

***Species at Risk Assessment Report***  
**Wellness Drive Apartment Complex**  
**Mohawks of the Bay of Quinte**

Prepared for:

Mohawks of the Bay of Quinte  
24 Meadow Drive  
Tyendinaga Mohawk Territory, Ontario  
K0K 1X0

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## 1. Introduction

The Greer Galloway Group was retained by the Mohawks of the Bay of Quinte (MBQ) to undertake a Species at Risk (SAR) assessment to address the potential impacts associated with the planned Apartment Complex located at the end of Wellness Drive, west of Sandie’s Lane, Tyendingaga Mohawk Territory. The property is square in shape and approximately 3.8 ha in size (see Figure 1: Site location Map in Appendix A).

## 2. Species at Risk Assessment – Scope of Work

The initial step in the assessment was a review of available information for the property and surrounding landscape. The list of SAR potentially occurring within the area was developed using multiple background resources including:

- Ontario Breeding Bird Atlas Website (Bird Studies Canada, *et al.* 2006);
- Reptiles and Amphibians of Ontario Range Maps – Online Tool (Ontario Nature 2019);
- Species at Risk in Ontario List – Online Tool (OMNRF 2019);
- Natural Heritage Information Centre (NHIC online web tool) (OMNRF 2019);
- Atlas of the Mammals of Ontario (Dobbyn 1994);
- DFO SAR Mapping (DFO 2019).

Once the list was compiled, a screening exercise was completed to determine the presence of suitable habitat conditions based on known preferred habitat characteristics for each SAR potentially occurring within the study area. This assessment was completed through site visits (see Table 1) during which suitable habitat for SAR was searched for and signs of species presence were documented. Identification of birds by sight and sound, wildlife, wildlife habitat and identification of representative species of flora was also documented. No detailed fish habitat survey was performed but a general description of the aquatic habitat was completed.

**Table 1: Summary of Natural Environment Site Investigations in the Study Areas**

Date	Inspection staff	Type of survey
May 22, 2020	Y. Ramirez	SAR, Breeding Birds; Ecological Land Classification; SAR Habitat Assessments
May 27, 2020	Y. Ramirez, Celia Bird	SAR, Breeding Birds; Ecological Land Classification; SAR Habitat Assessments
July 2, 2020	Y. Ramirez, Celia Bird	SAR, Breeding Birds; Ecological Land Classification; SAR Habitat Assessments

## 3. Planning Context

This Species at Risk report was carried out with reference to the legislation and policies described in the following subsections. While the subject lands do not fall under Provincial jurisdiction, the provincial relevant provincial policies provide a useful technical guidance:

### Species at Risk Act

The purpose of the Species at Risk Act (SARA) are to prevent wildlife species in Canada from disappearing; to provide for the recovery of wildlife species that are extirpated (no longer exist in the wild in Canada), endangered, or threatened as a result of human activity; and to manage species of special concern to prevent them from becoming endangered or threatened. A series of measures applicable across Canada provides the means to accomplish these goals. Some of these measures establish how governments, organizations, and individuals in Canada work together, while others implement a species assessment process to ensure the protection and recovery of species.

### Endangered Species Act

Species listed on the Species at Risk in Ontario (SARO) list as endangered or threatened are protected under the *Endangered Species Act, 2007* (ESA). Section 9(1) of the ESA prohibits a person from killing, harming, harassing, capturing, or taking a member of a species listed as endangered, threatened or extirpated on the SARO list. Section 10(1) of the ESA prohibits the damage or destruction of habitat of a species listed as endangered or threatened on the SARO list. The Ministry of the Environment, Conservation and Parks is the authority that administrate the *Endangered Species Act*.

### Provincial Policy Statement

The Ontario Planning Act (1990) requires that planning decisions be consistent with the Provincial Policy Statement, 2014 (PPS). Section 2.1 of the PPS specifies policy related to protection of natural heritage features and functions. According to Subsection 2.1.4 of the PPS, development and site alteration shall not be permitted in:

*Significant wetlands in Ecoregions 5E, 6E and 7E, and Significant coastal wetlands*

*Under subsection 2.1.6, development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.*

*Subsection 2.1.7 states that development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*

*Subsection 2.1.8 states that development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.*

### Fisheries Act

In accordance with the Federal *Fisheries Act*, any in-water works that may cause “harmful, alteration, disturbance and destruction (HADD) of fish habitat”, requires review by the Department of Fisheries and Oceans (DFO). Section 35 of the Act outlines that “No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.

## 4. Species at Risk Records Review

Species at Risk (SAR) included those species listed in the ESA and the SARA. An assessment was conducted to determine presence and potential habitat for SAR in the subject property and adjacent lands potentially to be affected by the proposed development. An initial desktop review was conducted to identify SAR likely to be present within 2 km of the study area using the NHIC database, OBBA, and ORAA.

A summary of potential SAR to be found in the area is provided on the following table:

**Table 2: Summary of Natural Environment Site Investigations in the Study Area**

Common Name	Scientific Name	Federal Status	Provincial Status	Probability of Occurrence	Rationale
<b>Birds</b>					
Bank Swallow	<i>Riparia riparia</i>	Threatened	Threatened	Low	Suitable habitat is not found on the property.
Barn Swallow	<i>Hirundo rustica</i>	Threatened	Threatened	Low	Suitable habitat is not found on the property.
Eastern Meadowlark	<i>Sturnella magna</i>	Threatened	Threatened	Low	Suitable habitat is not found on the property.
Bobolink	<i>Dolichonyx oryzivorus</i>	Threatened	Threatened	Low	Suitable habitat is not found on the property.
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	Threatened	Threatened	Low	Suitable habitat is not found on the property.
Least Bittern	<i>Ixobrychus exilis</i>	Threatened	Threatened	Low	Suitable habitat is not found on the property.
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Special Concern	Special Concern	Low	Suitable habitat is not found on the property.
Eastern Wood-pewee	<i>Contopus virens</i>	No status	Special Concern	Medium-High	Suitable habitat suitable on the woodland.
Common Nighthawk	<i>Chordeiles minor</i>	Threatened	Special Concern	Low	Suitable habitat is not found on the property.
Loggerhead Shrike	<i>Lanius ludovicianus</i>	No status eastern subspecies	Endangered	Medium-High	Suitable habitat is found on the property.
Wood Thrush	<i>Hylocichla mustelina</i>	Threatened	Special Concern	Medium-High	Suitable habitat is found on the woodland.
<b>Herpetofauna</b>					
Northern Map Turtle	<i>Graptemys geographica</i>	Special Concern	Special Concern	Low	Suitable habitat is not found on the property.
Eastern Musk Turtle	<i>Sternotherus odoratis</i>	Special Concern	Special Concern	Low	Suitable habitat is not found on the property.
Blanding's Turtle	<i>Emydoidea blandingii</i>	Threatened	Threatened	Low	Suitable habitat is not found on the property.
Snapping Turtle	<i>Chelydra serpentina</i>	Special Concern	Special Concern	Low	Suitable habitat is not found on the property.
<b>Amphibians</b>					
Western Chorus Frog	<i>Pseudacris triseriata</i>	Not at Risk	Threatened	Medium-High	Potential suitable habitat is found in the meadow-marsh.
<b>Mammals</b>					
Northern Myotis	<i>Myotis septentrionalis</i>	Endangered	Endangered	Low	Suitable habitat is not found on the property.
Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	Endangered	Low	Suitable habitat is not found on the property.
Tri-coloured Bat	<i>Perimyotis subflavus</i>	Not Status	Endangered	Low	Suitable habitat is not found on the property.
<b>Insects</b>					
Monarch	<i>Danaus plexippus</i>	Special Concern	Special Concern	High	Suitable feeding plants on the property. The species was observed on the property.
<b>Plants</b>					
Butternut	<i>Juglans cinerea</i>	Endangered	Endangered	Low	Individuals were not observed on the property.

Fish and Mussel Species at Risk are not possible to be present within nor near the property as there are no watercourses. The closest watercourse is located approximately 180 m north of the property.

## 5. Existing Conditions and SAR Assessment

The proposed development is located within the territory of the Mohawks of the Bay of Quinte. The area is part of the Mixed Wood Plains ecozone and Lake Simcoe- Rideau Ecoregion (6E). This ecoregion extends from Lake Huron in the west to the Ottawa River in the east, and includes most of the Lake Ontario shore and the Ontario portion of the St. Lawrence River Valley (Crins *et al*, 2009).

Paleozoic bedrock of the Verulam Formation underlies this area. The formation consists of dolomite and limestone, medium brown and grey, finely crystalline, uniformly bedded with subequal thickness of pale to medium brown and grey bioclastic limestone, and grey and brown shale. The formation occurs in beds 3 to 5 cm in thickness. The thickness of the formation has been estimated to be 90 m (Carson, 1981).

The study area is located within the Napanee Plains physiographic region, a flat to undulating limestone plain from the Middle Ordovician that was stripped of most of the overburden by glaciation. The gently undulating topography of the area gradually slopes towards Lake Ontario. The soils in the area are less than 30 cm in depth but in some areas deeper glacial till can be found. The highest elevation is reported as 95 metres above sea level (mASL) south of the property and sloping down to the surrounding lands to a lowest elevation of 90 mASL.

The property is relatively flat with the highest elevation observed along the east side of the property (land grading) and in the south corner. The highest elevation (sloping land) along the east property line is associated with land grading for construction of Sandie's Lane Subdivision and extra filling in this area. The land grading of the Sandie's Lane Subdivision and the development located north of the property have changed the natural drainage on the property, creating a low area on the north-east part of the property which receives drainage within the property and from adjacent lands. There are no watercourses on or adjacent to the property. Ministry of Natural Resources and Forestry online mapping shows a creek and a wetland north of the property, and a wetland between Sandie's Subdivision and Ridge Road. The creek is located approximately 180 m north of the property.

Soils on the property are of the Sidney Clay Series. The Sidney soils are poorly drained clay soils. The topography is nearly level and, in some areas, slightly depressional. The parental material is a grey calcareous stone-free clay (Gillespie *et. al.*, 1962).

The subject property is located west of Sandie's Drive and it is accessed directly from Wellness Drive. It is surrounded to the north by the community Wellbeing Centre; to the south by vegetation, residential properties, and a cemetery; to the east by Sandie's Drive Subdivision and to the west by vegetation. No structures are found on the property. It is understood the property has been used for agriculture or open space dating back to before 1929. The extra fill material observed along the east property line consists of gravel and sand. A trail was observed on the property crossing from east to west towards the forested area and the fields located west of the property. The trail is used for walking and Off-Highway Motor Vehicle (OHV) activities.

### 5.1 Vegetation

Vegetation composition is affected by changes in topography and stage of succession with the land mainly covered with shrubs and herbs. The vegetation observed on the property is in a successional stage as the original natural vegetation cover was altered by agricultural use.

Treed areas are observed on the south and west sides of the property. South of the property, the vegetation is approximately 65 m wide and extent to the west to Sandie's Lane. West of the property the treed area is approximately 10 m wide, with most of the adjacent land dominated by shrub and herbaceous species.

Five (5) vegetation communities were delineated on the subject property and are mapped in Figure 2 included in Appendix A.

### **CUM – Cultural Meadow**

This community is present on the sloped and filled area on the east side of the property. This area shows the driest conditions on the property and the species composition is typical of disturbed areas with presence of native and non-native species. Also, this area shows the highest diversity of species and lowest structural complexity. Shrub species identified include tartarian honeysuckle (*Lonicera tatarica*), tea-leaved willow (*Salix planifolia*), eastern cottonwood (*Populus deltoides*), black cherry (*Pronus serotina*), and black locust (*Robinia pseudoacacia*) saplings. Herbaceous species associated include common dandelion (*Taraxacum officinale*), wild parsnip (*Pastinaca sativa*), field mustard (*Brassica rapa*), field peppergrass (*Lepidium densiflorum*), early goldenrod (*Solidago juncea*), canada goldenrod (*Solidago canadensis*), tufted vetch (*Vicia cracca*), canada thistle (*Cirsium arvense*), common burdock (*Arctium minus*), wild red raspberry (*Rubus idaeus*), dam's rocket (*Hesperis matronalis*), bird's-foot trefoil (*Lotus corniculatus*), viper's-bugloss (*Echium vulgare*), great mullein (*Verbascum thapsus*), chicory (*Cichorium intybus*), red clover (*Trifolium pratense*), common milkweed (*Asclepias syriaca*), white sweet clover (*Melilotus albus*), wild carrot (*Daucus carota*), yellow evening-primrose (*Oenothera biennis*), common ragweed (*Ambrosia artemisiifolia*), bladder campion (*Silene vulgaris*), staghorn suman seedings (*Rhus typhina*), and grasses.

