stockpiling is to occur outside of this area, silt fencing should be used to contain any soil piles to prevent sedimentation into adjacent areas
- ✓ Areas of stockpiled or exposed soils should be stabilized using tarps or other similar covers
- ✓ A spill response plan should be developed and implemented as required. Any environmental spills (biological, chemical or petroleum based) must be reported to Ontario's Spills Action Centre, available 24 Hours a day and 7 days a week, at 1-800-268-6060

With the mitigation measures outlined above, it is anticipated that the proposed project will result in a negligible impact to aquatic habitat and the LRCA regulated areas within the Study Area.

6.2 VEGETATION COMMUNITIES

Based on the proposed Project Area, and standard construction practices, it is anticipated that vegetation in the project footprint will be permanently removed or disturbed to accommodate the new facility, parking lot, and access roads (**Figure 4**).

The anticipated impacts include:

- Permanent removal of approximately 0.71 ha of Green Land (CGL) habitat and associated vegetation during work activities due to correctional facility construction
- Permanent removal of approximately 0.24 ha of agricultural fields (OAGM1) and associated vegetation during work activities due to parking lot and access road construction
- Disturbance to, or removal of, invasive vegetation species
- Accidental damage or loss of trees and other vegetation features resulting from site alteration or construction activities
- Erosion and sedimentation into adjacent agricultural fields

6.2.1 RECOMMENDED MITIGATION

The following general mitigation measures are recommended to address impacts on the terrestrial environment within and adjacent to the work areas:

- ✓ Minimize vegetation removal required to the extent feasible to allow staff and machinery to operate safely
- ✓ Orange snow fencing or other suitable security fencing should be used to delineate the construction limits from the adjacent habitat. This will prevent encroachment of construction activities into the adjacent natural features. This fencing should be monitored regularly to ensure it is functioning properly. Any deviancy in the fencing should be dealt with promptly
- ✓ Machinery will arrive on site in a clean condition and will be free of fluid leaks, invasive species, and noxious weeds
- ✓ The movement of vehicles and machinery will be restricted to the work areas and designated access points
- ✓ All excess construction material and debris (vegetation, stumps, garbage, etc.) will be removed from site and the area should be seeded with native species upon project completion as required;
- ✓ When removing invasive plant species, ensure that plant material is appropriately disposed of to minimize spread
- ✓ Laydown areas may be required during construction. Laydown areas are a temporary use and will be removed and restored after construction is complete. Laydown areas should be located inside the fenced area. If laydown areas are required outside of the fenced area, they should be established on already disturbed areas or existing maintained lawn. If laydown areas cannot be

installed on already disturbed areas or existing maintained lawn, the laydown must be established prior to April 18 (ECCC, 2018b) of any given calendar year.

- ✓ Vegetation removals should be avoided during the breeding bird season.
    - The Project Study Area is located with the nesting zone of C4, according to Environment and Climate Change Canada (ECCC). The General Nesting Period for Migratory Birds in Canada within Zone C4 and within 'open' habitats is from **April 18 to August 31** (ECCC, 2018b). Vegetation removals should be avoided during this time to limit disturbance to nesting birds, their nests, or young and avoid contravention to the MBCA (1994)
    - If vegetation, including shrubs and low-growing vegetation, is to be removed during the breeding bird season, it should be preceded by a nest survey by a qualified avian biologist. Surveys should be undertaken a maximum of 48 hours prior to the commencement of removals. If nests are found during the search, or during construction, an appropriate buffer must be applied, and the nest must not be disturbed until young have fledged

With the mitigation measures outlined above, it is anticipated that the Project will result in a permanent, but negligible impact to vegetation communities within the Study Area.

6.3 SPECIES AT RISK AND SPECIES AT RISK HABITAT

6.3.1 BARN SWALLOW

While there are buildings that have potential to provide suitable nesting habitat for Barn Swallow, construction of the Rapid Deployment Facility and accompanying infrastructure will not result in the destruction or alteration of any existing buildings in the Project footprint. The Rapid Deployment Facility is anticipated to be built approximately 10 m west from any existing structure on site.

