



Muncaster
Environmental
Planning Inc.

April 28, 2021

Mr. Adam O'Connor, P.Eng.
Assistant Vice President, Land Development
McIntosh Perry
3240 Drummond Concession, 5A,
R.R. 7, Perth, ON
K7H 3C9

Dear Adam:

**RE: Gardiner's Grove Subdivision, Township of Beckwith
Environmental Impact Statement**

I have completed an Environmental Impact Statement for a one-hundred and twenty lot residential subdivision between Ninth Line and Tenth Line in parts of Lots 8 and 9, Concession 9 of the Township of Beckwith (Figures 1 and 2). For the purposes of this report Ninth and Tenth Line are considered to be in a west-east orientation.

Proposed Development and Site Context

The owner wishes to create one-hundred and twenty lots for detached residences, with a typical lot size of 0.6 hectares. The site is between between Ninth Line and Tenth Line, with Mississippi Lake approximately 150 metres to the west of the central portion of the site. The site is dominated by agricultural activity, with hedgerows and small upland forested areas. Residences along both sides of Gardiner Shore Road are immediately to the west of the site, between the site and Mississippi Lake. The new lots will be accessed with two new streets south off Tenth Line and one street off Ninth Line (Figure 2). Each lot will be serviced with a private septic system and individual well. The site is identified as a *Rural Lands* on Schedule A of the Township of Beckwith Official Plan, with the southwest corner noted as *Wetlands*.

The southwest corner of the site is part of the McGibbon Creek Wetland, identified on Ministry of Natural Resources and Forestry (MNRF) mapping as an evaluated wetland, but not provincially significant. It is to the south of Mississippi Lake and the northwest edge of the wetland on the site is generally slightly inside the forest edge, as shown on Figure 1. Although this wetland is not provincially significant, Mississippi Valley Conservation Authority (MVCA) is now regulating many wetlands which are not provincially significant, including the McGibbon Creek Wetland. This wetland is identified on MVCA mapping as 'unevaluated' and has a 30 metre regulation limit associated with it. This area is also shown as 'floodplain' on Schedule B of the Township of Beckwith Official Plan. No other constraints are shown for the site on Schedule B. McGibbon Creek Wetland is also considered a lake colonial waterbird nesting area in MNRF databases. The large Provincially Significant Goodward Marsh Wetland is about five

kilometres to the east of the site, east of Highway 15, and is also the closest Area of Natural and Scientific Interest (ANSI), being identified as a regionally significant life science ANSI.

Land uses in the vicinity of the site include the residences to the west along Gardiner Shore Road, with Mississippi Lake further to the west. Natural areas, including wetlands to the southwest, and a combination of agricultural lands and natural areas are to the north, east, and south, with rural subdivisions further to the north, east, and southeast.

