GEMTEC
www.gemtec.ca

Species at Risk Screening Assessment
Cobb's Lake Creek Bridge – Du Lac Road Bridge Replacement

Clarence-Rockland, Ontario

GEMTEC
www.gemtec.ca

Submitted to:

Jordan Bourdages, P.Eng.

HP Engineering Inc.
Suite 400, 2039 Robertson Road
Ottawa, Ontario
K2H 8R2

Species at Risk Screening Assessment
Cobb's Lake Creek Bridge – Du Lac Road Bridge Replacement
Clarence-Rockland, Ontario

June 3, 2021
Project: 100142.010

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Project Description 1
1.2 Objective and Scope of Work 1

2.0 METHODOLOGY 1

2.1 Desktop Review 1
2.2 Site Investigation 2

3.0 RESULTS 2

3.1 Desktop Screening Results 2
3.2 Vegetation Communities 5
3.3 Wildlife 5
3.4 Fish Habitat 6
3.5 Species at Risk 7

4.0 AVOIDANCE AND MITIGATION MEASURES 8

5.0 CLOSURE 10

6.0 REFERENCES 11

LIST OF TABLES

Table 3.1 Summary Results of Desktop SAR Screening 3

LIST OF APPENDICES

APPENDIX A Report Figures

APPENDIX B Site Visit Photographs

1.0 INTRODUCTION

The United Counties of Prescott-Russell has identified the Cobb's Lake Creek Bridge to be in need of full replacement. The Cobb's Lake Creek Bridge is located on Du Lac Road, 2.7 km east of Champlain Road. The Cobb's Lake Creek Bridge is a 15 m long single span bridge, spanning over Cobb's Lake Creek.

In accordance with the requirements of a Municipal Class Environmental Assessment (Class A+), County of Clarence-Rockland has identified the need to complete a Species at Risk (SAR) Screening Assessment for the project area.

1.1 Project Description

The replacement of the Cobb's Lake Creek Bridge consists of a full replacement of the existing structure with repairs to the abutments.

In-water work is proposed as part of the project. The general project area is defined within the following limits and is illustrated on Figure A.1 in Appendix A. A detailed site layout is provided on Figure A.2:

- Cobb's Lake Creek Bridge spanning over Cobb's Lake Creek; and
- 120 m in opposite directions from the bridge along Du Lac Road and along Cobb's Lake Creek.

1.2 Objective and Scope of Work

The objective of the SAR Screening Assessment presented herein is twofold; 1) to identify the presence or potential presence of any SAR and their regulated habitat within the project area, 2) to recommend established and effective avoidance and mitigation measures to ensure that the project is completed in accordance with the provincial *Endangered Species Act, 2007*, the federal *Species at Risk Act*, and the *Conservation Authorities Act.*

To meet the objectives outlined above, the following scope of work was completed:

- Task 1 – Desktop Assessment
- Task 2 – Site Investigation
- Task 3 – Assessment and Reporting

2.0 METHODOLOGY

2.1 Desktop Review

A desktop information gathering exercise was completed to aid in the scoping of field investigations and to gather information relating to natural heritage features which may be present

on the subject project or within 1 km of the subject site. An additional component of the desktop review was to assess the potential presence of SAR to occur on the subject site or within the study boundary based on a review of publicly accessible occurrence records and review of SAR habitat requirements and range maps.

Information regarding the potential presence of natural heritage features and SAR within the vicinity of the site was obtained from the following sources:

- Make a Map: Natural Heritage Areas (OMNRF, 2014);
- Land Information Ontario (OMNRF, 2011);
- Ontario Geological Survey (OGS, 2019);
- Department of Fisheries and Oceans Canada Aquatic SAR Maps (DFO, 2019);
- Breeding Bird Atlas of Ontario (Cadman, et al., 2007);
- eBird Canada Hotspots (eBird Canada, 2020);
- Atlas of Mammals of Ontario (Dobbyn, 1994);
- iNaturalist Explore Observations Map (iNaturalist, 2020);
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020);
- Prescott-Russell Official Plan (2016); and
- Prescott-Russell À La Carte Geoportal (2020).

2.2 Site Investigation

A single field investigation was completed on April 6, 2021, from approximately 13:20 to 14:45. Conditions during the site investigation were sunny, 12°C, Beaufort wind 1, with no precipitation.

The field investigation was completed by traversing the entire stretch of each road segment within the approximate limits of construction, and sections of Cobb's Lake Creek upstream and downstream of Cobb's Lake Creek Bridge, while documenting habitat conditions and documenting the presence/absence of SAR and their regulated habitat. The structural components of Cobb's Lake Creek Bridge were also investigated for presence/absence of SAR and their regulated habitat.

Photographs of relevant site features are provided in Appendix B.

3.0 RESULTS

3.1 Desktop Screening Results

Results of the desktop screening exercise are summarized in Table 3.1 below. The desktop screening exercise identified the potential for three mammalian, two insect, and one avian SAR within the project area.