Any potential sensory disturbances/indirect impacts, such as a change in noise or vibrations, is anticipated to be temporary and minimal and not result in any negative impacts to potential Barn Swallows. As there is a low likelihood for this species to be permanently and directly harmed from the proposed works, general wildlife mitigation measures are recommended and discussed in **Section 6.4**

6.3.2 BOBOLINK

The majority of the Project footprint consists of maintained lawns and there is no suitable Bobolink habitat within the immediate construction area. However, suitable breeding habitat in the form of agricultural hayfields is present beyond the work area and occurs approximately 50 m away.

As shown in **Figure 3 and Figure 4**, the agricultural field with confirmed Bobolink is not proposed for removal and it is anticipated that construction works, and the presence of permanent infrastructure will not negatively nor permanently impact Bobolink or Bobolink habitat. Temporary and indirect impacts of sensory disturbances, such as noise and vibrations, to Bobolink are also not anticipated given the distance between the suitable habitat and the proposed development.

As there is a low likelihood for this species to be permanently and directly harmed from the proposed works, general wildlife mitigation measures are recommended and discussed in **Section 6.4.**

6.3.3 CHIMNEY SWIFT

Although there is a chimney in the vicinity of the new construction (Male Dormitory Building) that may be potential habitat for Chimney Swift, the Rapid Deployment Facility will be free standing and construction works will not result in any alterations to any existing structures on site.

Any potential sensory disturbances/indirect impacts, such as a change in noise or vibrations, is anticipated to be temporary and minimal and not result in any negative impacts to potential Chimney Swift. As there is a low likelihood for this species to be permanently and directly harmed from the proposed works, general wildlife mitigation measures are recommended and discussed in **Section 6.4**

6.3.4 LITTLE BROWN MYOTIS

It is anticipated that the proposed development will have a negligible impact on Little Brown Myotis and their roosting habitat as the proposed development does not include the destruction or alteration of the existing correctional facility building on site, where bats have potential to occur.

Any potential sensory disturbances/indirect impacts, such as a change in noise or vibrations, is anticipated to be temporary and minimal and not result in any negative impacts to potential Little Brown Myotis. As there is a low likelihood for this species to be permanently and directly harmed from the proposed works, general wildlife mitigation measures are recommended and discussed in **Section 6.4**

In the event that a SAR is encountered in the construction area or inside a structure, and it appears that construction activities would result in harm to the animal, all activities must cease and the MECP will be notified to discuss mitigation options.

6.3.5 RECOMMENDED MITIGATION

With the implementation of general wildlife mitigation measures, no impacts to SAR or SAR habitat is anticipated.

6.4 WILDLIFE

As the Project Area is located primarily in the perimeter of a security fence, impacts to wildlife are unlikely to low. However, indirect impacts to wildlife in adjacent habitats include:

- Disturbance to wildlife resulting from noise associated with construction activities, particularly during breeding periods

6.4.1 RECOMMENDED MITIGATION

The following mitigation measures have been prepared to limit the indirect impacts to wildlife:

- ✓ Pre-stress the area on a regular basis leading up to construction to encourage wildlife to leave the area before construction starts
- ✓ Avoid vegetation clearing during sensitive times of year for local wildlife (e.g. spring and early summer). If vegetation clearing is required between **April 18 and August 31**, a biologist must sweep the area for nests within 48 hours of project work

- ✓ Laydown areas may be required during construction. Laydown areas are a temporary use and will be removed and restored after construction is complete. Laydown areas should be located inside the fenced area. If laydown areas are required outside of the fenced area, they should be established on already disturbed areas or existing maintained lawn. If laydown areas cannot be installed on already disturbed areas or existing maintained lawn, the laydown must be established prior to April 18 (ECCC, 2018b) of any given calendar year.
- ✓ A qualified wildlife rehabilitation centre should be contacted if any animals are injured or found injured during construction. Injured animals should be transported to an appropriate wildlife rehabilitation centre for care
- ✓ "Bird-friendly" building design principals should be considered in the design of the development. Potential measures may include the following:
    - o General building design should incorporate the Canadian Standards Association's '*Bird-friendly building design*' (Canadian Standards Association, 2019) guidelines.