### **CUM1 - Moist Cultural Meadow**

This community is mapped in two areas on the property. In these areas, shrub species are present as seedings and are not the dominant species. These areas are in first stage of succession and moist conditions influence the species composition. Some of the species are similar to those found in the meadow community of the east side; however, species diversity is reduced. Dominant species include grasses and goldenrods. Herbaceous species associated to this community include seedlings of green ash (*Fraxinus pennsylvanica*), gray dogwood (*Cornus racemosa*), american elm (*Ulmus Americana*), eastern red cedar (*Thuja occidentalis*), and white oak (*Quercus alba*). Other species observed include canada goldenrod, wild strawberry (*Fragaria virginiana*), heal-all (*Prunella vulgaris*), white sweet clover, common milkweed, riverbank grape (*Vitis riparia*), indian hemp (*Apocynum cannabinum*), oxeye daisy (*Leucanthemum vulgare*), spreading dogbane (*Apocynum androsaemifolium*), black medic (*Medicago lupulina*), yellow avens (*Geum aleppicum*), yellow evening-primrose, poison ivy (*Toxicodendron radicans*), tufted vetch, early goldenrod, bird's-foot trefoil, tall goldenrod (*Solidago gigantea*), wild parsnip, fox sedge (*Carex vulpinoidea*), softstem bulrush (*Scirpus Validus*), red top grass (*Agrostis gigantea*), smooth brome grass (*Bromus inermis*), ribbed bog moss (*Aulacomnium palustre*), and other grasses.

### **MAM2 - Mineral Meadow Marsh**

This community is found in the north-east part of the property, it is the lowest area and wet conditions prevail for a longer period compared to the rest of the property. Species occupying this area include red canary grass (*Phalaris arundinacea*), narrow-leaved cattail (*Typha angustifolia*), white meadowsweet (*Spiraea alba*), gray dogwood, slender willow (*Salix petiolaris*), indian hemp, riverbank grape, tufted vetch, bebb's sedge (*Carex bebbii*), fowl meadow grass (*Poa palustris*), fox sedge, elecampane (*Inula helenium*), shining willow (*Salix lucida*), green ash, timothy grass (*Phelum pratense*), ribbed bog moss (*Aulacomnium palustre*), other grasses, sedges (*Carex sp.*), and rushes (*Juncus sp.*). Several eastern cottonwood trees are found forming a line on the west part of this community.

#### **CUT1-4 - Gray Dogwood Cultural Thicket**

This community occupies most of the property. The dominant species is the gray dogwood which forms a tight thicket on the southeast part of the property. Species associated with gray dogwood thicket include red-osier dogwood (*Cornus sericea*), eastern red cedar, nannyberry (*Viburnum lantago*), missouri willow (*Salix eriocephala*), slender willow, common prickly ash (*Zanthoxylum americanum*), common juniper (*Juniperus communis*), purple loosestrife (*Lythrum salicaria*), white meadowsweet, prickly wild rose (*Rosa acicularis*), foxtail grass (*Setaria viridis*), grass-leaved goldenrod (*Euthamia graminifolia*), jack pine (*Pinus banksiana*), water hemlock (*Cicuta maculata*), riverbank grape, and poison ivy. Among the species typical of road edge associated with the gray dogwood thicket on the edges of trail include wild carrot, tufted vetch, red clover, broad-leaved plantain (*Plantago major*), and common ragweed.

#### **FOD9-5 – Fresh-Moist Bitternut Hickory Deciduous Forest**

This community is found south and west of the property with young and matures trees. In the canopy the following species were identified: bitternut hickory (*Carya cordiformis*), shagbark hickory (*Carya ovata*), basswood (*Tilia americana*), green ash, trembling aspen (*Populus tremuloides*), white oak, northern red oak (*Quercus rubra*), black cherry (*Pronus serotina*), hawthorn (*Crataegus succulenta*), black walnut (*Junglas nigra*), and crab apple (*Malus sp.*). Shrubs include chokecherry (*Pronus virginiana*), nannyberry, common buckthorn (*Rhamnus cathartica*). The ground is covered with seedings of the tree species, yellow trout-lily (*Erythronium americanum*), bloodroot (*Sanguinaria canadensis*), black currant (*Ribes nigrum*), wild geranium (*Geranium maculatum*), mayapple (*Podophyllum peltatum*), wild strawberry, goldenrod (*Solidago sp.*), horsetail (*Equisetum sp.*), poison ivy, virginia creeper (*Parthenocissus quinquefolia*), sweet bedstraw (*Galium triflorum*), riverbank grape, prickly ash, and mosses. Wet conditions were observed in the south-east corner with trembling aspen as a dominant species.

A photographic log showing existing conditions on the property is included in Appendix B.

### **5.2 Terrestrial Wildlife**

During the field investigation, bird species observed include song sparrow (*Melospiza melodia*), yellow warbler (*Setophaga petechia*), common yellowthroat warbler (*Geothlypis trichas*), red-winged blackbird (*Agelaius phoeniceus*), brown-headed cowbird (*Molothrus ater*), northern cardinal (*Cardinalis cardinalis*), blue jay (*Cyanocitta cristata*), american crow (*Corvus brachyrhynchos*), northern flicker (*Colaptes auratus*), eastern phoebe (*Sayornis phoebe*), american robin (*Turdus migratorius*), and gray catbird (*Dumetella carolinensis*). Mammals include prints of white-tailed deer (*Odocoileus virginianus*), striped skunk (*Mephitis mephitis*), and raccoons (*Procyon lotor*). Amphibians observed and heard include northern leopard frogs (*Lithobates pipiens*) and green frog (*Rana clamitans*). Reptiles include common garter snake (*Thamnophis sirtalis*). Insect include Monarch butterfly (*Danus plexippus*).