TABLE 3.1
SCREENING RATIONALE FOR POTENTIAL SPEICES AT RISK ON-SITE OR WITHIN STUDY AREA

Species	ESA Status	Regional Distribution	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Avian					
Bald Eagle	Special Concern	Confirmed nest at Shirley's bay since 2012.	Nest in mature forests near open water.	Low	Site lacks suitable forest habitat adjacent to suitable open water and foraging area to support bald eagle activity.
Bank Swallow	Threatened	12 confirmed, 2 probable and 8 possible nests in recent OBBA.	Colonial nester, burrows in eroding silt, to sand banks, sand pit walls, etc.	Low	Suitable habitat not present on-site for species.
Barn Swallow	Threatened	33 confirmed, 2 probable, and 3 possible nests in recent OBBA.	Nests in barns and other semi-open structures. Forages over open fields and meadows.	Low	Bridge and buildings in study area may provide suitable nesting habitat, river may provide suitable foraging habitat. Species not observed during field investigation. No occurrence data through NHIC or other online databases.
Bobolink	Threatened	Widespread in the Ottawa region, confirmed and probable nests found in 39 or 40 local atlas squares during recent OBBA.	Nests in dense tall grass fields and meadows, low tolerance for woody vegetation.	High	Suitable habitat is present within the study area. NHIC database indicates species occurrence within 1km of site and surrounding area. Species not observed on-site.
Canada Warbler	Special Concern	1 confirmed, 2 probable, 6 possible nests during recent OBBA. No critical habitat identified in region.	Prefers wet forests with dense shrub layers	Low	Preferred wet forest habitat is not present on-site.
Cerulean Warbler	Threatened	No nests reported during recent OBBA. SARO and SARA range maps include part of Ottawa.	Prefers mature deciduous forest habitat.	Low	Preferred mature deciduous forest habitat is not present on-site or within study area.
Chimney Swift	Threatened	3 confirmed, 2 probable, and 11 possible nests in recent OBBA.	Nests in traditional-style open brick chimneys.	Low	Suitable nesting structures are not present on-site or within the broader study area.
Common Nighthawk	Special Concern	6 probable, 5 possible nests reported in recent OBBA. No critical habitat identified in Ottawa region.	Nests in a variety of open sites: beaches, fields and grave rooftops.	Low	Species known to nest in gravel and rocky areas such as quarries, gravel pits and bedrock outcrops. Suitable habitat is not present on-site or within study area. Species was not observed during the site investigation.
Eastern Meadowlark	Threatened	Sporadic occurrences in Ottawa region, more common in rural areas with pasture or fallow fields.	Nests and forages in dense tall grass fields and meadows, higher tolerance to woody vegetation.	Low	Suitable habitat present on-site and surrounding study area. No occurrence data from NHIC or other online databases. Species not observed during field investigation.
Eastern Whip-poor-will	Threatened	Primary breeding range located east, west and south of the Precambrian shield. 7 probable and 10 possible nests in recent OBBA. Critical habitat tentatively identified in 4 squares in western Ottawa.	Nests on the ground in open deciduous or mixed woodlands with little underbrush, and bedrock outcrops.	Low	No suitable woodland habitat occurs on-site or within study area.
Eastern Wood-Pewee	Special Concern	4 possible, 15 probable and 19 confirmed nests in recent OBBA for Ottawa area	Woodland species, often found near clearings and edge habitat.	Low	Suitable woodland habitat does not exist within study area.
Golden Eagle	Endangered	Migrant only in Ottawa area.	Nests on remote, bedrock cliffs, overlooking large burns, lakes or tundras	Low	Suitable nesting habitat is not present on-site.
Golden-winged Warbler	Special Concern	1 confirmed, 1 probable nest in recent OBBA. Critical habitat identified in Quebec, northwest of Ottawa.	Ground nesting, edge species. Breeds in successional scrub habitats surrounded by forests.	Low	Preferred scrub habitat is not present on-site or within the study area.
Evening Grosbeak	Special Concern	5 confirmed, 6 probable, 8 possible nests in recent OBBA.	Nests in trees or large shrubs, preference to large coniferous forests, will use deciduous. Overwinters in Ottawa.	Low	Suitable habitat does not occur on-site.
Henslow's Sparrow	Endangered	No nests in recent OBBA.	Prefers open, moist, tallgrass fields.	Low	No suitable tall grass habitat on-site to support Henslow's Sparrow. No records of species in broader study area.
Loggerhead shrike	Endangered	1 possible nest in recent OBBA. Critical habitat in Montague Township, however no confirmed nests from MNRF since 2002.	Prefers grazed pastures with short grass and scattered shrubs, especially hawthorn.	Low	Preferred pasture habitat and shrub vegetation may be present on-site and surrounding study area. No occurrence data from NHIC or other databases. Species not observed on-site.
Olive-sided Flycatcher	Special Concern	1 probable, 1 possible nest in recent OBBA.	Forest edge species, forages in open areas from high vantage points in trees.	Low	Preferred grassland habitat is not present on-site or within study area.
Peregrine Falcon	Special Concern	1 confirmed nest in recent OBBA and second nest established in 2011 in the Ottawa downtown.	Nests on cliffs near water and on more anthropogenic structures such as tall buildings, bridges, and smokestacks.	Low	Site lacks suitable nesting structure for peregrine falcon.
Red Knot	Endangered	Migrant only in region, found along Ottawa River shorelines, and area lagoons,	Nests in the far north, migrant along the shorelines and lagoons of the Ottawa River.	Low	Site does not provide suitable habitat for migrant red knot.
Red-headed Woodpecker	Special Concern	1 confirmed, 1 probable and 1 possible during recent OBBA. Nesting pair reported from village of Constance Bay in recent years.	Prefers open deciduous woodlands.	Low	Preferred woodland habitat is not present on-site.
Rusty Blackbird	Special Concern	No nests in recent OBBA. Primarily observed during migration only.	Wet wooded or shrubby areas (nests at edges of Boreal wetlands)	Low	Suitable habitat does not occur on-site.
Short-eared Owl	Special Concern	1 confirmed, 2 probable, 2 possible nests in recent OBBA.	Ground nester, prefers open habitats, fields and marshes.	Low	Suitable open field habitat occurs in study area. No occurrence data for species. Species not observed during field investigation.
Wood Thrush	Special Concern	5 possible, 15 probable, and 16 confirmed nests in recent OBBA for Ottawa area.	Prefers deciduous or mixed woodlands.	Low	Suitable woodland habitat does not exist within study area.
Mammalian					
Eastern small-footed Myotis	Endangered	Rare throughout its range. Historical records in downtown Ottawa.	Roosts in rock crevices, barns and sheds. Overwinters in abandoned mines. Summer habitats are poorly understood in Ontario, elsewhere prefers to roost in open, sunny rocky habitat and occasionally in buildings (Humphrey, 2017).	Moderate	Study area may contain suitable structures and natural habitat.
Little Brown Myotis	Endangered	Various sites in central and western parts of the Ottawa area. No critical habitat (hibernacula) identified in Ottawa to date.	Maternal colonies known to use buildings, may also roost in trees during summer. Affinity towards anthropogenic structures for summer roosting habitat and exhibit high site fidelity (Environment Canada, 2015).	Moderate	Study area may contain suitable structures and natural habitat.

