



Muncaster
Environmental
Planning Inc.

December 12, 2014

Mr. Mark Purchase
Manager of Development
Thomas Cavanagh Construction Ltd.
9094 Cavanagh Road
RR # 2
Ashton, Ontario
K0A 1B0

Dear Mark:

**RE: Cypress Gardens Subdivision – Phase 3
Tree Conservation Report**

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. The field survey and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over twenty-four 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 Thomas Cavanagh Construction Ltd. The 6.79 hectare site is in the southwest part of Stittsville, at the west edge of the urban area of the City of Ottawa, to the north of Fernbank Road and west of existing residences off Meadowland Drive and Porter Street (Map 1). The municipal address is 6279 Fernbank Road and the legal description is Part of Lot 23, Concession X of Goulbourn Ward (PIN 044462509). The site is currently a combination of treed areas and wetlands, with a berm near the west edge of the site.

Proposed Development

Forty-one urban residential lots for single detached units are proposed for the site, along with 96 townhome units. The units will be accessed by a new crescent off Elm Crescent from the north, with five lots directly off Porter Street. The urban residences will be on full municipal services.

Removal of the woody vegetation not identified in this report for retention is proposed for 2012, after the breeding bird season.

Site Context

The site is within the Urban Area of the City of Ottawa and is designated *General Urban Area* on Schedule A of the City of Ottawa Official Plan, with a north-south linear portion of the wetland in the west portion of the site designated *Provincially Significant Wetland*, although this wetland parcel and the balance of the Fernbank Wetland in the area are no longer considered Provincially significant as described below. Outside of this portion of the wetland, which is zoned EP (*Environmental Protection*) the site is zoned R1D (*Residential Single-Unit Detached*).

The site and lands to the west and northwest are part of the Fernbank West Natural Area, identified as Area 308 in the Region of Ottawa-Carleton's Natural Environment System Strategy (NESS) (Keddy, 1997). This relatively small Natural Area, 95 hectares in size, was broadly designated to have a low overall significance in the evaluation summary performed as part of the Region of Ottawa-Carleton's Natural Environment Systems Strategy. A moderate significance was applied to three criteria, rare vegetation community/landform representation, vegetation community/landform and hydrological features, while the landscape attributes, endangered, threatened and rare species, seasonal wildlife concentrations and condition of natural area criteria were rated as low significance. The Natural Area summary noted that the southern half of the area, which includes part of the current site, is composed of the Fernbank Wetland, which consists of cattail marshes and thicket swamps, many of which are dominated by invasive alien species such as glossy buckthorn and purple loosestrife. The Fernbank wetland was originally evaluated in 1990, with two re-evaluations completed in 1998. Details of the chronology of the status of the Fernbank wetland are provided in NEA (2001). The evaluations of the Fernbank wetland and adjacent areas did not find any significant vegetation communities and no nationally, provincially, regionally or locally rare species associated with the wetland (Niblett, 2000). NEA (2001) concluded that the Fernbank wetland did not support any Species at Risk and did not provide notable wildlife habitat such as nesting of colonial waterbirds, waterfowl staging or moulting, winter cover, migratory passerine or shorebird or raptor staging areas. An April 2003 OMB decision agreed with this conclusion, stating that the Fernbank wetland was not a *Significant Wetland*. As a result of this decision the City of Ottawa has removed the *Significant Wetland* designation within the urban area, and as part of the current Comprehensive Amendment No. 76 to the City of Ottawa Official Plan, the *Significant Wetland* designation on the remaining rural portion of the Fernbank Wetland, including the portion on this site, has been removed. There are no Areas of Natural and Scientific Interest in the general vicinity of the site.

Other components of the Natural Area are young coniferous (white cedar and white spruce) and mixed (white cedar, white spruce, trembling aspen and balsam poplar) forests (Keddy, 1997). The Natural Area was considered to represent an inter-regional linkage, however since the NESS was completed in 1997 the West Ridge and Traditions residential subdivisions to northwest, west and southwest of the site have isolated the site from the Upper Poole Creek corridor to the northwest and other natural areas.

The site also represents the northeast part of the Fernbank Wetland Urban Natural Area, identified as Urban Area 132 in the City of Ottawa's Urban Natural Area Environmental Evaluation Study (Muncaster and Brunton, 2005). This 25 hectare Urban Natural Area was rated high overall, utilizing an urban perspective, with all evaluation criteria except level of

disturbance and significant flora and fauna scoring average or greater. The site summary noted that the Urban Natural Area has significant edge effects, and three non-native flora, glossy buckthorn, reed canary grass and purple loosestrife, have a moderate to severe impact on the ecological function of the Urban Natural Area. Five wetland communities were described for the Urban Natural Area, with the wetland habitats supporting fauna such as alder flycatcher and swamp sparrow, with one regionally rare plant species (*Carex cryptolepis*) noted from the marsh habitat. The site summary also noted that butternut, now an Endangered Species, was reported in the general area.

