Environmental Impact Statement 2701 Longfields Drive

September 16, 2019

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KILGOUR & ASSOCIATES LTD. www.kilgourassociates.com Project Number: MATT 749

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1.0 INTRODUCTION

This report is a scoped Environmental Impact Statement (EIS) prepared by Kilgour & Associates Ltd. (KAL) on behalf of Mattamy Homes, in support of the proposed development of a portion of the Stonebridge Golf Course at 2701 Longfields Drive. The trigger for this EIS is the potential for the presence of Species at Risk (SAR) within 120 m of the site and the presence of a City Urban Natural Area adjacent to the site.

2.0 PROPERTY INFORMATION

The property, the Stonebridge Golf Course, at 2701 Longfields Drive (Nepean, Concession 2, RF Lot 7, RP; 4R14256, PT Part 1: Pin: 045912115) is approximately 25 ha in area. The proposed development will occupy only a small section of the property in the southeast portion (herein the site). The site is approximately 9.5 ha and located adjacent to Longfields Drive. The site contains only active golf course areas, which include ponds and a hedgerow.

The site is currently zoned as Parks and Open Space Zone (Subzone O1A) (Ottawa, 2018). This subzone allows for the creation and operation of a golf course. The proposed plan for the site is to create residential dwellings, which will require a zoning change in order to support this development.

3.0 SITE AND THE NATURAL ENVIRONMENT

3.1 Surface Water

The development area includes or touches upon three small ponds that were designed and are managed as golf course features. Along with the managed ponds, two minor wetted areas were observed to have formed within depressions directly adjacent to Longfields Drive. On April 4, 2018, during the peak of the spring freshet, these wetted areas were isolated from the roadside ditch despite the presence of connecting ditches.

3.2 Vegetation and Land Cover and Site Trees

Site land cover is depicted in Figure 1. The site is located entirely upon the Stonebridge Golf Course and includes a small woodlot and three ponds. Proposed site development would lead to the removal of an area of manicured fairways, rough greens and two ponds.

A small cultural woodland (CUW ecosite) is located in the eastern most corner of the site along Longfields Dr. This woodlot is dominated by Green Ash, American Elm and Trembling Aspen. Most of the ash there have succumbed to Emerald Ash Borer (EAB) and would likely be removed in the near future regardless of site development. Similarly, the larger (max 20 cm dbh) elms have succumbed to Dutch Elm Disease (DED). Other species present include Black Walnut (no Butternuts), White Pine, Norway Spruce, Black Oak, Scots Pine, Sugar Maple and apple. The understorey includes Riverbank Grape, Jack-in-the-Pulpit, Wild Cucumber, blackberry, hawthorn, rose, buckthorn, dogwood, goldenrod, parsnip and current. Several of the aspens and one spruce are approaching 40 cm DBH though most trees here are under 20 cm dbh.

The CUW woodlot extends out as a long hedgerow (H1) along the entire southern boundary of the site. Trees here are dominated by Green Ash, American Elm, and American Basswood, and also include Black Walnut, Burr Oak, Black Cherry, Trembling Aspen, Manitoba Maple, Balsam Poplar and some spruce. Smaller tree and shrub species include Tartarian Honeysuckle, hawthorn, buckthorn, willow, crabapple, and dogwood. Like the CUW, most of the ash and large elms here have succumbed to EAB and DED respectively.

Hedgerow H2 is a 130 m long, L-shaped band of trees located between Ponds 1 and 2. This feature includes American Elm (plus some Siberian Elms), Eastern White Cedar, Green Ash, Sugar Maple, Manitoba Maple, Basswood, crabapple, hawthorn, and buckthorn. Again, most of the ash and larger elms here have succumbed to EAB and DED respectively. These trees area all <30 cm DBH except for one elm at 40 cm.

Trees along the north side of the site used to form the edge of a second CUW area. That wooded feature, however, has been removed so that only a narrow band of trees remains there, forming Hedgerow H3. Trees here are American Elm, Green Ash, Trembling Aspen, Manitoba Maple and Basswood. These trees area all <30 cm DBH except for one Basswood at 50 cm dbh. A small spur line, including the large Basswood tree, branches off the main line hedge onto the golf course.

