Environmental Impact Statement
5574 Rockdale Rd., Vars ON

Revised Report
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Submitted To:

Andre Rollin
A. Rollin Development
880 Smith Rd.
Navan, ON
K4B 1N9

KILGOUR & ASSOCIATES LTD.
2285C St. Laurent Blvd. Unit 16
Ottawa, Ontario,
K1G 4Z6
Canada
613-260-5555
www.kilgourassociates.com
Project Number: BOES261

EXECUTIVE SUMMARY

This report is an Environmental Impact Statement written by Kilgour & Associates Ltd. on behalf of A. Rollin Development in support of the construction of a two storey, twelve unit condominium building at 5574 Rockdale Rd. in in the Village of Vars. The triggers for this EIS are: 1) the proximity of the development property a City of Ottawa Rural Natural Feature (NESS Area #79 - Vars West) and 2) the potential for presence of protected species at risk (SAR) and/or their habitat within the broader area, specifically including, but not limited to, Bobolink, Eastern Meadowlark and Butternut. This EIS will also include the Tree Conservation Report for the development.

This report documents natural environment information across the subject property and adjacent areas based on existing land cover data and a site survey of vegetation, and provides an assessment of the presence of and/or habitat potential for species at risk based on existing occurrence records and habitat requirements for protected species know to occur in the region.

The site is comprised of a former farm field, maintained with short mown grass for the past several years. Soils on site and in the adjacent NESS area are (fine) sand/loamy sand with a very gently sloping topography and good or better drainage. No rocky outcrops were present on or adjacent to the site. Areas to the south, west and north have all been subject to residential development. The portion of the NESS area immediately adjacent to the north edge of the property is dry-fresh poplar deciduous forest. A small drainage feature runs along the western side of the property through the rear yards of the adjacent houses. Hedgerows are located along the south, west and north half of the eastern sides while six Green Ash trees and one Manitoba Maple are located individually. All trees one site are less than35 cm dbh.

The proposed residential development will include a single, two-storey building with 12 condominium units. Servicing for the site is set to commence early in 2014 with construction completed by the end of the year. Four Green Ash trees must be removed to accommodate the new building but no other site trees or hedgerows will be impacted. The area around the new building will be planted with 25 new trees using appropriate native tree species as per City guidelines.

No construction or development will occur within 120 of the NESS area. The area between will not be re-graded, will not lose any existing tree cover and will not see any significant change in the maintenance of exist turf (i.e. regular mowing). No negative impacts are anticipated to the NESS area.

The proposed building will be constructed more than 15 m away from the surface water feature. The area between will not be significantly re-graded, will not lose any existing tree cover and will not see any significant change in the maintenance of exist turf. This feature is located within the rear yards of existing neighbouring houses and is thus not likely to suffer any further negative impacts from the proposed development.

Two species at risk were identified as having a greater than negligible probability of presence. Whip-poor-wills could be present within the adjacent forest area, though would not nest on the site. Chorus Frogs (federally listed) may find suitable habitat at the north end of the surface water feature along the west side of the property. Sufficient separation however, exists between both potential habitat areas and the building site to prevent any negative impacts from the proposed development given the closer proximity of other neighbouring developments.

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1.0 INTRODUCTION

This report is an Environmental Impact Statement (EIS) written by Kilgour & Associates Ltd. (KAL) on behalf of A. Rollin Development in support of the construction of a two storey, twelve unit condominium building at 5574 Rockdale Rd. in in the Village of Vars. The triggers for this EIS are: 1) the proximity of the development property a City of Ottawa Rural Natural Feature (NESS Area #79 - Vars West) and 2) the potential for presence of protected species at risk (SAR) and/or their habitat within the broader area, specifically including, but not limited to, Bobolink, Eastern Meadowlark and Butternut. This EIS will also include the Tree Conservation Report (TCR) for the development.

