

2559 Mer Bleue Road Subdivision

Tree Conservation Report

May 15, 2023



Prepared for Claridge Homes
by Arcadis IBI Group
May 15, 2023

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1. Introduction

IBI Group was retained to prepare a Tree Conservation Report (TCR) for a development located at 2559 Mer Bleue Road (Study Area). The proposed subdivision is a portion of the Mer Bleue Urban Expansion Area and follows the City of Ottawa's recommendations for the Community Design Plan (CDP). The tree removals are required to facilitate the construction of the mixed land-use development within the approximately 52-hectare parcel in part of Lot 5, Concession 11 in Cumberland. The design and construction is intended to be consistent with the City of Ottawa design standards and will be required to implement best management practices that allow for a balanced development approach that considers public health and safety, the requirement for utilities and infrastructure, and the surrounding natural environment.

The purpose of this report is to identify those trees that will be impacted by the lot development and construction activities, identify opportunities for tree retention, and establish a mitigative framework for removals that allow for the implementation of impact avoidance measures where retention is possible as identified within the CDP, and to minimize risk to surrounding natural heritage features. The contents of the TCR have been prepared in accordance with the requirements set out by the City of Ottawa's Tree Protection By-Law, and are meant to be applied in co-ordination with other City of Ottawa guidelines such as the Environmental Impact Statement (EIS) Guidelines.

This Tree Conservation Report has been prepared to accompany the EIS prepared in March 2021 by Bowfin Environmental Consulting. The ecological values identified within the Tree Conservation Report reflect those found within the EIS. The following criteria were considered in the compilation of the TCR:

- The characteristics of trees growing on site, including species composition, size, figure and other health considerations.
- The social and ecological functions of the trees identified.
- The sensitivity of these trees to disturbances (including changes to grade and drainage, sun and wind exposure, and proximity to physical construction activities).
- The ecological values identified within the EIS prepared by Bowfin Environmental Consulting.

2. Background

Background data for the TCR includes the Scoped EIS prepared in March 2021 by Bowfin Environmental Consulting which documented the existing conditions within the Study Area. It has been understood that the Study Area consists of mixed landscapes, including cultural meadows, farm fields, thickets, and woodlots.

The woodlot to the west of the Study Area (Woodland Area #2) is approximately 11.3 hectares of mature woodlots, and species present included primarily American Beech, American Elm,

Large Tooth Aspen, Red Maple, Trembling Aspen, with occurrences of Eastern White Pine, White Ash and White Birch. Whereas the woodlots on the east of the property (Woodland Area #1) adjacent to McKinnon Creek corridor is approximately 7.8 hectares of mid-succession trees, tree species present including Crack Willow, Large Tooth Aspen and Trembling Aspen. The understory of both woodlots included shrubs such as Canada Plum, Speckled Alder, Nannyberry, and Common Buckthorn.

It is understood that none of the associated woodlots are of significance in accordance with the City of Ottawa's Significant Woodland Guidelines, and that they are not identified within the CDP.

3. Tree Inventory Methods

The trees within both woodlots located in the Study Area were assessed on April 6, 2022 by a qualified terrestrial ecologist. Weather conditions were mostly sunny with a temperature of 15°C.

Due to the size of the woodlots within the Study Area, it was identified through consultation with the City of Ottawa that for the purpose of the TCR, groupings of trees within defined woodlots with homogenous composition were to be assessed to determine overall species composition within the Study Area (see **Figure 1: Existing Conditions, in Appendix**).

For the purpose of this survey, the woodlot areas adjacent to McKinnons Creek (east and west) has been identified as Woodland Area #1, and is subdivided into three areas; 1a, 1b, and 1c. The woodlot to the west of the study area was also assessed to collect representative data and is referred to as Woodland Area #2. To best represent the forest composition, plots for groupings were chosen at random, then delineated using a tape measure, all trees above 10 cm diameter at breast height (DBH) within the plot were then measured using a calibrated diameter tape at 1.4 m above ground.

Tree inventory data included the following metrics: tree species, general health conditions, DBH, UTM coordinates, and other notable characteristics identified by the surveyor (i.e. number of stems, cavities, etc...).

