



Muncaster
Environmental
Planning Inc.

May 20, 2020

Mr. Steve Pentz, MCIP, RPP
Planner
Novatech Engineering Consultants Ltd.
Suite 200, 240 Michael Cowpland Drive
Kanata, Ontario
K2M 1P6

Dear Steve:

**RE: Maple Forest Estates – Phases 4 and 5, North Gower
City of Ottawa File D07-16-08-0007, Your File 107137
Tree Conservation Report - Revised**

This Tree Conservation Report has been prepared following the Guidelines for City of Ottawa Tree Conservation Report, found at http://ottawa.ca/en/env_water/tlg/trees/preservation/guidelines/index.html and is intended to fulfill Condition # 27 of the draft approval issued on August 10th, 2011. This report is revised to incorporate City of Ottawa staff comments provided on November 8th, 2013 and to address a reduction in the number of Phase 5 lots in 2020. The field survey and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over thirty-two years of experience in completing natural environment assessments. The purpose of this Tree Conservation Report is to establish which woody vegetation will be retained and protected on the site. The owner of the site is Kim-Con Inc. The site is to the south of Roger Stevens Drive between Third and Fourth Line Roads in the southeast portion of the Village of North Gower. The site is described as Part of Lots 21 and 22, Concession 3 of the Geographic Township of North Gower, City of Ottawa. The study area is currently cultivated agricultural land between existing village residential developments.

Proposed Development

It is proposed to construct 24 village residential lots in Phase 4 of the development, with 17 lots proposed for Phase 5. The number of lots has been reduced by nine in Phase 5 due to an anticipated increase in the 1:100 flood elevation. Access will be via a west extension of Maple Forest Drive and a new street off Trailwood Drive. Stormwater will be directed via grassed swales to a tributary of Stevens Creek. The tributary meets Stevens Creek to the north of the site, north of Rogers Stevens Drive. The new residences will be on private septic systems and water wells.

In terms of stormwater management, quality control (corresponding to a long term total suspended sediment removal rate of 80 percent) will be provided using roadside ditches designed as grassed swales in conjunction with lot-level Best Management Practices. Quantity control will be provided by the roadside grassed swales and perched culverts. An outlet swale between Lots 4 and 5 (Phase 5) will serve as the drainage outlet for the central portion of the proposed subdivision. This swale will outlet to the Stevens Creek tributary at the north property limit. Another outlet swale will be between Lots 3 and 4 (Phase 4) in the northeast corner of the site and will serve as the drainage outlet for the northeast portion of the Phase 4 lands. A third outlet is an existing channel in the west portion of the site. This channel will also serve as the outlet for approximately 44.5 hectares of agricultural land to the south. Runoff from the agricultural lands to the south will be collected by a rear yard swale behind lots 10 - 17 in Phase 5. This rear yard swale will outlet to the roadside ditch described above. Additional side yard/rear yard swales are proposed where lots abut one another.

Removal of the woody vegetation not identified in this report for retention is proposed to be done at the building permit stage. This will allow the purchaser to maximize the extent of tree retention and associated 'design with nature' opportunities.

Study Area Context

The study area is dominated by active cultivated agricultural fields with some deciduous hedgerows along and adjacent to the site boundaries (Map 1).

The site is within the Village of North Gower on Schedule A of the City of Ottawa Official Plan and is zoned *VIG* (Village Residential First Density Zone). The site is not part of or adjacent to a natural area, as identified in the former Region's Natural Environment System Strategy. The closest Natural Area is the low rated Lochhead Road Complex Natural Area, approximately one kilometre to the southeast of the site. The site is generally isolated from an environmental perspective as it is surrounded by extensive areas of cultivated fields and village residential developments. A deciduous forest, approximately 10 hectares, is to the southeast of the site, south of the existing phases of Maple Forest Estates. This forest and floodplain lands immediately to north of the site are the closest portions of the City's Natural Heritage System, as mapped on Schedule L2 of the Official Plan.

The topography of the site is generally level with a very gentle slope to the north. Agricultural swales feed into Stevens Creek, which is approximately 250 metres to the north of the site, north of Roger Stevens Drive. Poorly-drained silty clay loam soils dominate the area, with areas of better drained sandy loams.