This report documents natural environment information across the subject property and adjacent areas based on existing land cover data and a site survey of vegetation, and provides an assessment of the presence of and/or habitat potential for species at risk based on existing occurrence records and habitat requirements for protected species know to occur in the region.

2.0 PROPERTY INFORMATION

The land to be developed (Cumberland Concession 7 Part Lot 24; RP 4R20412 Part 5; PIN: 145530565) is a 6.64 ha parcel owned by A. Rollin Development in the Village of Vars. The property is currently zoned for development (V1D[18r]) within the City of Ottawa Zoning Bylaw. The site is comprised of a former farm field, maintained with short mown grass for the past several years.

3.0 SITE AND THE NATURAL ENVIRONMENT

3.1 Methodology

Colour digital aerial photographs from Google Earth and geoOttawa were used initially to identify natural environment features on site. Ontario Base Map (OBM) and geoOttawa layers for the area demarcating surface water and potential wetland features were overlaid on the aerial photographs to aid interpretation. KAL biologist Anthony Francis conducted a survey of trees and other natural features on the property and within the adjacent NESS area on November 11, 2013. During the survey, the biologist confirmed site land cover classifications, describing canopy and ground cover species and density, and identified the presence of surface water features and /or geological features (e.g. caves, rock outcrops, significant soil changes) as relevant to the provision of potential habitat for SARs. Vegetation descriptions included lists of tree species within each area plus the locations of isolated individual trees and any distinct trees of note. He also sought to identify specifically the presence, location and general condition of any Butternuts on site.

The Ontario Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC) database was searched to determine whether any SARs had been documented on the site or in the vicinity. The NHIC search was augmented with the MNR general Township SAR list for the Cumberland area to identify species of concern known to occur with the broader area.

3.2 Landforms, Soils and Geology

Soils on site are medium to strongly acid sand/loamy sand with a very gently sloping topography and good or better drainage. Soils and topography within the adjacent NESS area are the same to the north east of the property, shifting to fine sand/loamy fine sand towards the north west (Schut and Wilson, 1987). A soil core taken by Anthony Francis in the NESS area near the middle of the north property boundary confirmed presence of deep sandy soils with no mottles or gleys, indicating a dry-fresh type ecosite (moisture class 1, therefore no wetland presence). No rocky outcrops were present on or adjacent to the site.

3.3 Surface Water, Groundwater and Fish Habitat

A small drainage feature runs along the western side of the property through the rear yards of the adjacent houses. The south half near the development area is a shallow swale with no defined bank structure. Here, the feature held only isolated pockets of water less than 5 cm in depth, despite significant rain/snowfall over the 24 hours prior to the site visit on November 11, mostly where piles of leave impeded drainage. The north half of the feature however had somewhat more defined banks with a width of ~3 m, a wetted width of 1 m and maximum wetted depth of 20 cm at the north-most end. This feature turns westward at the northwest corner of the property following behind the houses adjacent to the NESS area as larger ditch. A short swale (50 m) also runs westward along north edge of the property draining into this ditch. Together, these features receive water from the subject property, along with some from the adjacent portion of the NESS area, directing flows eventually to larger creeks to the west. As such, the neither the subject property nor the feature adjacent to the project area provides water to the NESS area. No assessment of the potential for fish habitat was undertaken as all proposed development on the site is adjacent to only the southern swale section of the feature and will be located more than 15 m away.

3.4 Vegetation and Land Cover

The property is a portion of a former farm field that has been maintained with short mown grass for the past several years. Several large ash trees occur on the centre of the site and tall hedgerows or forest edges surround most of the area. geoOttawa historical air photos from 1976 show no trees on the property and only a few small saplings on the adjacent NESS area, indicating no trees of significant age occur on or beside the site. Figure 1 shows the general vegetation coverage (ELC ecosites) present on the property.