TABLE 3.1
SCREENING RATIONALE FOR POTENTIAL SPEICES AT RISK ON-SITE OR WITHIN STUDY AREA

Species	ESA Status	Regional Distribution	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Northern myotis (Northern Long-eared Bat)	Endangered	Historical records in downtown Ottawa, more recently in sites to east (Orleans, Clarence-Rockland). No critical habitat (hibernacula) identified in Ottawa to date. Ottawa and region is at southern most limit of range.	Occurs throughout eastern North America in associated with Boreal forests. Roosts mainly in trees, occasionally anthropogenic structures during summer (Environment Canada, 2015). Overwinters in caves and abandoned mines.	Low	Species affinity is for Boreal forests and species rarely roosts in anthropogenic structures.
Tri-colored Bat	Endangered	Provincially Uncommon, only 26 documented occurrences in Ontario from pre-1980 to present (MNRF, 2016). Unknown distribution in Ottawa; historical records from sites in urban Ottawa and Lanark County.	Roosts in trees, rock crevices and occasionally buildings during summer. Overwinters in caves and mines.	Moderate	Study area may contain suitable structures and natural habitat.
Reptilian					
Blanding's Turtle	Threatened	Provincial range extends from Manitoulin Island south and east. Scattered occurrence records in central Ontario. Scattered throughout Ottawa and National Capital Region, with numerous sites in western half of region. Critical habitat present in Ottawa.	Inhabits quiet lakes, streams and wetlands with abundant emergent vegetation. Frequently occurs in adjacent upland forests.	Low	No historic occurrence data for species on NHIC or other online databases for the study area.
Northern Map Turtle	Special Concern	Ottawa River, Rideau River (Burritt's Rapids area), South Nation River	Rivers and lakeshores, hibernates on the bottom of deep, slow-moving sections of river	Low	No historic occurrence data for species on NHIC or other online databases for the study area.
Snapping Turtle	Special Concern	Widespread and abundant in Ottawa and surrounding region.	Highly aquatic species, found in a wide variety of wetlands, water bodies and watercourses.	Low	Occurrence data from Ontario Herp and Reptile Atlas shows species within 10km. Species likely associated with wetlands, larger bodies of water and/or South Nation River. Site may contain suitable aquatic habitat and terrestrial nesting habitat to support snapping turtle. Snapping turtle were not observed during the site investigations.
Plants					
American Ginseng	Endangered	Critical habitat broadly identified in the Ottawa area. Specific locations are confidential.	Rich, moist, relatively mature deciduous forests.	Low	Suitable habitat does not occur on-site.
Butternut	Endangered	Range is confined to eastern and southern Ontario. Widespread in Ottawa and region.	Inhabits a wide range of habitats including upland and lowland deciduous and mixed forests.	Low	Species was not observed during field investigation. NHIC shows no occurrence data for species.
Lichens					
Pale-bellied Frost Lichen	Endangered	Historical records in downtown area (extirpated locally). No critical or regulated habitat identified in Ottawa.	Grows on the bark of hardwood trees such as white ash, black walnut, American elm and ironwood. Can also be found growing on fence posts and boulders.	Low	Species believed to be extirpated from the Ottawa area.
Insects					
Bogbean Buckmoth	Endangered	Richmond Fen	Preferred food plant is bog bean, present in a variety of wetlands including bogs, swamps and fens.	Low	Preferred wetland habitat is not present on-site.
Gypsy Cuckoo Bumble Bee	Endangered	Historic occurrences only. Range in Ontario uncertain.	Inhabits a wide range of habitats: open meadows, agricultural and urban areas, boreal forests and woodlands.	Low	Currently the only known population is in Pinery Provincial Park
Monarch Butterfly	Special Concern	Widespread in the region	Caterpillars require milkweed plants confined to meadow and open areas. Adult butterflies use more diverse habitat with a variety of wildflowers	Moderate	Potentially suitable foraging habitat for monarch butterflies occurs on-site.
Mottled Duskywing	Endangered	Constance Bay area, Burnt Lands Alvar	Larval food plant (New Jersey Tea) found in sandy areas and alvars.	Low	Sandy areas and alvars not present in the study area.
Nine-spotted Lady Beetle	Endangered	Historically present but no reports in Ontario since mid-1990s	Habitat generalist	Low	No recent occurrence reports in the area, thought to be locally extirpated.
Rusty-patched Bumble Bee	Endangered	Historic records in Ottawa and Gatineau	Habitat generalist	Low	Currently the only known population occurs in Pinery Provincial Park.
Traverse Lady Beetle	Endangered	Unknown in Ottawa region. No southern Ontario records since 1985	Habitat generalist	Low	No new records of traverse lady beetle in Ontario, species thought to be absent in former habitats.
West Virginia White Butterfly	Special Concern	Unknown. No NESS or NHIC records. SARO range map includes Ottawa.	Requires mature moist deciduous woods with larval host plant toothwort.	Low	Necessary vegetation and toothwort plant not present on-site or within study area.
Yellow-banded Bumble Bee	Special Concern	Unknown. Historic occurrences and a few recent occurrences in Eastern Ontario/Western Quebec region.	Habitat generalist; mixed woodlands, variety of open habitat	Moderate	Potentially suitable foraging habitat for yellow-banded bumble bee occurs on-site.
Fish					
American eel	Endangered	Ottawa, Mississippi, South Nation and Rideau Rivers (including Rideau Canal)	Primarily nocturnal, hiding in soft substrate or submerged vegetation during the day. Known to traverse land while migrating.	Low	Open water present, site does not provide suitable habitat for species. No occurrence records for species from NHIC, DFO, or other online database. Species not observed during field investigation.
Channel darter	Special Concern	Several locations from the St. Clair and Detroit rivers to Lake Erie, and in tributaries of eastern Lake Ontario and the St. Lawrence and Ottawa rivers.	Prefers areas with moderate current over sandy or rocky substrate.	Low	Open water present, site does not provide suitable habitat for species. No occurrence records for species from NHIC, DFO, or other online database. Species not observed during field investigation.
Lake Sturgeon (Great Lakes - Upper St. Lawrence populations)	Endangered	Ottawa River and St. Lawrence River	Only found in large lakes and rivers. Forages in cool water, 4-9 m deep over soft substrate; spawns in shallower, fast-flowing areas over rocks or gravel.	Low	Open water present, site does not provide suitable habitat for species. No occurrence records for species from NHIC, DFO, or other online database. Species not observed during field investigation.
Northern brook lamprey	Special Concern	Ottawa River	Non-parasitic species; prefers shallow areas with warm water. Larvae live in burrows in soft substrate for up to 7 years.	Low	Open water present, site does not provide suitable habitat for species. No occurrence records for species from NHIC, DFO, or other online database. Species not observed during field investigation.
River redhorse	Special Concern	Ottawa and Mississippi Rivers; unconfirmed reports from Rideau River	Prefers fast-flowing, clear rivers over rocky substrate.	Low	Open water present, site does not provide suitable habitat for species. No occurrence records for species from NHIC, DFO, or other online database. Species not observed during field investigation.
Silver Lamprey	Special Concern	Ottawa River and mouths of tributaries from Rideau Canal east (downstream)	Larvae live 4-7 years in burrows (prefer soft substrates). Require clear water so they can find fish hosts, relatively clean stream beds of sand and organic debris for larvae, and unrestricted migration routes for spawning.	Low	Open water present, site does not provide suitable habitat for species. No occurrence records for species from NHIC, DFO, or other online database. Species not observed during field investigation.
Mollusc					
Hickorynut	Endangered	Ottawa River	Lives in sandy bottomed large rivers, in deep (>2 m) flowing water. Larval host believed to be Lake Sturgeon.	Low	Open water present, site does not provide suitable habitat for species. No occurrence records for species from NHIC, DFO, or other online database. Species not observed during field investigation.