### **5.3 Aquatic Habitat and Fish**

There are no creeks in the property. The meadow marsh located on the north-east of the property receives the runoff from upper land, and it is dry during the summer as a result of lack of precipitation.

### **5.4 Species at Risk Assessment**

A description of the identified Species-at-Risk is provided in the following paragraphs.



### Bank Swallow



Bank Swallows nest in burrows in natural and man-made settings, wherever there are silt or sand deposits. Nests are often along riverbanks, lakes and ocean bluffs, aggregate pits, road cuts and stockpiles of soil. Breeding sites tend to be ephemeral due to the dynamic nature of bank erosion. Breeding sites are situated near open terrestrial habitat used for aerial foraging (e.g. grasslands, meadows, pastures, and agricultural cropland). Large wetlands are used as communal nocturnal roost sites during post-breeding, migration, and wintering periods (COSEWIC, 2013a).

Bank Swallows were not observed on the property, and suitable habitat for this species is not present. Potential impacts to Bank Swallow are not expected.

### Barn Swallow



The natural habitat of Barn Swallow includes caves, holes, crevices and ledges in cliff faces but anthropogenic features are often used in farmlands, rural, suburban areas, and villages where they build the nest around many kinds of structures, especially barns and other farm outbuildings, under bridges, wharves, boat-houses, and culverts (COSEWIC, 2011a).

Barn Swallows were not observed foraging over the property. It is possible that Barn Swallows nest in structures or buildings located on residential properties adjacent to the property. No potential impacts to Barn Swallow are expected.

### Eastern Meadowlark



Eastern Meadowlarks breed primarily in moderately tall grasslands, such as pastures and hayfields, but are they are also found in alfalfa fields, weedy borders of croplands, roadsides, young orchards, golf courses, restored surface mines, grain fields, airports, shrubby overgrown fields, or other open areas. Small trees, shrubs or fence posts are used as elevated song perches (COSEWIC, 2011b).

Eastern Meadowlarks were not observed on the property. Suitable habitat for Eastern Meadowlark is not present, the meadow vegetation is present in patches and shows differences in species composition. Therefore, impacts to this species are not expected.

### Bobolink



Habitat for the bobolink includes hayfields, pastures, fallow or abandoned fields, meadows, and tall grass prairie remnants. Typically, these habitat features require moderate to dense grass with some forbs and a moderate amount of vegetative litter (COSEWIC, 2010). The MNR also reports that the Bobolink prefer large fields (>10 hectares) over smaller fields, and avoid grassland located near forested edge. Desirable habitat features occur within

actively managed hayfields and lightly used pastures.

Bobolink was not observed on the property. Suitable habitat for Bobolink is not present, the meadow vegetation is present in patches and shows differences in species composition. Therefore, impacts to this species are not expected.

### Eastern Whip-poor-will



The whip-poor-will uses dry forested areas for roosting and nesting. Nesting areas include most types of forest at early stages of succession or forest edges and openings with a dense tree cover but showing similar structure at the ground level, rock or sand barrens with scattered trees, savannahs, old burns, as well as sparse conifer plantations (COSEWIC, 2009a).

Eastern Whip-poor-will was not observed on the property. Suitable habitat for this species is not present. No potential impacts to Whip-poor-will or its habitat are expected.

### Least Bittern



Least Bitterns are found in a variety of wetland habitats, but their preferred habitat is cattail marshes with a mix of open pools and channels. Preferred habitat consists of robust-emergent-dominated but interspersed wetlands free of purple Loosestrife and European Common Red, with limited urban land use and high proportion of wetlands in the surrounding landscape. The presence of stands of dense vegetation is essential for nesting because the nests of least Bittern sit on platforms of stiff stems (COSEWIC, 2009b).

Habitat for Least Bittern is not present on the property. Therefore, no potential impacts to Least Bittern are expected.

### Grasshopper Sparrow



The Grasshopper Sparrow prefers grasslands with relatively sparse cover such as those in areas of poor soils, including alvars, moraines and sand plains. It generally does not favour tall grass moist meadows. The Grasshopper Sparrow also uses a variety of agricultural fields, from planted cereals to cattle pastures for breeding and feeding. Dry, close-grazed pastures on till moraines and limestone plains like the Carden and Napanee plains and those in Dufferin County, support the highest

densities of Grasshopper Sparrow (COSEWIC, 2013b).

Grasshopper Sparrow was not observed or heard in the property. Suitable habitat for Grasshopper Sparrow is not present, the meadow vegetation is present in patches and shows differences in species composition. Therefore, impacts to this species are not expected.

### Eastern Wood-Peevee



The Eastern Wood-Peevee preferred breeding areas are mature and intermediate-age deciduous and mixed forest having an open understorey. Eastern Wood-Peevee can be found in forest clearings and edges in the vicinity of its nests. It can use dead branches as hunting perches (COSEWIC, 2012a).

No birds or nests were observed within the property. Suitable habitat may be present in the forest. In addition, the species can be seen perching and singing on top of the trees. If removal of trees is required, the vegetation should be inspected prior to removal to ensure Eastern Wood-Peevee nests are not present. No impacts to Eastern Wood-Peevee are expected providing that mitigation measures are applied.

### Common Nighthawk



Common Nighthawk prefers open ground or clearings for nesting. The species breeds in a wide range of open habitats including sandy areas (dunes, eskers, and beaches), open forests, grasslands, sagebrush, wetlands, gravelly or rocky areas, and some cultivated or landscaped areas. Nighthawks mainly forage in open areas with flying insects during crepuscular periods, but sometimes during the day. A variety of habitat are used for this species for roosting such as tree limbs, the

ground, fencepost, or rooftops that have shade from overheating, camouflage from predators, and unobstructed flight paths (Environment Canada, 2016).

Common Nighthawk was not observed. Nesting habitat is not found on the property. Impacts to this species are not expected.

### Loggerhead Shrike



Habitat includes trees or shrubs for nesting, elevated perches natural for hunting, mating, and territory advertisement, and short to medium height grassy areas for foraging. In all the habitats, shrikes require scattered small trees, shrubs or hedgerows for foraging perches and nesting sites (Environment Canada, 2015).

Loggerhead Shrike was not observed in the area, but the vegetation on the property is potential habitat for this species. Mitigation measures should be applied to ensure no harm to this species.