The inventory and assessment provided in this report has been completed using techniques of visual observation of above-ground parts of each tree in winter conditions. Due to trees being assessed in winter conditions, general health condition is estimated based on visual tree trunk and branch inspection. Since some symptoms of tree decay can only be noted seasonally, the extent of the observations was limited. This tree assessment is therefore valid at the time of inspection, and no guarantee can be made about the continued health of the trees deemed to be in good condition.

In addition, due to tree canopy cover, there can be variability associated with the accuracy of the GPS utilized during the inventory. As such, the inventoried tree locations are approximate.

4. Tree Inventory

The following section presents a summary of the grouped tree inventory results for Woodland Area #1 and Woodland Area #2. Overall, the Study Area encompasses approximately 52

hectares, where approximately 19.1 hectares contain woodlands. These woodlands appear to vary in composition, as well as in maturity, with Woodland Area #1 appearing to have lower overall diversity, and with all woodland areas being predominantly composed of Trembling Aspen, making up approximately 41% of tree composition within the Study Area. Overall, the trees within the Study Area appear to be in an overall Fair condition, and the average DBH being 21 cm. A small, wooded area (0.4 hectares) exist in the northwest quadrant of the study area that resembles the compositions of Woodland Area #2.

4.1 Woodland Area #1

This woodlot is subdivided into three areas and can be described as an approximately 8-hectare, mixed poplar stand, with inclusions of willow trees and overall low species diversity. The woodlot is made up of many smaller diameter trees, with no inventoried trees containing cavities that would be suitable for significant wildlife habitat. The understory in this area contains a significant amount of invasive common buckthorn that is spreading into the adjacent thicket habitat. This woodlot is adjacent to McKinnons Creek, as per the City's policies, vegetation that is within the 30-metre set back associated with the watercourse must be retained. No trees within this setback are to be impacted in relation to the development. This setback allows for the retention of 0.5 hectares of the woodlot outside of the development footprint.

The vegetation also exhibited signs of impact from invasive species, specifically it was noted that the understory contained Common Buckthorn. The presence of these invasive species within the forest can have a significant impact on the ecological integrity of the existing forest, and over time could outcompete and displace native vegetation and impacting the existing species diversity.

Woodlot composition is based on inventoried plots for Woodland Area #1, as well as the estimated woodlot composition is summarized in **Table 1**.

Table 1: Summary of woodlot composition for Woodland Area #1 within 2559 Mer Bleue Road.

Common Name	Botanical Name	Average DBH (cm)	Average Health	Estimated Woodlot Composition (%)
Crack Willow	<i>Salix x fraxis</i>	17	Fair	43%
Large Tooth Aspen	<i>Populus grandidentata</i>	22	Good	18%
Trembling Aspen	<i>Populus tremuloides</i>	15	Fair	39%



Figure 1: A visual representation of the composition in Woodlot Area #1 (March 2022)

4.2 Woodland Area #2

This forest stand can be described as an approximately 9-hectare, maturing woodlot, containing higher overall species diversity than found in Woodland Area #1, however the predominant species within this woodlot is Trembling Aspen. Larger diameter trees within this lot are mostly Red Maples. The trees in this woodlot provide both an ecological and social services, providing habitat for birds and other wildlife, as well as opportunity for social enjoyment with a small trail made evident by tree markings and cleared paths throughout the woodlot.

Additionally, this woodlot may provide opportunity for cover for larger ungulates such as moose and white-tailed deer. Evidence of the use of the woodlot by these species were indicated within the Scoped EIS and were also noted during the field visit conducted by IBI Group.

The vegetation in this woodlot also exhibited signs of impact from invasive species, specifically it was noted that the understory contained Common Buckthorn, as well as trees that were impacted by the Emerald Ash Borer beetle and Dutch Elm Disease. The presence of these invasive species within the forest can have a significant impact on the ecological integrity of the existing forest, and over time could outcompete and displace native vegetation and impacting the existing species diversity. It is apparent that the Emerald Ash Borer has had a significant impact on the Ash trees present within Woodland Area #2.