3.2 Vegetation Communities

The majority of the study area was heavily dominated by agricultural fields. Vegetation present on-site reflects species commonly found in disturbed road-side environments and crops associated with the agricultural fields. At the time of the site investigation, the majority of herbaceous and graminoid species that were present were in their seasonal dormant phase and as such were unidentifiable.

Riparian vegetation was limited to the crops associated with the agricultural fields. Throughout most of the study area, the crops encroached onto the top of the river banks with little to vegetative buffer. The upstream section of Cobb's Lake Creek appeared to have breached the banks and flooded a small area of the agricultural fields to the north. No in-water vegetation was identified within Cobb's Lake Creek as the high turbidity severely impeded visibility.

Tree and shrub species on-site were sparse and limited to a few Manitoba maples (*Acer negundo*) and red maples (*Acer rubrum*) located between the road and the drainage ditches. A single large American elm (*Ulmus americana*) was identified immediately adjacent to and overhanging the bridge.

Areas along the roadside and drainage swales were noted as being disturbed, dominated by terrestrial herbaceous and graminoid species. Though mostly dormant, the area was likely composed of common species reflective of shallow, disturbed soils: goldenrod (*Solidago sp.*), milkweed (*Asclepias syriaca*), aster species (*Symphyotrichum sp*.), grasses (*Poaceae sp*.), wild parsnip (*Heracleum sp*.), common mullein (*Verbascum thapsus*), cow vetch (*Vicia cracca*), and common ragweed (*Ambrosia artemisiifolia*).

No butternut nor other SAR vegetation species were observed on-site.

3.3 Wildlife

Targeted wildlife surveys were not completed as part of this project.

During the site investigation, various avian species were noted as flying overhead or within the study area: American robin, common raven, mallards, Canadian geese, song sparrow, American crow, red-winged blackbird, and turkey vulture. A large congregation of Canadian geese and other waterfowl were observed within the upstream section of Cobb's Lake Creek, just outside of the study area.

No evidence of bird nesting was observed anywhere within the site. No avian species were observed using the bridge or its immediate structure. No barn swallows, an avian SAR commonly associated with bridges were observed on-site.

Mammalian species observed on-site during the investigation was limited to muskrats. No other evidence of wildlife activity was observed within the vicinity of the bridge.

The single American elm was noted to have various holes and cavities. These cavities ranged from woodpecker foraging activity to larger cavities possibly used by larger birds or small mammalian species. No wildlife were observed utilizing the tree cavities.

No reptilian species or evidence of reptilian activity was directly observed on-site. The banks along the watercourse contained exposed soft aggregate, with the shoulders along Du Lac Road noted as being gravel. The exposed soft aggregate and gravel areas may provide potential nesting areas for snapping turtles. No evidence of turtle nests were observed at the time of the site investigation.

Information made available through Prescott-Russell Official Plan (2016) and Prescott-Russell À La Carte Geoportal (2020) indicates that Cobb's Lake Creek provides fish habitat as well as providing a linkage to a variety of other natural heritage feature habitats including other fish bearing watercourses, wetlands, wildlife travel corridors, wintering areas, and other linkages, as well as waterfowl staging habitat.

No fish or any other aquatic wildlife were observed within the watercourse.

It is important to note than none of the species or direct evidence of species observed during the site investigation are indicative of any SAR.

3.4 Fish Habitat

Specific presence/absence, nor population surveys for fish species were conducted within the scope of this investigation. No fish species were directly observed within the watercourse during the site investigation. Ontario GeoHub (2020) classifies the watercourse as a permanent stream.

Within the confines of the study area, the river was noted as being mostly channelized with a gentle meander. The upstream section of Cobb's Lake Creek was much wider comparatively to the downstream portion. The upstream section was very flat, likely serving as a low spot for surficial runoff from the adjacent agricultural fields. During the site investigation, the upstream area was noted as being inundated, with water reaching approximately 1/3 of the way to high water mark. Information made available through Prescott-Russell À La Carte Geoportal (2020) indicates that the upstream area serves as a designated flood plain.

At the time of the site investigation, the flow within the river was noted as being slow and steady. The river was observed to be very murky with heavy sediment and deep brown in colour. Neither instream characteristics, candidate habitat structures, nor the bottom of the river were visible during the site investigation due to the high turbidity. Visible fish habitat features were limited to undercut banks and minimal vegetative overhang from the banks.

The river was noted as being deep, with depths estimated to be greater than 1 m throughout the study area. Substrate within the river was not assessed, although it is likely composed of deep,

soft sand and organic matter depositions. The banks were noted as being gradual to steep, encroached on by agricultural practices, with considerable erosion and scouring. Overland sheet flow erosion was identified within the upstream areas of the river. Exposed soft substrates were located along the banks.