### Wood Thrush



Wood Thrush nests mainly in second-growth and mature deciduous and mixed forests with saplings and well-developed understorey layers. The species prefers large forest mosaics and small forest fragments. Threats to breeding areas include habitat degradation and fragmentation due to development and over-browsing by white-tailed deer, nest predation and brown-headed cowbird nest parasitism associated with habitat fragmentation (COSEWIC, 2012b).

Wood Thrush was not observed or heard on the property; however, suitable habitat for this species is present on the woodland. Mitigation measures should be applied to ensure no harm to this species.

### Northern Map Turtle



Preferred habitat is found in rivers and lakes where it basks on emergent rocks, banks, logs, and fallen trees throughout the active season. It prefers shallow, soft-bottomed aquatic habitats with exposed objects for basking near natural shorelines. In the winter, the turtles typically hibernate on the bottom of deep, slow-moving sections of rivers or lakes (COSEWIC, 2012c).

Suitable habitat for Northern Map Turtle is not present on the property. The meadow-marsh on the property does not provide suitable habitat for this species. Impacts to this species are not expected.

### Eastern Musk Turtle



The Eastern Musk Turtle is a highly aquatic species inhabiting littoral zones of waterways such as rivers, lakes, bays, streams, ponds, canals, and swamps with slow to no current and soft bottoms. During the active season, Eastern Musk Turtle prefer shallow water (approx. 2 m) with abundant floating and submergent vegetation. Individuals are most often found close to the shore and usually do not venture onto land except to nest or to access adjacent wetlands. Nest sites are generally located 3 to 11 m from shore and eggs area laid in shallow excavations in sand, at the base of dune grasses, decaying vegetable matter, rotting wood, and in the walls of Muskrat or Beaver lodges (COSEWIC, 2012d).

Suitable nesting habitat for Eastern Musk Turtle is not found on the property. No impacts to this species are expected.

### Blanding's Turtle



Preferred habitat is found in shallow water in large clear water eutrophic wetlands and shallow lakes with lots of submergent and emergent vegetation. Females nest in a variety of substrates including sands, organic soil, gravel, cobblestone, and soil-filled crevices of rock outcrops. Adults and juveniles overwinter in a variety of water bodies that maintain pools averaging about 1 m in depth; however, hatching turtles hibernate on land during their first winter (COSEWIC, 2016a).

Blanding's Turtle was not observed, and suitable habitat is not found on the property. No impacts to this species are expected.

### Snapping Turtle



The Snapping Turtle prefers slow-moving water with soft mud bottom and dense aquatic vegetation. Snapping turtles can be found in almost every kind of freshwater habitat. Nesting takes place on sand and gravel banks along waterways, including artificial dam and railways embankments. Hibernation takes place beneath logs, sticks or overhang, banks, stumps, submerged logs, and deep anoxic mud in marshy areas, and floating mats of vegetation. The nesting season occurs through the month of June into July with hatchlings emerging in late

September–early October (COSEWIC, 2008a).

No snapping turtles or signs of past nesting were observed on the property. No potential impacts to Snapping Turtles or their habitat are expected.

### Western Chorus Frog



The Western Chorus Frog requires both terrestrial and aquatic habitats in close proximity. Terrestrial habitat consists mostly of humid prairie, moist woods, meadows, marshes, bottomland swaps, and temporary ponds in open county. For reproduction and tadpole development, this species requires seasonally dry, temporary ponds that are devoid of predators such as fish. The western chorus frog overwinters underground or under surface cover, such as fallen logs (COSEWIC, 2008b).

Western chorus frog was not observed or heard, but the meadow-marsh and adjacent area may provide suitable habitat to this species. Potential impacts to Western Chorus Frog are possible. Mitigation measures should be applied to avoid harm to this species.

### Northern Myotis, Little Brown Myotis, and Tri-coloured Bat



Habitat for bats consists of hibernacula and maternity roosts. Hibernation roosts for the four species are found in caves and abandoned mines though they may also overwinter in attics, barns, and large hollow trees. During the day most species choose maternity roosts in woodlands with appropriate tree cavities, caves, crevices, under loose bark, and cracks in cliffs. Little Brown Myotis roost in both natural and man-made structures. Tri-colored Bats are not found in buildings or deep forest, seeming to prefer edge habitats near areas of mixed-agricultural use. Summer roosts have been found in anthropogenic sites such large areas of rocky rip-rap, crevices in road cuts, waste rock piles, and crevices in concrete bridges and other concrete structures. Colonies within a natural roost may number from few to hundreds of individuals. During the summer, females often roost in large maternity colonies while males tend to roost in small groups or individually. Roosts within human structures are not considered to be significant wildlife habitat (COSEWIC, 2013c, MNR, 2017).

Old stands are not present on the forest that can be used as roosting habitat by bats. Bats can be roosting in buildings located around the property and observed foraging in spring and summer at dusk over the property. No potential impacts to bats or their maternity habitat are expected.

### Monarch Butterfly



Monarchs use three different types of habitat. Caterpillars feed on milkweed plants found in meadows and open areas. Adult butterflies are found in diverse habitat where they feed on nectar from a variety of wildflowers. Roadsides are important habitat for breeding Monarchs, as roadside verges are periodically disturbed thus allowing milkweeds to grow. Threats in roadside habitats include adult mortality from vehicle collisions, loss of food plants from excessive mowing and herbicides, and exposure to road salt (COSEWIC, 2016b).

Monarch Butterflies and milkweed plants were observed on the property. The milkweeds on the property provide a source of food for Monarch caterpillars. There is potential for adult butterflies to be disturbed/affected during the reconstruction of the proposed development. Mitigation measures should be applied to prevent damage to caterpillars and adult butterflies.

### Butternut



Butternut occurs in neutral to calcareous soils of pH 5.5 to 8, often in regions with underlying limestone. It reaches its greatest abundance in rich, neutral or calcareous, mesic loams and sandy loams in floodplains, streambanks, terraces, hardwood coves and ravine slopes. Butternut is a shade-intolerant tree conditioning its grow in stand openings, riparian zones and forest edges, and old field habitats (COSEWIC, 2017).

Butternut is known to occur in the area, but no butternuts were observed on the property. No impacts to butternuts are expected.