With the mitigation measures outlined above, no impacts to local wildlife are anticipated.

7 SUMMARY AND CONCLUSIONS

This report provides a summary of the anticipated environmental impacts associated with the construction and long-term occupation of the Rapid Deployment Facility and associated infrastructure located at the TBCC **(Figure 1**). The anticipated environmental impacts are based on background records, desktop assessment, and field investigation results completed in 2017, 2018, and 2020 by Stantec Consulting.

The **vegetation communities** present within the subject property were comprised of manicure Green Lands and active agricultural fields. These communities are generally culturally influenced with evidence of regular landscaping maintenance and other human influences such as planting of privacy hedges to separate different areas of the property, and seasonal agricultural harvesting. Additionally, there is existing anthropogenic disturbance and alterations affecting the ecological function of the communities within the Project footprint. The majority of the Project footprint is isolated due to perimeter security fencing and surrounded by buildings and parking areas. However, an additional parking lot and access lane is proposed for a small area outside the perimeter fencing within a disturbed agricultural field. It is expected that portions of these communities will be removed to accommodate construction of the new facility and will be replaced with impervious materials.

One SAR was observed during the field investigations; **Bobolink**, listed as Threatened. Individuals were observed during the 2020 Stantec field survey and occurred within suitable habitat in the form of the hayfield, northwest of the Study Area (**Figure 3**). Construction activities are not proposed within this section of the active hayfield. Therefore, with the application of general wildlife mitigation measures, Bobolink shall not be directly impacted as a result of the proposed works. The agricultural field within the Project footprint has been deemed unsuitable breeding habitat for Bobolink due to the presence of lowland pockets containing water (DST, 2021).

One watercourse is present within the Study Area but occurs approximately > 30 m west from construction activities. It is associated with the following designations; **LRCA regulated area, Thunder Bay Official Plan's natural heritage system and natural corridor**. With the application of aquatic environment mitigation measures (**Section 6.1**), this watercourse shall not be impacted as a result of the proposed works.

In addition, with localized removal of vegetation communities and the loss of permeable surfaces, it is recommended that the grading plan be designed to direct stormwater flows into appropriate infrastructure and away from the watercourse feature located west of the Project footprint.

The mitigation measures described in this report, and summarized in **Table 6** below, have been developed to avoid and/or minimize the environmental impacts associated with the Project.

The results and findings of this study have been reported without bias or prejudice. Thus, conclusions have been based on our own professional opinion, substantiated by the results of this study, and have not been influenced in any way. The mitigation measures described in this report have been developed to avoid and/or minimize the environmental impacts associated with the Project.

Table 6 Summary of Anticipated Impacts and Mitigation Recommendations

Natural Heritage Feature/Function	Summary of Potential Impacts	Constraint to Development	Summary of Proposed Mitigation	Residual Effect
Aquatic Environment	Loss of natural watercourse	None	None required	No residual effect anticipated
	Loss of habitat for aquatic wildlife	None	None required	No residual effect anticipated
	Erosion and sedimentation	Low	-Erosion and sediment control measures to be implemented prior to construction. -Silt fencing to be installed around the perimeter of work area. -Laydown areas to be established at least 30 m from the watercourse.	No residual effect anticipated
	Spills and contamination	Low	-Development of spill response plan and proper storage and work areas for potentially contaminating activities. -Laydown areas to be established at least 30 m from the watercourse.	No residual effect anticipated
	Increased amount and rate of stormwater runoff	Low	-Implement permeable surfaces where possible into design and construction to limit runoff. -Grading plan should be developed to redirect stormwater flows. -Laydown areas to be established at least 30 m from the watercourse.	No residual effect anticipated
Terrestrial Vegetation	Loss of natural vegetation	Low	-Silt fencing to be installed and act as dual purposes to delineate construction limits to prevent further encroachment into natural areas. -Machinery to be clean condition. -Movement of vehicles/machinery to be restricted to construction limits. -Excess material/debris to be removed from site. -Avoid vegetation removal during breeding bird season (April 18 – August 31)	No residual effect anticipated
	Loss of habitat for wildlife	Low	-Pre-stress construction area on a regular basis. -Avoid vegetation clearing during sensitive times of year. -Contact a qualified wildlife rehabilitation centre if wildlife are injured.	No residual effect anticipated