The river is bounded entirely by agricultural fields and serves as a drainage point for surficial runoff. Three surficial drainages were noted discharging into river, all of which are classified as municipal drainages. The water flowing from these drainages into Cobb's Lake Creek were noted to be very turbid, further contributing to heavy sediment loading.

Ontario GeoHub (2020) and Prescott-Russell À La Carte Geoportal (2020) indicate a series of interspersed wetlands within Cobb's Lake Creek. All of the wetlands remain unevaluated.

No obvious barriers or obstructions to fish passage were observed within the river during the site investigation.

Prescott-Russell À La Carte Geoportal (2020) indicates the presence of confirmed fish habitat within Cobb's Lake Creek as well as the other three municipal drains. Given the poor water quality of the water courses, only species tolerable of poor and unfavorable conditions, are anticipated to be found within the watercourses.

The identified fish habitat is unlikely to be impacted by the proposed project based on pre-existing structure, the scope of the project to replace what currently exists, and overall poor water quality with lack of available habitat to sustain healthy fish communities.

3.5 Species at Risk

Following completion of the site investigation, no SAR species were identified within the limits of construction, or within the study area.

Of the regional SAR identified during the desktop screening search, three mammalian (eastern small-footed myotis, little brown myotis, and tri-colored bat) and two insect (monarch butterfly and yellow-banded bumble bee) SAR were identified as having a moderate potential to occur within the project area; however, all SAR are unlikely to be impacted by the project due to their mobile nature and lack of suitable habitat within the scope of the project.

Notwithstanding the above, one avian SAR of threatened status (bobolink) has been identified through the desktop search as having high potential to occur on site. Habitat for bobolink can be found throughout most of the study area and beyond. The open agricultural fields identified to encompass the surrounding area provides suitable nesting and foraging habitat for bobolink. Bobolink, nor evidence of bobolink were observed during the site investigation.

Given the scope of the project, abundant amount of available habitat outside of the project and study areas, potential impacts to bobolink are anticipated to be indirect and minimal in nature. Potential indirect impacts to bobolink include increased noise level and disturbances, and increased human-wildlife interactions. Given the surrounding land use context and lack of available suitable nesting habitat within the project area, direct impacts to nesting bobolink are not anticipated. Mitigation measures to protect bobolink resulting from the project are provided in Section 4.

4.0 AVOIDANCE AND MITIGATION MEASURES

The following avoidance and mitigation measures are recommended in order to minimize or avoid, to the greatest extent possible, the potential impacts from the culvert replacement on the local environment, including the identified SAR:

- Vegetation removal, if required, shall occur outside the key breeding bird period (typically April 15 to August 15) as identified by Environment Canada for the protection of migratory birds and to avoid contravention of the Migratory Bird Convention Act. If vegetation clearing activities must take place during the aforementioned timing window than a nest survey shall be conducted by a qualified professional.
- Vegetation removal, if required, should occur outside of the spring and summer active season (typically May 1 to September 1), when bats are more likely to be using treed habitats. If vegetation clearing must be conducted during the aforementioned timing window than a roost survey should be conducted by a qualified professional.
- To protect trees identified to be retained during construction, the Critical Root Zone (CRZ) should be identified and fenced. The CRZ is defined as 10 cm from the base of the tree for every centimetre in diameter of the tree trunk at breast height.
- Perform daily pre-work sweeps of the construction area to ensure no species at risk are present and to remove any wildlife from inside the construction area.
- Erosion and sediment control should be prepared by a qualified person and measures implemented prior to any construction works and be maintained until all disturbed ground has been permanently stabilized.
- During construction if any SAR are identified on-site all work should stop and a qualified professional and the MECP should be contacted for next steps. Sighting should be reported to the MECP and the NHIC.

In addition to the measures above, sediment fencing/exclusion fencing is recommended to be installed at the up gradient and downgradient edge of the construction area for the protection of wildlife SAR, protection of fish and fish habitat, and protection of water quality within Cobb's Lake Creek:

- To protect migrating turtles associated with the watercourse, exclusion fencing should be installed around the entire construction area prior to construction commencing to prohibit the movement of turtles into the construction area. Following installation of exclusion fencing, a qualified professional should be retained to sweep the construction area to remove any turtles which may be trapped within the exclusion fencing.
    - Exclusion fencing should follow the protocols outlined in the Species at Risk Branch: Best Practices Technical Note: Reptile and Amphibian Exclusion Fencing Version 1.1 (MNRF, July 2013).
- To prevent turtles nesting within the construction zone, all stockpiled materials should be covered with a geotextile between May 1 and August 1 of any year.
- To protect potential travel corridors and migrating turtles, all existing riparian zone vegetation along the watercourse should be maintained to the extent as possible to provide protection and cover, and if removed, reinstated following construction.

The following general mitigation measures are recommended for the protection of water quality and fish habitat:

- Heavy duty silt fencing shall be installed along the downgradient edge of the construction area with accordance to the Ontario Provincial Standard Specification (OPSS) 805.
- Maintain as much of the natural vegetation as possible within and around the construction project. Post-construction, degraded vegetation within the disturbed areas should be replaced by planting of local or non-invasive plant species, or seeded, as to prevent further soil erosion.
- Schedule work to avoid wet, windy and rainy periods.
- Maintain erosion and sediment control measures until all disturbed ground has been permanently stabilized, suspended sediment has resettled and runoff water is clear.
- To protect aquatic habitat for snapping turtle and fish species, machinery should be maintained in good working condition and all machinery should be fueled a minimum of 30 m from the high water mark.

5.0 CLOSURE

This Species at Risk Assessment was completed based on our understanding of the project at the time of writing. The investigation undertaken by GEMTEC with respect to this report and any conclusions or recommendations made in this report reflect the best judgements of GEMTEC based on the site conditions observed during the investigations undertaken at the date(s) identified in the report and on the information available at the time the report was prepared.

This report has been prepared for the application noted and it is based, in part, on visual observations made at the site, all as described in the report. Unless otherwise stated, the findings contained in this report cannot be extrapolated or extended to previous or future site conditions or for portions of the site that were unavailable for direct investigation.

Should new information become available during future work or other studies, GEMTEC should be requested to review the information and, if necessary, re-assess the conclusions presented herein.

We trust this report provides sufficient information for your present purposes. If you have any questions concerning this report, please do not hesitate to contact our office.