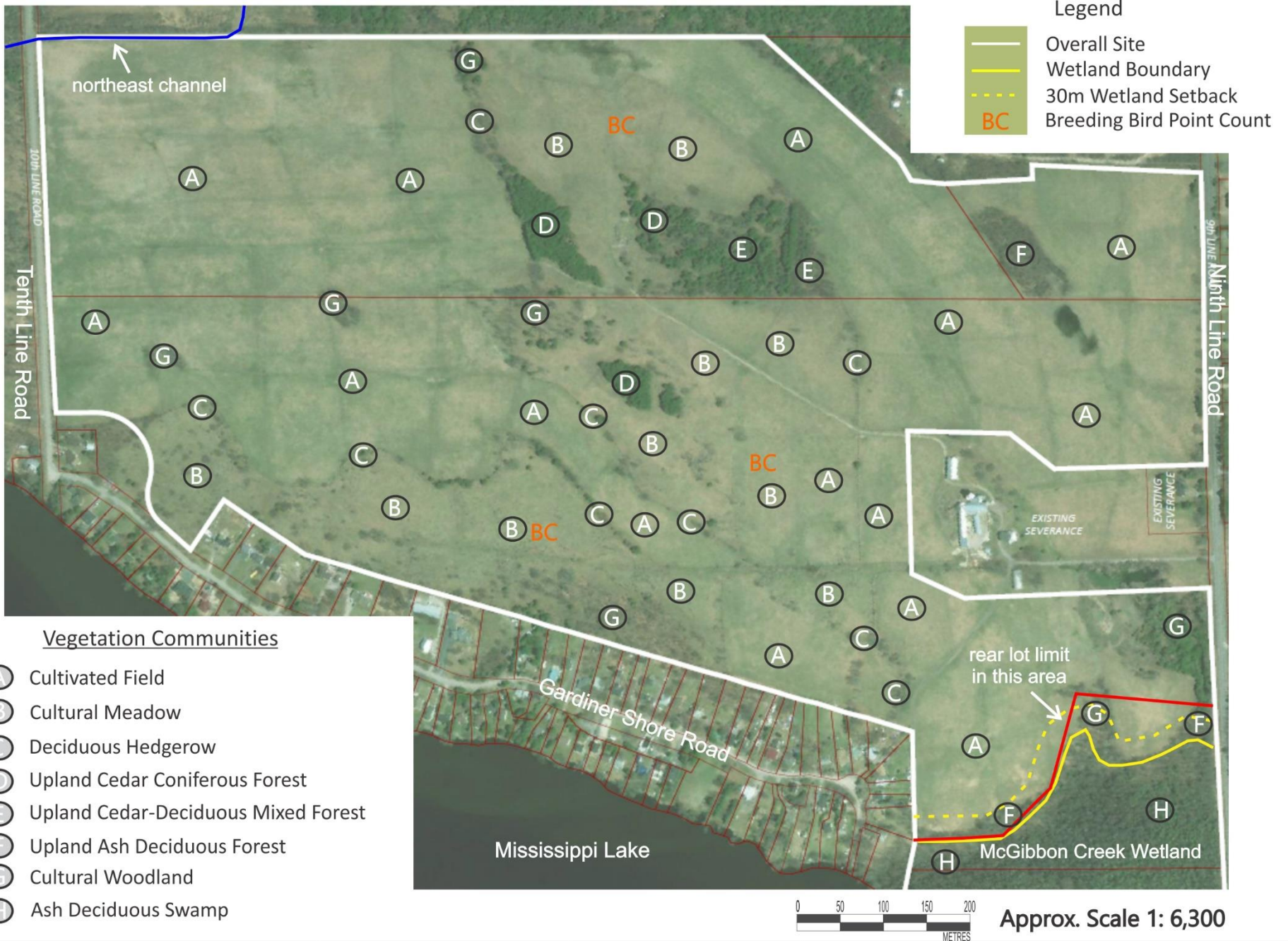
Methodology

This EIS was prepared in accordance with Section 4.6 of the Township Official Plan, with guidance from the Natural Heritage Reference Manual (OMNR, 2010). The major objective of this Environmental Impact Statement is to determine if the proposed rural subdivision and associated construction and operation of the detached residences will have a significant impact on any significant ecological functions and features of the area and the environment in general. This EIS identifies the natural environment features within and adjacent to the proposed subdivision lands. The following items were identified for particular attention in this EIS, recognizing that many of these issues are inter-related:

- what are the features and functions of the site, including upland forests?
- is there any aquatic habitat potential on or adjacent to the site that may be impacted and if so, what are the required mitigation protection measures?
- how are the ecological features and functions in the general area such as wetlands, wildlife linkages and unique habitats influenced or supported by the site?
- are any impacts on the adjacent wetland habitat anticipated, and how can any anticipated impacts be mitigated? and,
- are there other special features, such as Species at Risk utilization, located on or adjacent to the site?

Colour aerial photography and background information from the databases of the MNR and other agencies were used to assess the natural environment features in the general vicinity of the site. Potential Species at Risk in the general area were identified from Ministry databases, the Ontario Breeding Bird Atlas, the Ontario Reptile and Amphibian Atlas, and Species at Risk reported for the overall Beckwith Township.

Site reviews were conducted on May 13th (09:30 to 12:45), May 29th (08:15 to 11:15), and August 26th, 2020 (08:00 to 13:30). Weather conditions during the surveys were good for field observations, including sunny to partly sunny skies, air temperatures between 10°C and 25°C, and a light or light to moderate breeze. The reviews were completed by systematically travelling through the survey area and completing a description of the lands based on the Ecological Land Classification for Southern Ontario (ELC), and Ontario Wetland Evaluation System (OWES). In addition, on May 29th morning ten-minute bird points counts were completed at three stations in the meadow habitats, as shown on Figure 1. The field reviews were completed by Bernie Muncaster (May 13th and 29th), Michelle Muncaster (May 29th), and Shaun St. Pierre (August 26th).