## 6. Recommended Mitigation Measures

The majority of the project-related wildlife habitat loss will result from vegetation clearing and construction of the proposed development. In addition to the direct physical loss of habitat, indirect habitat loss may arise during the construction phase from disturbance caused by equipment, machinery and vehicles that cause wildlife species to avoid the area and from affecting the quality of habitat in adjacent areas to the development.

Species listed as endangered or threatened on the Species at Risk in Ontario (SARO) List are protected under the Endangered Species Act, 2007 (ESA) or the Federal Species at Risk Act, 2002. It is recommended that best practice tools and techniques be implemented during the different phases of the development. These include, but are not limited to, maintaining timing windows for work with the potential to disturb habitats, spill procedures, dewatering, and construction techniques (such as reducing bank erosion and water contamination via approved methods).

It is recommended that prior and during the construction of the project a qualified biologist undertake periodic inspections to ensure work is carried out in a manner that is consistent with the regulations of the ESA and to confirm that best practices are applied to ensure species are not harmed by equipment or workers activities.

Since there is potential for Species at Risk to be present, the following recommendations should be considered to avoid adverse impacts:

### Birds

Vegetation clearing is recommended to take place before May 1<sup>st</sup> or after August 31<sup>st</sup> to avoid contravention of the *Migratory Bird Convention Act*, 1994 unless it can be confirmed that there are no nesting birds in the area to be cleared.

Minimize the overall disturbance footprint through the development process to avoid critical breeding habitat, nesting and denning sites, and movement corridors to the extent possible.

Workers must be vigilant and check work areas for the presence of breeding birds and nests containing eggs and/or young. If breeding birds and/or nests are encountered, work should not continue in the location of the nest until August 31<sup>st</sup> (or as soon as it has been determined that the young have left the nest). Breeding bird season is from April 1<sup>st</sup> to August 31<sup>st</sup>. Therefore, activities which may cause adverse impacts to a species or habitat should commence after August 31<sup>st</sup> whenever possible.

### Turtles and Snakes

Workers must be vigilant and check work areas for the presence of turtles and snakes. If turtles or snakes are encountered, whenever possible, work should be temporarily suspended until the animal is out of harm's way. Workers should report any SAR turtle observations immediately (including photographs and coordinates) to the MBQ and the Ministry of the Environment, Conservation and Parks (MECP), Species at Risk Branch. The peak activity period for turtles extends from April 15<sup>th</sup> to October 31<sup>st</sup>. Where work must occur during the peak period, exclusion fence shall be installed to isolate the area between the work area and the turtle corridor area. Following the installation of the fence, a qualified person shall visually inspect the area to ensure no turtles have become trapped within the working area.

### Amphibians

When SAR amphibians are found on a construction site, proper handling, translocation, and reporting protocols should be followed. On-site temporary measures for projects occurring within, or adjacent to amphibian and reptile habitat should be applied to avoid harming or killing individuals. Best management practice for temporary measure includes installation of exclusion fencing between the project work area and the SAR habitat.

## Bats

Bats roost in trees, caves, bridges, and buildings. Bats prefer old stands for roosting habitat. Baby bats are born in May and June. If removal of trees is necessary for the construction of the proposed development, inspection of the trees should be carried out before the removal of vegetation to determine the use of the trees as roosting habitat. Disturbance of bats in their roosts should be avoided.

It is recommended that best practice tools and techniques be implemented during the construction phases of the project. These include, but are not limited to, spill procedures, dewatering and construction techniques.

## 7. Conclusions

In summary, the following conclusions can be made:

- An apartment complex is proposed on the subject property.
- Habitat for one (1) SAR species (Monarch Butterfly) is found on the subject property. MECP should be contacted to discuss the proposed project and to determine if an authorization is required.
- Removal of vegetation within the project area can occur between the months of September to April, which is outside of the typical breeding bird period (April 1<sup>st</sup> to August 31<sup>st</sup>) within southern Ontario.
- Restrict construction activities to the areas designated for the construction of the project, minimizing any disturbance to the surrounded areas.
- Potential habitat for four (4) SAR species has been identified on the property and adjacent vegetation; however, no impact to SAR species is anticipated provided that the mitigation measures recommended in this report are implemented for the project.

I trust that this brief report is complete within our terms of reference and sufficient for your present requirements. Please contact me at your convenience if you have any questions about this report or our recommendations.