Woodlot composition based of inventoried plots for Woodland Area #2, as well as the estimated woodlot composition is summarized in Table 2.

Table 2: Summary of woodlot composition for Woodland Area 2 within 2559 Mer Bleue Road.

Common Name	Botanical Name	Average DBH (cm)	Average Health	% Composition
American Elm	<i>Ulus americana</i>	15	Fair	13%
Red Maple	<i>Acer rubrum</i>	34	Great	13%
Trembling Aspen	<i>Populus tremuloides</i>	19	Fair	74%



Figure 3: A representation of the composition in Woodlot Area #2 (March 2022).

5. Vegetation Removal

Development planning and associated tree removal within this area is guided by the City approved CDP indicating that the majority of the Subject Property will be developed into residential development, with the inclusion of community parks and stormwater facilities adjacent to McKinnons Creek in the east of the Study Area. Based on the inventory data, CDP, and proposed work activities, it is expected that approximately 8.6 hectares of woodlot will require removal to accommodate excavation, grading, and construction of the proposed Mer Bleue Road subdivision (See **Figure 2: Site Plan and Removals, in Appendix**).

The proposed removals will impact 7 hectares of Woodland Areas #1 a, b and c and 1.6 hectares of Woodland Area #2.

No detailed plans exist for the Park Block and Storm Water Management Block at the time of writing, and therefore removals of individual trees in these areas (see Figure 2) shall be assessed at the detailed design stage. Where possible, healthy trees shall be considered for retention, incorporated into the design to maintain urban tree canopy.

6. Mitigation Measures

The success of this mitigation plan is largely dependent upon the execution of clearing and construction activities to minimize impacts while meeting the planned objectives. The following mitigation and monitoring requirements are intended to manage the potential risk on the local ecology and ensure this compensation plan is executed to the standards expected by the City of Ottawa and the local community.

The following tree protection and mitigation measures are recommended:

1. Removals in Park Blocks and Stormwater Management Blocks shall be determined at the detailed design stage. The retention of healthy trees shall be prioritized where possible, and Tree Protection Fencing shall be installed in a manner that protects the CRZ of retainable trees.
2. The limit of all grading shall be clearly staked in the field in advance of tree clearing to facilitate the flagging/marketing of trees that need to be removed.
3. Tree Protection Fencing shall be installed as per the mapping in Figure 2 of the TCR to protect the Critical Root Zone of the trees to be retained.
4. A qualified professional shall mark all trees (dead and alive) that need to be removed, relative to the staked grading limits and referring the tree inventory.
5. An updated removals tally shall be provided to the City Forester for review to ensure general compliance with the permit.
6. The City Forester will review the flagged trees in the field to confirm that any trees which may pose a future liability have been marked for removal. Upon confirmation by the City Forester, within areas where trees are to be retained, all trees flagged for removal will be painted with highly visible "X" and a butt line as per the Ontario guidelines for tree removals.
7. If tree clearing is required during the breeding bird season (April 5th to August 28th), a qualified biologist shall undertake a search for active nests and nesting behaviors within and adjacent to the clearing limits within 2 days before clearing activities begin. If nesting activity is identified, an appropriate area around the nest (as determined by the qualified biologist) shall be protected until the young have left the nest or the nest is abandoned.
8. Tree protection fencing shall be installed in a manner that protects the CRZ prior to construction and must remain in place until all construction activities have ceased in order to prevent encroachment into the protected forest. Additional measures related to the Tree Protection Fence include:

- a) Tree protection fencing shall be monitored weekly to ensure that it is in working order. Should deficiencies be identified, the contractor must ensure to fix the fence within 48 hours of notice.
 - b) Do not place any material or equipment within the CRZ of any trees to be preserved.
 - c) There shall be no access to the area beyond the limit of construction. All construction access shall be limited to the development side of the tree protection fence.
 - d) Do not attach any signs, notices, or posters to any tree.
 - e) Do not raise or lower the existing grade within the CRZ of trees without approval.
 - f) Do not tunnel or bore when digging within the CRZ of a tree without approval.
 - g) A qualified professional shall inspect the fencing prior to commencement of construction activities to confirm the tree protection measures are adequate.
 - h) Should roots be encountered during construction, they are to be clean cut using proper arboricultural practices in order to minimize root damage and impact to tree health.
9. Grading plans should ensure that the CRZ of the trees do not incur any damage. Activities that have the potential to incur damage to the CRZ include, but are not limited to, the requirement to excavate soils from the CRZ, changing the grade within the CRZ of the trees, or stockpiling equipment or construction materials within the CRZ of the trees.
10. To minimize the risks to adjacent natural heritage features and wildlife during construction, the following best management procedures and mitigation measures should be followed prior to and during construction:
- a) Prior to the start of tree clearing, a qualified biologist should conduct site visit(s) with the contractor to review exactly which trees need to be removed and to identify those trees that can be 'topped' to provide wildlife habitat.
 - b) A qualified professional should be on-site for vegetation clearing to ensure only those trees selected for removal are being removed.
 - c) During tree and vegetation clearing, some woody structure should be retained where possible for the creation of the habitat features outlined in the attached plans. This material will be used as habitat structure. The qualified biologist onsite will provide direction on the quantity, size and location of this material.

In addition to the mitigation measures noted above, the mitigation measures required in the EIS prepared in March 2021 by Bowfin Environmental Consulting are to be followed. Specifically, those measures related to the protection of wildlife as per the City of Ottawa (2015) *Protocol for Wildlife Protection During Construction*.

7. Tree Retention and Planting Recommendations

Tree retention should be considered during Detailed Design where possible within the portion of Woodland Area #2 that falls within the Park Block, and the portion of Woodland Area #1 that

falls within the Storm Water Management Block in order to encourage wildlife habitat retention within the Mer Bleue Urban Expansion Area.

To mitigate the loss of trees through this development, consideration should be given to replanting native trees and shrubs throughout the development area and within shared public spaces. In addition, the city's 2017 Guidelines for "Tree planting in Sensitive Marine Clay Soils" should be considered in the selection of species for planting and the locations for planting. Plantings should emphasize the use of native trees and shrubs and should consciously avoid any species that are known to be invasive in the Ottawa area (e.g. Amur Maple). Planting of Ash trees should be avoided due to the high likelihood that any planted Ash trees will become infested with Emerald Ash Borer, and the planting of American Elm should be restricted due to the likelihood of the tree becoming impacted by Dutch Elm Disease.

8. Tree Conservation Summary

To accommodate the proposed plan of subdivision as part Mer Bleue Urban Expansion Area and follows the City of Ottawa's recommendations for the Community Design Plan it is expected that removals will be required to allow for the layout of residential, commercial, as well as educational facilities and its associated infrastructure. The proposed works would result in the substantial removal or disturbance of approximately 8.6 hectares of woodlots that range in maturity and are in overall fair condition. These woodlots provide both social and environmental benefit, and where possible, tree retention should be considered.

To maintain and enhance its ecological integrity, a conservation plan has been compiled presenting best management practices that should be implemented during tree removals. Tree removals are to be guided by a trained professional, and the City's forester, where a site visit is required to mark all trees to be removed to ensure that no additional trees are harmed or killed during the works. The Tree Conservation Plan is to be reviewed by the City of Ottawa to ensure that the plan adequately mitigates the anticipated impacts of tree removals.

This TCR guides the tree removal process. The success of the TCR also requires the implementation of a Tree Compensation Plan, which is not included within this report.

