Muncaster
Environmental
Planning Inc.

August 11, 2020

Ms. Melissa Côté, MCIP, RPP
Barrett Co-Tenancy
c\o Tartan Land Consultants Inc.
237 Somerset Street, West
Ottawa, Ontario
K2P 0J3

Dear Ms. Côté:

RE: Findlay Creek Stage 5 Lands
Tree Conservation Report and Environmental Impact Statement - Revised

This combined Tree Conservation Report (TCR) and Environmental Impact Statement (EIS) assesses the Findlay Creek Stage 5 lands, which are in the northwest portion of the Findlay Creek area, to the south of Leitrim Road and west of Kelly Farm Drive and portions of the Barrett urban residential development under construction.

For the purposes of this report Leitrim Road is considered to be in an east-west alignment. This report has been revised to address City and Conservation Authority comments of August 6th, 2020.

Background and Project Description

The site is described as part of Lot 16 and the north portion of Lot 17, Concession IV (Rideau Front), in the Geographic Township of Gloucester, now the City of Ottawa. A potential future alignment of Leitrim Road is in the west portion of the site, with a recently constructed stormwater management pond and associated recreational pathways to the south. Agricultural lands in the National Capital Greenbelt are to the north of the site, north of Leitrim Road. The Leitrim Industrial Park is to the west of the site.

The proposed development will accommodate approximately 388 units which include 169 single detached family homes (44% of total units) and 219 townhouse units (56% of total units) (Map 2). All units will be on full urban municipal services and the stormwater management pond immediately to the south of the site will be utilized. A 0.9 hectare park block is proposed for the southeast portion of the site. A 25 metre wide open space corridor immediately to the east of the site and west of Kelly Farm Drive includes a channel conveying overland flow originating from north of the site, north of Leitrim Road. Access to the site will be via two streets west off Kelly Farm Drive. Theses streets will connect to internal crescents throughout the site.

The site is now designated *General Urban Area*, with lands to the west and south designated *Employment Area* on Schedule B of the City of Ottawa Official Plan. The channel corridor to the east of the site and the stormwater management pond to the south are designated *Major Open Space*. The East of Albion Road Urban Natural Area was mapped in the southwest corner of the site, and to the west and south of the site. This Urban Natural Area was not rated as part of Muncaster and Brunton (2005) due to access constraints. Since the Urban Natural Area study was completed much of this natural area has been removed for residential development and the construction of the stormwater management pond to the south of the site. In 1976, the East of Albion Road Urban Natural Area and the site were both dominated by agricultural fields, with some deciduous hedgerows. The low rated Albion Industrial Park Urban Natural Area was approximately 60 metres to the east of the northeast portion of the site, south of Leitrim Road. This natural area has also been removed as part of the Barrett subdivision under construction to the east of Kelly Farm Drive. No Natural Areas as identified in the Region of Ottawa-Carleton's Natural Environment System Strategy (Brownell and Larson, 1997) are in the general area of the site.

No components of the Natural Heritage System, as shown on the Schedule L1 Overlay of the Official Plan, are in the vicinity of the site. There are no Areas of Natural and Scientific Interest in the general vicinity of the site. The closest evaluated wetland is a portion of the provincially significant Leitrim Wetlands, approximately 750 metres south of the site. This is also the closest portion of the Natural Heritage System. The southwest corner of the site and much of the area now occupied by the stormwater management pond are shown as unevaluated wetlands on geoOttawa. No wetland habitats outside of the immediate vicinity of the channels described below were identified on the site. There are no natural environment constraints identified on or adjacent to the site on Schedule K of the Official Plan, with the site within the Airport Vicinity Development Zone.

Methodology

This EIS was prepared in accordance with Section 4.7.8 of the City of Ottawa Official Plan following the City's EIS and TCR Guidelines, with guidance from the Natural Heritage Reference Manual (OMNR, 2010).

The major objective of this EIS is to determine the significance of the feature and functions of the on-site and adjacent natural environment conditions, and to assess the anticipated impacts associated with the proposed urban residential development on these features and functions. To attain this objective, the draft concept plan was reviewed and mitigation measures developed as required based on field observations of the features and functions of the natural environment.

The following items were identified for particular attention in this EIS, recognizing that many of these issues are interrelated:

- what are the terrestrial, wetland, and aquatic habitat features of the site and adjacent lands and the associated sensitivities?
- what are the recommended areas of tree retention and other mitigation measures to ensure no unacceptable impacts on any significant natural heritage features? and,
- does the site support any other natural heritage features, including Species at Risk, that should be considered in development of the site?

Colour aerial photography (1965 - 2018) was used to assess the natural environment features in the general vicinity of the site. The natural environment features of the site and adjacent lands were reviewed on September 25th (14:30 – 16:50) and 29th, 2019 (13:30 – 15:20). The site conditions on September 25th were sunny skies, a light breeze and an air temperature of 22° C, with mostly sunny skies, a light breeze, and an air temperature of 17° C on September 29th.

The field survey and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over thirty-one years of experience in completing natural environment assessments. The purpose of the Tree Conservation Report component is to establish which vegetation should be retained and protected on the site. The owner of the site is the Barrett Co-Tenancy c\o Tartan Land Consultants (613-238-2040). It is proposed to remove the woody vegetation not to be retained in 2020, after the breeding bird season.

Existing Conditions

Soils and Geology

The site is relatively flat, with a very gentle slope to the south. Golder (2019) report that topsoil, with a thickness up to 30cm, is on the surface for much of the site. The subsurface conditions consist of fill material overlying variable deposits of sand and silt, overlying glacial till, with the bedrock surface at depths of between two and seven metres (Golder, 2019). The bedrock consists of grey dolomitic limestone bedrock. Clayey soil was also reported by Golder (2019) in the northeast portion of the Stage 5 lands. Groundwater was observed by Golder (2019) at 2.0 and 3.5 metres below the surface in boreholes in the northwest and southwest portions of the Stage 5 lands, respectively.