Sincerely,

Adam M. Alaimo, B. Sc.
Biologist

Drew Paulusse, B.Sc.
Senior Biologist

6.0 REFERENCES

Cadman M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier. 2007. Atlas of the Breeding Birds of Ontario, 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature. Toronto.

Department of Fisheries and Oceans (DFO). 2019. Aquatic Species at Risk Map. Accessed: May 5, 2021. Available: http://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html

Dobbyn, J.S. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists, Toronto.

eBird Canada. 2020. Explore Hotspots Map. Accessed: May 5, 2021. Available: https://ebird.org/canada/map

iNaturalist: Explore Observations Map. 2020. Accessed: May 5, 2021. Available: https://www.inaturalist.org/observations?place_id=any

Land Information Ontario. (2020, June 2). Retrieved from Government of Ontario: https://www.ontario.ca/page/land-information-ontario

Make A Map: Natural Heritage Areas. Accessed: May 5, 2021. Retrieved from Ministry of Natural Resources and Forestry: Ontario Ministry of Natural Resources and Forestry (OMNRF). 2014. Make a Map: Natural Heritage Areas.

Oldham, M.J., and S.R. Brinker. 2009. Rare Vascular Plants of Ontario, Fourth Edition. Natural Heritage Information Centre, Ontario Ministry of Natural Resources. Peterborough, Ontario

Ontario Geological Survey (OGS, 2019) http://www.geologyontario.mndm.gov.on.ca/index.html

Ontario, Government of (Ontario). 2019. Bobolink. Accessed May 5, 2021. Available online: https://www.ontario.ca/page/bobolink

Ontario Legislative Assembly (Ontario). 2007. Endangered Species Act.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2018. Natural Heritage Information Request Guide. Available: https://www.ontario.ca/page/get-natural-heritage-information

Ontario Reptile and Amphibian Atlas. Accessed: May 5, 2021. Retrieved from Ontario Nature:https://www.ontarioinsects.org/herp/index.html?Sort=0&area2=squaresCounties&records=all&myZoom=5&Lat=42.97&Long=-74.32

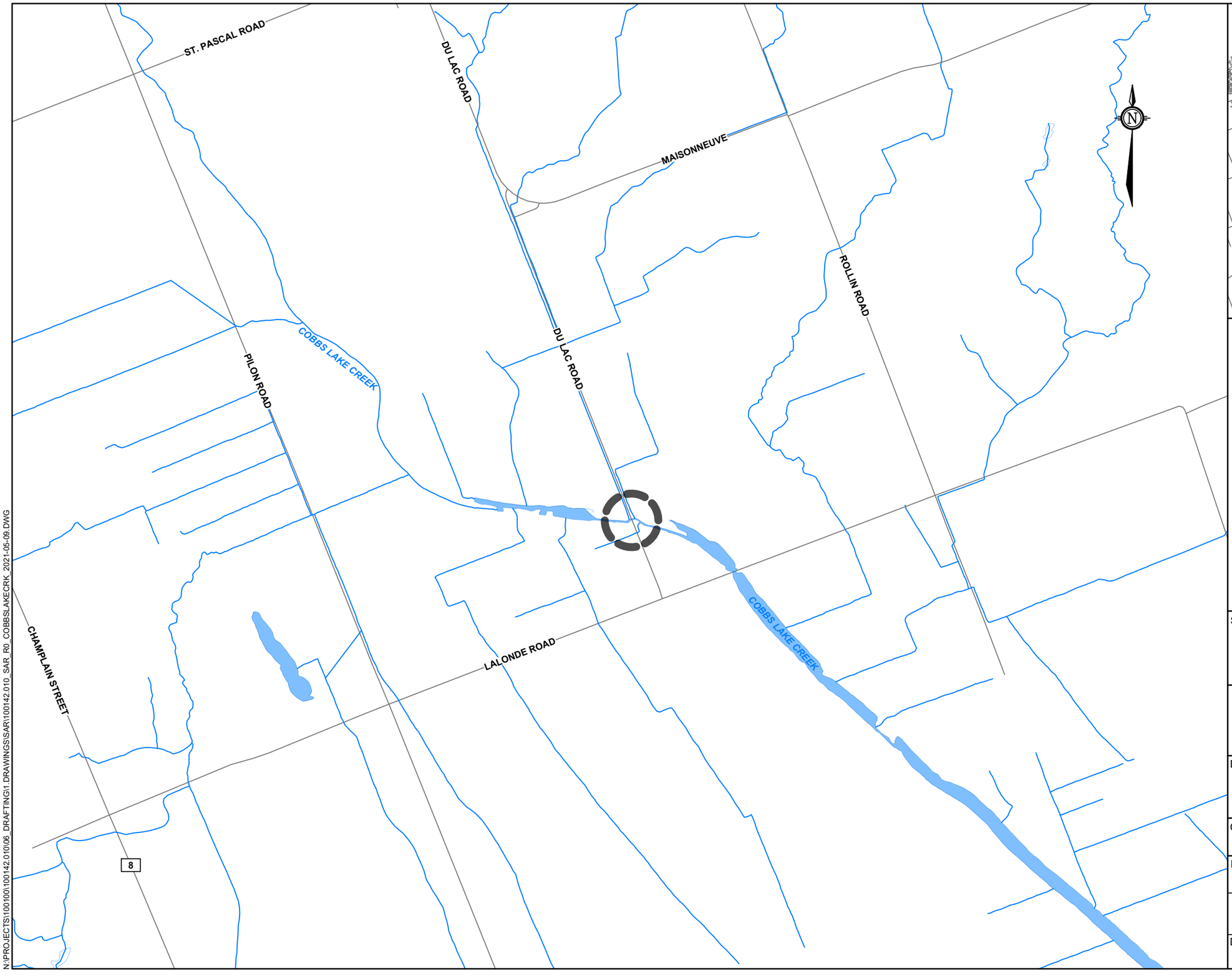
Prescott-Russell, 2020. Prescott-Russell À La Carte Geoportal. Accessed May 5, 2021. Available online: https://alacarte.prescott-russell.on.ca/Html5Viewer/Index.html?Viewer=Public

