



Muncaster
Environmental
Planning Inc.

May 12, 2023

Mr. Enzo Di Chiara, P.Eng
Prestige Design and Construction Ltd.
50 Camelot Drive
Nepean, Ontario
K2G 5X8

Dear Mr. Di Chiara:

**RE: 96 Bill Leathem Drive – Proposed Office / Warehouse Development
Environmental Impact Study and Tree Conservation Report**

This Environmental Impact Study (EIS) and Tree Conservation Report (TCR) address a proposed two storey mixed use office and warehouse building in the northeast portion of Barrhaven at 96 Bill Leathem Drive. The site is on the south side of Bill Leathem Drive, opposite the t-intersection with Paragon Avenue. The 0.38 hectare site has approximately 62 metres of frontage on Bill Leathem Drive. The site is within the South Merivale Business Park and is described as Part of Lot 18, Concession 1 (Rideau Front) of Nepean Geographic Township, City of Ottawa. Currently there are no buildings or other structures on the site. The site and adjacent lands were farmed until adjacent portions of the Business Park were developed in the 1990s.

For the purposes of this report Bill Leathem Drive is assumed to be in an east-west orientation.

Methodology

This EIS and TCR was prepared in accordance with the EIS and TCR Guidelines produced by the City of Ottawa, with guidance from the Natural Heritage Reference Manual (OMNR, 2010). The field survey and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over thirty-five years of experience completing natural environment assessments. The purpose of the Tree Conservation Report component is to determine any tree stands that should be retained and protected and the associated protection measures. Any required tree removal is proposed for later in 2023, after the breeding bird period.

The EIS will provide the methodology to mitigate as required negative impacts on significant features and functions, including potential impacts on co-owned and adjacent trees. Potential Species at Risk in the general area were identified from Ministry of Natural Resources and Forestry databases, the Ontario Breeding Bird and Reptile and Amphibian Atlases, and Species at Risk reported for the overall City of Ottawa.

A field survey of the site and adjacent lands was completed on May 9th, 2023 from 10:35 to 12:20, during good conditions for observations including a light breeze, sunny skies, and an air temperature of 15° C.

Environmental Features

The site is zoned Light Industrial (IL9) and identified as Mixed Industrial and Greenspace on Schedule B6 of the new City of Ottawa Official Plan. The south half of the site is identified as Natural Heritage Features Overlay on Schedule C11-C of the Official Plan, though the site is not forested, unlike adjacent components which are also shown as Natural Heritage Features Overlay and are forested. Muncaster (2016), which included the current site in its assessment, noted that identifying the site as part of the Natural Heritage System may be a mapping error as the site was an agricultural field and has not been forested. The closest Natural Heritage System Core Area is the south portion of the Pinhey Forest, approximately three kilometres to the north of the site. There are no Provincially Significant Wetlands or Areas of Natural and Scientific Interest in proximity to the site. There are no environment constraints shown on the site on Schedule C15, with unstable slopes indicated along the inlet and outlet of the Clarke Bellinger Environmental Facility to the south of the site, as described below.

The Clarke Bellinger Environmental Facility is to the south of the site, with the northwest portion of the pond approximately 32 metres south of the south site boundary. This facility is a series of on-line ponds that provide stormwater treatment for much of this portion of Barrhaven. A 3 metre wide access road/pathway and deciduous plantings south of the pathway are between the site and the facility. No potential aquatic habitat is on the site, with adjacent potential habitat represented by the ponds and a channel entering the west end of the ponds about 75 metres south of the southwest corner of the site. South of the environmental facility is the Sach's Forest Urban Natural Area (Muncaster and Brunton, 2005), which is dominated by mature, deciduous forests with many mature examples in the 60cm dbh range of sugar maple, eastern hemlock, bur oak, red maple, basswood, white pine and American beech and other representation of bitternut hickory, ironwood, white birch and yellow birch (Muncaster, 2016).

At its closest point the Rideau River is approximately 900 metres to the east of the site, east of Prince of Wales Drive, the RCMP headquarters and associated surface parking, and urban residential developments.