Surface Features

A north-south channel immediately adjacent to the east edge of the site has been constructed (Photo 1) and will collect the surface runoff from north of the site once swale realignments are completed to the north of Leitrim Road. The north-south channel is shown with a blue line on Map 2 and identified as the 'North-South Swale'. The north-south swale was enhanced with in-stream structure and plantings of native trees and shrubs along the swale corridor. The on-site channels to be removed are shown with blue lines on Map 1. These channels were part of the Hope Municipal Drain until the Drain was removed from the authority of the *Drainage Act* as part of decommissioning process completed by Stantec Consulting around 2000. A Department of Fisheries and Oceans Authorization issued on June 26th, 2006 (File Number 5250-100A, attached as Appendix A) covered the destruction of these channels as tributaries of Findlay Creek as part of the overall Findlay Creek Village development. The geographical scope of the Authorization extended from Leitrim and Albion Roads south to the Rideau Carleton Raceway and east to Bank Street. The culverts required for the subdivision road crossings were installed at the time of the north-south swale construction.

Much of the site remains in agricultural use, with the topsoil now stripped from the east field, which is scrapped clear with no ground vegetation of note. In 2019, the remaining agricultural fields in the central and north portions of the site were planted in soybeans (Photo 2).

Regenerating upland deciduous treed areas are in the southwest corner of the site, along with cultural habitats, also with regenerating vegetation on former agricultural lands (Map 1).

Cultural Thicket and Meadows

Cultural thickets and meadows are in the south portion of the site, south of the agricultural fields (Photos 3 and 4, Map 1). Glossy buckthorn and common buckthorn are dominant shrubs in the thicket habitats, with red raspberry, blackberry, slender willow, red raspberry and Bebb's willow also present in the cultural meadow and thickets. Regenerating poplar and ash stems are well represented in areas. The largest poplars were eastern cottonwood up to 30cm diameter at breast height (dbh), with balsam poplar, white ash, white birch, and trembling aspen up to 25cm dbh and green ash and Manitoba maple generally less than 20cm dbh.. A couple of crack willows were in the range of 40cm – 50cm dbh. These were likely part of former deciduous hedgerows. Many of the ash trees appeared dead or in very poor condition from the emerald ash borer.

Reed canary grass, Canada goldenrod, tall goldenrod, New England aster, panicled aster, small white aster, thicket creeper, June meadow grass, orchard grass, green foxtail, lady's thumb, wild carrot, common dandelion, cow vetch, wild cucumber, yellow wood sorrel, parsnip, Canada thistle, horseweed, bull thistle, lamb's quarter, yellow-sweet clover, field sow-thistle, purple loosestrife, wormseed mustard, yellow rocket, curled dock, common milkweed, joe-pye-weed, field horsetail, sensitive fern, wild grape, common mullein, and common ragweed are representative of the ground flora in the cultural habitats.

No wetlands were observed on or adjacent to the site outside of the agricultural channels, north-south swale to the east, and the stormwater management pond to the south. At the base of the channels, broad-leaved cattail, purple loosestrife, nodding bur-marigold, sensitive fern, blue vervain, reed canary grass and spotted jewelweed are common, along with Bebb's willow and glossy buckthorn shrubs.

Upland Poplar Deciduous Forest

Trembling aspen up to 35cm dbh dominate an upland forested area in the southwest portion of the site (Photo 5, Map 1). Smaller balsam poplar, Manitoba maple, green ash, and white ash are also present. As with the balance of the site, this area was an agricultural field in 1976. Fungus was on many of the poplars and the trunks of the ash were often impacted by emerald ash borer. The understory is very thick in most areas with common buckthorn, glossy buckthorn, and regenerating ash stems (Photo 5). Prickly gooseberry, red raspberry, and regenerating Manitoba maple stems were also present. Common ground flora in the upland deciduous forest include June meadow grass, helleborine, wild grape, field horsetail, motherwort, white avens, Canada goldenrod, narrow-leaved goldenrod, joe-pye-weed, New England aster, white bedstraw, sensitive fern, violet, Pennsylvania sedge, and common strawberry.

Deciduous Hedgerow

Intermittent deciduous hedgerows (Photo 6) are common in the central and north portions of the site, between agricultural fields and along the west and south periphery of the fields. Trembling aspen and crack willow are dominant in areas, with white elm, eastern cottonwood, grey birch,

white ash, green ash, and Manitoba maple common in areas. Many of the crack willows are coppice (multi-stem), with individual stems up to 50cm dbh. The larger limbs of the crack willows were often broken or almost horizontal along the ground. Many of the ash appeared dead or had reduced leaf-out.

Regenerating Manitoba maple and poplar stems were common in the deciduous hedgerows, along with common buckthorn, red raspberry, round-leaved dogwood, and Bebb's willow shrubs. Wild grape and thicket creeper were common on the lower branches of many of the hedgerow trees. Other ground flora in the vicinity of the hedgerows included dense patches of Canada goldenrod, and New England aster, wild carrot, common milkweed, wild parsnip, lamb's quarter, common ragweed, poverty oat grass, June meadow grass, reed canary grass, and orchard grass.

Wildlife

Wildlife observed during the field surveys included ring-billed gull, European starling, American crow, Canada goose, black-capped chickadee, American woodcock, song sparrow, white-throated sparrow, American robin, American goldfinch, red-winged blackbird, common grackle, woodchuck, raccoon and white-tailed deer tracks, and grey squirrel.

