Integrated Environmental Review for Barrhaven Conservancy West, Ottawa

Preliminary Report

October 22, 2021

Submitted To:

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List of Acronyms and Abbreviations

ANSI – Areas of Natural or Scientific Interest
BCDC - Barrhaven Conservancy Village Development Corporation
cm – centimetres
CRZ – critical root zone
DBH – diameter at breast height
EIS – Environmental Impact Statement
ESA – *Endangered Species Act*
ESC – erosion sediment control
IER – Integrated Environmental Review
ha - hectare
km – kilometre
LID – low impact design
m – metre
OP – 2003 City of Ottawa Official Plan
RVCA – Rideau Valley Conservation Authority
SAR – species at risk

1.0 INTRODUCTION

This preliminary Integrated Environmental Review (IER) has been prepared by Kilgour & Associates Ltd. (KAL) on behalf of Barrhaven Conservancy Development Corporation (BCDC) in support of their proposed residential subdivision, named Barrhaven Conservancy West (the "Site") located in the Barrhaven area of Ottawa, Ontario.

The Site, along with the entire Barrhaven Conservancy Community, is owned by the Barrhaven Conservancy Development Corporation (2934 Baseline Rd Suite 302, Ottawa, Ontario, K2H 1B2; (613) 518-1864). The entire Barrhaven Conservancy Community is comprised of seven contiguous property parcels at 3285, 3288, 3300, and 3305 Borrisokane Road, and 4305, 4345, and 4375 McKenna Casey Drive, and is located on Concession 3 Lots 13-14 and Concession 4 Lots 13-15. The Site itself includes portions of this area west of the Foster Watercourse, covering an area of approximately 36.5 ha. The Site is zoned Developmental Reserve (DR).

The Site is entirely within the City of Ottawa Urban Area. It was previously (i.e. prior to 2019) largely dominated by agricultural land uses and was located within the regulatory floodplain of the Jock River. The floodplain on the Site and the broader lands of the Barrhaven Conservancy Community was modified through a Cut and Fill Program under Official Plan Amendment (OPA) 212. All areas of the Site have recently been regraded to a higher elevation, removing them from the floodplain and raising all the natural landcover within the area.

This IER has been written to meet the requirements of the 2003 City of Ottawa Official Plan (i.e. the Official Plan under which this development application is submitted; herein, the "OP"; City of Ottawa, 2021), Section 4.7.1 – "*Integrated Environmental Review to Assess Development Applications*". It is presented as a preliminary report to accompany the draft plan submission for the proposed development of the Site. This document presents information from studies completed to date as part of the planning and approvals process for the proposed development. The studies reviewed in this IER have not yet been reviewed or approved by the City of Ottawa. The intent of the report is to summarize the environmental information from the various supporting studies, to indicate findings that will influence the detailed design of the proposed site plan, and to confirm the proposal and application comply with Section 4.7 of the OP.

Per OP Section 4.7.1 – Integrated Environmental Review to Assess Development Applications, Policy 2, this IER provides:

- a brief overview of the individual technical studies and other relevant environmental background material;
- graphic illustrations, showing the spatial features and functions (e.g. natural vegetation, watercourses,) as have been identified in the individual studies;
- a summary of the potential environmental concerns raised, the scope of environmental interactions between studies, and the total package of mitigation measures, including any required development conditions and monitoring, as recommended in individual studies;

- a summary of how the proposed design complies with the environmental policies contained in Section 4 of the OP;
- a statement with respect to how the recommendations of the support studies and the design with nature approach have influenced the design of the development; and
- an indication that the statement has been reviewed and concurred with by the individual sub-consultants involved in the design team and technical studies.

This report has the following structure:

- Section 2.0 provides an overview of the environmental setting, as determined by the component studies.
- Section 3.0 provides a description of the proposed project.
- Section 4.0 discusses the potential environmental effects and required mitigation measures that are proposed by the proponent or required by a regulating agency.
- Section 5.0 provides a summary of how the project and its proposed design comply with the environmental policies in Section 4 of the OP.
- Section 6.0 provides a statement on how the recommendations of the support studies and the "Design With Nature" approach have influenced the design of the development, per the requirements of Policy 4.7 of the OP.
- Section 7.0 is the statement that this IER has been reviewed and concurred with by the individual sub-consultants involved in the design and delivery of technical supporting studies.
- Appendix A provides figures and supporting documents.
- Appendix B provides a line-by-line review of Section 4.7 of the OP to demonstrate compliance of the proposed BCDC Development Plan with policies therein.

2.0 ENVIRONMENTAL CONDITIONS

This section provides an overview of the various technical studies related to the Site and a summary of the environmental concerns identified.

2.1 Geotechnical

2.1.1 General Geotechnical Assessment

The geotechnical investigation for the Site, prepared by Paterson Group Inc. (2021), reviewed available subsurface soil and groundwater information prepared by others and provided geotechnical recommendations for the design of the proposed residential development. It is expected that the proposed residential buildings will be founded on conventional shallow footings placed on an

undisturbed, stiff to firm silty clay bearing surface or an engineered fill pad over an approved subgrade soil. Due to the presence of a silty clay deposit, permissible grade raise restrictions are recommended for this site. Tree planting setbacks are also recommended (Section 6.7 "Landscaping Considerations" [Paterson Group, 2021]; Section 4.3.2 in this report).

2.1.2 Soil Quality

A Phase One Environmental Site Assessment was prepared for the Site by Golder Associates Ltd. (2018). The report concluded that, based on the prior agricultural use of the Site, further investigation was not required to support development for urban residential purposes.

2.2 Terrestrial Environment

The Site had historically been subject to active agriculture, generally to within 5 m of the drainage features traversing the Site (the Foster Watercourse and the O'Keefe Drain). When it was an agricultural area, the Site had treed hedgerows between fields. All trees and other site vegetation, however, were removed as part of the Cut and Fill Program in 2020 in accordance with a City of Ottawa Tree Cut Permit (File Number D06-01-19-0129). Narrow bands of trees occurring directly along the banks of the Jock River and the O'Keefe Drain south of the Site were retained (Appendix A - Figure 1). No natural vegetation currently exists on the Site.

No Provincially Significant Wetlands, wetlands found in association with Significant Woodlands, Significant Valleylands, or Areas of Natural and Scientific Interest occur on or adjacent to the Site (City of Ottawa, 2021; KAL, 2021). The nearest Provincially Significant Wetland is the Stony Swamp Wetland Complex, greater than 4 km away (KAL, 2021).

The nearest designated natural features to the Site include the Cambrian Woods UNA and the Twin Elm Moraine Earth Science Area of Natural and Scientific Interest. The Cambrian Road Complex occurs to the south of the Jock River approximately 250 m west of Highway 416. The Twin Elm Moraine Earth Science Area of Natural and Scientific Interest is categorized as having moderate significance (KAL, 2021).