### THE GREER GALLOWAY GROUP INC. CONSULTING ENGINEERS



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Biologist



Celia Bird, E.M.Tech.  
Environmental Technician

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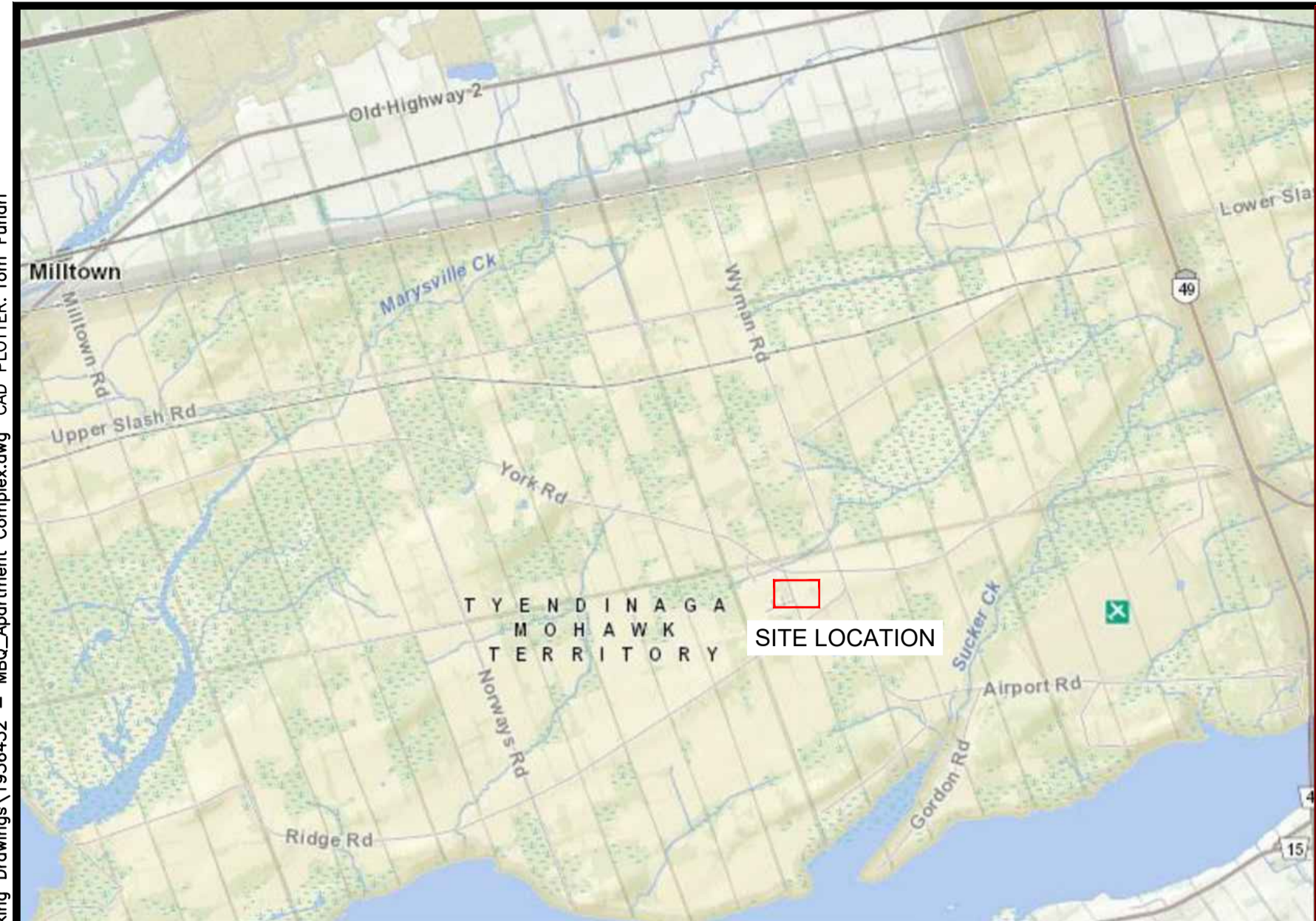
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# Appendix A Figures

FILE PATH: P:\Belleville Project\6000\1936432 - MBQ Site Geotech And ESA Various Site Drawings Working Drawings\1936432 - MBQ Apartment Complex.dwg CAD PLOTTER: Tom Funari  
 DATE PLOTTED: 2020 / 08 / 17 @ 04:52 PM  
 PLOT SCALE: 1:1  
 BORDER SIZE: ISO A1 (841mm x 594mm)



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- NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH RELEVANT CODES AND GUIDELINES.
  2. ALL DRAWINGS AND ADDENDA ARE TO BE READ AS, AND IN CONJUNCTION WITH THE SPECIFICATIONS.
  3. ALL EQUIPMENT SHALL BE INSTALLED AS SPECIFIED OR APPROVED EQUIVALENT.
  4. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH WORK AND BE RESPONSIBLE FOR SAME.
  5. CONTRACTOR MUST REPORT ANY DISCREPANCIES TO ENGINEER FOR RESOLUTION BEFORE COMMENCING THE WORK.
  6. ANY CHANGES MUST BE APPROVED BY THE ENGINEER.

- A A DETAIL NO.  
 B B DRAWING NO. - WHERE DETAILED

LEGEND  
 MBQ APARTMENT COMPLEX PROPERTY

REVISION	DESCRIPTION	DATE
01	-	YY/MM/DD

NORTH	STAMP
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PROJECT  
 MOHAWK BAY OF QUINTE APARTMENT COMPLEX  
 LOT 26 SADIE'S LANE  
 SUBDIVISION, CONCESSION A,  
 101687 CLSR

DRAWING TITLE  
 SITE LOCATION MAP

DESIGNED BY	
DRAWN BY	TF
REVIEWED BY	YR
APPROVED BY	
PROJECT DATE	2020/08/14 (YY/MM/DD)
PROJECT #	19-3-6432
DRAWING #	FIGURE 1
DRAWING SCALE (ISO A1)	HOR: N / A VER: N / A

- NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH RELEVANT CODES AND GUIDELINES.
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  6. ANY CHANGES MUST BE APPROVED BY THE ENGINEER.

- A A DETAIL NO.  
B B DRAWING NO. - WHERE DETAILED

- LEGEND
- PROPERTY LINE
  - CUM - CULTURAL MEADOW
  - CUM1 - MOIST CULTURAL MEADOW
  - MAM2 - MINERAL MEADOW MARSH
  - CUT1-4 - GRAY DOGWOOD CULTURAL THICKET
  - FOD9-5 - FRESH-MOIST BITTERNUT HICKORY DECIDUOUS FOREST