Photo 1 – Recently constructed north-south swale immediately to the east of the site. View looking south.

Photo 2 – Cultivated field planted in soybeans in 2019 in the central portion of the site. View looking southeast to an intermittent deciduous hedgerow

Photo 3 – Typical cultural meadow habitat in the southeast corner of the site. View looking northeast to a deciduous hedgerow

Photo 4 - Cultural thicket habitat in the south-central edge of the site. View looking east

Photo 5 – Upland poplar deciduous forest in the southwest corner of the site. View looking east

Photo 6 – Typical intermittent north-south deciduous hedgerow. This example is in the south-central portion of the site, with view looking northeast

Species at Risk

No butternut or other Species at Risk were observed on or adjacent to the site or for the Barrett subdivision lands to the east. The Ministry of the Natural Resources and Forestry's Make a Map: Natural Heritage Areas website was reviewed. 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. A search was conducted on the 1 km squares including the Stage 5 lands and adjacent areas (18VR51- 18, -19 and - 28). A very old Species at Risk observation was identified for these squares; the threatened black-foam lichen. This is a leafy lichen that grows as greenish grey rosettes up to 20cm across on the trunks of deciduous trees. The COSEWIC report noted this lichen appears to be extirpated from Ontario and Quebec.

Five Species at Risk, eastern whip-poor-will, barn swallow, bank swallow, eastern meadowlark and bobolink, are identified in the Ontario Breeding Bird Atlas for the overall 10 km square including the study area. Eastern meadowlark and bobolink utilize larger grassland areas such as hayfields. The cultivated fields that dominate the central and north portions of the site are not suitable nesting habitat for eastern meadowlark or bobolink. Eastern whip-poor-will requires large wooded areas with open patches, and/or open woodlands or alvar habitats. The understory of the forest in the southwest corner of the Stage 5 lands is too thick to represent eastern whip-poor-will habitat. No potential structures or other nesting habitats for bank swallow, barn swallow, or chimney swift were observed on or adjacent to the site.

Other potential Species at Risk in the general area include butternut, Blanding's turtle, and three bat species (little brown bat, eastern small-footed myotis and northern long-eared bat). Although found in a range of habitats in eastern Ontario, no butternuts were observed on within 50 metres of the site. No suitable cavity trees were observed for potential bat summer maternity sites or trees with flaking bark that may also be used by bats. Snapping turtle, a species of special concern, was recorded for the overall 10 km square 18VR51 in the Ontario Reptile and Amphibian Atlas, but the endangered Blanding's turtle was not. No suitable wetland habitat for turtles is present on the site, with the adjacent stormwater management pond not considered natural habitat. No aquatic Species at Risk were identified in the vicinity of the study area on the mapping provided by the Department of Fisheries and Oceans.

The potential Species at Risk reported for the overall City of Ottawa historically and their habitat requirements were also reviewed, including butternut, American ginseng, eastern prairie fringed-orchid, wood turtle, spiny softshell, Blanding's turtle, musk turtle, Henslow's sparrow, loggerhead shrike, eastern meadowlark, barn swallow, bobolink, whip-poor-will, bald eagle, golden eagle, least bittern, little brown bat, eastern small-footed myotis, northern long-eared bat, olive hickorynut, eastern cougar, common gray fox, lake sturgeon, cerulean warbler and American eel. The habitat requirements of these species along with those listed as special concern were reviewed. Except for butternut, no specific habitat characteristics related to these potential Species at Risk were observed on or adjacent to the site. No butternut, an endangered Species at Risk but often found in many areas of eastern Ontario, was observed on or adjacent to the site.

Significant Woodlands and Wildlife Habitat

As the on-site and adjacent woodlands were not present in 1976, they do not meet the 60 year age criterion for significant woodlands in the urban area of the City of Ottawa. Although there appears to be a lack of diversity in the woodlands and sensitive or uncommon characteristics such as rare vegetation communities or higher density of larger tree structure are not present, and there is a lack of economic and social functions, the young woodland provides some local wildlife habitat, and aesthetic and climate benefits.

The potential for significant wildlife habitat was assessed using the guidance in OMNR (2010) and MNRF (2015). No flora, fauna or ecological conditions identified in the background review or field survey that would trigger a Significant Wildlife Habitat designation with respect to the ELC communities present were observed on or adjacent to the site. For example, the young forests do not support raptor wintering areas, old growth forest is not present, and the forests are not large enough to meet the size criterion for deer winter congregation areas. Areas of broken and fissured rock for potential use by snakes were not observed. Due to the fields, stormwater pond, industrial park, and breaks in the forest canopy greater that 30 metres to the southeast of the site, there is no interior forest habitat on or adjacent to the site. Natural wetland habitat parcels are lacking and the cultural habitats do not support waterfowl stopover or staging areas, colonial nesting bird breeding habitat or other examples of seasonal concentration areas. No rare vegetation communities as noted in MNRF (2015) or rare or specialized habitat including seeps or springs are on the site. No Species of Special Concern or other species of conservation concern were observed.

Impact Analysis and Recommendations

The site is dominated by cultivated fields and habitats regenerating on former agricultural lands. No natural heritage features, as identified in the Provincial Policy Statement and OMNR (2010), were observed on or adjacent to the site outside of potential fish habitat in the agricultural ditches and the north-south swale to the east.