The South Nepean – Secondary Plan for Areas 9 & 10 (readopted by the City of Ottawa and reconfirmed in the OP; City of Ottawa, 2021), which predates amalgamation, provided a development vision for the area with floodplain lands along the Jock River to be re-naturalized, while areas of mid- to high-density residential development with some areas of commercial development were to occur outside of the naturalized area. The floodplain on the Site was modified through a Cut and Fill Program under Official Plan Amendment (OPA) 212. OPA 212 delineates areas of Conservation designation and the Residential designation separated by the new regulatory flood line for the Jock River.

The Jock River Reach One Subwatershed Study (Stantec, 2017) generally reflects the intent of the Secondary Plan, i.e., the protection of natural heritage elements including existing shoreline vegetation and fish habitat with the renaturalization of the floodplain areas. While the subwatershed study identified a number of specific natural heritage features (e.g. forest and wetland areas) required to be preserved within the broader catchment, none of those habitats occur within the proposed residential areas of the Site (Barrhaven Conservancy West), nor in the existing floodplain corridor south of it. The subwatershed

study also noted both the general importance of the Jock River riparian area as an important natural corridor, though there is a significant lack of natural forest and wetland cover throughout the catchment.

2.3 Aquatic Environment

The Jock River flows from west to east ~150-350 m south of the southern boundary of the Site for approximately 3 km to its confluence with the Rideau River (Appendix A – Figure 1). The Site is entirely within Reach 1 of the Jock River Subwatershed. The Jock River adjacent to the Site has a meandering channel with moderate macrophyte coverage and relatively steep banks. The river consists largely of 'run' habitat with substrate dominated by clay and muck/silt. Water velocities are relatively slow and depths at mid-channel are 3 to 4 m. Areas of coarse substrate (i.e. cobble, boulder, gravel) with shallower depths and higher flow velocities occur beyond the west end of the Site at Highway 416 and east of the Site at the Greenbank Road crossing (KAL, 2020). The existing riparian area along the Jock River near the Site contains a band of mature forest as a natural riparian buffer. The Jock River is classified as a warm/warm-cool water system that is home to a baitfish and recreational fishery of approximately 40 species (RVCA, 2016).

Two channelized water features occur within or adjacent to the Site and flow to the Jock River: the O'Keefe Drain and the Foster Watercourse (Appendix A – Figure 1). These features support cool water and warm water tolerant fish communities, respectively (KAL, 2021). The existing vegetated buffer along these features south of the Site is ~5 m in width. The O'Keefe Drain within the Site has a narrow span of grass on its banks but no woody vegetation. The O'Keefe Drain is proposed to be realigned to the western edge of the Site.

The required development setbacks for the two drainage features adjacent to the Site are based, per the requirement of the *Jock River Reach One Subwatershed Study* (Stantec, 2007), on the maximum of: the regulatory floodplain, the meander belt width, the geotechnical hazard limit, 15 m from the top of the defined bank, or 30 m from the normal high watermark. For the O'Keefe Drain and Foster Watercourse, the setbacks correspond with 30 m from the normal high-water mark; for the Jock River, it corresponds with the 100-year flood line, which abuts the southern edge of the Site (KAL, 2021).

2.4 Species at Risk

Five species at risk were identified as having some (albeit limited) potential to interact with the proposed development project, though the species were not observed as occupying the Site. These include Bank Swallow, Barn Swallow, Northern Map Turtle, Snapping Turtle, and Blanding's Turtle (KAL, 2021).

3.0 PROPOSED UNDERTAKING

The Site is approximately 35 ha in area and includes the area west of the Foster Watercourse, east of Highway 416, south of the Via Rail line and north of the current regulatory floodplain of the Jock River. Development of the Barrhaven Conservancy West Community will consist of two stages. Stage 1 is the residential land development of houses, roadways, and parks, including the realignment of the O'Keefe Drain. Stage 2 will be the restoration of the Jock River floodplain corridor including the establishment of forests and wetland features, with pathways and stormwater management. The current study only reviews Stage 1.

The proposed Barrhaven Conservancy West development will be a residential community consisting of detached and multiple attached dwellings (townhomes and back-to-back [B2B] townhomes), parkland, walkway blocks and pathways, all of which will be linked and centred around the creation of a large open space corridor along the Jock River (Appendix A – Figure 2). Construction related to the development will be greater than 30 m from the Jock River, its tributaries, and associated floodplain. The new community, however, will require two crossings at the Foster Watercourse to connect it to Barrhaven Conservancy East.

In its current alignment, the southern reaches of the O'Keefe Drain flow southward, through the center of the Site. While the drain is one of the few cool-water tributaries to the Jock River (RVCA, 2016), the existing channel form is a linear trapezoidal ditch with no riffle-run sequences and only narrow (~5 m width) bands of adjacent forest cover (Geomorphix, 2021). Development of the Barrhaven Conservancy West community on either side of the feature could be completed to include wider (30 m), naturally vegetated setbacks. In its current alignment, however, there is limited opportunity for improvements to the channel itself and connecting the community on the east and ultimately west sides of the drain would likely require several new bridge crossings.

As an alternative approach, BCDC is proposing to realign the O'Keefe Drain westward (Appendix A – Figure 2). The new route would have the feature aligned west at McKenna Casey Drive along the north side of the BCDC lands, southward to the Jock River along the western edge of the community, then southeast towards its original point of confluence with the Jock River. Relocation of the watercourse corridor to the western edge of the new community would provide several opportunities for significant improvements to the overall feature. The new corridor would: (1) include setbacks of ≥ 30 m from the community and the Highway 416 corridor; (2) be well distanced from the drainage ditch beside Highway 416; and (3) be extensively treed, especially on the westward side, providing improved shading and inputs of allochthonous material and coarse woody debris.

The new channel form would be designed using natural channel design principles resulting in increased sinuosity and riffle-pool sequences that increase habitat diversity that can be anticipated to support a more diverse aquatic community. The downstream-most reach of the realigned O'Keefe Drain at its confluence with the Jock River will be widened to form a ~2000 m^2 shallow bay. With a proposed depth of 1-2 m and with finger channels along the periphery (designed as spawning habitat for Northern Pike) the new drain outlet would provide both new nursery and spawning habitat directly along the edge of the Jock River.

Finally, the proposed corridor location would require no channel crossings to maintain community connections.

3.1 Water Supply Servicing

The proposed water servicing layout is anticipated to be sourced from an extension from the Conservancy East area (DSEL, 2021). There are several options to provide water servicing to support the development of the site, extending from existing or planned infrastructure. Prior coordination with City staff has indicated that an acceptable approach would be for service to be provided from the recently reconfigured South Urban Community (SUC) pressure zone. This new zone was established in order to improve reliability and allow for accommodation of future growth. As such, the water supply network will be

expanded through neighbouring properties within the Nepean Town Centre (NTC) development area to the east (i.e. Claridge's "Burnett Lands" development at 3370 Greenbank Road) with ultimate water main concepts in line with the "Kennedy-Burnett Potable Water Master Servicing Study" (DSEL, 2021).

Feeds are anticipated as being a 200mm connection at Claridge's development (expanding to a 300mm) and a 300mm extension from Chapman Mills Drive to feed into the Barrhaven Conservancy development areas. Once extended to service the Conservancy East area, the water main network will be further extended to the West area. Other external water main expansions, with the potential of providing additional system redundancies to the overall Conservancy development area from south of the Jock River, will be further discussed with City staff through the draft plan approval process. The proposed water supply design will conform to all relevant City and MECP Guidelines and Policies (DSEL, 2021).