3.4.1 On Site

Lawn

Most of the site had recently been tilled. The furrows and untilled edges however, showed a monoculture of evenly mowed, well-tended short grass consistent with a lawn. A cluster of four, multi-stemmed Green Ash trees is located near the center of the south end of the site and single multi-stemmed Green Ash is located the center of the north end.

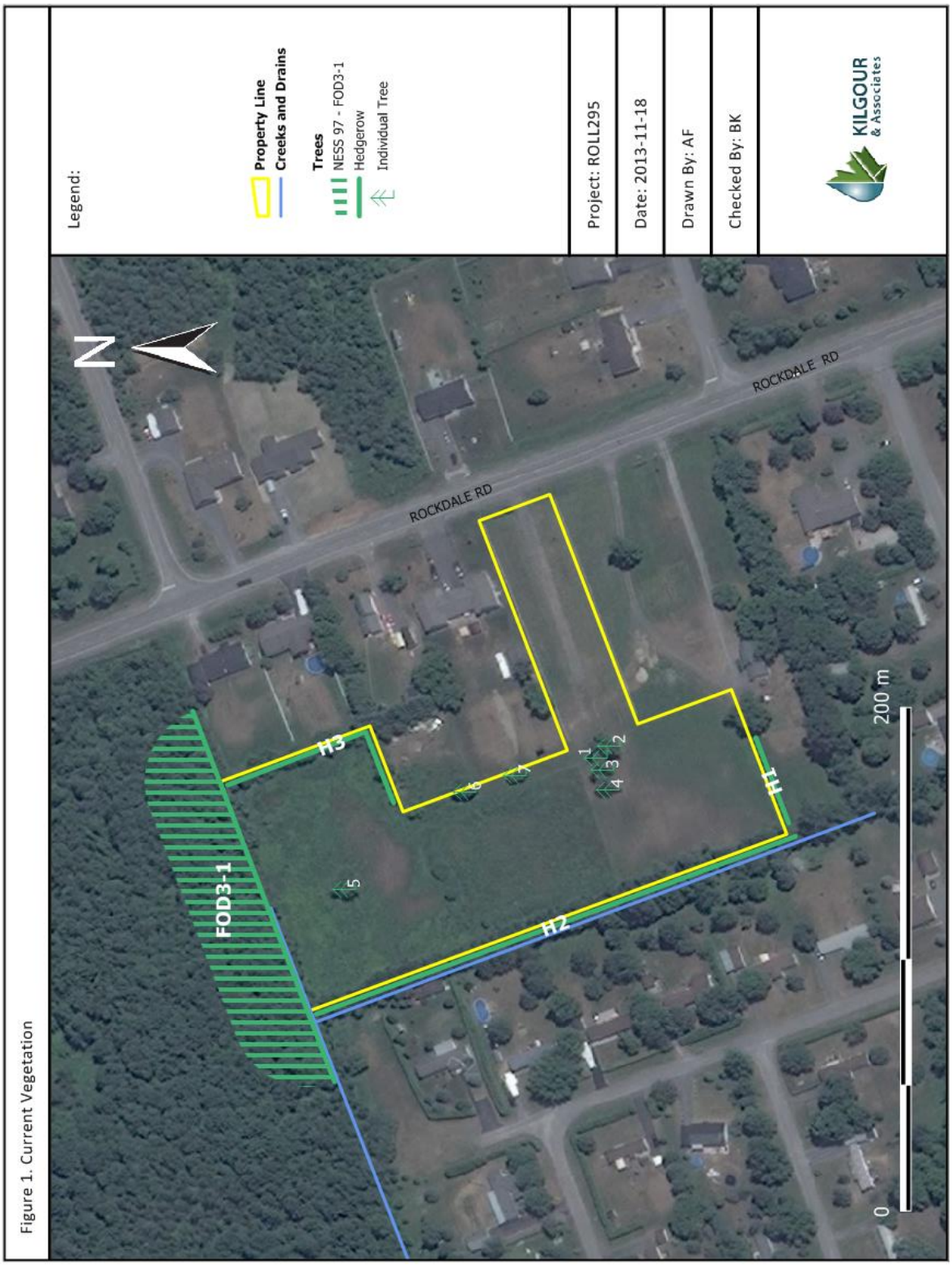

Figure 1. Current Vegetation

3.4.2 Off Site

Most areas around the property are private residence thus habitat assessment was limited to air photo interpretation and views from the edge of the site.