Proposed Commercial Development

The proposal includes a warehouse building, with office space in the portion of the building closest to Bill Leathem Drive. Surface parking will be provided to the north and south of the building (Map 2). Access south from Bill Leathem Drive will be in the northwest corner of the site. The site will be on municipal services. A chain-link fence will be installed around the site perimeter.

Existing Conditions

The topography of the site is virtually level, with a very gentle slope to the south. The site is at grade with Bill Leathem Drive. Clay soils dominate the site and adjacent lands, with the overburden in the range of 15 to 25 metres thick and long-term groundwater table between 3.5 and 4.5 metres below ground surface (Muncaster, 2016).

A hard packed gravel surface is on much of the site (Photo 1) and in other areas the topsoil appears to have been stripped. Gravel stockpiling is also present. This material is too coarse to be used by nesting swallows and other burrowing animals.

On-Site

Cultural meadow habitat is present on former agricultural lands (Photo 1). Common ground flora includes orchard grass, June meadow grass, reed canary grass, awnless brome grass, wild carrot, common burdock, Canada thistle, common milkweed, wild parsnip, common dandelion, goldenrod, yellow rocket, white bedstraw, curled dock, white clover, red clover, and white-sweet clover. Red raspberry, staghorn sumac, and slender willows shrubs are scattered on the site. The only trees at least 10cm diameter at breast height (dbh) on the site are in the northeast corner. These planted street trees, a 20cm dbh hackberry (Tree 'A' on Map 1) and a 22cm dbh sugar maple (Tree 'B', Photo 2), to the south of Bill Leathem Drive appear to be on the site rather than the City owned road allowance and this is confirmed with the topographical survey. The hackberry appears to be in good condition, with extensive trunk damage on the south side of the base of the maple (Photo3). However, bud development and branching structure was good on the maple.

Wildlife observations on and adjacent to the site included Canada goose, American crow, tree swallow, song sparrow, chipping sparrow, red-winged blackbird, yellow-rumped warbler, American goldfinch, American robin, white-tailed deer tracks, and spring peeper calling from the ponds.

Adjacent Trees

As described above, the planted street trees along the south side of Bill Leathem Drive are on the site rather than the City owned road allowance. The next planted sugar maple (Tree 'C' on Map 1) in the row to the east is approximately 3.5 metres east of the east property line. As this tree is 18 cm dbh, its critical root zone does not extend onto the site. There are no trees in the City owned road allowance. A 26cm dbh white spruce (Tree 'D') is a co-owned tree in the northeast edge of the site (Photo 5). To the west, approximately two metres to the west of the northwest corner of the site is a 30cm dbh white spruce (Tree 'E'). The critical root zone of this conifer would extend approximately one metre onto the site.

The centre line of a cedar hedge (Tree 'F') immediately to the west of the southwest corner of the site is one metre to the west of the site. Thus, the associated critical root zones of the larger 15cm dbh cedars would extend about 0.5 metres onto the site.

There are no other co-owned or adjacent trees with critical root zones extending onto the site. There are no critical root zones extending onto the south edge of the site as the stonedust three metre wide access road/pathway is immediately to the south of the site, to the north of the plantings on the north side of the Clarke Bellinger Environmental Facility (Photo 4). As a one-metre wide mowed area is to the south of the pathway and the maximum size of the outer trembling aspens are 18cm dbh, there is no potential for critical root zones to extend onto the site from south of the access road/pathway. Most of the outer plantings to the south of the site and pathway are staghorn sumac shrubs.

The largest trees on the north side of the Clarke Bellinger Environmental Facility are Scot's pine and white spruce up to 40cm dbh. The closest of these trees are approximately 40 metres to the southeast of the site.