Terrestrial Habitat

The on-site woody vegetation is dominated by generally non-preferred species such as crack willow, trembling aspen, balsam poplar, large-toothed aspen, white elm and Manitoba maple. The trees are susceptible to disease and wind damage and have generally poor form and longevity. However, the trees do provide aesthetic and climate benefits and local wildlife habitat. Unfortunately, tree retention within the urban residential development is difficult due to the density of development and the grade changes required for installation of urban services. As indicated on Map 2, because of these servicing constraints the areas of potential tree retention are limited to the southwest corner of the site. Retention of trees at the rear of these larger lots will be confirmed at the detailed design stage. Wherever possible, tree and shrub retention is to occur where the grade changes and other servicing constraints permit. This retention will provide wildlife and aesthetic value as well as a future source of seeds and regenerating stems. However, plantings of native trees and shrubs from a local seed source should be able to replace some of the functions of the current trees as the plantings grow.

Due to the adjacent developments, the southwest corner is the only area where the critical root zones of adjacent trees may extend onto the site. As indicated above and on Map 2, there is the potential for tree retention in this area. This tree retention would also protect the critical root zones of the adjacent trees. If tree retention in this area is not possible, no grade changes should occur within three metres of the site boundary where the critical root zones of adjacent tree may extend onto the site.

Trees and shrubs to be retained are to be protected with sturdy orange construction fencing at least 1.2 metres in height installed from the tree trunk a minimum distance of ten times the retained tree diameter. Signs, notices or posters are not to be attached to any tree. No grading, heavy machinery traffic, stockpiling of material, machinery maintenance and refueling or other activities that may cause soil compaction is to occur within three metres of the critical root zone of the trees to be retained and protected. The root system, trunk or branches of the trees to be retained are to be protected and not damaged. If any roots of trees to be retained are exposed during site alterations, the roots shall be immediately reburied with soil or covered with filter cloth, burlap or woodchips and kept moist until the roots can be buried permanently. A covering of plastic should be used to retain moisture during an extended period when watering may not be possible. Any roots that must be cut are to be cut cleanly to facilitate healing and as far from the tree as possible. Exhaust fumes from all equipment during construction will not be directed towards the canopy of any retained trees.

All of the supports and bracing for the protective fencing should be placed outside of the protected area and should be installed in such a way as to minimize root damage. Also, since the desired effect of the barrier is to prevent construction traffic from entering the trees critical root

zone, the barrier should be kept in place until all site servicing and house construction has been completed.

As silty clay soils were reported in the northeast portion of the Stage 5 lands by Golder (2019), tree planting in this area where clay soils are encountered should be limited to trees with low water demand. Tree species to avoid in this situation include poplars, willows and Manitoba maple. Tree and shrub plantings are to be native and of local origin and seed stock. A mix of coniferous and deciduous species such as sugar maple, red maple, tamarack, white spruce, red oak, basswood, native dogwoods and nannyberry is recommended.

To protect breeding birds, no tree or shrub removal should occur between April 15th and August 15th, unless a breeding bird survey conducted by a qualified biologist within five days of the woody vegetation removal identifies no active nests in the trees or shrubs. No stick nests or other evidence of raptor utilization on the site was observed.

Aquatic Habitat

Any aquatic habitat in the on-site and adjacent agricultural diches (see blue lines on Map 1) will be replaced with the new north-south swale recently constructed immediately east of the site and west of the Kelly Farm Drive. The swale was designed to enhance the extent of amphibian, fish and other wildlife habitat through creation of pools, placement of boulders and root wads, native seed mixes and plantings of native trees and shrubs. The north-south swale width and other components were approved as part of the earlier Phase 1 of Stage 4 of the Findlay Creek development and all required compensation was completed with the construction of the swale.

The north-south swale is within a 25 metre wide corridor that has been naturalized. Although the setbacks to the swale will be less than the default 30 metre setback for fish habitat identified in Section 4.7.3 of the Official Plan, the 25 metre naturalized corridor width is anticipated to provide adequate protection of any aquatic habitat that may be in the north-south swale since:

- the swale will be shallower in the vicinity of the site than was required to the south, downstream, and thus a greater portion of the 25 metre corridor will be naturalized along the 3:1 side slopes and the setback from top-of-slope;
- both the 3:1 vegetated slopes and top-of-slope setback will provide filtering of any surface water runoff and as the slopes naturally vegetate, they will provide shading, slope stability and food sources for the channel;
- the flat topography and most of the subsurface soils provide good treatment conditions for the local surface runoff; and,
- the north-south swale is anticipated to be of relatively low sensitivity in the vicinity of the site due to its intermittent nature.

Given the implementation of proper stormwater management and erosion and sediment control, no impacts on the downstream aquatic habitat, including Findlay Creek, is anticipated. The potential for thermal and other impacts on the aquatic habitat of Findlay Creek is notably reduced by the extended distance, about 800 metres, that the north-south swale flows west of White Alder Avenue and south of Findlay Creek Drive before entering Findlay Creek.

Prior to removal of the on-site agricultural channels, if water is present the channels are to be thoroughly de-fished and the fish, amphibians and other wildlife relocated to the north-south swale immediately to the east of the site. A fish sampling permit will be required from MNRF and recently this permit has been taking as long as one month to obtain.

Many helpful wildlife oriented mitigation measures are detailed in the City's Protocol for Wildlife Protection during Construction (City of Ottawa, 2015). Contractors are to review in detail and understand the City's Protocol for Wildlife Protection during Construction prior to commencement of construction. Listed below are specific mitigation measures associated with the Protocol for Wildlife Protection during Construction (City of Ottawa, 2015).