Hedgerow H4 is a short, 40 m long line of trees just west of the CUW. It includes small to medium sized American Elm, Norway Spruce, some nearly-dead Green Ash and several small crabapples.



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3.3 Turtles

Methods

Five rounds of turtle surveys were performed on the site in May, 2018. Specific basking surveys were completed at the area ponds and in the wet areas along Longfields Drive. Basking surveys followed the protocols detailed in the Blanding's Turtle Survey Protocols (MNRF, 2015). Each wetland was observed from survey stations that provided a high viewpoint of the wetland.

Surveys were completed on days with little to no cloud cover and temperatures of at least 5°C, and overcast days with temperatures of at least 15°C. All surveys were completed between 10 am and 4 pm. These surveys involved stopping at points along wetland and surface water features and scanning with binoculars. All turtles observed on site were recorded including incidental observation while traveling between survey stations and during other field surveys.

Results

Basking surveys were completed on May 8, 16, 23, 25, and 29, 2018. Weather conditions during field surveys are presented in Table 1. No turtles were observed on site during the basking surveys or other field survey during the entire 2018 field season. Golf course maintenance staff however, did note having observed a single snapping turtle in Pond 3 once during the previous year.

Date	Temperature (°C)	Cloud Cover (%)	Weather Conditions	Wind Speed (km/hr)	Species observed
08-May-18	29	10 - 20	Mainly clear	23	None
16-May-18	22	0	Clear	18 - 26	None
23-May-18	19 - 21	10 - 20	Mainly clear	13 - 17	None
25-May-18	26	60	Mostly cloudy	24	None
29-May-18	21	0	Clear	24	None

Table 1: Results of basking turtle surveys at the site in 2018.

3.4 Breeding Bird Surveys

Methods

Three rounds of breeding bird surveys were completed on site in 2018. Breeding bird surveys (BBS) followed guidelines from Bird Studies Canada (Bird Studies Canada, 2001). The survey period for BBS in the Ottawa region begins on May 24 and ends on July 10, and each BBS round of surveys was a minimum of 10 days apart. Typically, only two rounds of BBS are required, but when there is potential for SAR birds to be present the MNRF requests a third round be completed.

The surveys were conducted on calm weather days with no precipitation from one half hour before sunrise until 10:00 am. Surveys were five minutes in duration with a two-minute habituation period preceding the surveys. All birds seen and heard were recorded along with their associated breeding codes, and estimated distance from the observer.

Results

Three rounds of BBS were completed at the site on June 13 and 28, and July 10, 2018. Breeding bird surveys were completed at five survey stations that covered all habitats on site. They were completed on calm weather days with light wind (less than 3 on the Beaufort scale) and no precipitation.

Overall, 31 bird species were observed on site during the three rounds of surveys (Table 2). Red-winged Blackbirds (*Agelaius phoeniceus*) were the most abundant species on site followed by Song Sparrows (*Melospiza melodia*) and Common Grackle (*Quiscalus quiscula*).