Photo 1 – Site looking south from just south of Bill Leathem Drive, with off-site trees north of the Clarke Bellinger Environmental Facility in the background



*Photo 2 – Planted maple and hackberry (mostly hidden) trees along north edge of the site.
View looking west from the northeast corner, with Bill Leathem Drive on the right*



Photo 3 – Damage at base of maple in the above photo



Photo 4 – South property line, with on-site gravel piles to the right and off-site stonedust access road/pathway and poplar and sumac plantings to the left. View looking west



Photo 5 – The west property line and adjacent lands with view looking north from the southwest corner to the conifers to be retained

Species at Risk and Other Species of Special Interest

No butternut or other Species at Risk were observed on or adjacent to the site. On May 10th, 2023, 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 square including the site and adjacent areas (18VR41 - 45). No provincial Species at Risk were noted for this square, with a species of special concern, snapping turtle and Midland painted turtle, a federal Species at Risk. A threatened turtle species found in many areas of Ottawa, Blanding's turtle, was not recorded for the overall 10 km square 18VR41 in the Ontario Reptile and Amphibian Atlas. Any turtle activity in proximity of the site is anticipated to be restricted to the Clarke Bellinger Environmental Facility, as wetlands are not present adjacent to the ponds. No wetland habitat is on the site or to the west, north, or east of the site to which a turtle may transverse the site to reach from the ponds. No potential turtle nesting habitat was observed on or adjacent to the site. The compacted gravel base is too firm to be used by turtles for nesting. As the site is greater than 30 metres from the closest portion of the ponds and extensive trees in the buffer will provide a good buffer function, providing the mitigation measures described below are properly implemented, no impacts on the adjacent ponds are anticipated.

Other Species at Risk identified in the Ontario Breeding Bird Atlas for the 10km square (18VR41) that includes the site and general area of this portion of Ottawa are bobolink, eastern meadowlark, bank swallow, and chimney swift. Bobolink and eastern meadowlark utilize larger grassland areas such as hayfields. Although meadow habitat is present on the site, it is far too small to provide potential nesting habitat, including lacking interior grassland habitat and is too disturbed with topsoil stripped and a gravel base in many areas. Bank swallow is a colonial nester; burrowing in eroding silt or sand banks and sand pit walls, habitat not present on or adjacent to the site. No structures are present on or adjacent to the site that may be used by barn swallow or chimney swift.

The potential Species at Risk historically reported for the overall City of Ottawa and their habitat requirements were also reviewed, including butternut, American ginseng, eastern prairie fringed-orchid, wood turtle, spiny softshell, Blanding's turtle, Henslow's sparrow, loggerhead shrike, eastern meadowlark, bobolink, eastern whip-poor-will, bald eagle, golden eagle, least bittern, little brown bat, eastern small-footed myotis, northern long-eared bat, olive hickorynut, eastern cougar, lake sturgeon, cerulean warbler, and American eel. Except for butternut, no specific habitat characteristics related to these potential Species at Risk were observed on the site. No potential wildlife cavity trees that could be used by bats for summer colonies are present on or adjacent to the site.

Significant Woodlands and Wildlife Habitat

There are no forests on or contiguous with the site on adjacent lands. The closest forests that may be considered significant woodlands are approximately 75 metres to the southwest of the southwest site corner.

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 the site. For example, the cultural habitats do not support waterfowl stopover or staging areas, colonial nesting bird breeding habitat or other examples of seasonal concentration areas, rare vegetation communities as noted in MNRF (2015), or rare or specialized habitats including seeps or springs.

No forest interior habitat is present and thus potential nesting of species of special concern such as wood thrush and eastern wood-pewee is not expected. No evidence of raptor wintering areas was noted and old growth forests are not present. Areas of broken and fissured rock for potential use by snakes and other wildlife were not observed.

Linkage functions in the general area have long been impacted by agricultural activity and more recently expanding urban residential and commercial and institutional developments in the northeast portion of Barrhaven. Some linkage function likely exists south of the site from the Sach's Forest Urban Natural Area to the Rideau River corridor via the Clarke Bellinger Environmental Facility and the Rideau Glen Ravine Urban Natural Area, although the linkage function would be diminished by Leikin Drive, Prince of Wales Drive, and residences along Winding Way.

Impact Assessment and Mitigation Measures

No natural heritage features, as identified in the Provincial Policy Statement and OMNR (2010), were observed on the site which is dominated by disturbed meadow habitat on a former agricultural field. There appears to be no potential for endangered or threatened Species at Risk on or adjacent to the site other than butternut which was not observed. Fish habitat and significant woodlands are to the south of the site. The closest of these features is approximately 75 meters south of the southwest corner of the site, with the north portion of the Clarke Bellinger Environmental Facility (generally not considered fish habitat due to its stormwater function) about 32 metres south of the south site edge.