3.2 Wastewater Management

The Site will be serviced by local sanitary sewers, an on-site trunk sanitary sewer, and the off-site South Nepean Collector (SNC) trunk sanitary sewer. There is residual capacity in the downstream SNC providing sufficient capacity for the peak sanitary flows for the subject property, including external commercial and community park flows (DSEL, 2021).

3.3 Stormwater Management

The developed Site will include multiple oil and grit separator (OGS) units at various locations along the southern boundary of the property, discharging to the Jock River via naturalized channels. By way of an MECP Certificate of Technology Assessment and manufacturer's design report, the OGS units will demonstrate compliance with Enhanced Level of Protection requirements, with specific drainage area parameters for each area. The manufacturer's reported efficiency of total suspended solid (TSS) removal of the OGS units is expected to be based on a 'fine distribution' of particle size distribution, unless otherwise approved by the City of Ottawa, Rideau Valley Conservation Authority (RVCA), and MECP. Additional treatment train elements such as deep sump catchbasins and catchbasin inserts will also be utilized to achieve the desired TSS removals (DSEL, 2021).

3.4 Floodplain Renaturalization

The new regulatory floodplain along the entire Barrhaven Conservancy Community (East and West) will allow lands between 80 and 400 m wide to be re-established as a natural Jock River open space corridor. This area will include the development of ~5 ha of wetland and ~32 ha of forest cover. Concept plans for the renaturalization of the floodplain along the Eastern Community (Kilgour 2020) are currently under review with the City and the RVCA. The floodplain areas south of the Site (i.e. the Western Community) will be developed in subsequent development phases in consultation with the City and the RVCA.

4.0 POTENTIAL EFFECTS AND MITIGATION

4.1 Geotechnical

4.1.1 Anticipated Effects

From a geotechnical perspective, the subject site is suitable for the proposed residential development. It is expected that the proposed residential buildings will be founded on conventional shallow footings placed on an undisturbed, stiff to firm silty clay-bearing surface or engineered fill over an approved subgrade surface (Paterson Group, 2021).

Due to the presence of a silty clay deposit, permissible grade raise restrictions are recommended for this site. Through most of the site, a low to medium sensitivity clay soil was encountered between the anticipated design underside of footing elevations and 3.5 m below finished grade. In the northwest corner of the site, high-sensitivity clay soils were encountered between the anticipated design underside of footing elevations and 3.5 m below finished grade (Paterson Group, 2021).

4.1.2 Required Mitigation

To reduce potential long-term liabilities, consideration should be given to accounting for a larger groundwater lowering and to provide means to reduce long term groundwater lowering (e.g. clay dykes, restriction on planting around the dwellings, etc). Building on silty clay deposits increases the likelihood of movements and therefore of cracking. The use of steel reinforcement in foundations placed at key structural locations will tend to reduce foundation cracking compared to unreinforced foundations (Paterson Group, 2021).

A 5 m toe erosion allowance is deemed appropriate for slopes associated with the Foster Watercourse and O'Keefe Drain based on the cohesive nature of the soils, the observed erosion areas and the current watercourse depths and widths. It is considered that a toe erosion allowance of 5 m and an erosion access allowance of 6 m is required from the top of the stable slope (i.e. slope with a factor of safety greater than 1.5; Paterson Group, 2021). These set requirements are thus narrower than the 30 m setbacks otherwise required from a natural heritage perspective (Section 2.3); 30 m setbacks from these watercourses would therefore encompass the hazard limits.

A permit to take water may be required depending on the proposed construction plan and timing (Paterson Group, 2021).

4.2 Erosion and Sediment

4.2.1 Anticipated Effects

Soil erosion occurs naturally and is a function of soil type, climate, and topography (David Schaeffer Engineering Limited, 2021). The extent of erosion losses is exaggerated during construction where the vegetation has been removed and the top layer of soil is disturbed.

4.2.2 Required Mitigation

An erosion and sediment control (ESC) plan must be developed by the project engineers prior to the commencing of construction. ESC measures must be in place during construction. The ESC plan must include, at a minimum, the following recommendations in the contract documents (David Schaeffer Engineering Limited, 2021):

- Limit the extent of exposed soils at any given time.
- Re-vegetate exposed areas as soon as possible.
- Minimize the area to be cleared and grubbed.
- Protect exposed slopes with plastic or synthetic mulches.
- Install silt fencing to prevent sediment from entering existing ditches.
- No refuelling or cleaning of equipment near existing watercourses.
- Provide sediment traps and basins during dewatering.
- Install filter cloth between catch basins and frames.
- Installation of mud mats at construction accesses.
- Construction of temporary sedimentation ponds to treat water prior to discharging into existing wetlands and watercourses.

4.3 Trees

4.3.1 Anticipated Effects

All trees on the Site have been removed as part of the Cut and Fill Program. Trees along the Foster Watercourse will be retained within the 30 m buffer surrounding these features. Riparian forest areas along the Jock River will remain intact except at the proposed new outlet for the realigned O'Keefe Drain. Impacts to these trees must be assessed through a Tree Conservation Report to be conducted as part of the detailed design for that project.

A tree planting plan will be created as part of the landscape plan for the development. The resulting canopy cover within the entire development area will exceed 30% at maturity and meet the City of Ottawa target for this area. The implementation of suitable mitigation measures will minimize the risk to existing trees (KAL, 2021).

4.3.2 Required Mitigation

As no trees currently remain on the Site, the following recommendations are to minimize impacts to any trees remaining adjacent to the Site during construction :

- Tree removal should be limited to that which is necessary to accommodate site construction.

- To minimize impact to remaining trees during future site development:

    - Erect a fence beyond the critical root zone (CRZ; i.e. 10 x the trunk diameter) of trees. The fence should be highly visible (e.g. orange construction fence) and paired with erosion control fencing. Pruning of branches is recommended in areas of potential conflict with construction equipment

- There must be a sign attached to the CRZ fence every 6.0 m indicating:
  a) the fencing is to protect the tree's CRZ; and
  b) that the fence must not be moved
- Do not place any material or equipment within the CRZ of the tree
- Do not attach any signs, notices or posters to any tree
- Do not raise or lower the existing grade within the CRZ without approval
- Tunnel or bore when digging within the CRZ of a tree
- Do not damage the root system, trunk or branches of any tree
- Ensure that exhaust fumes from all equipment are NOT directed towards any tree's canopy

The tree planting plan for the residential areas of the Site is to include directives that will lead to at least 6% canopy cover at maturity (i.e. considering trees planted on private lots and in common areas). Trees and other plants identified in landscape plans must be non-invasive and locally appropriate native species (KAL, 2021). Removal of trees can only be undertaken following appropriate consultation with City planning staff.