Natural Heritage Feature/Function	Summary of Potential Impacts	Constraint to Development	Summary of Proposed Mitigation	Residual Effect
	Decreased biodiversity or species abundance	None	None required	No residual effect anticipated
	Increased risk of invasive species	Low	-Machinery should arrive on site in clean condition. -Site should be restored with native species where appropriate following construction	No residual effect anticipated
	Changes to natural drainage	None	None required	No residual effect anticipated
	Erosion and sedimentation	Low	-Erosion and sediment control measures to be implemented prior to construction. -Silt fencing to be installed around the perimeter of work area. -Laydown areas to be established at least 30 m from the watercourse.	No residual effect anticipated
Breeding Birds	Loss of nesting and foraging habitat	Low	Clearing of vegetation should be limited to a reasonable footprint to accommodate the proposed site plan	Minor loss of foraging habitat
	Physical harm to birds or nests resulting from construction activities	Low	-Clearing of vegetation should be avoided during the breeding bird period (April 18 – August 31). -Area should be pre-stressed prior to vegetation clearing.	No residual effect anticipated
	Reduced diversity or species abundance	Low	None required	No residual effect anticipated
Species at Risk	Loss of suitable habitat for Bobolink	None	None required	No residual effect anticipated
	Physical harm or temporary displacement to SAR resulting from construction activities (Little Brown Myotis, Chimney Swift, Barn Swallow)	Low	-Implement general wildlife mitigation measures	No residual effect anticipated
Wildlife (General)	Physical harm or displacement resulting from construction activities	Low	-Perimeter/silt fencing to be installed around the site to prevent wildlife from entering the work area. -Work area to be pre-stressed to allow wildlife to safely flee the area. -Avoid vegetation clearing during sensitive times of the year.	No residual effect anticipated

Natural Heritage Feature/Function	Summary of Potential Impacts	Constraint to Development	Summary of Proposed Mitigation	Residual Effect
	Loss of general natural habitat for wildlife	Low	None required	No residual effect anticipated
	Disturbance to wildlife resulting from noise and construction activities	Low	-Perimeter/silt fencing to be installed around the site to prevent wildlife from entering the work area. -Work area to be pre-stressed to allow wildlife to safely flee the area.	No residual effect anticipated
	Conflict between wildlife and humans	Low	Safety and awareness training provided to construction staff	No residual effect anticipated
Cumulative Impacts	General loss of biodiversity and available habitat	Low	Landscaping plans should consider use of appropriate native species	No residual effect anticipated
	Increase in impervious surfaces	Low	Promote the use of permeable landscaping materials and rain capture systems	Net increase in impermeable surfaces