Colour aerial photography was used to assess the natural environment features on and adjacent to the site. A field review of the site was conducted on June 22nd, 2011, with a gentle breeze, partly cloudy skies and an air temperature of 21° C.

Existing Conditions

The current site conditions are similar to those described in Section 4.1.1 of the 2005 EIS (Niblett, 2005), which described ten vegetation communities on and adjacent to the site.

Upland Habitat

The south and northeast portions of the site are upland forests. Disturbances in the intermediate-aged forests include tree forts, tents, trees cut for firewood and dumping of yard waste and debris. Wind throw is extensive in many areas. Much of the ground flora is reflective of disturbed conditions including poison ivy, Virginia creeper, bittersweet nightshade, helleborine, garlic mustard, creeping charlie and common speedwell. Canada mayflower, sensitive fern, white snakeroot and oak fern are ground flora reflective of less disturbed conditions. A few mature white pine, white cedar and white spruce trees are along the east portion of the site.

As described by Niblett (2005) the upland forests include a fresh-moist eastern white cedar forest in the east and central portions of the site between the wetland boundary and the rear lot lines of the homes on Meadowland Drive. The forest was dominated by trees 14-30cm diameter at breast height (dbh) with a few younger trees regenerating in the subcanopy or forest floor. Scattered balsam poplar, trembling aspen, balsam fir and white birch were found throughout the community. The community varied in width from 20 to 80 metres from south to north. Small patches of eastern hemlock and white spruce and scattered white ash and yellow birch were located in the southern portion. Groundcover was sparse in general due to the high density of the canopy and shade created by the cedars but also due to disturbance. Species reported by Niblett (2005) included sensitive fern, wild grape, heal-all, starflower, bunchberry, common dodder, bluebead lily, Canada mayflower and wild sarsaparilla.

The central portion of the woodland on the property is dominated by a mature, dense canopy of eastern white cedar coniferous forest. Niblett (2005) reported that trees ranged in diameter from 10-25cm with a maximum of 32cm dbh. The groundcover was sparse due to the dense canopy, leaf litter and a high level of disturbance from local residents using the area for tree forts, tree cutting, garden waste and walking.

A small deciduous forest representation of sugar maple and white birch, with trembling aspen, Norway maple, white pine and white spruce is along the outer east edge of the forest near Porter Street and the rear lot lines off the west side of Meadowland Drive. Remnant spring ephemerals such as white trillium, large-leaved bellwort and trout lily as well as native and non-native forest and edge species are in this small community (NEA, 2005). The woodland was disturbed with grass clippings, brush, refuse and scrap metal near the edges.

Wetland Habitat

The wetland habitat in the northwest portion of the site is a combination of buckthorn and willow swamps, with small areas of cattail marsh. In addition to slender willow and glossy buckthorn, speckled alder and red-osier dogwood are common in the tall swamp habitats. *Ground flora* includes sensitive fern, tall manna grass, broad-leaved cattail, reed canary grass, purple loosestrife, Canada bluejoint, evergreen wood fern, blue flag, sedges, marsh bedstraw, spotted jewelweed, joe-pye-weed, water plantain, bittersweet nightshade, swamp milkweed, bulb bearing water hemlock, water horsetail, swamp beggar's-ticks, purple loosestrife and water parsnip.

A man-made berm extends along both sides of a former beaver flooding area from Fernbank Road north to Elm Street, approximately 40 west of the west property line. Since beginning surveys in this general area since 1998, NEA (2005) noted that the water level has dropped significantly and that beavers have been removed. The area was once inundated by water, particularly in spring, with sparse vegetation. This trend was confirmed in 2011 as standing water was limited on June 22nd to a three metre wide channel at the edge of the wetland habitat, with no standing water observed in other portions of the marsh and swamp, including old beaver runs. As a result the vegetation has undergone a series of successional stages. After the beaver left, the area became a wet meadow with sedges, path rush, slender gerardia and scattered stems of woolgrass and Canada bluejoint grass (Niblett, 2005). Since 2002 the area has been taken over by narrow-leaved and broad-leaved cattail with small patches of wet meadow in the central portion with scattered tamarack and balsam fir. Other wetland species among the cattails included sedges, blue flag iris, sensitive fern, ostrich fern and Labrador tea.