Common Name	Scientific Name	Likelihood of Breeding	Common Name	Scientific Name	Likelihood of Breeding
Alder Flycatcher	Empidonax alnorum	Possible	Hairy Woodpecker	Picoides villosus	Probable
American Crow	Corvus brachyrhynchos	Probable	Killdeer	Charadrius vociferus	Possible
American Goldfinch	Spinus tristis	Likely	Mallard	Anas platyrhynchos	Possible
American Redstart	Setophaga ruticilla	Likely	Northern Cardinal	Cardinalis cardinalis	Likely
American Robin	Turdus migratorius	Likely	Northern Flicker	Colaptes auratus	Probable
Baltimore Oriole	Icterus galbula	Likely	Pied-billed Grebe	Podilymbus podiceps	Likely
Blue Jay	Cyanocitta cristata	Likely	Red-eyed Vireo	Vireo olivaceus	Likely
Cedar Waxwing	Bombycilla cedrorum	Probable	Red-winged Blackbird	Agelaius phoeniceus	Possible
Chipping Sparrow	Spizella passerina	Likely	Ring-billed Gull	Larus delawarensis	Unlikely
Common Grackle	Quiscalus quiscula	Probable	Savannah Sparrow	Passerculus sandwichensis	Likely
Common Yellowthroat	Geothlypis trichas	Likely	Song Sparrow	Melospiza melodia	Likely
Downy Woodpecker	Picoides pubescens	Likely	Tree Swallow	Tachycineta bicolor	Possible
Eastern Kingbird	Tyrannus tyrannus	Likely	Warbling Vireo	Vireo gilvus	Likely
Eastern Phoebe	Sayornis phoebe	Likely	Yellow Warbler	Setophaga petechia	Likely
European Starling	Sturnus vulgaris	Likely	Brown-headed cowbird	Molothrus ater	Probable
Gray Catbird	Dumetella carolinensis	Likely	_	_	_

Table 2: Results of breeding bird surveys at the site in 2018.

3.5 Species at Risk

SAR listed under *ESA* (Ontario, 2007) and *SARA* (Canada, 2002) having some potential to occur on or in proximity to the property are listed in Table 1. Two listed species – Bobolink and Barn Swallow - were both observed near the development area during the field season, though they were only briefly present outside of the breeding season. As such, both were considered transitory; neither species was found to be actively using the area for habitat.

Species Name	Provincial Status	Habitat Requirement	Habitat on Site	Project Concerns Associated with Habitat on Site			
Birds							
Bank Swallow (<i>Riparia riparia</i>)	Threatened	Nest in banks or earthen walls cut by meandering streams and rivers, but artificial banks created by mining may also be used. Foraging occurs over fields, streams, wetlands, farmlands, and still water.	Open habitats are present on site that could be used for foraging, but no nesting habitat was found to be present.	Negligible potential for presence. Not a concern for this project.			
Barn Swallow (<i>Hirundo rustica</i>)	Threatened	Terrestrial open & manmade structures for nesting, near open areas for feeding.	A single Barn Swallow was noted over adjacent areas of the golf course during the first turtle survey on May 15 th . No individuals however were present during the breeding season. No suitable nesting structures are present on or adjacent to the development area though the golf course could provide some limited potential as a feeding area if birds were to nest nearby.	Possibly present in the vicinity, but the site does not serve as habitat. Not a concern for this project.			
Bobolink (<i>Dolichonyx</i> oryzivorus)	Threatened	Periodically mown, dry meadow for nesting. Habitat (meadow) should be > 10 ha, and preferably > 30 ha before bobolink are attracted to the site. Not near tall trees.	No suitable nesting habitat on the site as grassed areas area heavily managed. Two Bobolinks were in the small grassy field south of the golf course during the first turtle survey on May 15 th . The birds were not observed again though and were deemed to have only stopped over.	Negligible potential for presence within the development area. Nearby grassy fields do not provide active habitat. Not a concern for this project.			
Chimney Swift (<i>Chaetura</i> <i>pelagica</i>)	Threatened	Nests in open chimneys and sometimes in tree hollows (tree > 60 cm diameter at breast height). Tend to forage close to water as this is where the flying insects they eat congregate.	No suitable trees or chimney structures on or near the site.	Negligible potential for presence. Not a concern for this project.			
Eastern Meadowlark (<i>Sturnella magna</i>)	Threatened	Periodically mown, dry meadow for nesting. Habitat (meadow) should be > 10 ha, and preferably > 30 ha before bobolink are attracted to the site. Not near tall trees.	No suitable nesting habitat on the site as grassed areas area heavily managed.	Negligible potential for presence. Not a concern for this project.			
Henslow's Sparrow (Ammodramus henslowi)	Endangered	Expansive, fallow, tall grass/forb fields with ground mat formation and perches. Moist sites preferred.	No suitable habitat. Unknown from the region for 20+ years.	Negligible potential for presence. Not a concern for this project.			
Least Bittern (<i>Ixobrychus</i> <i>exilis</i>)	Threatened	Found in large quiet marshes and usually near cattails.	No suitable habitat on or adjacent to site.	Negligible potential for presence. Not a concern for this project.			