Colour aerial photography (2002-2011) was used to assess the natural environment features on and adjacent to the site. A field review of the study area was conducted on the afternoon of April 8th, 2013 under cloudy skies, a light to moderate breeze and an air temperature of 6° C. Notes were made on wildlife usage and potential for wildlife habitat. Additional observations were made on the site conditions on November 26th, 2013, under partly cloudy skies, a light to moderate breeze and an air temperature of 2° C.

Existing Conditions

The site is dominated by active agricultural fields of corn and soybeans (Photos 1 and 2). A small area of cultural meadow habitat in the southeast corner of the site supports non-native and/or invasive species ground flora such as brome grass, reed canary grass, bluegrass, white-sweet-clover, common mullein, wild carrot, goldenrod, aster, scouring rush, Canada thistle, common burdock and evening primrose. Scattered red raspberry, red-osier dogwood and common buckthorn shrubs are also present along with Manitoba Maple and trembling aspen stems up to 23cm dbh. Many portions of the deciduous hedgerows have intermittent woody vegetation cover.

Two types of deciduous hedgerows, dominated by either poplar or bur oak, are present on the site (Map 1). The poplar hedgerows are east-west in orientation and are along the south and north site boundaries (Photos 3 and 4). The central bur oak hedgerow is also in an east-west orientation and is for the most part north of Phase 5, north of the rear boundary of Lots 2 -11 of Phase 5.

Poplars (trembling aspen and large-toothed aspen) are the dominant species in the poplar deciduous hedgerows, representing approximately 40 percent of the trees. The largest aspens are 42cm dbh, with the average size 26cm dbh. Green ash is also very common, representing between 20 and 30 percent. The largest ash trees are 38cm dbh, with an average size of 24cm dbh. White elm (maximum size 30cm dbh, between 15 and 20 percent), Manitoba maple (maximum size 42cm dbh, 10 percent of the poplar hedgerow trees), sugar maple (maximum size 12cm dbh, less than 5 percent) and bur oak (maximum size 16cm dbh, less than 5 percent) are also present. Most of the trees are in good condition with trunk decay on a couple of Manitoba maples in the west portion of the south poplar deciduous hedgerow. Several of the white elms in the east portion of the north poplar deciduous forest also have trunk damage. Common buckthorn, willow, red-osier dogwood and apple are well established shrubs in portions of the poplar hedgerows, along with regenerating stems of white elm, basswood, Manitoba maple, ironwood, white spruce, poplar and bur oak.

Bur oak is dominant in the west portion of the central east-west deciduous hedgerow. The largest bur oak was 78 cm dbh, with several bur oaks between 30cm and 42cm dbh also in the west portion of the central hedgerow (Map 1). Overall bur oak represented 55 percent of the trees in the central deciduous hedgerow with an average size of 34cm dbh. A 32cm and a 48cm dbh red maple are also present in the west portion of the central hedgerow (Map 1), although overall red maple represents less than five percent of the trees in the hedgerow. White elm is common in the east portion of the central deciduous hedgerow and overall represents 30 percent of the hedgerow. The largest white elm is 52cm dbh, with an average size of 28cm dbh. White ash and Manitoba maple are also present, each representing less than 5 percent of the trees present. The largest ash and Manitoba maple are 38cm dbh and 35cm dbh, respectively. The bur oaks and red maples appear to be in relatively good condition (Photo 5), however many of the white elms in the east portion of the central hedgerow are either dead or with significant trunk damage (Photo 6). There is major trunk damage on a 35cm dbh Manitoba maple in the east portion of the hedgerow. Common buckthorn, red-osier dogwood and red raspberry shrubs are in portions of the central bur oak deciduous hedgerow.

Wildlife observations included red-winged blackbird, ring-billed gull, European starling, song sparrow, American crow, ring-billed gull, Canada goose and tree swallow, along with white-tailed deer tracks.

Species at Risk

No butternuts or other Species at Risk, including those now designated since the 2013 report, were observed during the field survey. The Ministry of Natural Resources and Forestry (MNR) 's Make a Map: Natural Heritage Areas website was reviewed on May 18th, 2020 to update the Species at Risk assessment. A search was conducted on the 1 km squares including the site and adjacent lands (18VQ49 – 47 and - 48). One Species at Risk, bobolink, was noted for these squares. Bobolink and eastern meadowlark utilize larger grassland areas such as hayfields, habitat not present on or adjacent to the site. The cultivated fields do not represent potential nesting habitat for these grassland Species at Risk. Earlier versions of the identified Henslow's sparrow and loggerhead shrike for the overall 10 km square (18VQ49). Henslow's sparrow utilizes unmaintained tall weedy fields while loggerhead shrike utilizes grazed pasture lands with short grass and scattered shrubs, especially hawthorn. These habitats are not present on or adjacent to the site.