Tree planting within the residential development area shall be governed by the geotechnical guidelines appropriate for the on-site soil types. The Site includes zones of high soil sensitivity and medium/low sensitivity (Appendix A – Figure 3; Paterson Group, 2021):

For medium/low sensitivity areas:

- Large trees (mature height over 14 m) can be planted within these areas provided a tree to foundation setback equal to the full mature height of the tree can be provided (e.g. in a park or other green space); and
- Tree planting setback limits may be reduced to 4.5 m for small (mature height up to 7.5 m) and medium-size trees (mature tree height 7.5 to 14 m), provided that the following additional conditions are met:
  - The underside of footing is 2.1 m or greater below the lowest finished grade for footings within 10 m from the tree, as measured from the centre of the tree;
  - A small tree must be provided with a minimum of 25 m^3 of available soils volume while a medium tree must be provided with a minimum of 30 m^3 of available soil volume. The developer is to ensure that the soil is generally un-compacted when backfilling in street tree planting locations;
  - The tree species must be small (mature tree height up to 7.5 m) to medium size (mature tree height 7.5 m to 14 m).

- The foundation walls are to be reinforced at least nominally (minimum of two upper and two lower 15M bars in the foundation wall);

- Grading surrounding the tree must promote drainage to the tree root zone (in such a manner as not to be detrimental to the tree.

For high sensitivity areas:

- Large trees (mature height over 14 m) can be planted within these areas provided a tree to foundation setback equal to the full mature height of the tree can be provided (e.g. in a park or other green space).

- Tree planting setback limits are increased to 7.5 m for small (mature height up to 7.5 m) and medium-size trees (mature tree height 7.5 to 14 m) provided that the same additional conditions as above are met.

4.4 Fish and Fish Habitat

4.4.1 Anticipated Effects

No development work will occur within the newly defined floodplain or within 30 m of the normal high-water mark of the Jock River. The two existing drainage features (i.e. the Foster Watercourse and the realigned O'Keefe Drain) will be protected with setbacks of at least 30 m from the normal high-water mark (Appendix A – Figure 2). Existing roadside ditches will be maintained but do not require setbacks. The proposed realignment of the O'Keefe Drain is anticipated to have a net benefit in terms of the improved riparian corridor (increased naturalized setback) and channel form, along with additional habitat features (e.g. Northern Pike habitat; KAL, 2021).

There are no predicted negative impacts to surface water features on or adjacent to the Site related to site development given the application of conventional construction-phase mitigations, proposed stormwater treatment, and proposed enhancements to the corridor adjacent to the Jock River and associated tributaries (KAL, 2021).

4.4.2 Required Mitigation

The Foster Watercourse will not be altered by the project and a 30 m buffer will be respected. The realignment of the O'Keefe Drain will require authorization from both the RVCA and Fisheries and Oceans Canada ("DFO"). Required mitigation measures specific to the realignment will be established through the permitting process and must be complied with to ensure no negative impacts to aquatic habitat in the vicinity of the Site.

There is some potential for indirect impacts via sediment deposition and overland erosion from the Site. All impacts to surface water features can be managed with the implementation of appropriate mitigation measures, such as:

- Implementation of natural channel design principles in the design process.

- Design and implement erosion and sediment controls to contain/isolate the construction zone, manage site drainage/runoff and prevent erosion of exposed soils and migration of sediment.

- An Erosion and Sediment Control Plan outlining mitigation measures to limit potential for sediment and erosion to enter these watercourses. Mitigation measures will include silt fence, stone and/or straw bale check dams, monitoring frequency, and reporting requirements.

4.5 Species at Risk

4.5.1 Potential Effects

Five SAR have some (albeit limited) potential to be impacted by the development project: Bank Swallow, Barn Swallow, Snapping Turtle, Northern Map Turtle, and Blanding's Turtle.

Bank Swallow has not been observed nesting on the Site. However, landscape conditions created during the Cut and Fill Program and subsequent construction activities may result in suitable nesting habitats. There is therefore some potential (in the absence of mitigation) for the project to interact with Bank Swallow. The implementation of suitable mitigation measures will minimize the risk resulting in no impacts to Bank Swallow.

Barn Swallow nests have not been observed on or adjacent to the Site, though some individuals were observed feeding over the northwestern most corner of the Site (i.e. beyond the protected 200 m from likely nest locations off-site. The implementation of suitable mitigation measures will minimize the risk resulting in no impacts to Barn Swallow.

The three at-risk turtle species are most likely to occur in the Jock River or the drainage features on the Site. The planned realignment of the O'Keefe Drain and future wetland enhancement along the Jock River corridor will improve habitat for turtles. The implementation of suitable mitigation measures during the construction period will minimize the risk resulting in no impacts to turtles.

4.5.2 Required Mitigation

- All on-site staff should undergo environmental awareness training to be able to identify the potential SAR that may be encountered.

- If the preparation works are to occur between April 1st – October 30th, consider isolating the Site with suitable fencing prior to commencing work to prevent turtles from accessing the Site.

- Removal of vegetation suitable as nesting habitat for birds should occur outside of the breeding bird season (April 1 to August 31).

- Perform daily pre-work searches of the construction area to ensure no wildlife has entered the work area.

- In water works will occur outside of the turtle overwintering period.

Bank Swallows, Barn Swallows and turtles may occur on the Site. General wildlife mitigation measures will be sufficient to protect turtles. If construction requires fill piles on the Site, rounding or tarping fill piles (i.e. avoiding the creation of exposed vertical edges) would prevent attracting Bank Swallow to the Site. If Barn Swallows were it begin nesting on the Site, work could still proceed in accordance with a Notice of Activity that would be allow the removal of nests (post-breeding season) with implementation of a compensatory nest program.

4.6 General Wildlife

4.6.1 Potential Effects

Common wildlife species were previously observed on the Site, all of which are represented throughout the developed adjacent landscape. With the application of appropriate mitigation measures, the potential for negative impacts to these species can be minimized.

4.6.2 Required Mitigation

The following mitigation measures should be implemented during the construction of the project to generally protect wildlife (KAL, 2021):

- Areas shall not be cleared during sensitive times of the year for wildlife (breeding season; early spring to early summer) unless mitigation measures are implemented and/or the habitat has been inspected by a qualified Biologist.
- Do not harm, feed, or unnecessarily harass wildlife.
- Manage waste to prevent attracting wildlife to the site. Effective mitigation measures include litter prevention and keeping all trash secured in wildlife-proof containers and promptly removing it from the Site, especially during warm weather.
- Drive slowly and avoid hitting wildlife.
- Manage stockpiles and equipment on Site to prevent wildlife from being attracted to artificial habitat. Cover and contain any piles of soil, fill, brush, rocks and other loose materials and cap the ends of pipes where necessary to keep wildlife out. Ensure that trailers, bins, boxes, and vacant buildings are secured at the end of each workday to prevent access by wildlife.
- Check the entire work site for wildlife prior to beginning work each day.
- Inspect protective fencing and/or other installed wildlife exclusion measures daily and after each rain event to ensure their integrity and continued function.
- Monitor construction activities to ensure compliance with the project-specific protocol (where applicable) or any other requirements.
- If SAR are encountered on the worksite, immediately stop all work in the immediate vicinity and comply with the project-specific SAR protocol (where applicable; e.g. contact project Biologist to determine next steps).