Residential

Areas to the south, west and north have all been subject to residential development. Adjacent residential lots are typical for a village area and range in size from 0.2 to 0.5 ha. Lots are generally covered in well-manicured lawns with five to ten trees each of species including Green Ash, Manitoba Maple, Red Maple and White Spruce, with very few individuals appearing to be greater than 50 cm dbh.

NESS Area #79 – FOD3-1 Dry-Fresh Poplar Deciduous Forest

A portion of NESS Area #79 is immediately adjacent to the north edge of the property. This feature however is 120 m from the edge of the actual area of development. As such, the ecosite along the edge of the property is described, but not fully delineated along its northern edge. The ecosite here has dry-fresh sandy soil and is dominated by of Balsam Poplar. Other tree species include Red Maple, American Elm, Sugar Maple, White Pine, White Birch and Black Cherry. Canopy is likely quite dense in the summer thought the understorey appears to be reasonably open.

3.5 Site Trees

3.5.1 Trees and Hedgerows

Hedgerows are located along the south, west and north half of the eastern sides of the property (Figure 1**Error! Reference source not found.**). No trees within the hedgerows are greater than 40cm dbh and so trees here are not described individually. Six Green Ash trees and one Manitoba Maple located individually around the property are detailed in Table 1. The site was assessed well after leaf off so canopy health could not be assessed, though most site trees generally appeared to be healthy.

Table 1. Trees and small tree clusters on the site.

Tree Number	Tree Description	Size (DBH* in cm)
1	Green Ash (6 stems)	34
2	Green Ash	32
3	Green Ash (4 stems)	26
4	Green Ash	32
5	Green Ash cluster (9 live stems, 5 dead stems)	24
6	Manitoba Maple (5 stems)	28
7	Green Ash (2 stems)	30

*DBH is for largest stem

Hedgerow H1

H1 is a row of 12 young Balsam Fir saplings planted in ~2008. The trees are all 10 cm dbh or smaller.

Hedgerow H2

H2 runs the entire length of western property line. The southern third of the row consists of Manitoba Maple, White Birch, and Trembling Aspen with a few small White Pine saplings. All trees in the hedge on subject property are under 30 cm dbh, though several larger White Spruce trees (dbh ~35-40) are located immediately behind the hedgerow within the neighbouring back yards. The central third has only a few very small poplar White Elm, and Green Ash saplings on the property with no trees over 10 cm dbh. Several White Birches (~20 cm dbh) occur here on the neighbouring side. The northern third of the hedgerow is dense with Speckled Alder with scattered Balsam Poplar, Trembling Aspen, Black Cherry, Red Maple and White Spruce (all <20 cm dbh) scattered throughout. A row of larger (~25-30 cm dbh) Red Pines is located behind the north end of the hedge in the neighbouring rear yard.

Hedgerow H3

H3 follows the north end of the eastern property line. Trees here include scattered White Birch, Balsam Poplar, Green Ash and White Elm all of which are generally small (< 20 cm dbh). Speckled alder forms much of the hedge along with one small stretch of Red Osier Dogwood.

3.5.2 Ecological Significance of Trees on the Site

No trees on site are large enough to be considered potential specimen trees (i.e. > 50 cm DBH and in reasonably good health). No tree cavities were evident. The main ecological functions of the existing site trees are:

- To provide some cover, food (e.g., flowers, insects) and perching areas for field birds and small mammals that use the site.
- To provide shelter, shade, and a windbreak for birds and small mammals that use the site.