Prepared for: McIntosh Perry

Prepared by:



Muncaster
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Figure 1

June 29, 2020

FILE: 20 - 09



NATURAL ENVIRONMENT FEATURES

Gardiner Property
Beckwith

Existing Conditions

The site is dominated by agricultural lands, both cultivated fields planted in soybeans in 2020 and fields used for pasture and hay. Sandy soils, often of limited depth in the meadow habitat, dominate the site.

Aquatic Habitat

The only channel with fish habitat potential observed on the site was in the northeast corner, south of Tenth Line (Photo 1). The channel has been dug both on the site and further downstream, north of Tenth Line. Three CSP culverts, each approximately 80cm diameter, under Tenth Line were not perched and did not appear to represent a potential barrier to any fish passage. The channel is wide, with a channel width of about five metres. On May 13th the water depth was shallow, generally less than 5cm and the water was clear. Further south of Tenth Line, a low flow channel was partially developed within the main wide channel. Approximately 475 metres south of Tenth Line, the channel turns ninety degrees to the east, extending off the site to the east. No forage fish were observed on May 13th, though the search was only visual in the shallow clear water and no fish sampling was completed. There was no vegetation on the site (west) side of the channel, with the field cultivated to the channel edge. A deciduous forest was along the east side of the channel, to the east of the site and canopy cover is better downstream, to the north of Tenth Line. The exposed substrate was dominated by fine material. Aquatic vegetation, small woody debris, and rock protection associated with the ninety degree turn and a breached stone weir provide some in-stream structure. The channel has a 30 metre regulation limit associated with it on MVCA mapping (due to mapped unevaluated wetlands in this area, which are not present on the site).

A dug pond is immediately west of the laneway on the existing severance. All of the pond appears to be on the severance and is not anticipated to be disturbed.



*Photo 1 – Dug channel and adjacent cultivated field in the northeast corner of the site.
View looking south, upstream, from Tenth Line*

Wetland Habitat

As indicated above, the evaluated, but not provincially significant, McGibbon Creek Wetland is in the southwest corner of the site, to the south of Mississippi Lake. The mapped edge of the wetland on the site generally begins in the range of five to ten metres west of the forest edge. This wetland boundary between an ash deciduous swamp and narrow piece of upland ash deciduous forest was confirmed in the field. As shown on Figure 2, the building envelopes for the closest lots will be at least thirty metres from the wetland edge. Young black ash and green ash stems are dominant in the southwest wetland (Photo 2), with a few scattered red maples up to 45cm dbh also present. Smaller white elm were common and the ground flora was dominated by sensitive fern, with ostrich fern, dwarf raspberry, and joe-pye-weed also present. In the narrow transition area between the east wetland boundary and a cultivated field to the east, white ash, green ash, and white birch were common, with prickly ash in the understory.

A small unevaluated wetland area appears on MVCA mapping in the central portion of the site. There is no regulation limit associated with this area on the MVCA mapping, and no wetland habitat was observed during the site review in this area (Photo 3).

Unevaluated wetlands are also shown on and adjacent to the northeast corner of the site, associated with the northeast channel discussed above. No wetlands were observed on the site adjacent to the channel and a cultivated field extends to the west edge of the channel (Photo 1).



*Photo 2 – Young ash deciduous swamp in the southwest corner of the overall site.
View looking northwest towards Mississippi Lake*



*Photo 3 – An upland cultural woodlot is in the vicinity of a small area mapped as wetland in the
central portion of the site. View looking north*

Cultivated Fields

As shown by vegetation community 'A' on Figure 1, cultivated fields dominate many portions of the site (Photos 4 and 5). The fields were planted in soybeans in 2020.