Prepared By:

Reviewed By:



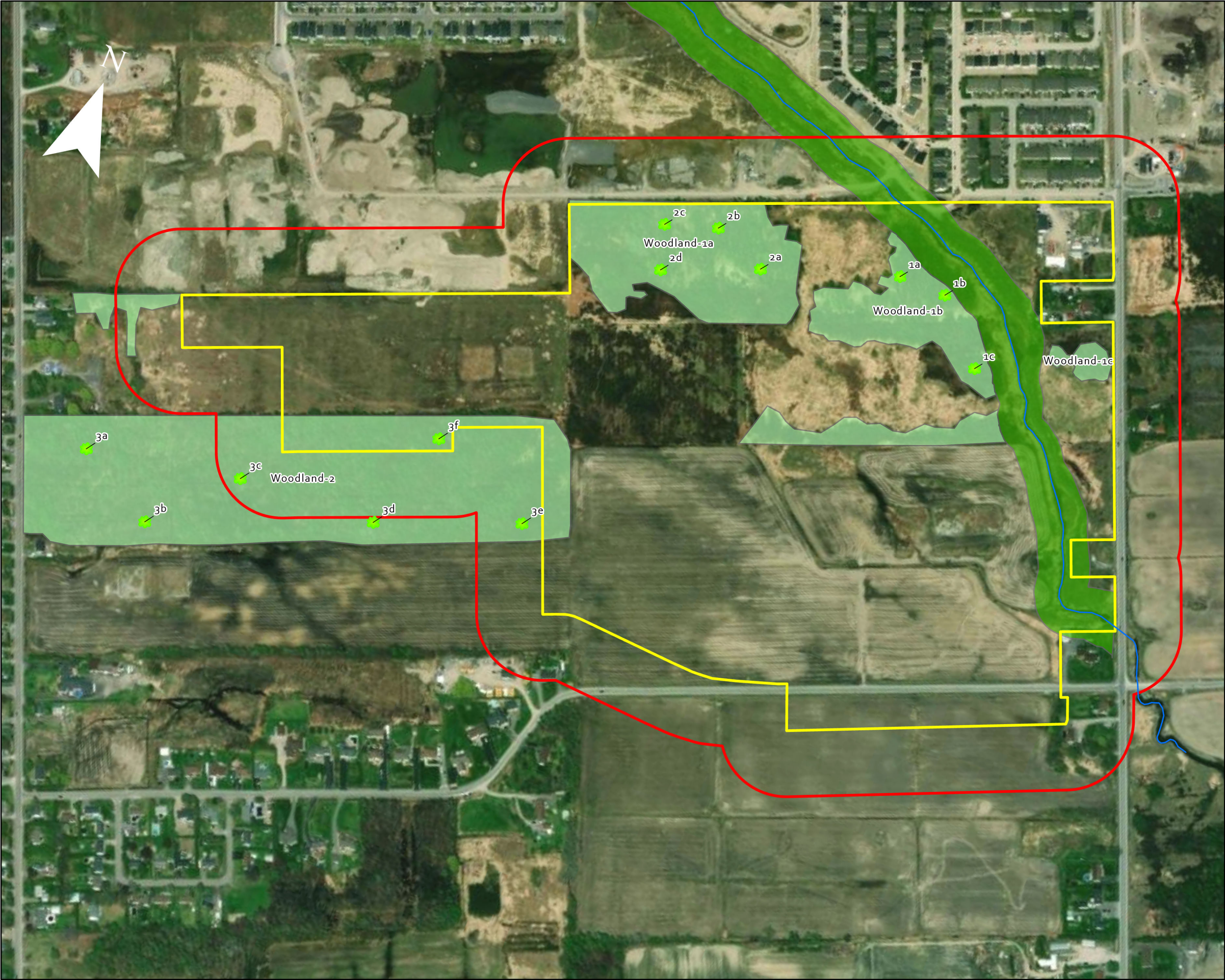
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Appendix



Legend

- Tree Survey Plot Location
- McKinnons Creek
- Subject Property
- Study Area
- Natural Environment Area
- Woodland

Client:

Claridge Homes

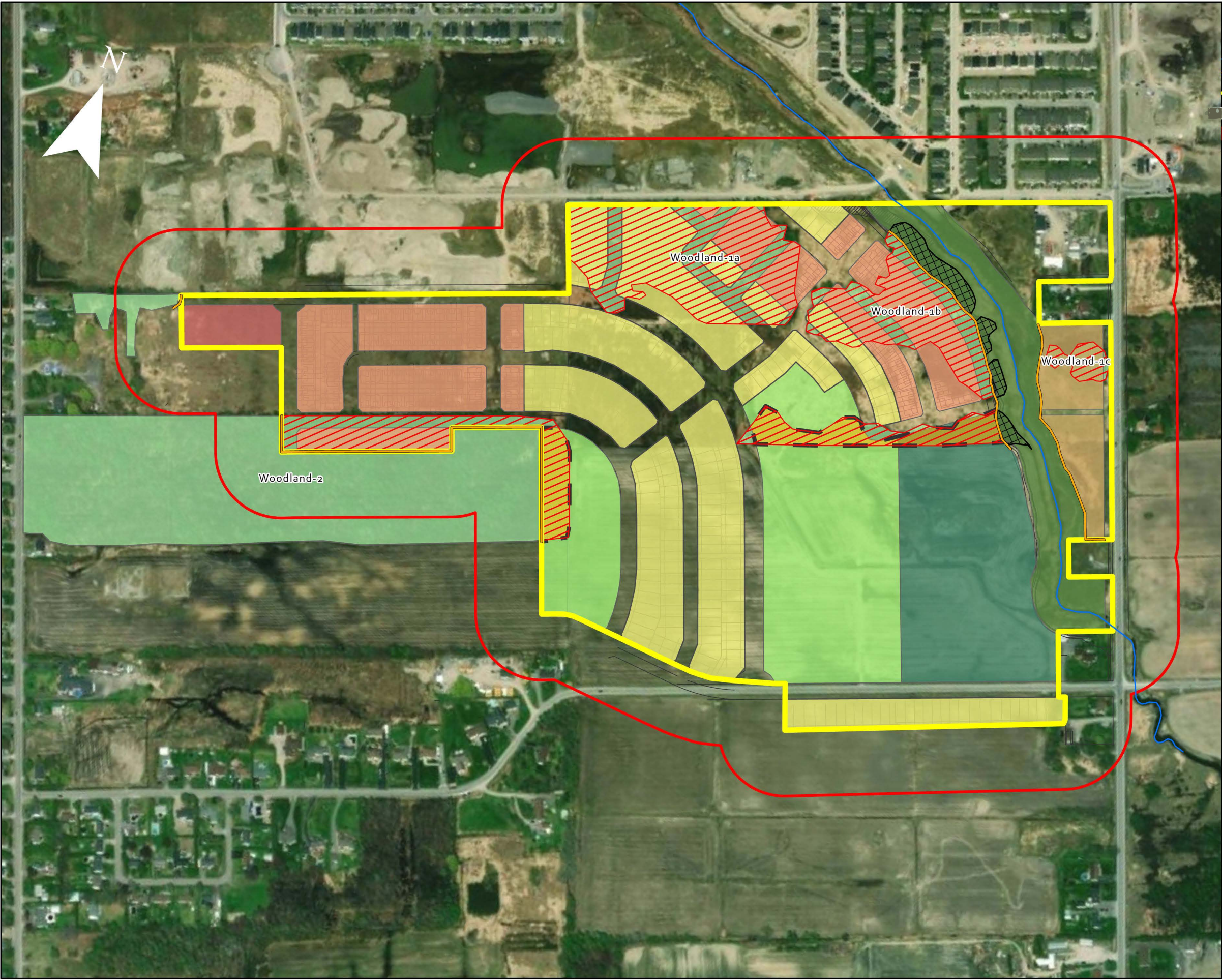
Title:

2559 Mer Bleue Road
Subdivision:
Existing Conditions

Prepared By:

ARCADIS | IBI GROUP

Project: 138786	Figure: 1
Date: 2023-05-03	



Legend

- McKinnons Creek
- Tree Protection Fence
- Subject Property
- Study Area
- Woodland Removal
- Woodland (Removed by Others)
- Removals Area to be Determined at Detailed Design
- Commercial
- Creek Corridor
- Park Block
- Singles
- Storm Water Management Block
- Townhomes
- Medium Density Block



Client:
Claridge Homes

Title:
**2559 Mer Bleue Road
Subdivision:
Site Plan and Removals**

Prepared By:
ARCADIS | IBI GROUP

Project: 138786

Date:
2023-05-03

Figure: 2