Table 3. Species at risk with potential to occur on the Stonebridge Golf Course.

Eastern Whip- poor-will (Caprimulgus vociferus)	Threatened	Terrestrial mix of open and forested habitats.	No suitable habitat on or adjacent to site.	Negligible potential for presence. Not a concern for this project.			
Mammals	•	•	•	•			
Little Brown Bat (<i>Myotis lucifuga</i>)	Endangered	Widespread, roosting in trees and buildings. Hibernate in caves or abandoned mines.	Trees on site are generally either too small or healthy (site trees lacked cavities or loose bark) to provide significant habitat.	Negligible potential for presence. Not a concern for this project.			
Northern Long- eared Bat (<i>Myotis</i> <i>septentrionalis</i>)	Endangered	Associated with boreal forests, choosing to roost under loose bark and in the cavities of trees. Hibernate in caves or abandoned mines.	No suitable habitat on or adjacent to site.	Negligible potential for presence. Not a concern for this project.			
Eastern Small- footed Bat (<i>Myotis leibii</i>)	Endangered	Coniferous forest in hilly country. Hibernate in smaller caves. Subject to air movement.	No suitable habitat on or adjacent to site.	Negligible potential for presence. Not a concern for this project.			
Eastern Pipistrelle (<i>Pipistrellus</i> <i>subflavus</i>)	Endangered	Forage over water courses or open fields with large trees nearby. They never forage in deep woods. Hibernate in caves or abandoned mines.	Trees on site are generally either too small or healthy (site trees lacked cavities or loose bark) to provide significant habitat.	Negligible potential for presence. Not a concern for this project.			
Turtles							
Blanding's Turtle (<i>Emydoidea</i> <i>blandingii</i>)	Threatened	Quiet lakes, streams, wetlands with abundant emergent vegetation and hummock development and associated upland areas. Hibernates in bogs.	No suitable wetland habitat occurs on or adjacent to the site. The golf course ponds are highly managed as controlled irrigation structures. Wet depressions along Longfields Dr. are ephemeral and are therefore not suitable.	Negligible potential for presence. Not a concern for this project.			
Snapping Turtle (Chelydra serpentine)	Special Concern	Freshwater habitat characterized by slow- moving water with a soft mud bottom and dense aquatic vegetation. Habitats ranging in size from lakes to ditches. Hibernates in mud or silt bottoms of lakes and rivers. The species uses gravel or sandy areas near aquatic habitats for nesting.	The golf course ponds are highly managed as irrigation structures but provide some limited habitat suitability. An individual has been noted in Pond 3 in the past, though none were present during KAL field surveys. Pond 3 will be retained, though reshaped, regardless.	Some potential for presence but not important habitat. Not a concern for this project.			
Vascular Plants							
Butternut (<i>Juglans cinerea</i>)	Endangered	Variable but typically on well-drained soils.	Most of the site could be deemed suitable, but species was not observed on site during site visit.	Negligible potential for presence. Not a concern for this project.			

3.6 Other Natural Heritage Features

There are no provincially or locally significant wetlands, wetlands found in association with significant woodlands, significant valleylands or Life Science Areas of Natural and Scientific Interest on or adjacent to the site (Error! Reference source not found.).

The Rideau River and its associated corridor are located approximately 530 m to the east. This feature will not be impacted by the project due to the absence of surface water connection between the site and the Rideau River and distance.

City of Ottawa UNA 63 (Jockvale Road Woods) is located across Longfields Dr. Management recommendations for this feature consist of the maintenance of a vegetated buffer between adjacent development and woodland areas required to reduce edge effects. This UNA is currently surrounded by existing residential development and is separated from the site by a distance of 65 m and by Longfields Drive. Regardless, the CUW ecosite will remain in place between new residential development and the UNA to provide an additional buffer.