Hedgerows H2 and H3 likely provide some nesting area for common bird species but do not provide wildlife corridors per se as they do not connect the NESS area to any other usable habitat areas (only to residential properties at their southern termini).

Trees located within the NESS area however, are very important to the function of that feature, providing both for interior forest space within the broader forested area and forest habitat within their own area.

3.6 Wildlife

As an area of maintained lawn, the property is unlikely to provide any significant wildlife habitat though deer and small mammals from the adjacent NESS area may occasionally traverse the property. The

summary report for the NESS area (Bronwell and Blaney 1997) indicates the presence of high quality moose habitat within the broader feature, though such habitat would likely be tied to wetter portions of the feature, none of which are immediately adjacent to the property.

3.7 Species at Risk

The NHIC database search indicated element occurrence records for only one protected species-at-risk within 5 km of the site, which was for Henslow's Sparrow (*Ammodramus henslowii* - **END**) from 1980. Henslow's Sparrow has not been observed in the general area for over 20 years.

Table 2 indicates the habitat requirements of species-at-risk known from Township SAR list and whether the Rollin property may provide significant habitat. Three additional species were added to the list: the Little Brown and Northern Long-eared Mytosis (bats) which are known to occur within the Ottawa area but were only recently listed as species at risk; and the Western Chorus Frog, which is listed under the federal *Species at Risk Act* (SARA). While SARA is not specifically incumbent upon non-federal agencies or projects, the City of Ottawa considers the habitat of SARA listed species to constitute significant wildlife habitat and attaches additional encumbrances upon projects seeking to proceed therein.

Table 2. Species-at-risk potential

Species Name	Provincial (ESA) Status	Habitat Requirement	Habitat Suitability / Potential Presence
Vascular Plants			
Butternut (*Juglans cinerea*)	Endangered	Variable but typically on well-drained soils.	Potential for presence around most of the site, though no individuals were present.
Turtles			
Blanding's Turtle (*Emydoidea blandingii*)	Threatened	Quiet lakes, streams, wetlands with abundant emergent vegetation and hummock development and associated upland areas. Hibernates in bogs.	No suitable habitat. Negligible potential for presence.
Spotted Turtle (*Clemmys guttata*)	Endangered	Fens and bogs	No suitable habitat. Negligible potential for presence.
Mammals			
Little Brown Bat (*Myotis lucifuga*)	Endangered	Widespread, roosting in trees and buildings. Hibernate in caves or abandoned mines.	No suitable hibernation habitat. No significant roosting habitat. Negligible potential for presence.
Northern Long-eared Bat (*Myotis septentrionalis*)	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. Negligible potential for presence.

Species Name	Provincial (ESA) Status	Habitat Requirement	Habitat Suitability / Potential Presence
Birds			
Barn Swallow (*Hirundo rustica*)	Threatened	Terrestrial open & manmade structures for nesting.	No likely nesting structures currently in place on the property. Negligible potential for presence.
Bobolink (*Dolichonyx 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 habitat. Negligible potential for presence.
Chimney Swift (*Chaetura pelagica*)	Threatened	Nests in open chimneys and sometimes in tree hollows (tree > 60 cm dbh).	No likely nesting structures currently in place on the property. Negligible potential for presence.
Eastern Meadowlark (*Sturnella magna*)	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 habitat. Negligible potential for presence.
Henslow's Sparrow (*Ammodramus henslowi*)	Endangered	Expansive, fallow, tall grass/forb fields with ground mat formation and perches. Moist sites preferred	Suitable habitat is too size limited. Negligible potential for presence.
Least Bittern (*Ixobrychus exilis*)	Threatened	Found in large quiet marshes and, usually near cattails.	No suitable habitat. Negligible potential for presence.
Whip poor will (*Caprimulgus vociferus*)	Threatened	Terrestrial mix of open and forested	Adjacent forest area provides some habitat potential but well separated from development area. Low potential for presence, negligible potential for impacts.
Amphibians			
Western Chorus Frog (*Pseudacris triseriata*)	Threatened (Federally) Not listed provincially	Any fishless pond with at least 10 centimetres of water, including quiet, shallow, usually temporary waterbodies with vegetation that is submerged or protrudes from the water, and especially in rain-flooded meadows and ditches, and in temporary ponds on floodplains	Limited suitable habitat near site but well separated from development area. Low potential for presence, negligible potential for impacts.