01	-	YY/MM/DD
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REVISION	DESCRIPTION	DATE
NORTH	STAMP	

PROJECT  
 MOHAWK BAY OF QUINTE  
 APARTMENT COMPLEX  
 LOT 26 SADIE'S LANE  
 SUBDIVISION, CONCESSION A,  
 101687 CLSR

DRAWING TITLE  
 VEGETATION  
 COMMUNITIES

DESIGNED BY

DRAWN BY  
 TF

REVIEWED BY  
 YR

APPROVED BY

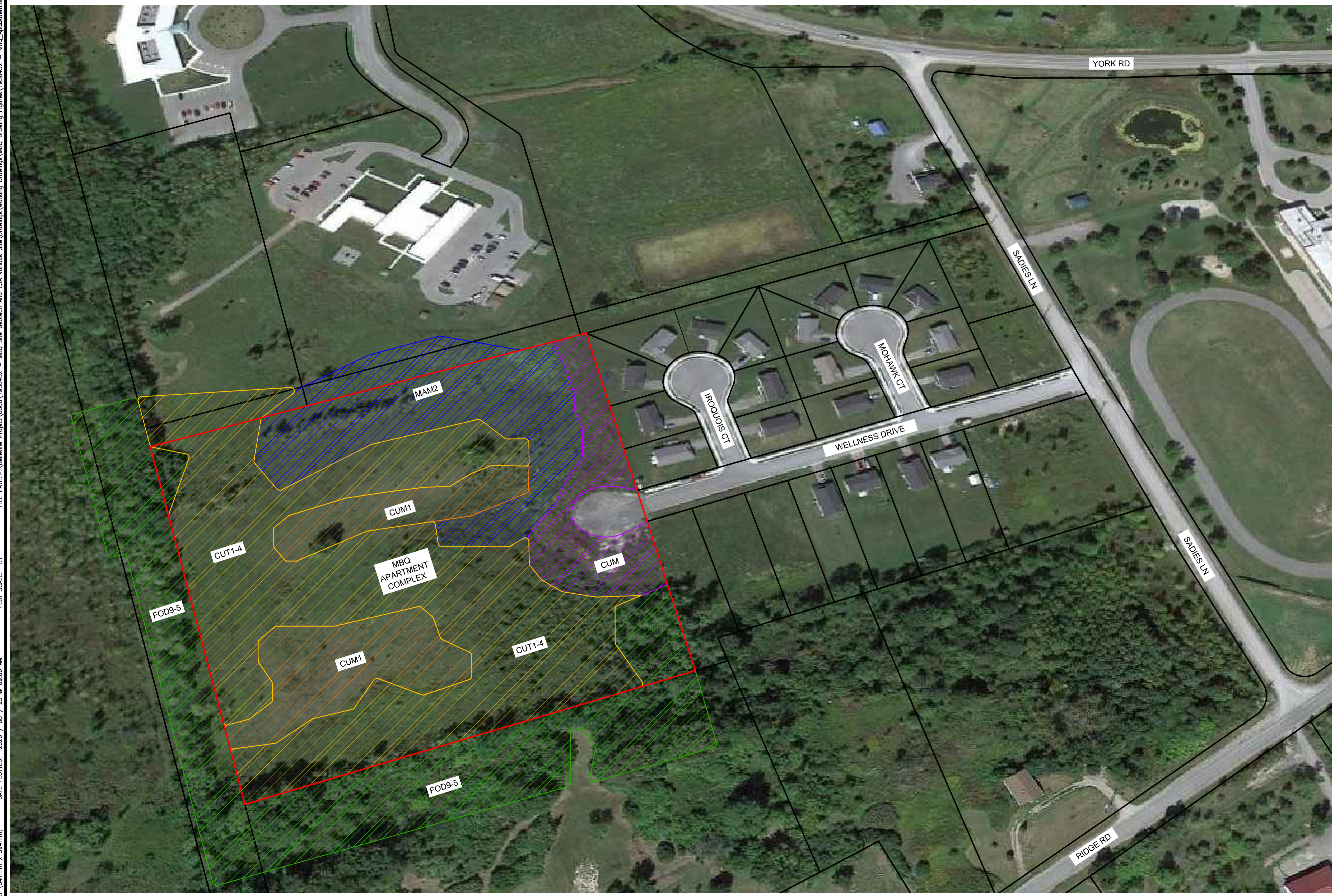
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 2020/08/14 (YY/MM/DD)

PROJECT #  
 19-3-6432

DRAWING #  
 FIGURE 2

DRAWING SCALE (ISO A1)  
 HOR: N / A  
 VER: N / A

FILE PATH: P:\Belleville Project\6000\1936432 - MBQ Site Geotech And ESA Various Site Drawings\Working Drawings\MBQ Drawing Figures\1936432 - MBQ Apartment Complex.dwg  
 PLOT SCALE: 1:1  
 DATE PLOTTED: 2020 / 08 / 25 @ 09:06 AM  
 BORDER SIZE: ISO A1 (841mm x 594mm)



# Appendix B

## Photo Log



Photo 1. Looking east, the vegetation cover on the property.



Photo 2. View of the cultural meadow on the filled area, east side of the property.



Photo 3. View of the moist cultural meadow.



Photo 4. View of the mineral meadow marsh located north-east part of the property.



Photo 5. View of white meadowsweet found in the meadow marsh.

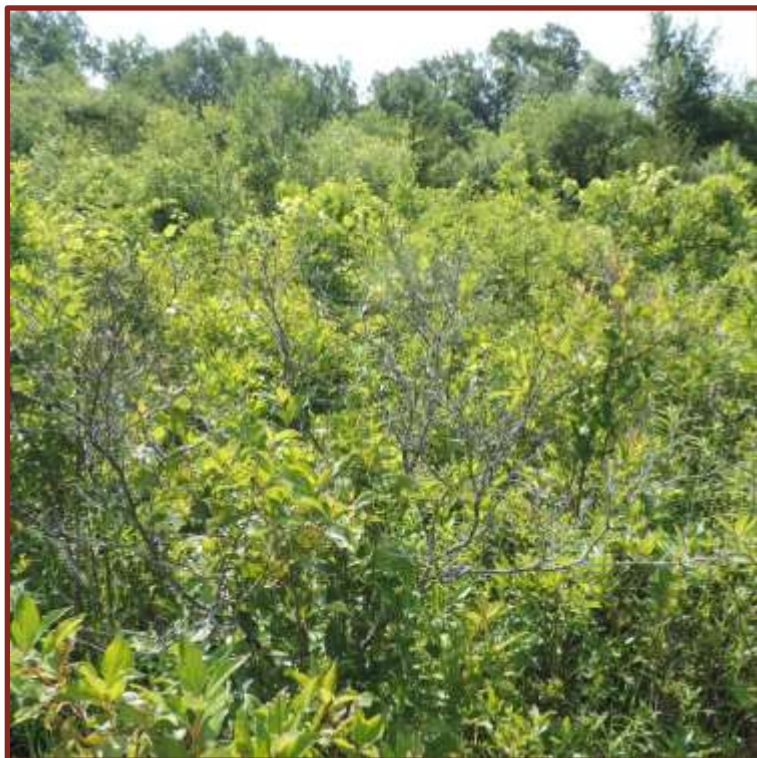


Photo 6. View of the Gray Dogwood Cultural Thicket.





Photo 7. Looking south, the deciduous forest with mature trees.



Photo 8. View of bitternut hickory dominant species in the deciduous forest.



Photo 9. View of the vegetation, west side of the property.



Photo 10. Common milkweed present on the property.



Photo 11. Looking east, the trail that crosses the property from east to west.



Photo 12. View of the access area to the property, end of Wellness Drive.