*Photo 4 – Cultivated field and cultural woodland in the central portion of the site.
View looking east*



*Photo 5 – Cultivated field in the north portion of the site.
View looking northeast corner towards Tenth Line and forest to the east of the site*

Cultural Meadow

Cultural meadows were common in the west and central-east portions of the site (Photos 6, 7, and 9). The meadows are used for pasture and hay and rock is common at the surface in many areas. Common brome grass, June meadow grass, blue-eyed grass, lesser chickweed, white clover, white-sweet clover, lower hop clover, red clover, tall buttercup, cow vetch, common mullein, pearly everlasting, blueweed, silvery cinquefoil, daisy fleabane, common milkweed, crown vetch, common plantain, tall buttercup, bladder campion, wild carrot, timothy, barnyard grass, bird's-foot trefoil, common yarrow, bull thistle, horseweed, yellow goat's-beard, New-England aster, Canada goldenrod, and common dandelion are common species. A few of the meadows contained scattered larger trees including mature sugar maple and bur oak up to 80cm dbh, with smaller apple trees.



*Photo 6 – Cultural meadow habitat used for pasture in the central-west portion of the site.
View looking north*



*Photo 7 – Meadow habitat used as a hayfield in the central portion of the site.
View looking north to deciduous hedgerow and, on right, cedar forest*

Cultural Woodland

White ash and white cedar were common in the central larger cultural woodland representation on the site (Photo 8). Many of the cultural woodland areas seemed to be used for pasture and tree dominance, size and cover was highly variable within these communities (e.g. Photo 9). The average dbh was variable and ranged from 10-25cm. The largest ash trees were up to 60cm dbh but are in poor condition with extensive emerald ash borer damage. Green ash, basswood, black maple, bur oak, white elm, black walnut, and apple were also present. The ground flora is generally reflective of disturbed conditions and includes white clover, red clover, common brome grass, timothy, June meadow grass, barnyard grass, common mullein, blueweed, common mugwort, daisy fleabane, common milkweed, crown vetch, common plantain, bladder campion, wild carrot, bird's-foot trefoil, New England aster, Canada goldenrod, St. John's wort, and common strawberry, with trout lily also noted. Red raspberry, prickly-ash, common juniper, and staghorn sumac shrubs were well established in areas. Rock was common at the surface and electric fences in good condition indicated the area is used for pasture.



Photo 8 – Cultural woodland in the central portion of the site. View looking north



*Photo 9 – Cultural woodland in the west portion of the site.
View looking west from pasture meadow habitat*

Deciduous Hedgerows

Scattered mature trees in the hedgerows included sugar maple, white ash, bur oak, and basswood up to 70cm dbh, with smaller bitternut hickory, white cedar, trembling aspen, and white elm also present (Photos 7, 10, and 11). Fungus was extensive on many of the aspens and the elm and ash often had reduced leaf-out. Hawthorn, common buckthorn, prickly ash, and apple shrubs were among the hedgerow trees, with June meadow grass, red clover, and bird's-foot trefoil typical of the ground flora.



*Photo 10 – Deciduous hedgerow in the west-central portion of the site.
View looking northeast*



*Photo 11 – Mature bur oak in a deciduous hedgerow in the central portion of the site.
View looking north*

Upland White Cedar Coniferous Forest

Pockets of upland white cedar coniferous forest up to 0.8 hectares were in the central and central-east portions of the site. Dense white cedars were up to 30cm dbh with an average dbh of 10 - 20cm (Photo 12). Some portions where harvesting was more intense have a more scattered clumping of cedars with the same kind of vegetation as the cultural meadow such as common burdock, common dandelion, common brome grass, June meadow grass, and red raspberry, filling the gaps (Photo 14). Where the cedar was very dense, there was limited understory or ground flora. Windthrow was extensive in many areas of the small upland cedar forests (Photo 13). Stumps were extensive in the forests and log piles suggest the cedars are used for fence posts and firewood.



*Photo 12 – Dense young white cedar in upland coniferous forest in the east portion of the site.
View looking northeast*



Photo 13 – Windthrow was extensive in many portions of the small upland cedar forests. This example is in the central portion of the site



Photo 14 – Other portions of the upland cedar forests were open and used for pasture and/or harvesting. This example is in the central-east portion of the site.