The function and features to the south of the site are not anticipated to be impacted by the proposed development due to:

- the distance to these features from the site, with the stormwater management ponds associated with the Clarke Bellinger Environmental Facility and associated planted woody vegetation, other landscaping and a three metre wide gravel access road/ pathway between the features and the site;
- the disturbed nature of the site and associated lack of tree removal except two plantings;
- the lack of hydrological connection between the site and the adjacent features;
- the lack of residences and associated absence of pets as part of the development. The use of the pathway has a much greater pet presence;
- a relatively high functional buffer with extensive plantings of woody vegetation; and,
- proper implementation of the mitigation measures recommended below.

The stonedust pathway system around the ponds and through the Sach's Forest Urban Natural Area to the south minimizes the potential for impacts from improper access to the Sach's Forest Urban Natural Area. With the ponds between the site and the forests to the south, the existing pathway is the only way for foot traffic to access the Urban Natural Area. It is anticipated that the proposed development will not add significantly to the potential for indirect impacts to the Urban Natural Area and associated significant natural heritage features relative to the extensive urban residential communities immediately to the south of the Urban Natural Area and current use of the pathway system. The permanent fencing around the site perimeter will further limit the interaction between the site and the natural features to the south.

Tree Retention

Due to the location and condition, it is not recommended that the planted sugar maple and hackberry (Trees 'A' and 'B') be retained. However, it is important that removal of these plantings be replaced with new plantings of native species. These plantings will provide a diversity of natural environment and aesthetic features and increase the extent of woody vegetation on the site. To provide a natural appearance, trees and shrubs should be planted in a random, cluster fashion rather than in a grid system. Potential native species to plant include nannyberry, elderberry and dogwood shrubs along with sugar maple, red maple, basswood, balsam fir, white cedar, red oak and white spruce trees. Sourcing native species from local seed sources is strongly recommended to ensure adaptability and longevity. Due to the clay soils, fast-growing trees located near buildings founded on cohesive soils that shrink on drying can result in long-term differential settlements of the structures. Tree varieties that may have the most pronounced effect in clay soils are poplars, willows and Manitoba Maple and these species should not be considered in the landscaping design for the site.

There are no City-owned trees adjacent to the site. As shown on Map 2, in two locations the critical root zones of co-owned or adjacent trees extend onto the site (see dashed green lines on Map 2). These are Trees 'D' and 'E', the white spruce in the northwest corner and Tree 'F', the cedar hedge, adjacent to the southwest corner. The recommended location of the silt fencing to provide protection during construction has been modified, as shown with the solid green line on Map 2, to be outside of the critical root zones of these co-owned and adjacent trees. No impacts are anticipated on these trees provided the protective temporary fencing is properly installed and maintained.

The silt fencing will assist in sediment and erosion control as well as protecting the adjacent trees to be retained and isolating the work area from wildlife. It is important that the fencing be properly installed and maintained. 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 to occur within the critical root zones 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 the retained trees.

All of the supports and bracing for the silt fencing should be placed outside of the protected area and should be installed in such a way as to minimize root damage. Also, since a desired effect of the temporary fencing is to prevent construction traffic from entering the trees' critical root zones, the silt fencing should be kept in place until all site servicing and construction has been completed.

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, 2022).