- Buildings on Site should be inspected to ensure the absence of snakes, bats, and any other wildlife immediately prior to demolition. Bats may day-roost in buildings while snakes may be present in building foundations/walls in search of food, shelter, and/or overwintering habitat. Any wildlife present in buildings should be removed and safely relocated by a qualified person.

5.0 COMPLIANCE WITH POLICY 4.7 – ENVIRONMENTAL PROTECTION

A number of studies have been required by the City of Ottawa in the completion of an Integrated Environmental Review to assess a development application (Table 1). The study requirements and status for the development application demonstrate compliance with the requirements of the Official Plan.

Table 1 Demonstrated compliance with Policy 4.7 Environmental Protection

OP 2003 Section	Studies/Assessment Required	Where Required	Relevant Study and Status	Summary of Issue
4.7.1	Integrated environmental review to assess development applications	Summary of all environmental studies/assessments submitted with the development application	This document	
4.7.2	Tree retention and planting	All plans of subdivision and site plans	KAL(2021)	Tree cover on the Site will be re-established.
4.7.2	Demonstrate no impact on the natural features or on the ecological function for which the area is identified	On lands adjacent to significant portions of the habitat of endangered and threatened species	KAL(2021)	No valued woodlands, urban or rural natural areas, rare communities, wetlands, steep slopes or valleys, or ANSIs were observed on the site.
4.7.3	Demonstrate no negative impact on fish habitat; If there is impact – review by Department of Fisheries and Oceans	On or adjacent to fish habitat	KAL(2021)	Existing channels will be protected with required setbacks. Renaturalization of the O'Keefe Drain will include the creation of additional areas of fish habitat.
4.7.3	Erosion and sediment control plan	All development proposals	DSEL(2021)	ESC Plan requirements are detailed within the Master Infrastructure Review.
4.7.3	Determine appropriate setback from rivers, lakes and streams	Development proposals adjacent to rivers, lakes and streams	KAL(2021)	Setback for the Jock River is equal to the 100 yr floodplain. Setbacks for other watercourses on site is 30 m from the normal high watermark.
4.7.5	Hydrogeology/terrain analysis	Subdivisions based on private services	Study not required.	Subdivision based on public services.
4.7.5	Groundwater impact assessment	Groundwater resources areas	Study not required	N/A

OP 2003 Section	Studies/Assessment Required	Where Required	Relevant Study and Status	Summary of Issue
4.7.5	Wellhead protection study	Wellhead Protection Area designated on Schedule K	OP Schedule K (City of Ottawa, 2021)	N/A The Site doesn't fall within a Wellhead Protection Area
4.7.6	Stormwater site management plans	Site plan and subdivision and zoning amendment applications	DSEL (2021)	SWM will respect natural drainage and provide appropriate quality and quantity controls for the Jock River and tributaries.
4.7.7	Assessment of landscape feature	Geomorphic, Geological and Landform feature (designated on Schedule K); Features (e.g. ANSI) identified in other studies	Study not required.	No landscape features as identified on Schedule K of the City of Ottawa Official Plan.

6.0 INCORPORATION OF DESIGN WITH NATURE PRINCIPLES

Section 4.7 – Environmental Protection of the current 2003 City of Ottawa Official Plan identifies planning objectives to support natural features and functions in the development of lands within the City (City of Ottawa, 2021). The stated objectives are:

- Increasing forest cover across the city;
- Maintaining and improving water quality;
- Maintaining base flows and reducing peak flows in surface water;
- Protecting and improving the habitat for fish and wildlife in stream corridors;
- Protecting springs, recharge areas, headwater wetlands and other hydrological areas; and
- Managing resources by using low-maintenance, natural solutions.

The City of Ottawa desires that land developments achieve these objectives through design with nature. The purpose of this section is to demonstrate the compliance of the proposed development with the design with nature principles.

In support of the development application by BCDC, the various studies described above have been completed to identify significant natural resources that may be present on the site.

There are no designated significant environmental features occurring on or being retained on the site. The development application does support environmental initiatives identified by the City of Ottawa, as demonstrated above in Section 6. Additional measures are:

- The development area currently has limited tree coverage. While the residential development cannot produce new forest areas, canopy cover will be enhanced through tree plantings;
- Surface water drainage shall respect natural drainage patterns and meet stormwater quality and quantity controls for the receivers;
- The proposed project is being carried out in an area that does not and has not contained significant wetland habitat, or significant habitat for species considered rare, threatened or endangered species; and
- Significant investment is being proposed in the open space blocks along the Jock River and tributaries to restore wetland, meadowlands and forest to the catchment area.

6.1 Integration of Energy Efficiency and Sustainable Design

The City of Ottawa calls for a description of how efficient and sustainable design principles have been incorporated into new developments following a Sustainable Design Checklist (City of Ottawa, 2021; now known as the Green Checklist; Table 2).

Table 2 City of Ottawa Site Plan Control Approval Green Checklist

ID	Question	Response
1a	Does the project proponent intent to seek LEED certification for this project?	No
1b	If yes, which level of LEED certification is the project intended or designed to meet?	None
1c	Will this project be seeking certification under another third-party green building rating system?	No
2	Will this project include renewable energy facilities and pursue a FIT or MicroFIT contract under the Ontario Power Authority's Feed-in Tariff program?	No
3	Which features is the project designed to incorporate?	None

7.0 CLOSURE

The following persons have read this Integrated Environmental Review and agree that this document provides a reasonable summary of the highlights of their individual component studies.

Natural Environment, Aquatic Habitat, Tree Conservation Kilgour & Associates Limited: Anthony Francis, PhD	**Geotechnical Investigation** Paterson Group: David Gilbert, P.Eng
Stormwater Management David Schaeffer Engineering Limited: Kevin L. Murphy, P.Eng.	**Site Environmental Assessment** Golder Associates Limited: Keith Holmes, P.Geo

8.0 LITERATURE CITED

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David Schaeffer Engineering Ltd. (DSEL). 2021. Adequacy of Services Report for Barrhaven Conservancy Development Corporation, Conservancy West. DSEL Reference: 21-1226, 1st submission, October 2021

Golder Associates Ltd. 2018. Phase 1 ESA, 4305, 4375, 4345 McKenna Casey Drive, 3285, 3300, 3305 Borrisoakne Road, Ottawa, ON. October 2018, Golder Reference: 1771847.

Kilgour & Associates Limited. (KAL), 2020 City of Ottawa Environmental Impact Statement for the Barrhaven Conservancy Development. July 22, 2020

Kilgour & Associates Limited. (KAL), 2021 City of Ottawa Environmental Impact Statement for the Barrhaven Conservancy Development. October 21, 2021

Paterson Group. 2021. Geotechnical Investigation, Proposed Residential Development, Conservancy West Lands, Ottawa, ON, October 19, 2021, Paterson Reference PG5036-2-Revision 1.