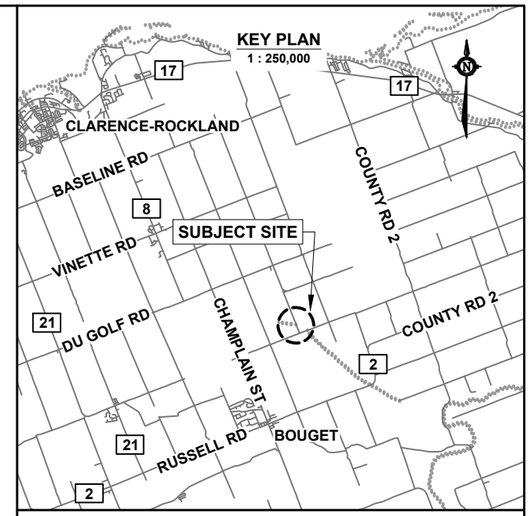
Prescott-Russell, 2016. Prescott-Russell Official Plan. Available online: http://en.prescott-russell.on.ca/services/planning_and_forestry/official_plan

Species at Risk in Ottawa, June 13, 2017. Available online: http://greenspace-alliance.ca/wp-content/uploads/2017/11/Species-at-Risk-in-Ottawa_June2017.pdf

APPENDIX A

Report Figures
Figure A.1 – Site Location
Figure A.2 – Site Layout





LEGEND

- STUDY AREA (120m RADIUS FROM THE PROPERTY BOUNDARY)
- ROADWAYS
- WATERCOURSE
- WATERBODY

Scale
1:15,000
0 300 600 900m

GEMTEC
Consulting Engineers and Scientists
32 Steacie Drive
Ottawa, ON K2K 2A9
Tel: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca

Drawing
SITE LOCATION

Client
HP ENGINEERING INC.

Project
100142.010

Drwn by
S.L.

Chkd by
A.A.