The area was thoroughly checked during the site visit of November 11, 2013 to identify site trees and generally to describe site vegetation. Butternut was identified in Table 2 as having a potential for presence and habitat on the property. No Butternuts however, were found on site. No trees had cavities suitable for nesting birds or bats. Vegetation within the adjacent NESS area however was open enough to potentially support Whip-poor-will, though the likelihood is considered to be low. The property itself is too small (narrow), too well mowed and too close to taller trees to support grassland bird SARS. The ditches along the north west side of the site have limited potential to support Western Chorus Frogs.

4.0 PROJECT DESCRIPTION

The residential development will include a single, two-storey building with 12 condominium units. Servicing for the site is set to commence early in 2014 with construction completed by the end of 2016. The proposed development plan for the property is presented in Figure 2. The site requires no re-grading and the northern half of the property beyond the immediate construction area will be untouched. The four central Green Ash trees must be removed to accommodate the new building but no other site trees or hedgerows will be impacted.

4.1 Constraints

No construction can occur within 120 m of the NESS feature without clearly defining the potential impacts of construction to the feature and mitigating those impacts. The north edge of the construction area however is 120 m from the feature.

With respect to the small surface water feature adjacent to the site, no watershed, subwatershed, or environmental management plan exists to impose specific setback requirements. Moreover, the feature, as a small swale with no defined bank structure, has no associated regulatory flood line, geotechnical limit of the hazard lands, defined normal high water mark or top of bank. Regardless, the proposed design maintains a > 15 m setback from the swale.