Wildlife observed on the site included green frog, spring peeper, northern leopard frog, grey squirrel, raccoon, historical beaver activity, mourning dove, hairy woodpecker, northern flicker, pileated woodpecker, great crested flycatcher, song sparrow, chipping sparrow, eastern kingbird, warbling vireo, red-eyed vireo, blue jay, American crow, white-breasted nuthatch, veery, American robin, gray catbird, cedar waxwing, yellow warbler, black-and-white warbler, common yellowthroat, swamp sparrow, northern cardinal, white-throated sparrow, rose-breasted grosbeak, red-winged blackbird, common grackle, purple finch, house finch and American goldfinch.

Species at Risk

Other than butternut, described below, no Species at Risk were observed on or adjacent to the site. The Ontario Ministry of Natural Resources' biodiversity explorer website was reviewed (<http://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/main.jsp>). This site allows for a search of Threatened and Endangered species covered by the 2008 *Endangered Species Act*, as well as other species of interest. Searches were conducted on the 10 km square which included the site and general area (18VR21). Six species of interest were identified for the overall 10 km square, including the endangered American ginseng and loggerhead shrike, threatened Blanding's turtle and milksnake, a species of special concern. Two provincially rare species were also identified for the general area; ram's-head lady slipper and long-styled rush. Milksnake is relatively common in portions of eastern Ontario but is not often seen. It is found in open woodlands, clearings and around farmhouses where it hunts its major prey item, mice. Loggerhead shrike utilizes grazed pastures with short grass and scattered shrubs, especially hawthorn, habitat present in the general area. No loggerhead shrike nests have been reported in the City of Ottawa since 2002. The ram's-head lady's-slipper orchid is found in mature coniferous forests or coniferous fens and swamps. Flowing or standing water appeared too limited on the site to provide potential habitat for Blanding's turtle and suitable upland nesting areas were not observed. American ginseng requires rich, moist, undisturbed and relatively mature sugar maple-dominated deciduous woods in areas of circumneutral soil such as over limestone or marble bedrock. Colonies are often found near the bottom of gentle slopes facing south-east to south-west; a warmer microhabitat that is usually well-drained and species-rich. The forest canopy is dominated by sugar maple, white ash, bitternut hickory and basswood. Long-styled rush grows in moist terrestrial habitat, including low-lying pockets of outcrops.

The breeding birds listed in the Ontario Breeding Bird Atlas for the 10 km square 18VR21 identified whip-poor-will, eastern meadowlark, barn swallow and bobolink as Species at Risk in the overall 10 km square. Bobolink and eastern meadowlark utilize larger areas of grasslands, including hay fields. Barn swallow utilizes barns and other buildings for nesting and forages in open areas for flying insects. Whip-poor-will requires large wooded areas with open patches, and/or open woodlands or alvar. The understory of the site forests appears too thick to support whip-poor-will habitat and the remnant forested areas are too small, with extensive adjacent residential activity.

The potential Species at Risk in 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, snapping turtle, musk turtle, Henslow's sparrow, loggerhead shrike, bald eagle, golden eagle, least bittern, whip-poor-will, chimney swift, eastern meadowlark, barn swallow, bobolink, eastern cougar, common gray fox and American eel. The habitat requirements of these species along with those listed as special concern were reviewed. The marsh contains potential turtle habitat. No turtles were observed during five targeted spring surveys completed in May and June, 2014. The marsh size is too small for least bittern or yellow rail, and none were observed during the spring surveys.

Fourteen butternuts were observed on and adjacent to the site during a detailed targeted survey on July 8th, 2014. Only three of these butternuts were assessed as healthy by a qualified butternut health assessor. These three trees were 4cm, 25cm and 41cm dbh and are shown on Maps 1 and 2. No site disturbances are to occur within 25 metres of these healthy butternuts until a compensation plan to provide an overall benefit to the species developed with and approved by the Ministry of Natural Resources.

Recommendations

Most of the forest had been heavily impacted from use by local residents. Impacts include brush, grass clippings, waste, tree cutting, tree fells, fire pits, tree and plant removal, trails and trampling. The forests are too small to provide interior habitat or habitat for area sensitive wildlife species.

Analysis by exp Global Inc., including a preliminary grading assessment, indicates that the site will need approximately 2.5 meters of fill to service the site for urban development. Thus tree retention is not considered feasible except perhaps for along the rear of Lots 7 – 29 which are along the west edge of the site. The existing grades will be met at the rear of these lots. A band of tree retention is shown along the rear of these lots on Map 2. The width of the band will be determined once detailed engineering studies are completed.