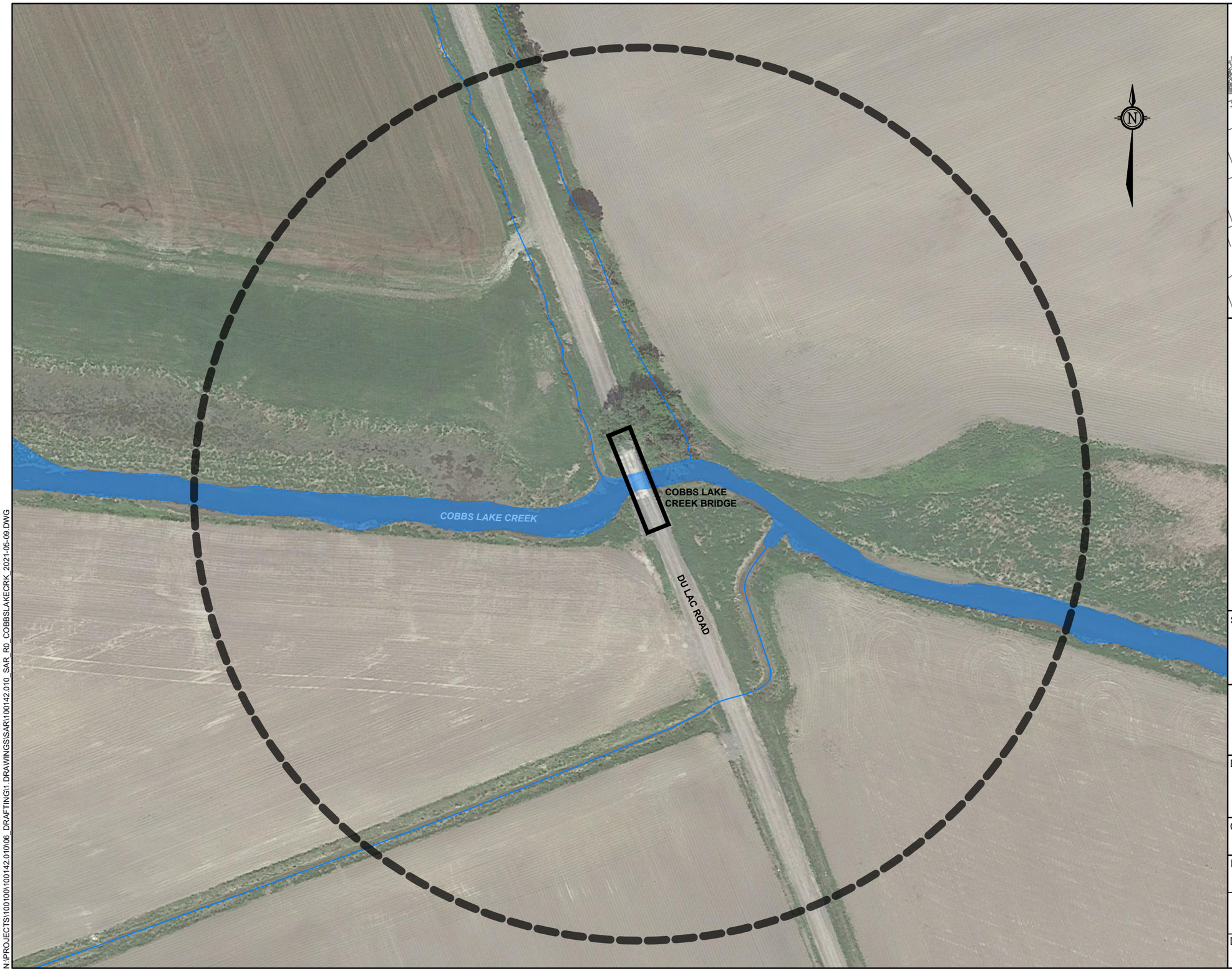
SPECIES AT RISK ASSESSMENT
COBBS LAKE CREEK BRIDGE
CLARENCE-ROCKLAND, ONTARIO

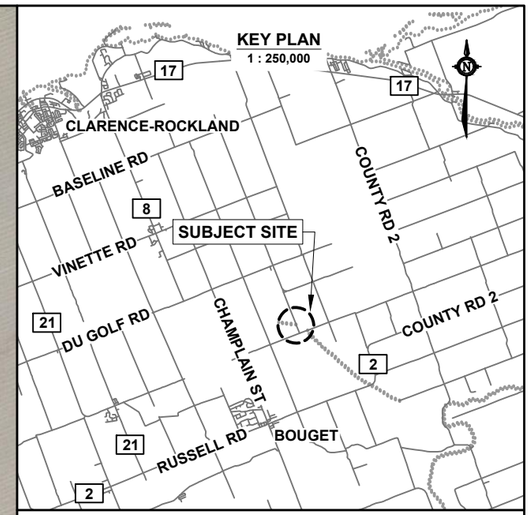
Date
MAY, 2021

Rev.
0

FIGURE A.1

N:\PROJECTS\100100\100142.010\06_DRAFTING\1.DRAWINGS\SAR\100142.010_SAR_R0_COBBSLAKECRK_2021-05-09.DWG





LEGEND

- STUDY AREA (120m RADIUS FROM THE PROPERTY BOUNDARY)
- ROADWAYS
- WATERCOURSE
- WATERBODY

Scale
1:1000
0 20 40 60m

GEMTEC
Consulting Engineers and Scientists
32 Steacie Drive
Ottawa, ON K2K 2A9
Tel: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca

Drawing
SITE LAYOUT

Client
HP ENGINEERING INC.

Project
100142.010

SPECIES AT RISK ASSESSMENT
COBBS LAKE CREEK BRIDGE
CLARENCE-ROCKLAND, ONTARIO

Drwn by: S.L.
Chkd by: A.A.

Date: MAY, 2021
Rev.: 0

FIGURE A.2

N:\PROJECTS\100100\100142.010\06_DRAFTING\1_DRAWINGS\SAR\100142.010_SAR_R0_COBBSLAKECRK_2021-05-09.DWG

APPENDIX B

Site Visit Photographs

Site Photograph 1 – Southern extent of study area, looking north towards bridge.

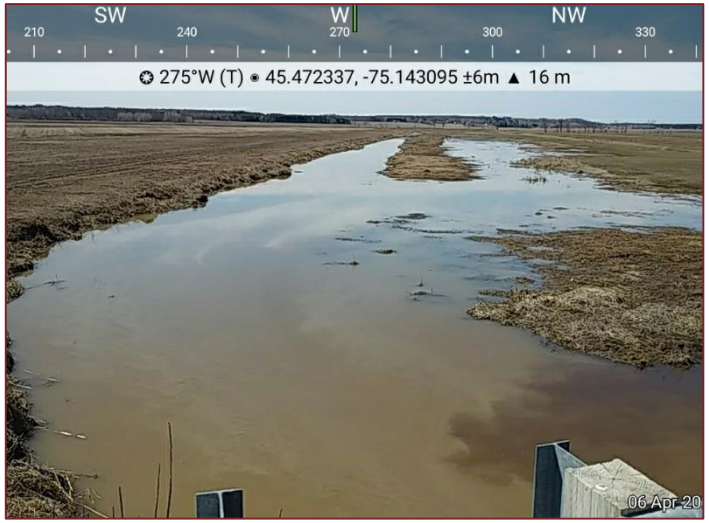
Site Photograph 2 – Looking north from bridge.

Site Photograph 3 – Upstream aspect of bridge.

Site Photograph 4 – Downstream aspect of bridge.

GEMTEC Consulting Engineers and Scientists	Project: SAR Screening Assessment Cobbs Lake Creek, Du Lac Road, Clarence-Rockland, Ontario	**APPENDIX B** File No. 100142.010	**Site Photographs**

Site Photograph 5 – Bridge, looking north. Single large tree adjacent to bridge.

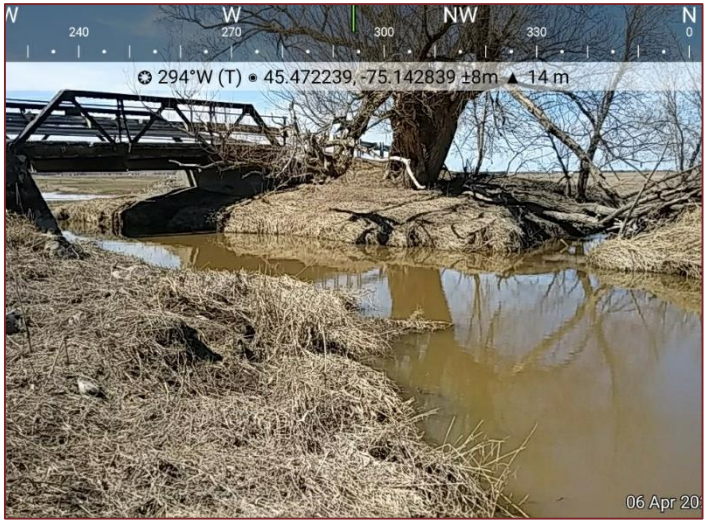


Site Photograph 6 – Looking upstream at Cobbs Lake Creek, flooded farm field.

Site Photograph 7 – Upstream, agricultural ditch discharging into Cobbs Lake Creek.

Site Photograph 8 – Downstream view of bridge.

GEMTEC Consulting Engineers and Scientists	Project: SAR Screening Assessment Cobbs Lake Creek, Du Lac Road, Clarence-Rockland, Ontario	**APPENDIX B** File No. 100142.010	**Site Photographs**



Site Photograph 9 – Downstream view of bridge, agricultural drainage discharging into creek.

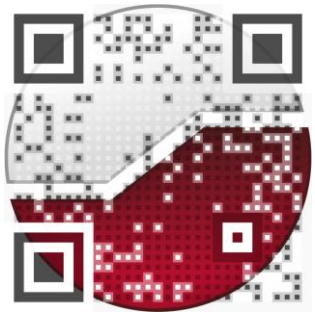
Site Photograph 10 – Looking east at Cobbs Lake Creek, agricultural drainage discharge into creek.

Site Photograph 11 – Looking south to bridge, agricultural drainage and few trees.

Site Photograph 12 – Typical example of surrounding landscape.

GEMTEC Consulting Engineers and Scientists	Project: SAR Screening Assessment, Cobbs Lake Creek, Du Lac Road, Clarence-Rockland, Ontario	**APPENDIX B**	**Site Photographs**
		File No. 100142.010	

experience • knowledge • integrity



civil	civil
geotechnical	géotechnique
environmental	environnementale
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

expérience • connaissance • intégrité