Stantec Consulting Limited. 2007. Village of Richmond Water and Sanitary Master Servicing Study. Report date: June 2011

Appendix A
Figures

Figure 1 Current Existing Conditions

361000 m | 361500 m | 362000 m | 362500 m | 363000 m | 363500 m | 364000 m

5014000 m | 5013500 m | 5013000 m | 5012500 m | 5012000 m

STRANDHERD DR
KENNEVALE DR
MERNER AVE
VESTA ST
TARTAN DR
HALLEY ST
HARTHILL WAY
WATERLILLY WAY
CEDARVIEW RD
AMAR LANE
ANJANA DR
DANAHER DR
MCKENNA CASEY DR
O'Keefe Drain
Foster Watercourse
Fraser Clarke Watercourse
Jock River
Foster Pond
Compensation Pond
BORRISOKANE RD
CAMBRIAN RD

Legend

- BC East
- BC West
- Jock Corridor
- Edge of Regulatory Floodplain
- Hedgerow
- Butternut

ELC

- CUM
- CUT1
- Construction
- MAM2
- Retained Hedge
- SWD2
- SWT2

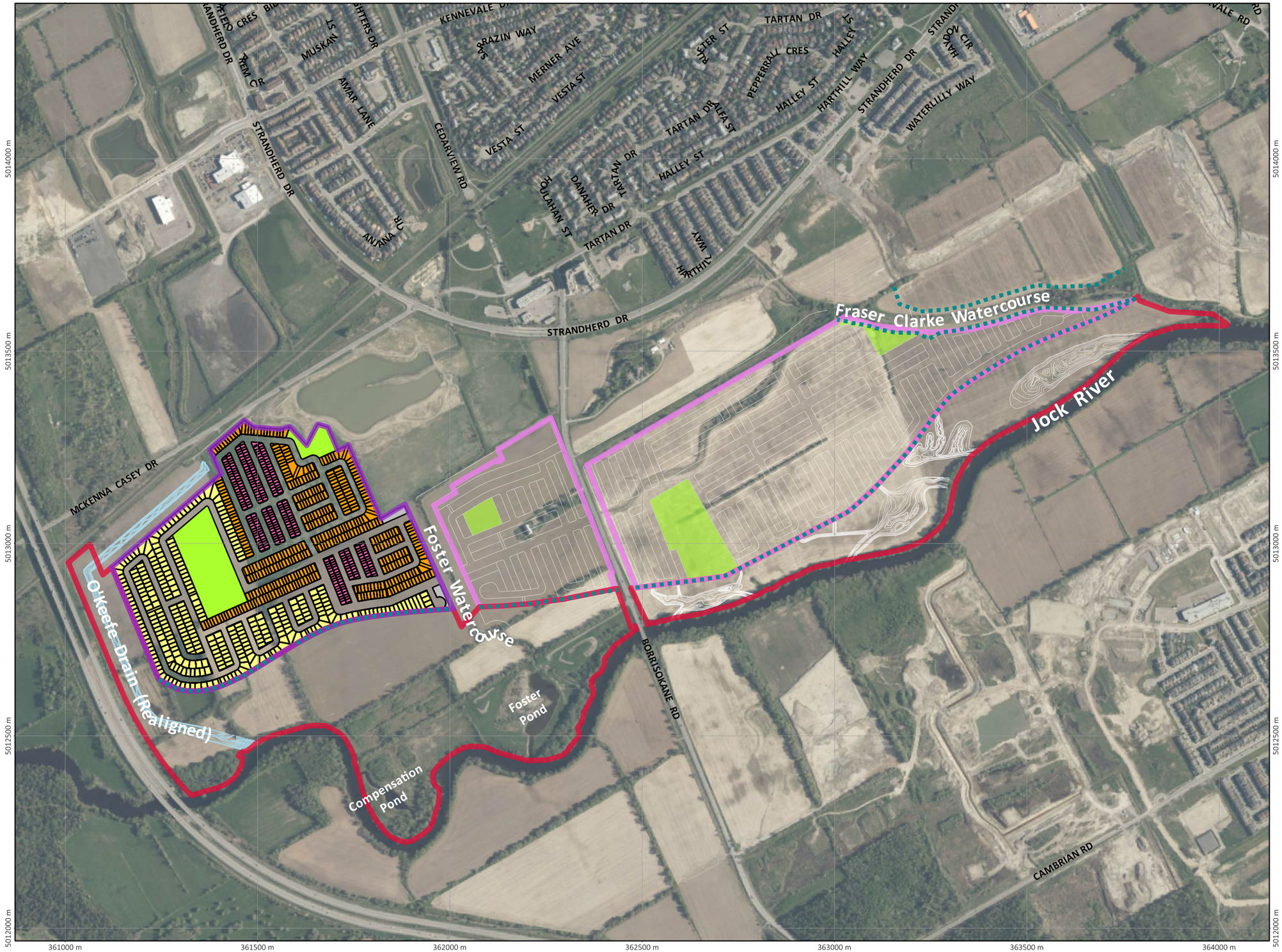
N

0 — 500 m

Project: Barrhaven Conservancy Development Corporation
Created By: AF
MTM Zone 9
(NAD 83)
Printed on: 2021-10-13

KILGOUR & Associates

Figure 2 Proposed Development Plan for Barrhaven Conservancy West



Legend

- BC East
- BC West
- Jock Corridor
- Edge of Regulatory Floodplain

Proposed Development

- B2B
- Townhouse
- Single
- Park
- Other
- Block Plan
- Other development
- O'Keefe Realignment