Summary of Mitigation Measures

1. The extent of exposed soils shall be kept to a minimum at all times. Re-vegetation of exposed, non-developed areas shall be achieved as soon as possible;

2. The objective with respect to erosion and sediment controls will be to ensure that the surface water runoff leaving the site is not degraded with respect to water quantity or quality as outlined in IBI (2019). Erosion and sediment control will focus on best management practices such as grassed swales with a reduced slope and direction of roof and rear yard runoff to the vegetated rear of the lots. During construction many sediment and erosion control measures will be implemented as described by IBI (2019) including use of bulkhead barriers in manholes of sewers which connect to existing downstream sewers, properly installed and maintained silt fencing, seepage barriers deployed in any temporary drainage ditches, and filter clothes on open surface structures until these structures are fully functional;

3. Before closing the on-site channels, if water is present the channels are to be de-fished and netted for frogs and other wildlife and the fauna relocated to the north-south swale to the east;

4. The contractor is to be aware of potential Species at Risk in the vicinity of the study corridor including butternut. Appendix 1 of City of Ottawa (2015) describes these species. The project biologist is Bernie Muncaster (613-748-3753). Any Species at Risk sightings are to be immediately reported to the project manager and the Ministry of the Environment, Conservation and Parks and activities modified to avoid impacts until further direction by the Ministry;

5. As recommended in City of Ottawa (2015) prior to beginning work each day, check for wildlife by conducting a thorough visual inspection of the work space and immediate surroundings. See Section 2.5 of the City's Protocol for Wildlife Protection during Construction (City of Ottawa, 2015) for additional recommendations on construction site management. Any turtles and snakes in the work areas are to be relocated to the Leitrim Natural Area to the south. Animals should be moved only far enough to ensure their immediate safety. See Appendix 1 and the links in Section 4 of City of Ottawa (2015) for suggestions on how to effectively relocate turtles and snakes;

6. To protect breeding birds, the tree or shrub removal should occur between April 15th and August 15th, unless a breeding bird survey conducted by a qualified biologist within five days of the woody vegetation removal identifies no active nests in the trees or shrubs. No stick nests or other evidence of raptor utilization on the site was observed;

7. Trees and shrubs to be retained are to be protected with sturdy orange construction fencing at least 1.2 metres in height installed from the tree trunk a minimum distance of ten times the retained tree diameter. Additional tree protection measures are provided above;

8. Where groundwater must be removed from work areas, the groundwater will be pumped into a proper filter mechanism such as a sediment trap or filter bag prior to release to the environment or urban sewer system;

9. Seepage barriers such as silt fencing, straw bale check dams and other sediment and erosion control measures will be installed as required to OPSD requirements in any temporary drainage ditches and around disturbed areas during construction and stockpiles of fine material. These control measures must be properly maintained to maximize their function during construction;

10. Silt fencing is also required along work areas where any surface water runoff has the potential to flow towards the north-south swale immediately to the east or otherwise migrate off-site. The fencing must be properly keyed in to filter runoff and maintained as required including repair of broken panels and removal of accumulated sediment;

11. Municipal by-laws and provincial regulations for noise will be followed and utilities will be located as required in the vicinity of the site prior to construction; and,

12. Waste will be managed in accordance with provincial regulations. The contractor will have a spill kit on-hand at all times in case of spills or other accidents.

Schedule of Proposed Works

It is proposed to remove the on-site woody vegetation not to be retained in 2020 after the breeding bird season. A Tree Cut Permit will be required from the City of Ottawa for the removal of all trees greater than 10cm dbh. As applicable, City of Ottawa staff (Forester – Planning) are to be contacted at least two business days prior to any tree removal so staff have the opportunity to verify that the protective fencing has been properly constructed.

Conclusion

One-hundred and sixty-eight single detached family homes and 219 townhouse units are proposed for the Stage 5 Findlay Creek lands. No significant woodlands, rare communities, flora or fauna, Species at Risk, significant wetlands, steep slopes or valleys were observed on or adjacent to the site. The site is dominated by existing cultivated agricultural fields and habitats regenerating on former agricultural land. Grade raises and other servicing constraints for the urban development appear to prohibit tree retention except perhaps in the southwest corner.

The woody vegetation to be removed can be replaced in part over time with plantings of native coniferous and deciduous trees and shrubs. The plantings are to be of local origin and seed stock whenever possible. It is important that other mitigation measures outlined in this TCR and EIS are properly implemented and maintained.

References

Brownell, V.R. and C.S. Blaney. 1997. Summary: Natural Area Reports for Natural Areas East of the Rideau River. Prepared for the Regional Municipality of Ottawa-Carleton, Planning and Development Approvals Department. 324 pp.

City of Ottawa. 2010. City of Ottawa Official Plan. As adopted by City Council, May, 2003 and Updated 2010. Publication: 1-28. 227 pp & Sched.

City of Ottawa. 2015. Protocol for Wildlife Protection during Construction. August, 2015. 14 pp & Append.

Golder Associates. 2019. Geotechnical Investigation. Findlay Creek Village - Stage 5. 3100 Leitrim Road. Leitrim Development Area, Ottawa, Ontario. Report Number: 19129142-2000. November, 2019. 9 pp & Append.

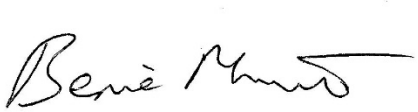
Muncaster, B.W. and D.F. Brunton. 2005/2006. Urban Natural Areas Environmental Evaluation Study. Prepared for the City of Ottawa.

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

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

Please call if you have any questions on this revised Tree Conservation Report and Environmental Impact Statement.

Yours Sincerely,
MUNCASTER ENVIRONMENTAL PLANNING INC.