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. During construction, sediment and erosion control measures will be implemented as required, including filtering of pumped groundwater, properly installed and maintained silt fencing, and seepage barriers deployed in any temporary drainage ditches, until the construction is completed. These control measures must be properly maintained to maximize their function during construction. For example, the silt fencing must be properly keyed in to filter runoff and be maintained as required, including repair of broken panels and removal of accumulated sediment. It is also important that the temporary fencing be removed once construction is over and the site has been stabilized;
3. The contractor is to be aware of potential Species at Risk in the vicinity of the site such as butternut. Appendix 1 of City of Ottawa (2022) describes these species. The contact biologist for this project 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 are to be stopped until further direction is received from the Ministry;
4. As recommended in City of Ottawa (2022), prior to beginning work each day thorough visual inspections of the work space and immediate surroundings are to be completed for wildlife. See Section 2.5 of the City's Protocol for Wildlife Protection during Construction (City of Ottawa, 2022) for additional recommendations on construction site management. Any turtles and snakes in the work area are to be relocated 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 (2022) for suggestions on how to effectively relocate turtles and snakes;

5. To protect breeding birds, no tree or shrub removal should occur between April 15th and August 15th unless a breeding bird survey conducted 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 was observed on or adjacent to the site;
6. Outdoor lighting, including in the parking areas, is to be minimized as much as possible and is not to be directed to the south, towards the Clarke Bellinger Environmental Facility;
7. 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;
8. 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; and,
9. The permanent fencing and development layout will ensure no snow removal activity impacts the access road/ pathway and Sach's Forest Urban Natural Area to the south.

Schedule of Proposed Works

Removal of the very limited on-site woody vegetation not to be retained is proposed for 2023, after the breeding bird season. A Tree Cut Permit will be required from the City for removal of all trees greater than 10cm dbh. It is anticipated that this will apply to removal of one hackberry and one sugar maple in the northeast corner of the site. 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

A two storey mixed use office and warehouse building and associated surface parking is proposed in the northeast portion of Barrhaven at 96 Bill Leathem Drive, in the South Merivale Business Park. There are no significant natural heritage features on the site, which contains disturbed meadow habitat on former agricultural lands. However, the Sach's Forest Urban Natural Area to the south of the site, south of the Clarke Bellinger Environmental Facility, is a significant natural heritage feature.

Due to the very minimal tree removal, presence of the access road/pathway, distance from the Urban Natural Area, existing residences in close proximity to the Urban Natural Area, pathways established through the forests and relatively benign use for the site, with proper implementation of the mitigation measures described in this report it is anticipated that the construction and operation of the mixed use office and warehouse building will not have a negative impact on the features and functions of the Clarke Bellinger Environmental Facility and Sach's Forest Urban Natural Area.

Plantings of native trees and shrubs of local seed origin are recommended to provide aesthetic and local wildlife value and replace the two plantings to be removed.

This EIS and TCR concludes that it is the professional opinion of the author that the construction and operation of the proposed warehouse and office development will not have a negative impact, as defined in the Provincial Policy Statement, on the significant natural heritage features and functions of the general area, including the Sach's Forest Urban Natural Area and Clarke Bellinger Environmental Facility to the south, provided the above recommended mitigation measures are properly implemented.

References

City of Ottawa. 2022. Protocol for Wildlife Protection during Construction. Revised September, 2022. 14 pp & Append.

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

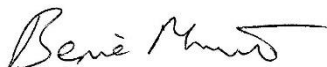
Muncaster Environmental Planning Inc. 2016. 102 Bill Leathem, The Salvation Army Barrhaven Church Environmental Impact Statement. April 25th, 2016. 12 pp & Append.

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 regarding this EIS and TCR

Yours Sincerely,
MUNCASTER ENVIRONMENTAL PLANNING INC.



Bernie Muncaster, M.Sc.
Principal

\96 Bill Leathem Drive EISTCR



Legend



Site

Tree(s) Letter

Vegetation Communities



Cultural Meadow



Approx. Scale 1: 900



Map 1

FILE: 23 - 04

May 11, 2023

EXISTING CONDITIONS

**96 Bill Leathem Drive
Barrhaven, City of Ottawa**

Prepared for: Chello Building Corp

Prepared by:



Muncaster
Environmental
Planning Inc.



Legend



Silt Fencing
On-site Critical Root Zone
of Retained Trees
Tree(s) Letter

Vegetation Communities



Cultural Meadow



Approx. Scale 1: 900



Map 2

FILE: 23 - 04

May 11, 2023

PROPOSED CONSERVED VEGETATION

96 Bill Leatham Drive
Barrhaven, City of Ottawa

Prepared for: Chello Building Corp

Prepared by:



Muncaster
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