N

0 500 m

Project: BCDC
Created By: AF
MTM Zone 9
(NAD 83)
Printed on: 2021-10-14

KILGOUR & Associates

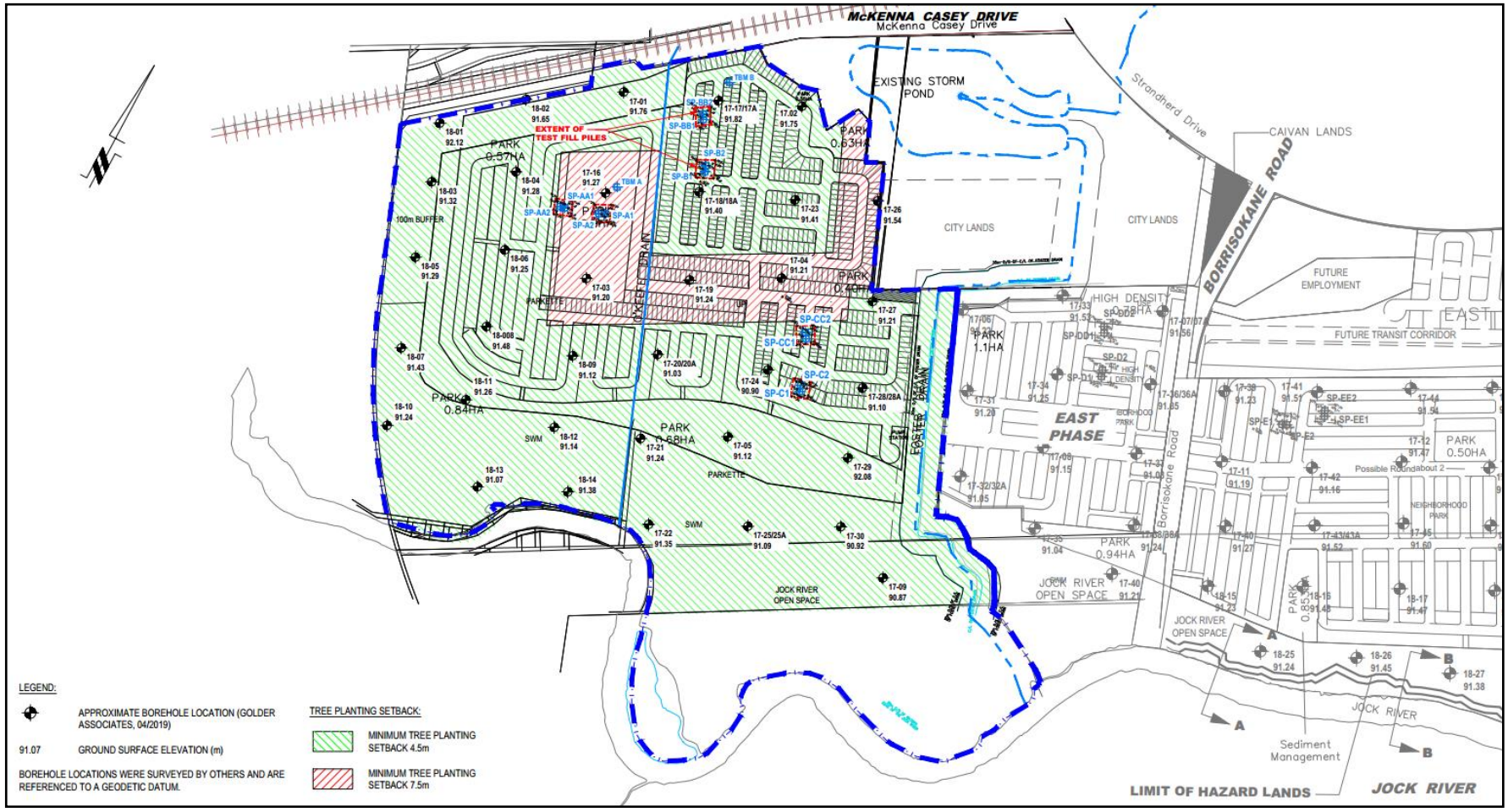


Figure 3 Soil sensitivity zones affecting tree planting restrictions

(Paterson Group, 2021)

Appendix B
Detailed Analysis of Compliance of the Barrhaven Conservancy West Development Plan with Section 4.7 of the 2003 City of Ottawa Official Plan

Detailed Analysis of Compliance with Section 4.7 of the City of Ottawa Official Plan

This appendix provides a detailed examination of the requirements of Policy 4.7 of the City of Ottawa Official Plan as it pertains to the subject development plan. Each of the policy requirements is provided verbatim, with a short discussion of the approach taken by BCDC to comply with the specific policy, where relevant. The City Policy statements are *italicized*, while the BCDC approach to compliance is in regular font.

Policy 4.7.1 – Integrated Environmental Review to Assess Development Applications

A comprehensive understanding of the relationship between the natural environment and the built environment is the foundation of site design and subdivision planning, as well as planning for the larger areas subject to community design plans. The integrated environmental review considers as a whole the significant findings from individual support studies (i.e. tree preservation and protection plans, environmental impact statements, stormwater site management plans, Phase I Environmental Site Assessments). It also ensures that development proceeds in keeping with the analysis and recommendations of any watershed and subwatershed studies and federal or provincial environmental assessments documents, where applicable. The integrated environmental review ensures that development design complies with the environmental policies contained in Section 4, and that the principles of design with nature have been applied. [Amendment 13, September 8, 2004]

4.7.1(1)Subdivisions, and major site plans and major rezoning applications, will be accompanied by an integrated environmental review statement demonstrating how all the studies in support of the application influence the design of the development with respect to effects on the environment and compliance with the appropriate policies of Section 4. The appropriate policies and studies will be identified through pre-consultation at the beginning of the design and review process. [Amendment #76, OMB File # PL100206, Ministerial Modification # 48, April 26, 2012.]

4.7.1(2) The integrated environmental review statement will provide:

a. *A brief overview of the results of individual technical studies and other relevant environmental background material;*
b. *A graphic illustration, such as an air photo, summarizing the spatial features and functions (e.g. natural vegetation, watercourses, significant slopes or landform features, recharge/infiltration areas) as identified in the individual studies;*
c. *A summary of the potential environmental concerns raised, the scope of environmental interactions between studies, and the total package of mitigation measures, including any required development conditions and monitoring, as recommended in individual studies;*
d. *A statement with respect to how the recommendations of the support studies and the design with nature approach have influenced the design of the development;*
e. *An indication that the statement has been reviewed and concurred with by the individual sub consultants involved in the design team and technical studies.*
f. *A description of how the principles of Design Objective 7 (Section 2.5.1) to maximize the energy-efficiency of development and to promote sustainable design that reduces consumption, energy use and carbon footprint of the built environment have been*

considered. A sustainable design checklist will be prepared to assist in this description. [Amendment #76, OMB File # PL100206, Ministerial Modification # 49, April 26, 2012.

BCDC Approach to Compliance

This Integrated Environmental Review satisfies this requirement. Note that the sustainable design checklist referred to in 4.7.1(2f) is now referred to as the green checklist.

4.7.2 – Protection of Vegetation Cover

Preserving vegetation on sites subject to development not only contributes to the urban and rural forest and the overall environmental health of the area, but also helps improve the visual appeal of newly developed areas. However, development proposals may necessitate removal of existing vegetative cover in some instances. Development proposals will be required to preserve vegetative cover or propose compensation measures, through the following policies. [OMB decision #1754, May 10, 2006]

***Policy 4.7.2 (1)** In order to support the Official Plan objective for 30% tree cover, applications for subdivision or site plan approval will be supported by a tree preservation and protection plan and a landscape planting plan. [Amendment #76, OMB File # PL100206, April 26, 2012.]*

BCDC Approach to Compliance 4.7.2 (1)

The Tree Conservation Report for the project (KAL, 2020) indicates full retention of existing trees on site. The Enhance Environmental Impact Statement (KAL, 2020) provides a concept plan for a renaturalization of the Jock River floodplain including ~15 ha of reforestation. The Enhance Environmental Impact Statement also directs the proponent to produce a landscape plan for the proposed residential areas with a projected canopy cover at maturity of over six percent. The combination of reforestation and urban tree planting will provide > 30% canopy cover through the Site.