Bernie Muncaster, M.Sc.
Principal

\fcstage5eistcr

Legend

Phase 5 Lands
Vegetation Communities
Channels to be Removed

Vegetation Communities

1. Cultivated field
2. Cultural meadow
3. Cultural thicket
4. Deciduous hedgerow
5. Upland poplar deciduous forest

Approx. Scale 1: 4,700

0 50 100 150 200
METRES

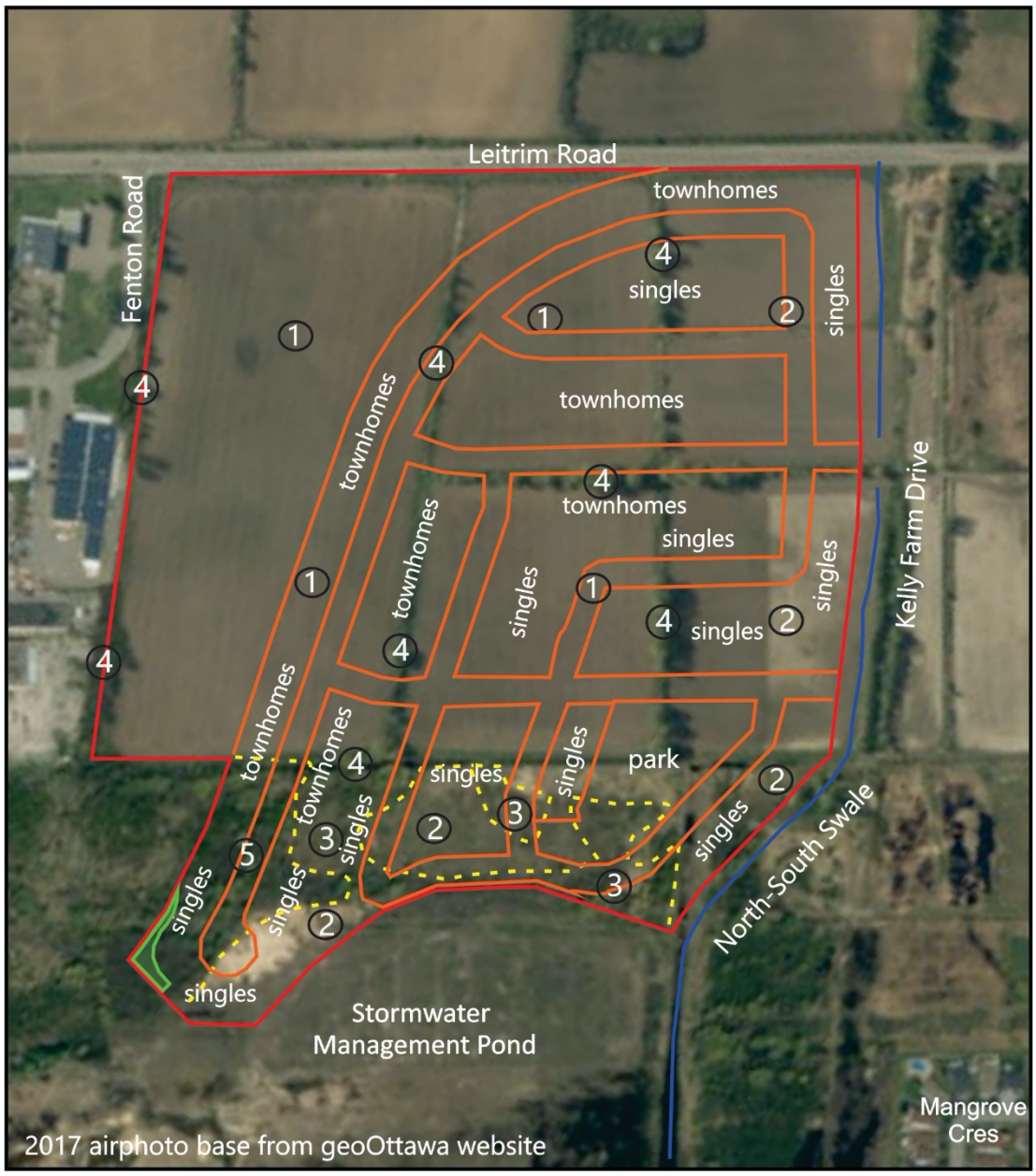
FILE: 13-01	Map 1	August 10, 2020

CURRENT VEGETATION

Findlay Creek Village, Stage 5
City of Ottawa

Prepared for: Barrett Co-Tenancy

Prepared by: Muncaster Environmental Planning Inc.



Legend

Phase 5 Lands
Vegetation Communities
Enhanced North-South Swale

Possible Tree Retention

Vegetation Communities

1. Cultivated field
2. Cultural meadow
3. Cultural thicket
4. Deciduous hedgerow
5. Upland poplar deciduous forest

Approx. Scale 1: 4,700

0 50 100 150 200
METRES

FILE: 13-01	Map 2	August 10, 2020

PROPOSED CONSERVED VEGETATION

Findlay Creek Village, Stage 5
City of Ottawa

Prepared for: Barrett Co-Tenancy

Prepared by: Muncaster Environmental Planning Inc.

APPENDIX A

DFO AUTHORIZATION for REMOVAL of On-Site CHANNELS

Fisheries and Oceans Canada | Pêches et Océans Canada

DFO File No.: 5250-100A
Referral File No.: 05-HCAA-CA4-000-002353
Authorization No.: 5250-100A

AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

Authorization issued to:

City of Ottawa
C/O Larry Morrison
110 Laurier Avenue West
Ottawa, Ontario
K1P 1J1

613-580-2424 x27807

Location of Project

The work or undertaking is located south of the Village of Leitrim, Concession 5, Lot 20, Gloucester-Southgate Ward, City of Ottawa, and is bordered by Bank Street to the west and Blais Road to the south. The stormwater management pond will be constructed on an unnamed tributary to Findlay Creek.