Barn swallow, eastern meadowlark, and bobolink are Species at Risk reported in the Ontario Breeding Bird Atlas for the 10 km square 18VQ49 that includes the site and adjacent lands. Bobolink and eastern meadowlark are discussed above. No nesting structures were noted on or adjacent to the site that may be utilized by barn swallow or chimney swift.

The potential Species at Risk reported for the City of Ottawa were also reviewed, with an emphasis on the endangered and threatened species historically reported in the overall City, including butternut, American ginseng, eastern prairie fringed-orchid, flooded jellyskin, wood turtle, spiny softshell, Blanding's turtle, musk turtle, chorus frog, bobolink, barn swallow, eastern meadowlark, Henslow's sparrow, loggerhead shrike, whip-poor-will, bald eagle, cerulean warbler, golden eagle, least bittern, peregrine falcon, eastern cougar, common gray fox, lake sturgeon and American eel. The habitat requirements of these species along with those listed as special concern were reviewed. Only butternut was considered to have potential habitat on and adjacent to the site, however this species was not observed on or within 25 metres of the site.



*Photo 1- Large cultivated fields dominate the site. This is the south portion of the site.
View looking west from the current terminus of Maple Forest Drive*



*Photo 2 – Cultivated field in the northeast portion of the site.
View looking northeast from the centre part of the site*



Photo 3- East edge of south poplar deciduous hedgerow along southeast edge of site



*Photo 4 – Poplar, white elm and ash in north east-west poplar deciduous hedgerow just to the north of the east portion of the site.
View looking east to existing houses on west side of Trailwood Drive*



Photo 5 – Bur oak and white elm in central east-west deciduous hedgerow just north of the west portion of the site. View looking east



Photo 6 – White elms in poor condition in east portion of central east-west deciduous hedgerow.

Recommendations

No valued woodlands, natural areas, rare communities, wetlands, steep slopes or valleys were observed on or adjacent to the site. The hedgerows adjacent to the site contain deciduous trees in a range of ages and conditions, with mature bur oaks between 35cm and 76cm dbh and 32cm and 48cm dbh red maples in apparently good condition representing higher quality trees of desirable species in the central east-west deciduous hedgerow just to the north of the rear (north) boundary of Lots 5 – 10 (Phase 5) (Map 1).

As tree removal will occur at the building permit stage, the building footprint location and associated tree retention will be decided by the purchaser. Based on typical development on lots of these sizes and the tree locations, trees anticipated to be removed in apparently good condition are white elm and bur oak stems up to 46 and 28cm dbh, respectively, in the east portion of the central deciduous hedgerow (in the building footprints of Lots 9, 13 and 14 of Phase 4).

No tree removal is anticipated for the drainage swale north of Lots 4 and 5 (Phase 5) other than two regenerating Manitoba maple stems, 7cm and 8cm dbh. A 37cm dbh bur oak is to the west of the proposed drainage swale location. No excavations should take place within four metres of the oak trunk to protect the critical root zone of this tree. There is approximately 15 metres between large-toothed aspens up to 42cm dbh for the drainage swale north of Lots 3 and 4 (Phase 4). The drainage swale should be placed approximately in the centre between these two trees. In this area four regenerating poplar stems between 2cm and 10 cm dbh will be removed along with up to six white elms between 10 and 25cm dbh. Many of the elms are in poor condition with major trunk damage.

Access to the park to the north of Lot 8 (Phase 5) can be accomplished to the east of a 48cm dbh red maple in the west portion of the central east-west hedgerow. No excavations should occur within five metres of the trunk of the red maple. There is approximately 13 metres between the maple and the next tree, a bur oak, to the east.

The vast majority of the east-west deciduous hedgerows will be retained including (Map 2):

- In the south hedgerow poplar, bur oak, sugar maple, white elm and green ash at the rear of Lots 19 -21 (Phase 4) and Manitoba maple, sugar maple and white elm at the rear of Lots 10 and 11 (Phase 5);
- In the central hedgerow bur oak, red maple, white elm, Manitoba maple and green ash, including mature examples of the first three species, just to the north of the rear of Lots 1 – 9 (Phase 5);
- In the north hedgerow poplar, Manitoba maple and green ash just to the north of the rear of Lots 1 - 4 (Phase 4).