4.0 **PROJECT DESCRIPTION**

The project supported by this EIS is the construction of a small residential area consisting of 94 single homes, 90 townhomes and a 0.73 ha park (Figure 2). Development of the community will require the removal of Ponds 1 and 2, and a reduction in size of Pond 3. Hedgerow H2 will be removed; hedgerows H1 and H3 will be retained though some individual trees may be trimmed or removed where they extend into rear yards. The CUW in the eastern corner of the site will be retained.

The portion of the golf course existing within the site will eventually be rebuilt, likely on lands to the south. This work however, is not part of the current application and, as such, is not addressed within this EIS.



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5.0 IMPACT ASSESSMENT

5.1 Impacts to Surface Water, Groundwater, and Fish Habitat

The only permanent surface water features on site are the ponds associated with the Stonebridge Golf Course. Two of the ponds will be removed. One will be reduced slightly in size. These features are all fully managed by the golf course, for the benefit of the course. As such they do not constitute natural habitat and their loss/alteration is not anticipated to impact the ecology of the broader watershed. Removal of the ponds however, will still require a permit to alter a waterway from the RVCA. Through the permit application process, it is anticipated that the project proponent will successfully demonstrate that the removal of the ponds would not negatively impact water balance in the vicinity.

Wetted depressions within the golf coursearea and the CUW along Longfields Drive contain water only during the spring freshet. Regardless, these features will remain untouched.

5.2 Impacts to Natural Features

The only significant natural feature occurring within 120 m of the site is UNA 63 (Jockvale Road Woods). The City's UNA report for the feature indicates the maintenance of a vegetated buffer between adjacent development and woodland areas as a management recommendation to reduce edge effects. This UNA is currently surrounded by existing residential development and is separate from the site by a distance of 65 m and by Longfields Drive. Regardless, the CUW ecosite will remain in place between new residential development and the UNA to provide an additional buffer. Therefore, we predict no impacts to natural features from the proposed development.

5.3 Impacts to Trees

The majority of trees within or near the development area are small (less than 30 cm DBH). The only trees specifically slated for removal are those in Hedgerow H2, the short spur off of H3 – including the large Basswood at the eastern end (the species has low tolerance for root disturbance and would be unlikely to survive construction immediately adjacent to it) – and the southern tip of H4. Some limited trimming or removal may be required though from hedgerows H1 and H3. The limited canopy cover and function provided by these trees can be maintained within the new community through trees to be planted as part of a site landscape plan.

5.4 Impacts to Species at Risk

The only two listed species at risk occurring near the development areas are two bird species that briefly stopped over nearby, prior to the breeding season. Neither species (Bobolink or Barn Swallow) use either the development site or adjacent areas as habitat and site development would not impact any individuals.

As species of special concern, Snapping Turtles are not protected as SAR under the ESA. Individuals however, are still protected under other provincial legislation. No turtles were found to be present at the time of the studies supporting this report. The ponds on site offer some habitat potential (albeit of limited quality) and could support overwintering turtles. So long as the ponds are drained prior to October 15th in a year in which any works are planned for the winter period, any turtles present would leave on their own accord and would not be impacted by that work.

6.0 MITIGATIONS

6.1 Mitigations to Protect Surface Water Features

The alteration of a water way or feature generally requires a permit from a conservation authority (the RVCA for this location). The RVCA however, exempts isolated "water hazard" ponds on a golf course from this requirement (Eric Lalande, RVCA, *pers. comm.* September 16, 2019). As such, and given that no other headwater features exist on the site or will altered near the site as part of the proposed development, no Headwater Drainage Feature Assessment (HDFA) is required for this project. If any of the ponds however, currently provide planned capacity within the context of a stormwater management system of the broader area, Mattamy will be required to consult with the City regarding potential impacts of any proposed alterations to that capacity. Such consultation though would be unrelated to the ecology of the ponds and, as such, is not addressed further within this report.