Latitude/Longitude: 45º19`04`` 075º35`06``

Valid Authorization Period

The valid authorization period for the harmful alteration, disruption or destruction of fish habitat associated with the work or undertaking is:

From	To
July 1, 2006	December 31, 2006

The valid authorization periods for the other conditions of the authorization are as set out below.

Description of Works or Undertakings (Type of work, schedule, etc.)

The harmful alteration, disruption or destruction of fish habitat hereby authorized is:

- the harmful alteration of 120 m^2 of run habitat due to the installation of a stormwater management pond inlet pipe and a culvert up to 16 m long on Findlay Creek;
- the harmful destruction of a 200 m reach (400 m^2) of an unnamed tributary to Findlay Creek due to the construction of an online stormwater management pond.

Other harmful impacts to fish and fish habitat will be mitigated by the implementation of: sediment and erosion control measures; timing restrictions on in-water work; the stabilization of disturbed areas; careful operation and maintenance of machinery; and de-watering work areas. Compensation for the harmful alteration, disruption or destruction of fish habitat due to this project shall be incorporated into the realignment of Findlay Creek and construction of the North South Swale between Albion Road and Bank Street (DFO File # 525-100, FEAI # 22530).

In-water work is expected to start in July, 2006 and be completed by December 31, 2006

Conditions of Authorization

1. The conditions of this Authorization notwithstanding, should the above works or undertaking, due to weather conditions, different soil or other natural conditions, or for any other reason, appear, in the opinion of the Department of Fisheries and Oceans ("DFO") likely to cause greater impacts than the parties previously contemplated, then DFO may direct the Proponent, and its agents, and contractors, to suspend or alter works and activities associated with the project, to avoid or mitigate adverse impacts to fisheries resources. DFO may also direct the Proponent and its agents, and contractors, to carry out at the Proponent's expense any works or activities deemed necessary by DFO to avoid or mitigate further adverse impacts to fisheries resources. In circumstances where DFO is of the view that greater impacts may occur than were contemplated by the parties DFO may also modify or rescind this authorization. If the authorization is to be changed the Proponent will be given an opportunity to discuss any proposed modifications or rescission.

2. Conditions that relate to the **proponent plan**:

   2.1. Larry Morrison (the "Proponent") confirms that all plans and specifications relating to this authorization have been duly prepared and reviewed by appropriate professionals working on behalf of Larry Morrison. Larry Morrison acknowledges that he is solely responsible for all design, safety and workmanship aspects of all the works associated with this Authorization.

   2.2. The construction must comply with those criteria as identified within this Authorization. Harmful alteration, disruption or destruction of fish habitat other than that specifically identified within this Authorization is not permitted.

   2.3. Works will be conducted following the practices outlined in the following reports:

      2.3.1. Application for Authorization for Works or Undertakings Affecting Fish Habitat, signed by Larry Morrison, dated February 3, 2006.

      2.3.2. Findlay Creek Village Phase 4 Drawing No. 115, Revision No. 1, prepared by CCL/IBI, dated December 19, 2005.

      2.3.3. Findlay Creek Village Stormwater Facility, contract No. 3573-LD, prepared by CCL/IBI, received by DFO February 7, 2006.

      2.3.4. Findlay Creek Village Fish Compensation Conceptual Design, prepared by IBI Group and Corush Sunderland Wright, dated June 2006.

      2.3.5. Letter and attachments dated June 9, 2006 from Jim Moffat (IBI Group) to Andy Smith (DFO) Re: Findlay Creek Village, Phase 4 – Findlay Creek Culvert Crossing.

3. Conditions that relate to the **mitigation** of potential harmful alteration, disruption or destruction of fish habitat. The following measures shall be implemented:

   3.1. No in-water work shall occur from March 15th to June 30th to protect local fish populations during their spawning and nursery periods.

   3.2. All materials and equipment used for the purpose of site preparation and project completion and operation and maintenance shall be operated and stored in a manner that prevents any deleterious substance (e.g. petroleum products, debris etc.) from entering the water.

      3.2.1. Any stockpiled materials shall be stored and stabilized away from the water.

      3.2.2. Vehicle and equipment re-fuelling and maintenance shall be conducted away from the water and additional measures shall be taken to prevent fuel or other deleterious substances from entering the water.

      3.2.3. Any part of equipment entering the water shall be free of fluid leaks and externally cleaned/degreased to prevent any deleterious substance from entering the water.

3.2.4. Only clean material free of fine particulate matter shall be placed in the water.

3.2.5. A spill kit shall be kept on site during construction.

3.3. Sediment and erosion control measures shall be implemented prior to work and maintained during the work phase, to prevent entry of sediment into the water.

3.3.1. All sediment and erosion control measures shall be inspected daily to ensure that they are functioning properly and are maintained and/or upgraded as required.

3.3.2. If the sediment and erosion control measures are not functioning properly, no further work shall occur until the sediment and/or erosion problem is addressed.

3.3.3. All disturbed work areas shall be stabilized as soon as possible after project completion.

3.3.4. Sediment and erosion control measures shall be left in place until all disturbed areas have been stabilized.

3.3.5. All disturbed areas susceptible to erosion/soil loss with potential for transport into the water, shall be stabilized and re-vegetated as required upon completion of work and restored to a pre-disturbed state or better.

3.4. All instream work shall be completed *in the dry* by de-watering the work area and diverting and/or pumping flows around cofferdams placed at the limits of the work area.

3.4.1. Existing stream flows in Findlay Creek shall be maintained downstream of the de-watered work area without interruption, during all stages of the work. There shall be no increase in water levels upstream of the de-watered work area.