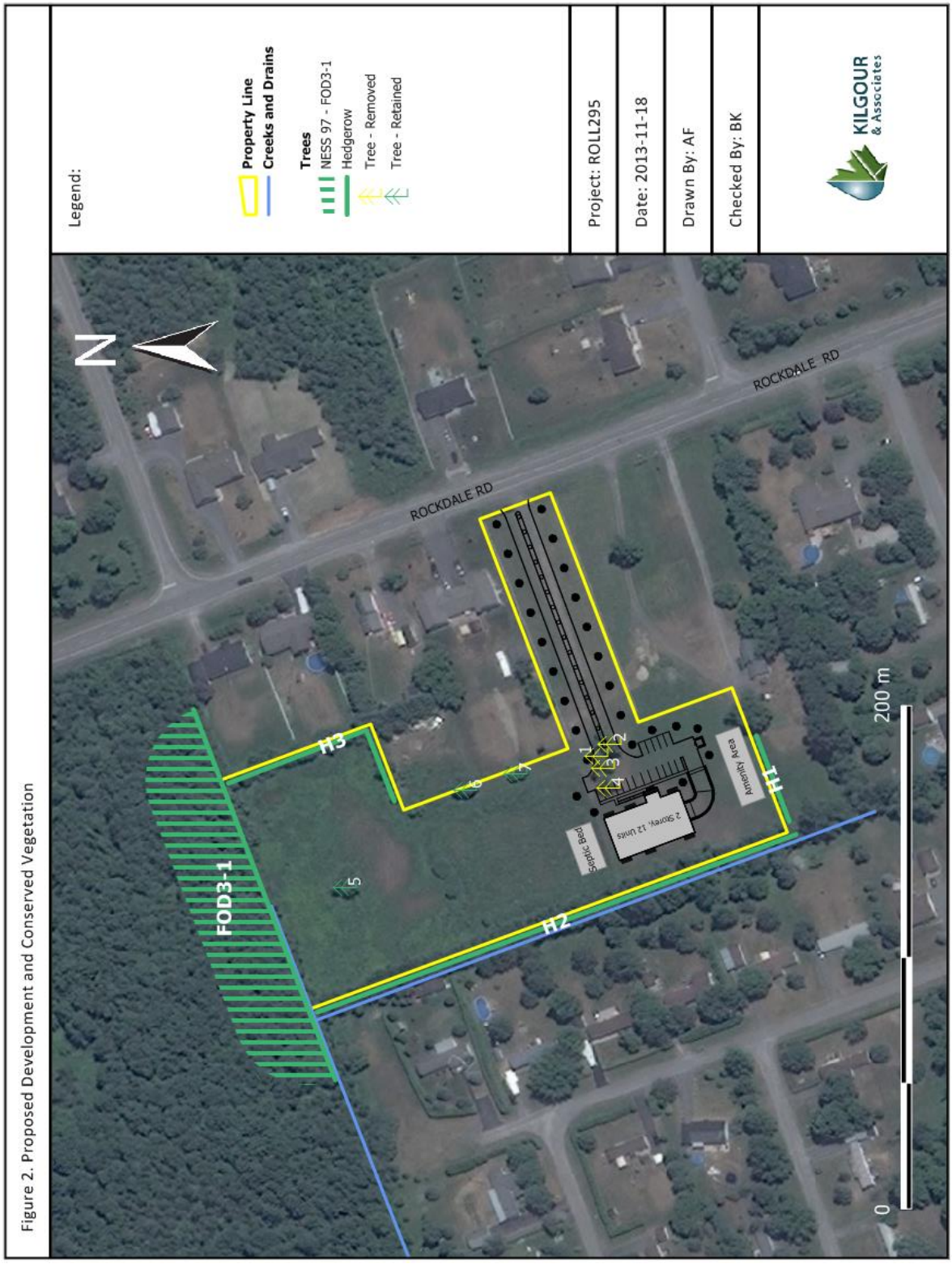

Figure 2. Proposed Development and Conserved Vegetation

5.0 IMPACT ASSESSMENT

5.1 Impacts to Trees

Construction of the residential building will require the removal of four Green Ash trees (trees 1-4). All other site trees will remain. Remaining site trees and adjacent trees present on neighbouring will be protected during construction.

5.2 Impacts to Species at Risk

Only two species at risk or their habitats were identified having a greater than negligible probability of presence. Whip-poor-will could be present within the adjacent forest area, though would not nest on the site itself given the well maintained, lawn-like turf. Actual construction will thus be separated from suitable nesting space by 120 m. As many homes are already located closer to the forest than this, no further impact to the species is anticipated from this development. Two other bird species, Wood Thrush and Eastern Wood Pewee have previously been observed in the NESS area. Neither bird is currently protected as a species at risk though both may be listed in the near future. Similarly to the Whip-poor-will however, neither bird is likely to affected by this development given its distance from the wooded area, the proximity of other neighbouring buildings and the reasonably degree of tolerance of both species to human proximity (both species are known to nest in suburban areas).

The other (federally) listed species at risk with some limited potential for occurrence near the property is Chorus Frog, which may find suitable habitat at the north end of the surface water feature along the west side of the property. Again however, this feature is located within the rear yards of existing neighbouring houses and is thus not likely to suffer any further negative impacts from the proposed development located 100 m or more away from suitably deep sections.

5.3 Impacts to Impacts to the NESS Area

No actual construction or development will occur within 120 of the NESS area. The area between will not be re-graded, will not lose any existing tree cover and will not see any significant change in the maintenance of exist turf (i.e. regular mowing). The NESS area is separated from the subject property by a drainage ditch that receives surface water runoff from both areas, conducting it westward along the edge of NESS. This drainage pattern will not be altered by the development thus preserving the surface water budget independence of the NESS area and subject property. No negative impacts are anticipated to this feature.