Over the long-term the aesthetic and wildlife value of the site can be improved with a generous planting of native trees and shrubs. Due to the silty clay soils tree and shrub species that have a high water demand are generally not recommended for planting. These species include willows, poplars, Manitoba maple and elm. Recommended native species to plant include sugar maple, red maple, basswood, bur oak, red oak, tamarack, white pine and white spruce trees, along with

nannyberry, elderberry and dogwood shrubs. Where possible the woody vegetation should be planted in clusters to improve the wildlife benefit. A landscape plan will be prepared for the site.

The removal of woody vegetation should always be kept as minimal as possible. However, any ecological and aesthetic features and functions of the on-site trees can be relatively easily replaced over time with plantings of native species. Pending an evaluation by a certified arborist consideration should be given to removal of dead or dying trees in the areas identified for tree retention.

The trees to be retained are to be protected with sturdy fencing installed a distance of ten times the trunk diameter from the trunk of the closest trees to the work area. No grading or activities that may cause soil compaction such as heavy machinery traffic and stockpiling of material are permitted within the fencing. No machinery maintenance or refuelling, storage of construction materials or stockpiling of earth is to occur within five metres of the outer edge of the dripline of the trees to be retained and protected. The existing grade is not to be raised or lowered within the fencing and no digging is permitted within the fencing. The root system, trunk or branches of the trees to be retained must not be damaged. Exhaust fumes from all equipment during future construction will not be directed towards the canopy of the retained trees. 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 or woodchips and kept moist until the roots can be buried permanently.

To protect breeding birds, no tree or shrub removal is to occur between April 15th and August 15th 31st, unless a breeding bird survey conducted by a qualified biologist within five days of the woody vegetation removal identifies no active nests in the trees or shrubs.

Schedule of Proposed Works

It is proposed to remove the woody vegetation still to be removed on Phase 5 at the building permit stage. This will allow the purchaser to maximize the extent of tree retention and associated 'design with nature' opportunities. City of Ottawa Forestry and Planning staff are to be advised at least two business days before tree removal or activity in proximity to the retained trees so a site inspection of the protective measures can be made as required.

Conclusion

No valued woodlands, natural areas, rare communities, wetlands, steep slopes or valleys were observed on or adjacent to the site. The existing woody vegetation will be retained where feasible or replaced with plantings of native deciduous and coniferous trees and shrubs as outlined in a landscape plan to be prepared for the site. The higher quality larger bur oak and red maple trees in apparently good condition in the west portion of the central east-west hedgerow will be retained.

The site is somewhat isolated from a natural environment perspective by extensive adjacent cultivated lands and village residential developments. The removal of the limited on-site woody vegetation is not anticipated to have a detectable impact on the ecological features and functions

of the surrounding landscape. Any local wildlife utilization can continue to occur on the open space portions of the site and adjacent lands post development, including the large floodplain areas between the site and Roger Stevens Drive. With mitigation measures such as removal of trees and shrubs outside of the breeding bird period it is anticipated that the natural environment attributes of the site to be disturbed will either relocate to other less disturbed natural areas in the overall regional landscape or continue within the vegetation on the overall site post-development.