The only natural heritage consideration related to the ponds pertains to their (limited) potential to support overwintering turtles. Accordingly, if any dewatering or other significant disturbance to the pond required for site development is planned to occur between October 15th and April 30th, the pond(s) must be fully drained by October 14th so as to allow and encourage any turtles present to overwinter elsewhere and thus not be impacted by the planned work.

Standard erosion and sediment control and mitigation measures shall be applied to the site during development. These must be planned and designed to protect transfer of sediment to roadside ditches and/or other features adjacent or near to the site to prevent any contamination of downstream water features. Additionally, topsoil piles must be managed to prevent erosion. Details of the erosion and sediment control mitigation measures are to be included in the environmental management plan for the site.

6.2 Mitigations to Natural Heritage Features

As no Natural Heritage Features are anticipated to be impacted by the proposed development, no specific mitigations are imposed here.

6.3 Mitigations for Trees

Please note that this report does not constitute permission to remove any trees from the site. Removal of trees can only be undertaken upon the issuance of a tree removal permit from the City of Ottawa. This report may be used to support the application for that permit and to advise mitigation measures imposed by the permit. Accordingly, to minimize impact to the remaining trees on the broader property and/or adjacent to the site, the following protection measures are indicated as necessary during construction:

- Tree removal on site should be limited to that which is necessary to accommodate site construction.
- To minimize impact to remaining trees during future site development:
 - Erect a fence beyond the critical root zone (CRZ, i.e. 10 x the trunk diameter) of trees. The fence should be highly visible (e.g. orange construction fence) and paired with erosion

control fencing. Pruning of branches is recommended in areas of potential conflict with construction equipment;

- Do not place any material or equipment within the CRZ of the tree;
- Do not attach any signs, notices or posters to any tree;
- Do not raise or lower the existing grade within the CRZ without approval;
- Tunnel or bore when digging within the CRZ of a tree;
- Do not damage the root system, trunk or branches of any tree; and
- Ensure that exhaust fumes from all equipment are NOT directed towards any tree's canopy.
- The *Migratory Bird Convention Act* (Canada, 1994) protects the nests and young of migratory breeding birds in Canada. The City of Ottawa guidelines stipulate no clearing of trees or vegetation between April 1 and August 15, unless a qualified biologist has determined that no nesting is occurring within 5 days prior to the clearing (Ottawa, 2017c).

Specific trees to be planted on site will be identified in the landscape plan for the development. Tree species identified in this plan should be non-invasive and should be native to the Ottawa area. Landscaping plans should consider species such as White Pine, Basswood, Sugar Maple, White Spruce, Pin Cherry, White Birch, Black Cherry, and White Cedar where conditions may now permit. Burr Oak may be considered where spacing allows for future showcase trees. Common Juniper, Service Berry, and Northern Bush-honeysuckle may be considered as appropriate shrub species. Trees must be planted to a density equivalent to at least one per unit, though the distribution of specific planting locations may be varied from necessarily planting on every lot, as may be dictated by individual lot considerations. The landscape plan must include additional tree planting within parks and other open spaces as may be accommodated by the final configuration of those areas.

6.4 Mitigations for Species at Risk

As no listed SAR are considered as potentially occurring on the site, no SAR specific mitigations are required. Mitigations for turtles are indicated in Section 6.1.

7.0 SUMMARY AND RECOMMENDATIONS

It is my professional opinion that no negative impacts are anticipated to listed SAR or other natural heritage features under the proposed property development.

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Anthony Francis, PhD KILGOUR & ASSOCIATES LTD.

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Appendix 1 Qualifications of Report Author

Anthony Francis, PhD

Dr. Francis is an ecologist with over 18 years of experience in both terrestrial and aquatic projects. His doctoral thesis work on global plant diversity patterns included conducting tree surveys across North America. As a consulting ecologist he has worked on diverse ecological projects including literature reviews of forestry management and species-at-risk; environmental studies of contaminants (metals and suspended particulates); geomatic and statistical analyses for federal and provincial ministries as well as for private industry; and aquatic and terrestrial species inventories. He has contributed to environmental impact statements and federal environmental screening assessments for creek realignments and other infrastructure projects across Ontario.