There are no planting sensitivities for the site.

Trees to be retained must be protected with sturdy fencing installed a distance of ten times the trunk diameter from the trunk of the outer trees. 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 July 30th, unless a breeding bird survey conducted within five days of the woody vegetation removal identifies no active nests in the trees or shrubs.

As the site has become isolated with surrounding urban development, the removal of most of the 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 in the open space areas to the west of the site or in the many natural areas further to the west outside of the Urban Area. With mitigation measures such as removal of trees and shrubs outside of the breeding bird period it is anticipated that the attributes of the existing on-site natural systems to be disturbed will relocate to natural areas in the overall regional landscape.

Schedule of Proposed Works

It is proposed to remove the woody vegetation in 2012, after the breeding bird season.

Conclusion

No rare communities, slopes or valleys were observed on or adjacent to the site. However the on-site trees do contain examples of larger white pine, sugar maple and red oak in apparently good condition and do provide local wildlife and aesthetic values. Unfortunately the servicing and associated fill requirements for the site will prohibit tree retention except along the west edge of the site.

References

City of Ottawa. 2003. City of Ottawa Official Plan. As adopted by City Council, May, 2003. Publication: 1-28. 227 pp & Schedules

Keddy, C.J. 1997. Summary: Natural Area Reports for Natural Areas West of the Rideau River (300 Series). Prepared for the Regional Municipality of Ottawa-Carleton, Planning and Development Approvals Department. 83 pp.

Muncaster, B.W. and D.F. Brunton. 2005. Urban Natural Areas Environmental Evaluation Study. Prepared for the City of Ottawa. Site Summary for Fernbank Wetland Urban Natural Area, Urban Natural Area No. 132.

Niblett Environmental Associates Inc. 2000. Westwood Subdivision, Phase II Stittsville, Township of Goulbourn. Environmental Impact Study. Fernbank Wetland. September 2000. 27 pp. & append

Niblett Environmental Associates Inc. 2001. Westwood Subdivision, Phase II Stittsville, Township of Goulbourn. Fernbank Wetland. Boundary Review and Status. July 2001. 14 pp. & append.

Niblett Environmental Associates Inc. 2005. Cypress Gardens Subdivision – Phase III. Fernbank Wetland. July, 2005. Report PN03-065. 27 pp.

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

Yours Sincerely,

MUNCASTER ENVIRONMENTAL PLANNING INC.



Bernie Muncaster, MSc.
Principal

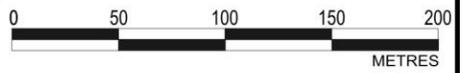
\\cypressgardentcr



- ### Legend
- Site
 - Vegetation Communities
 - B Butternuts assessed as healthy on and adjacent to the site (3)

- ### Vegetation Communities
- ① Fresh-moist cedar-hardwood mixed forest
 - ② Dry-fresh cedar coniferous forest
 - ③ Dry-fresh sugar maple white birch deciduous forest
 - ④ Cultural thicket - buckthorn swamp
 - ⑤ Cattail meadow marsh
 - ⑥ Willow thicket swamp
 - ⑦ Cedar-hardwood mixed swamp

Approx. Scale 1:3,400



2011 air photo from City of Ottawa E-map



Map 1

FILE: 10-66

September 14, 2014

Prepared for: **Thomas Cavanagh Construction Limited**

Prepared by:  **Muncaster Environmental Planning Inc.**

**CYPRESS GARDEN PHASE 3
CURRENT VEGETATION**

Stittsville, City of Ottawa



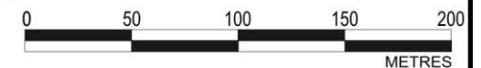
Legend

- Site
- Vegetation Communities
- B Butternuts assessed as healthy on and adjacent to the site (3)
- Belts of Woody Vegetation to be Retained

Vegetation Communities

- ① Fresh-moist cedar-hardwood mixed forest
- ② Dry-fresh cedar coniferous forest
- ③ Dry-fresh sugar maple white birch deciduous forest
- ④ Cultural thicket - buckthorn swamp
- ⑤ Cattail meadow marsh
- ⑥ Willow thicket swamp
- ⑦ Cedar-hardwood mixed swamp

Approx. Scale 1:3,400



2011 air photo from City of Ottawa E-map



Map 2

FILE: 10-66

September 14, 2014

Prepared for:

Thomas Cavanagh
Construction Limited

Prepared by:



CYPRESS GARDEN PHASE 3
PROPOSED CONSERVED VEGETATION

Stittsville, City of Ottawa