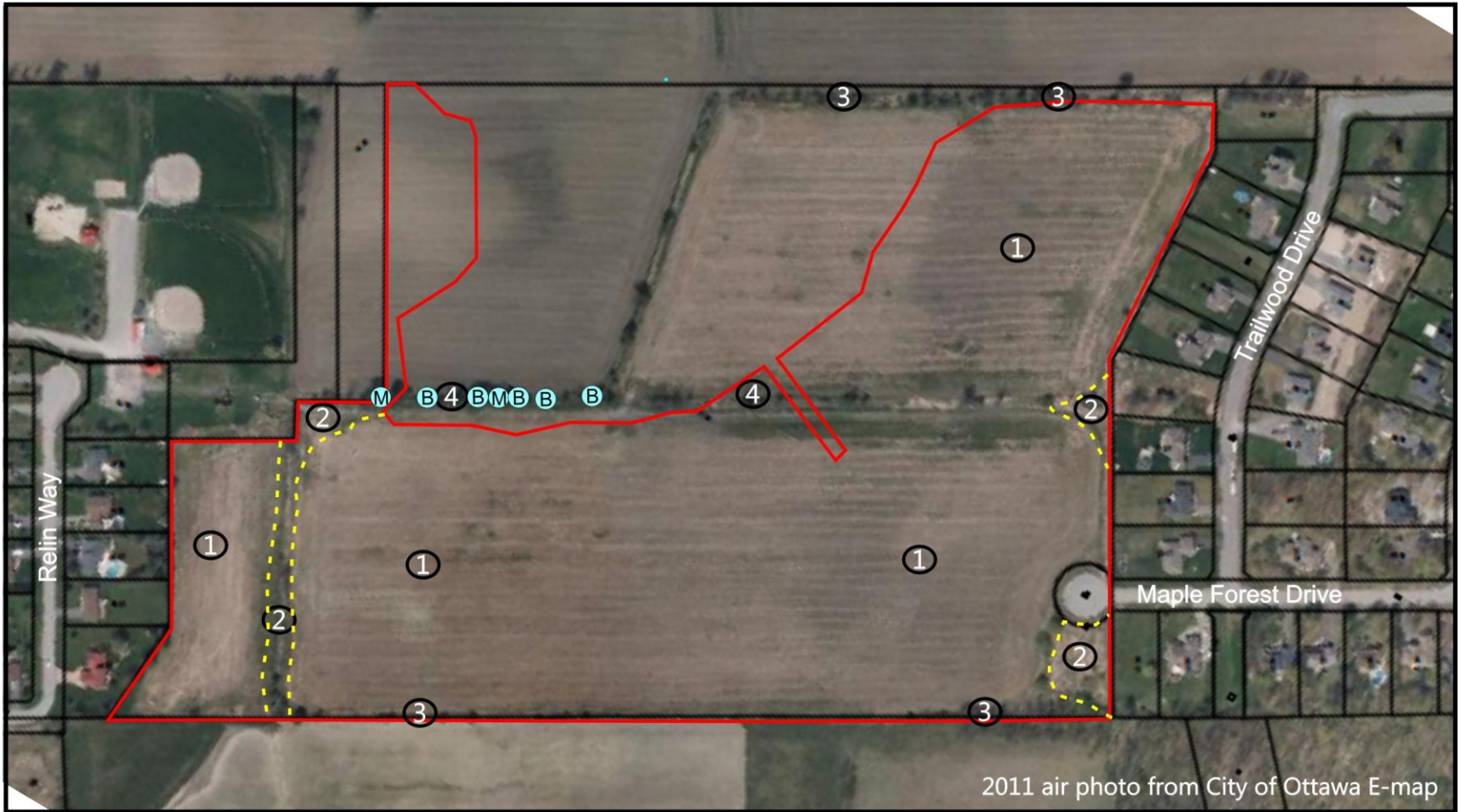
Please call if you have any questions on this revised Tree Conservation Report.

Yours Sincerely,
MUNCASTER ENVIRONMENTAL PLANNING INC.



Bernie Muncaster, MSc.
Principal

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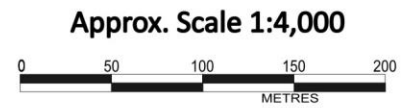


Legend

- Site
- Vegetation communities
- Higher quality oak tree
- Higher quality maple tree

Vegetation Communities

- Agricultural field
- Cultural meadow
- Poplar deciduous hedgerow
- Bur oak deciduous hedgerow



Map 1

FILE: 12-34

November 25, 2013

Prepared for:

Kim-Con Inc.

Prepared by:



**MAPLE FOREST ESTATES, PHASES 4 & 5
CURRENT VEGETATION**

North Gower, City of Ottawa



2011 air photo from City of Ottawa E-map

Legend

- Site
- Vegetation communities
- Higher quality oak tree
- Higher quality maple tree
- Belts of Woody Vegetation to be Retained

Vegetation Communities

- Agricultural field
- Cultural meadow
- Poplar deciduous hedgerow
- Bur oak deciduous hedgerow



Approx. Scale 1:4,000



Map 2

FILE: 12-34

May 19, 2020

Prepared for:

Kim-Con Inc.

Prepared by:



**MAPLE FOREST ESTATES, PHASES 4 & 5
PROPOSED CONSERVED VEGETATION**

North Gower, City of Ottawa