Upland White Cedar-Deciduous Mixed Forest

A 1.5 hectare upland mixed forest was in the east-central portion of the site. White cedar was dominant in areas, with white elm, apple, white ash, green ash, basswood, bur oak, and Manitoba maple common elsewhere. The largest trees were in the 40cm – 45cm dbh range but most trees are in the 15cm – 25cm dbh range. A few of the white elm trees appeared dead.

Red raspberry, prickly ash, and common barberry shrubs were the understory, along with regenerating cedar and ash stems. Common dandelion, field mustard, garlic mustard, and wild grape were representative of the ground flora. Stone piles were noted along the forest edge.



*Photo 15 – Mixed forest in the southeast portion of the site.
View looking northeast to south forest edge*

Upland Ash Deciduous Forest

A 0.6 hectare representation of upland ash deciduous forest was in the southeast corner of the site (Photo 16), with other parcels in the southwest corner. In addition to the dominant green ash, white ash and white elm were also present. The average DBH was 10cm with the occasional ash up to 30cm dbh. Much of the ash present were dead due to emerald ash borer giving rise to a thick understory consisting of regenerating stems of white ash, green ash, and bur oak, along with staghorn sumac, prickly-ash, and common buckthorn shrubs. Ground flora included daisy fleabane, Canada goldenrod, small white aster, New England aster, St. John's wort, and common strawberry.



*Photo 16 – Upland ash deciduous forest in the southeast corner of the site.
View looking northeast*

Wildlife observed during the field surveys included American crow, Canada goose, killdeer, American kestrel, northern harrier, red-winged blackbird, European starling, mourning dove, wild turkey, tree swallow, barn swallow (around barn not to be disturbed on the existing severance), eastern phoebe, eastern kingbird, white-breasted nuthatch, black-capped chickadee, downy woodpecker, hairy woodpecker, American robin, blue jay, yellow warbler, yellow-rumped warbler, red-eyed vireo, common yellowthroat, bobolink (seen flying to the north in central-west portion of the site), song sparrow, savannah sparrow, American goldfinch, white-tailed deer, red squirrel, eastern cottontail, and woodchuck, with great-blue heron, osprey, and turkey vulture flying overhead. A few piles of stones and rock were observed adjacent to the agricultural fields (Photo 17) and at the forest edges. These piles may be used by snakes and other hibernating wildlife.



*Photo 17 – Stones and rock may be used by wildlife.
This example is in the east portion of the site with view looking south*

Species at Risk

Two Species at Risk was observed during the field surveys, a bobolink, a threatened Species at Risk, flying to the north on May 29th, and barn swallows utilizing the barn on the existing severance. The barn and adjacent lands on the severance will not be disturbed by the proposed residential development. Although seen at other sites in Beckwith Township and the site appearing to have suitable habitat, no butternuts were observed on or adjacent to the site, including a detailed searched by Shaun St. Pierre on August 26th.

MNRF's Make a Map: Natural Heritage Areas website identifies potential threatened and endangered Species at Risk covered by the 2008 *Endangered Species Act*, as well as other species and natural heritage features of interest. A search was conducted on the 1 km squares including the site and adjacent lands (18VQ09 – 93 and -94 and 18VQ19-03 and -04). One Species at Risk, the American eel, was listed for these 1 km squares. If present in the general area, American eel would be found in Mississippi Lake. In addition, Blanding's turtle, a threatened Species at Risk, and two species of special concern, snapping turtle and eastern musk turtle, were identified for the 10 km square 18VQ09 in the Ontario Reptile and Amphibian Atlas. Blanding's turtle is also reported from Mississippi Lake on the iNaturalist website. Portions of the McGibbon Creek Wetland closest to the site did not appear to provide suitable turtle habitat due to the lack of standing water or evidence of standing water during the May 13th site review, but aerial photography suggests suitable habitat is present in the wetland further to the west. The shores of Mississippi Lake to the west of the site also provide suitable turtle habitat. No suitable

turtle habitat, including nesting areas, was observed on the site and in contrast to south of Ninth Line, no wetlands that provide suitable turtle habitat appear to be adjacent to the east on the north side of Ninth Line. Thus, any turtles migrating from the McGibbon Creek Wetland area will likely be south of Ninth Line heading towards the wetlands to the east and south. Regardless portions of the site, as identified on Figure 2, could be considered Category 3 Blanding's turtle habitat (Category 3 habitat extends 250 metres from suitable turtle habitat). Due to the lack of wetlands on the site and to the east, the extensive number of residences between the site and Mississippi Lake it is anticipated that the site does not provide the primary function of Category 3 habitat which is to provide upland connections between suitable wetland habitats. All Category 2 Blanding's turtle habitat will be within the 30 metre setback from Mississippi Lake, among the existing residences on either side of Gardiner Shore Road.