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APPENDIX

A SPECIES AT RISK SCREENING

Common Name	Scientific Name	General Habitat According to the MNRF Significant Wildlife Habitat Technical Guide (MNRF, 2000)	Conservation Status			Source[3]	Potential for habitat within Study Area (based on screening)	Rationale
			Federal (SARA, 2002)[1]	Provincial (ESA, 2007)[1]	S-Rank[2]			
BIRDS								
Bald Eagle	*Haliaeetus leucocephalus*	Require large continuous area of deciduous or mixed forests adjacent to large lakes or rivers; requires an area of 255 ha for nesting, shelter, feeding, roosting; require tall, dead to partially dead trees for perching.	NAR	SC	S2N,S4B	OBBA	No	Large, continuous forests with tall canopy trees are absent from the Study Area.
Bank Swallow	*Contopus virens*	Sand, clay, or gravel river banks or steep riverbank cliffs; lakeshore bluffs of easily crumbled sand or gravel; gravel pits.	THR	THR	S4B	OBBA	No	No cliffs or riverbanks are present within Study Area.
Barn Swallow	*Hirundo rustica*	Prefers to nest on human-made structures including open barns buildings, under bridges and culverts, etc.	THR	THR	S5B	MECP	**Yes**	Human-made structures are present within the Study Area.
Chimney Swift	*Chaetura pelagica*	Prefers to nest in colonies in historic chimneys and where available, in hollow trees or tree cavities in old growth forests.	THR	THR	S4B,S4N	MECP	**Yes**	Buildings with chimneys are present within the Study Area.
Bobolink	*Dolichonyx oryzivorus*	Large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland >50 ha.	THR	THR	S4B	OBBA/MECP	**Yes**	Large grasslands are present within the Study Area
Peregrine Falcon	*Falco peregrinus*	Prefers to nest on rock cliffs near water or tall buildings in urban centres.	NAR	SC	S3B	OBBA	No	Cliffs and/or tall buildings are absent from the Study Area.
REPTILES								
Snapping Turtle	*Chelydra serpentina*	Permanent, semi-permanent freshwater; marshes, swamps or bogs; rivers and streams with soft muddy banks or bottoms; often uses soft soil or clean dry sand on south-facing slopes for nest sites; may nest at some distance from water; often hibernate together in groups in mud under water; home range size ~28 ha.	SC	SC	S4	ORAA	No	Suitable surface water features are absent from the Study Area.
INSECTS								
Monarch	*Danaus plexippus*	The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest. Caterpillars eat exclusively milkweed and adults require the nectar of wildflowers to feed.	SC	SC	S2N,S4B	OBA	No	Open meadow habitat with the potential for Milkweed plants is absent from the Study Area.
MAMMALS								
Caribou (Boreal population)	*Rangifer tarandus*	Requires large expanses (at least 130-150 ha) of mature, lichen-rich coniferous forest with uniformly aged stands; bogs, fens; in winter.	THR	THR	S4	AMO	No	Large continuous forest is absent from the Study Area.
Gray Fox	*Urocyon cinereoargenteus*	Requires hardwood forests with a mix of fields and woods; swamps; wooded, brushy or rocky habitats; woodland farmland edge; old fields with thickets; dens in hollow log or tree; individual has numerous winter dens throughout its range which is > 40 ha	THR	THR	S1	AMO	No	Hardwood forests, swamps, and old fields are absent from the Study Area.
Little Brown Myotis	*Myotis lucifugus*	Uses caves, quarries, tunnels, hollow trees or buildings for roosting; winters in humid caves; maternity sites in dark warm areas such as attics and barns; feeds primarily in wetlands, forest edges.	END	END	S3	AMO/MECP	**Yes**	Buildings with suitable openings are present within the Study Area and have potential to provide roosting habitat.
Northern Myotis	*Myotis septentrionalis*	This species is associated with Boreal forests and roosts under peeling bark and/or cavity trees. They hibernate from October to April in caves or abandoned mines.	END	END	S3	MECP	No	Suitable habitat of cavity trees with peeling bark and caves/mines are absent from the Study Area.

[1]END = Endangered, THR = Threatened, SC = Special Concern, NAR = Not at Risk [2]S-Rank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5, with 5 being very common and 1 being the least common. [3]Information sources include: NHIC = Natural Heritage Information Centre; OBBA = Ontario Breeding Bird Atlas; ORAA = Ontario Reptile and Amphibian Atlas; OBA = Ontario Butterfly Atlas; AMO = Atlas of the Mammals of Ontario; MECP = Ministry of Environment, Conservation, and Parks Correspondence (DST, 2021).