5.4 Impacts to Surface Water

The proposed building will be constructed more than 15 m away from the swale on the west side of the property. The area between the new building and existing swale will only be subject minor grading, will not lose any existing tree cover and will not see any significant change in the maintenance of existing turf (i.e. regular mowing). Site runoff from non-paved areas will continue to be directed through similar grassy features to the swale, to the same drainage ditch along the side of the NESS area. The swale

feature is located within the rear yards of existing neighbouring houses and will not be subject further negative impacts from the proposed development.

6.0 MITIGATIONS

6.1 Mitigations for Trees

The following mitigation and compensation measures are recommended:

- Maintain the existing H1, H2 and H3 hedge rows.

- To minimize impact to the trees in the hedgerows and on neighbouring properties:
    - Erect a fence at the CRZ of trees. The fence should 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;
    - Ensure that exhaust fumes from all equipment are NOT directed towards any tree's canopy.

- The area around the new building will be planted with 25 new trees of appropriate native tree species as per City guidelines, which is expected to more than compensate for the loss of four existing trees.

- As per standard due diligence, no clearing of vegetation should occur between April 15 and July 31, without first determining the absence of nesting birds prior to clearing.

6.2 Mitigations for Species at Risk

As no species at risk or their habitats are expected to be impacted by this development, no species-specific mitigations are required for this project. However, if site development is delayed, a follow-up survey for Butternut should be conducted.

6.3 Mitigations Impacts to the NESS Area

As no negative impacts are anticipated to this feature from the proposed development, no specific mitigations are required for this project. Given the proximity of the feature however, the proponent is expected to be especially diligent in following best management practices with respect to site maintenance during construction to prevent any construction activity, materials or debris from entering the NESS area. Accordingly, the proponent must site and contain all debris and potential contaminants (e.g., concrete and structural materials, paint and solvents) generated from construction of the structure

to prevent debris from improperly entering adjacent areas and must properly dispose of all debris off-site.

6.4 Mitigations to Surface Water

As the proposed area of development will respect a 15 m setback for the adjacent surface water feature and no impacts are anticipated, only general mitigations are required for this project. Accordingly, the proponent must:

- Properly contain any temporarily stockpiled material, construction or related materials (e.g., within silt fencing) in areas separated a minimum of 30 m from the watercourse;
- Install silt fences to prevent surface runoff from carrying sediment into the feature;
- Implement sufficient ESC and SWM systems and/or protocols to prevent sediment from leaving the site; and
- Regularly inspect and maintain ESC and SWM measures to ensure their continued effectiveness until all surfaces contributing drainage to the watercourse are fully vegetated and/or stabilized.

7.0 SUMMARY AND RECOMMENDATIONS

The proposed residential building, given its setback from adjacent natural features, and the presence of other residential structures much closer to those features, presents a minimal risk of negative impacts to the natural environment. This report provides mitigation measures designed to prevent negative environmental impacts.

It is my professional opinion that no negative impacts are anticipated to listed species-at-risk, NESS Area 79 and/or surface water features under the proposed project.

Anthony Francis, PhD
KILGOUR & ASSOCIATES LTD.

Appendix 1
References

Bronwell, V.R. and Blaney, C.S. 1997. Summary Natural Area Reports for Natural Areas East of Rideau River. RMOC Planning & Development Approvals Dept. March 1997. #28-08a.

Schut, L.W. and Wilson, E.A. 1987. The soils of the Regional Municipality of Ottawa-Carleton (excluding the Ottawa Urban Fringe). Volume 1. Report No. 58 of The Ontario Institute of Pedology.

Appendix 2
Qualifications of Report Author

Anthony Francis, PhD

Dr. Francis is an ecologist with over 14 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.