Chimney swift, bobolink, eastern meadowlark, bank swallow, and barn swallow were Species at Risk reported in the Breeding Bird Atlas for the 10 kilometre squares (18VQ09 & 18VQ19) that include the site and general area. No structures are present on the site itself, including those that may be used for nesting by chimney swift or barn swallow. Several barn swallows were observed around the barn and other structures on the existing severances to the north of Ninth Line. These structures will not be impacted by the proposed development. Bank swallow is a colonial nester that burrows in eroding silt or sand banks and sand pit walls, habitat not observed on or adjacent to the site. Bobolink and eastern meadowlark utilize large open grassland areas, such as hayfields and in some cases pasture land. There are many areas of potentially suitable nesting habitat on the site, including pasture lands in the northwest and southeast portions, and a bobolink was observed in the west portion of the site flying to the north.

Other potential Species at Risk reported in the general area include eastern whip-poor-will, little brown bat, northern long-eared bat, eastern small-footed myotis (a bat), and tri-coloured bat. Eastern whip-poor-will utilize rock or sand barrens with scattered trees, savannahs, old burns or other disturbed sites in a state of early to mid-forest succession, or open conifer plantations. The small on-site treed areas are too small to represent potential nesting habitat for this avian ground nester and the forest understories are generally too thick. Summer maternity roosts may be found for the bat species forests. The roosts are in cavity trees a minimum of 25cm dbh. No suitable cavity trees were observed in the small and generally young on-site forests.

Significant Woodlands

Woodlands are identified on Beckwith Township Natural Heritage mapping provided by MNRF in the central portion of the site where treed areas up to about two hectares are present. These areas are too small, contain no forest interior habitat with a maximum width of approximately ninety metres, and appeared to have no other significant ecological, social, or economic features for them to be considered significant woodlands, as identified in MNRF's Natural Heritage Reference Manual (OMNR, 2010).

Significant Wildlife Habitat

The potential for significant wildlife habitat is assessed using the guidance in OMNR (2010) and MNRF (2015). Potential components which may lead to a designation of significant wildlife habitat include seasonal concentration areas of animals, rare vegetation communities or specialized habitat for wildlife, habitat for species of conservation concern, and animal movement corridors.

Although the forests on-site are too small to not support interior habitat and thus potential habitat for species of special concern such as eastern wood pewee and wood thrush, a couple of rock piles were observed that could be used by snakes and other wildlife, including for hibernating wildlife. Mitigation measures are presented below to protect wildlife using these features. Other portions of the site are too disturbed with minimal early successional habitat to be used by Species of Conservation Concern indicators (MNRF, 2015) such as brown thrasher, clay-coloured sparrow, field sparrow, eastern towhee, upland sandpiper, or grasshopper sparrow. These species were not observed during the late May field survey, including morning breeding bird point counts. No evidence of animal movement corridors, such as those for deer or amphibians, were noted.

There was no evidence such as standing water that indicated the wetland in the southwest corner would provide potential amphibian habitat. Regardless, this habitat will be retained and protected. No seeps or springs, evidence of winter raptor utilization, or suitable turtle nesting or wintering areas were noted. Other field observations would not trigger a significant wildlife habitat designation with respect to the ELC communities present. For example, the cultural habitats do not support waterfowl stopover or staging areas, colonial nesting bird breeding habitat or other examples of seasonal concentration areas. No rare vegetation communities or rare or specialized habitats as described in MNRF (2015) were observed.

Linkage functions associated with the subdivision lands are primarily to the lands to the south and additional wetlands south of Ninth Line. This includes a series of wetlands and forests extending almost 20 kilometres to the south and southwest, as well as a connection to Mississippi Lake via the McGibbons Creek wetlands and corridor to the southwest of Ninth Line. Linkage functions in other directions are minimized by existing rural residential developments and agricultural activity, as well as the Highway 15 corridor.