3.4.2. Diversion channels shall be lined with appropriate material to prevent the suspension and transport of sediment in the creek system.

3.4.3. The work area shall be stabilized against the impacts of high flow events at the end of each workday. Work in the channel and floodplain shall be suspended and the work area stabilized when there is a high probability of a significant rainfall event and during warm winter periods when there is a high likelihood of significant snowmelt runoff.

3.4.4. Silt or debris that has accumulated around the temporary cofferdams shall be removed prior to their withdrawal.

3.4.5. Sediment-laden dewatering discharge shall be pumped to a stilling basin or filtering system well away from the watercourse and allowed to settle and/or filter through the riparian vegetation before re-entering the watercourse downstream of the construction area.

3.4.6. Flow dissipaters and/or filter bags, or equivalent, shall be placed at water discharge points to prevent erosion and sediment release.

3.4.7. Any “sandbags” used for cofferdam construction shall be filled with clean sand, free of fine particulates.

3.4.8. Upon Project completion, all sandbags shall be removed from the water.

3.5. A fish stranding program shall be implemented immediately following isolation and prior to de-watering to ensure that fish are removed from the abandoned channel and released alive immediately downstream of the work area.

3.6. Woody debris that is not interfering with drainage or fish migration shall not be removed from the water course during channel maintenance.

3.7. Removal of bedrock from the bed of Findlay Creek shall be completed by hoe-ram. If explosives need to be used to excavate the pipe trench, DFO’s Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright and Hopky, 1998) shall be followed. If the guidelines cannot be met the DFO-Prescott office shall be contacted for advice or authorization as required.

3.8. Construction debris and litter shall not be allowed to enter the water or be left on the shoreline.

3.9. Dredged or excavated material shall be disposed of on land above the high water level and suitably contained/stabilized to prevent the material from re-entering the water.

3.10. The culvert on Findlay Creek shall be installed such that it does not pose a barrier to fish migration during high or low flows.

3.10.1. The culvert shall be embedded at least 20% of the culvert diameter, below the upstream and downstream channel invert.

3.10.2. The culvert shall be backfilled with imported substrate material matching the upstream and downstream bottom type and gradient.

3.11. Riparian vegetation shall be maintained where feasible and planted to provide shade and maintain water temperatures.

4. Conditions that relate to the **compensation** for the loss of 520 square meters of fish habitat.

4.1. Compensation for the harmful alteration, disruption or destruction of fish habitat shall be incorporated into the realignment of Findlay Creek and construction of the North-South Swale between Albion Road and Bank Street (DFO File # 525-100, FEAI # 22530). Works shall include the construction of: a 1781 m meandering channel and floodplain; a 1456 m swale with a low flow channel; rock riffles in the truss factory reach; and the planting of riparian vegetation.

5. Conditions that relate to the **monitoring** of the proponent plan, the mitigation and the compensation, the "Monitoring Program".

5.1. The success of all vegetative plantings shall be assessed not less than once each spring and fall for 1 year following planting. If at any time during monitoring any plantings are dead or dying, measures shall be implemented to reduce the risk of future failure and the plants shall be replaced and monitoring continued.

5.2. A photographic record showing that all works and undertakings have been completed according to the proposal and conditions of this authorization report shall be prepared.

5.2.1. The photographic record shall include, but not be limited to, a record of existing conditions, the work phase including sediment and erosion control measures, and completed works including compensation measures, site stabilization and restoration.

5.2.2. The photographs for each period of documentation shall be taken from the same vantage point(s), direction and angle of view.

5.2.3. All photographs shall be clearly labelled with the date, location and viewing direction. The photographic locations and viewing directions shall be indicated on a plan view drawing of the work site and clearly indexed to the photographs.

5.3. The temperature of the water flowing out of the outlet channel and in Findlay Creek shall be monitored from June to October the first year of post construction. A temperature monitoring plan shall be provided to the Prescott District, Fisheries and Oceans Canada – Ontario Great Lakes Area by May 1 the year of the monitoring.

5.4. In order to determine the seepage of water from Findlay Creek to the SWMP, the flow in Findlay Creek shall be monitored from June to October the first year post construction. A flow monitoring plan shall be provided to the Prescott District, Fisheries and Oceans Canada – Ontario Great Lakes Area by May 1 the year of the monitoring. If seepage is determined to be excessive, measures to mitigate the effects of the water loss shall be implemented after approval by DFO.

5.5. Any structures not functioning as intended or contributing to erosion or instability in Findlay Creek shall be appropriately modified and monitoring continued. These modifications shall be discussed with and approved by Fisheries and Oceans Canada prior to implementation.

5.6. A written report and the photographic record summarizing the above monitoring results shall be submitted to the Prescott Office, Fisheries and Oceans Canada – Ontario Great Lakes Area on or before December 31 for each year of the monitoring program.

6. "As constructed" drawing(s), showing all completed structures and/or works, shall be submitted to the Prescott Office of Fisheries and Oceans Canada – Ontario Great Lakes Area, on or before December 31, 2006.
7. Written notification of the commencement of works or undertakings shall be provided to DFO 10 days prior to the initiation of those works or undertakings.

The holder of this authorization is hereby authorized under the authority of section 35(2) of the Fisheries Act. R.S.C., 1985, c.F. 14, to carry out the work or undertaking described herein. This authorization is valid only with respect to fish habitat and for no other purposes. It does not purport to release the applicant from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies.

Failure to comply with any condition of this authorization may result in charges being laid under the Fisheries Act.

This authorization form should be held on site and work crews should be made familiar with the conditions attached.

Date of Issuance: June 26, 2006

Approved by: _____

Bob Lambe

Title: Regional Director General
Central and Arctic Region