**FIGURE 2 – PROPOSED TREE RETENTION
(shown with green overlay)**



Impact Analysis and Recommendations

Species at Risk and other Significant Natural Heritage Features

In terms of Species at Risk utilization, several barn swallow were observed using the barns on the existing severance. These barns will not be disturbed. In addition, bobolink and eastern meadowlark may utilize the meadow habitat and one bobolink was observed flying to the north in the west portion of the site. Additional spring and early summer surveys are required to determine the extent of bobolink and eastern meadowlark use of the site. Lastly, Category 3 Blanding's turtle habitat extends onto the west portion of the site as shown with a black dashed-line (250 metres from edge of water) on Figure 2, but as described above the site is not anticipated to provide the upland migratory functions of Category 3 Blanding's turtle habitat. No suitable wetland turtle habitat or turtle nesting habitat were observed on the site, with Mississippi Lake to the west representing suitable habitat.

The channel in the northeast corner of the site may support direct fish habitat, though no fish were observed on May 13th with just visual observations in shallow, clear water. As the channel is along the site periphery and will be used to convey site runoff, it is recommended that the channel be left in place with a 30 metre setback to impervious surfaces or structures. The setback should be allowed to naturalize, which will improve its protective properties over the existing cultivated field that extends to the channel edge.

Significant wildlife habitat may be present in association with the stone and rock piles at the edge of fields and forests. Mitigation measures are presented below to protect any wildlife utilization of these features.

The southwest corner of the site contains an east edge of the McGibbon Creel wetland. This wetland will not be directly disturbed and will be protected with a setback of at least 30 metres to the closest building envelopes. The setback is to be allowed to naturalize from the existing cultivated field, which will improve the protective properties of the setback, including potential impacts associated with noise, dust, light, and sedimentation. The only activity within the wetland setback will be a passive recreation trail that will utilize an existing gravel driveway. The driveway will receive a 10cm layer of stone dust and be repurposed into a walking trail, which will be owned and maintained by the municipality.

On-site Small Forests and Tree Retention

Small portions, all less than one hectare, of upland coniferous, mixed, and deciduous forests are scattered in the central and east portions of the site. Windthrow was extensive in many areas of and selective logging was common. However, the small forests still provide local wildlife habitat and aesthetic, climate, and nature appreciation benefits and portions of the forests should be retained wherever building envelopes, grading, and drainage requirements permit. Figure 2 shows the anticipated tree retention for the lots considering these requirements. Additional detailed engineering studies may identify additional grading and drainage requirements that may modify the areas of tree retention.

There will be impacts on wildlife using the forest and other trees on the site from direct loss of habitat, and indirect impacts from noise, light, and dust during the construction and operational phases and a greater number of people and associated pets in the area.

For future plantings on the site, including in areas currently lack tree cover, it is important that native trees from a local seed stock be used whenever possible. Recommended species for planting include a mix of native coniferous and deciduous trees such as sugar maple, red maple, basswood, red oak, and white spruce, along with native nannyberry, elderberry, and dogwood shrubs.

Recommended Mitigation Measures

The following important additional mitigation measures are to be properly implemented:

1. To protect breeding birds, no tree removal should occur between May 1st and August 15th, unless a breeding bird survey conducted by a qualified biologist within five days of the woody vegetation removal identifies no active nests in the vegetation to be removed;
2. If bobolink or eastern meadowlark are using the meadow habitat as determined by targeted spring and early summer surveys, removal of the habitat will need to be registered on-line following the MECP protocol before site alterations begin. The registration will include provision of off-site habitat to provide an overall benefit for the species. Bobolink and eastern meadowlark were not observed nesting during a late May breeding bird survey but only one instead of the required three nesting surveys were completed;
3. Trees to be retained are to be protected with sturdy temporary fencing at least 1.2 metres in height installed from the tree trunk a distance of ten times the retained tree's diameter where possible. Signs, notices, or posters are not to be attached to any tree. No grading, heavy machinery traffic, stockpiling of material, machinery maintenance and refueling, or other activities that may cause soil compaction are to occur within the critical root zones of the trees to be retained and protected. The root system, trunk, or branches of the trees to be retained are to be protected and not damaged. If any roots of trees to be retained are exposed during site alterations, the roots shall be immediately reburied with soil or covered with filter cloth, burlap or woodchips and kept moist until the roots can be buried permanently. A covering of plastic should be used to retain moisture during an extended period when watering may not be possible. Any roots that must be cut are to be cut cleanly to facilitate healing and as far from the tree as possible. Overhanging branches from retained trees that may be damaged during construction are to be pruned by a qualified arborist prior to construction. Exhaust fumes from all equipment during construction will not be directed towards the canopies of retained trees.

All of the supports and bracing for the protective fencing should be placed outside of the protected area and should be installed in such a way as to minimize root damage. Also,

since the desired effect of the barrier is to prevent construction traffic from entering the tree's critical root zone, the barrier should be kept in place until all site servicing and construction has been completed;

4. Disturbances to stone piles is to occur in early April or late August to end of October to ensure wildlife that may use these features during the winter or breeding period are not impacted;
5. Where required seepage barriers such as silt fencing, straw bale check dams, and other sediment and erosion control measures will be installed to OPSD requirements in any temporary drainage ditches, around disturbed areas during construction, and stockpiles of fine material. These control measures must be properly maintained to maximize their function during construction and will be removed at the completion of construction once the site has stabilized. Any dewatering of groundwater is to be properly treated before release;
6. The contractors are to be aware of potential Species at Risk in the vicinity of the site including barn swallow, bobolink, eastern meadowlark, and Blanding's turtle. The project biologist for this development is Bernie Muncaster (613-748-3753). Any Species at Risk sightings are to be immediately reported to the project biologist and the Ministry of the Environment, Conservation and Parks, and activities modified to avoid impacts until further direction by the Ministry;
7. Any turtles, snakes, or other sensitive wildlife in the work areas are to be relocated to the southwest of the site. Animals should be moved only far enough to ensure their immediate safety;
8. Municipal by-laws and provincial regulations for noise will be followed and utilities will be located in the vicinity of the site prior to construction;
9. Outdoor lighting is to be kept to a minimum and not directed towards the retained trees and other natural environment features;
10. It is recommended that no permanent fencing that may impact wildlife movements be installed;
11. Pets are to be kept under control at all times and not permitted to roam free;
12. Roof runoff should be collected in rain barrels or directed to grass surfaces and other permeable areas; and,
13. Waste will be managed in accordance with provincial regulations. The contractor will have a spill kit on-hand at all times in case of spills or other accidents.

Summary

One-hundred and twenty rural lots for detached residences with a typical lot size of 0.6 hectares are proposed for the site. The site is between between Ninth Line and Tenth Line, to the east of Gardiner Shore Road and Mississippi Lake. The site is in a residential community development area on Schedule A of the Township of Beckwith Official Plan

Bobolink and eastern meadowlark utilization of the site needs to be confirmed with spring and early summer surveys. If these threatened Species at Risk are nesting on the site, an overall benefit for the species can be provided by improving off-site habitat. Barn swallow, also a threatened Species at Risk, was observed on the existing severance north off Ninth Line. The barns will not be disturbed. Although the west portion of the site is within 250 metres of Mississippi Lake and thus within Category 3 Blanding's turtle habitat, it is not anticipated that turtles would utilize the site for migration as wetland parcels are not on the site or to the east.

A channel in the northeast corner may provide direct fish habitat and likely contributes to downstream habitat. To retain and protect this channel, a 30 metre setback which is allowed to naturalize is recommended west of the channel. This will provide better protection than the existing cultivated field which extends to the channel edge. Similarly, a 30 metre setback which is allowed to naturalize is recommended for a wetland in the southwest corner of the site.

It is important that the mitigation measures recommended in this EIS are properly implemented.

References

Ontario Ministry of Natural Resources. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. 2nd Edition. March 2010. 233 pp.

Ontario Ministry of Natural Resources. 2013. General Habitat Description for the Blanding's Turtle (*Emydoidea blandingii*). 7 pp.

Ontario Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. January, 2015. 38 pp.

Please call if you have any questions on this Environmental Impact Statement.

Yours Sincerely,
MUNCASTER ENVIRONMENTAL PLANNING INC.



Bernie Muncaster, M.Sc.
Principal

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