***Policy 4.7.2 (2)** The Tree Conservation Report constitutes part of a complete application and may be submitted early in the design and development review process. It should be submitted before any tree removal occurs on development lands. The report will be completed in keeping with the Tree Conservation Report guidelines and in summary will: [Amendment #76, August 04, 2010]*

a. *Retain as much natural vegetation as feasible, especially along surface water features, on steep slopes, in valued woodlots and in areas linking green spaces, with a particular emphasis on high quality or rare vegetative communities; [OMB decision #1754, May 10, 2006] [Amendment #76, OMB File # PL100206, April 26, 2012.]*
b. *Identify the presence of endangered or threatened species or their habitat as identified in the Endangered Species Act, 2007 and provide recommendations for protection measures to be used. [Amendment #76, OMB File # PL100206, April 26, 2012.]*
c. *Demonstrate how components of the proposed development, such as grading plans and the location of buildings, roads, and infrastructure, support tree conservation. [Amendment #76, OMB File # PL100206, April 26, 2012.]*
d. *Determine which stands of trees or individual trees warrant retention based on a preliminary assessment;*

e. For those trees or stands of trees being retained, outline measures for their protection during construction and over the long term;

BCDC Approach to Compliance 4.7.2 (2a, b, c, d, e)

The EIS for the project (KAL, 2021) confirmed that there were no significant specimen trees, or any trees, within areas subject to clearing, and no rare vegetation, Areas of Natural and Scientific Interest, significant wetlands, natural areas, and no woodlands greater than 50 years within the development areas. No endangered or threatened species or their habitats are present in areas subject to residential development. Butternuts do not occur within areas that will be impacted by the proposed works. All existing trees near the Site occur beyond areas proposed for residential development will be retained.

Policy 4.7.2 (2f)

f. Describe the area and nature of tree loss and compensation measures proposed;

BCDC Approach to Compliance on Policy 4.7.2 (2f)

Existing site trees will be retained (KAL, 2020), thus no compensation is required.

Policy 4.7.2 (2g)

g. Where there is substantial alteration of the natural vegetation cover on the site, the impact on fauna or rare species during and after construction will be considered and mitigation measures proposed.

BCDC Approach to Compliance on Policy 4.7.2 (2g)

As no natural vegetation currently exists on the Site, there is nothing to be retained.

Policy 4.7.2 (2h)

h. Provide strategic recommendations to guide the landscape plan. [Amendment #76, June 24, 2009] [Amendment #76, August 04, 2010]

BCDC Approach to Compliance on Policy 4.7.2 (2h)

The Enhance Environmental Impact Statement (KAL, 2020) provides a concept plan for a renaturalization of the Jock River floodplain including a strategic recommendation for ~15 ha of reforestation. The Enhanced Environmental Impact Statement also directs the proponent to produce a landscape plan for the proposed residential areas with a projected canopy cover at maturity of over six percent. The combined strategic recommendations for reforestation and urban tree planting are intended to provide > 30% canopy cover through the Site.

Policy 4.7.2 (3) *The landscape plan will:*

f. Indicate tree planting or vegetation cover required to provide protection for surface water features or steep slopes;
g. Investigate the appropriateness of the use of native species in tree planting strategies;
h. Provide a reference document for future residents on the importance and care of trees on their property.

BCDC Approach to Policy 4.7.2 (3)

The site Landscape Plan is still being developed. It will be developed accordingly.

Policy 4.7.3 – Erosion Prevention and Protection of Surface Water

Protecting stream corridors and the surface water environment serves the dual purpose of preserving and enhancing the environmental quality of stream and river corridors and their aquatic habitat, as well as reducing risks from natural hazards associated with watercourses. Ensuring that development is set back an appropriate distance from watercourses helps serve these purposes by ensuring a healthy, natural riparian zone and providing a margin of safety from hazards associated with flooding and unstable slopes.

Council has adopted Slope Stability Guidelines for Development Applications in the City of Ottawa, 2004, to guide slope stability assessments and requirements for setbacks. Slope stability assessments identify the geotechnical limit of the hazard lands, which includes the stable slope allowance plus, where appropriate, an allowance for future erosion and in some cases, an additional allowance to permit access in the event of future slope failure. Sites where slope stability issues are a concern were identified in the report, Slope Stability Study of the Regional Municipality of Ottawa-Carleton, 1976 (Ontario Misc. Paper MP 68) and are shown on Schedule K. Schedule K provides for early identification of slope stability concerns but is not sufficiently detailed to assess constraints on specific sites. [OMB decision #1754, May 10, 2006] [Amendment #76, OMB File # PL100206, July 21, 2011.]

BCDC Approach to Policy 4.7.3

All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain to protect these features accordingly (KAL, 2020). Renaturalizatation will occur within the setback areas to further this goal.

Policy 4.7.3 (1)

1. *Except as otherwise provided for in this section, Council will establish minimum setbacks from rivers, lakes, streams and other surface water features in watershed, subwatershed and environmental management plans and in these plans identify any additional studies needed to refine the setback through the development review process as well as any site-specific measures needed to protect the setback. [OMB decision #1754, May 10, 2006] [Amendment #76, OMB File # PL100206, July 21, 2011.]*

BCDC Approach to Policy 4.7.3 (1)

The Jock River Reach One Subwatershed Study (Stantec, 2007) is a council-approved subwatershed study proving required setbacks for this area. All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain (KAL, 2021).

Policy 4.7.3 (2)

2. *Where a Council-approved watershed, subwatershed, or environmental management plan does not exist, the minimum setback will be the greater of the following:*

    a. *Development limits as established by the regulatory flood line (see Section 4.8.1);*

    c. *Development limits as established by the geotechnical limit of the hazard lands; 30 metres from the normal high water mark of rivers, lakes and streams, as determined in consultation with the Conservation Authority; or*
    d. *15 metres from the existing top of bank, where there is a defined bank. [OMB decision #1754, May 10, 2006]*

BCDC Approach to Policy 4.7.3 (2)

The Jock River Reach One Subwatershed Study (Stantec, 2007) is a council-approved subwatershed study proving required setbacks for this area. Setback requirements indicated by the subwatershed study match the default guidelines with the OP. All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain (KAL, 2021).

Policy 4.7.3 (3)

3. *The setback provided for in policies 1 and 2 will be implemented through the zoning by-law and any change in the setback will require a zoning by-law amendment or variance that is consistent with the policies in this section of the Plan. [Amendment #76, OMB File # PL100206, April 26, 2012.]*

BCDC Approach to Policy 4.7.3 (3)

All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain (KAL, 2021). A zoning by-law amendment or variance is not required.

Policy 4.7.3 (4)

4. *No site alteration or development is permitted within the minimum setback, except as otherwise provided for in this section. Site alteration is defined as activities, such as fill, grading and excavation that would change the landform and natural vegetative characteristics of a site. Development is defined as the creation of a new lot or the construction of buildings and structures requiring approval under the Planning Act or the issuance of a Building Permit under the Building Code Act. Exceptions to this policy are:*

a. Activities that create or maintain infrastructure within the requirements of the environmental assessment process or works subject to the Drainage Act;
b. Alterations necessary for recreation, environmental restoration, or slope stability works that are approved by the City and the Conservation Authority. [OMB decision #1754, May 10, 2006]

BCDC Approach to 4.7.3 (4)

All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain to protect these features accordingly (KAL, 2021). Renaturalizatation of floodplain lands within the setback constitutes environmental restoration work. The proposed renaturalization will only proceed with the approval of the City and the RVCA.

Policy 4.7.3 (5)

5. *The geotechnical limit of hazard will be determined in keeping with the Slope Stability Guidelines for Development Applications in the City of Ottawa 2004. Sites where slope stability issues are a concern were identified in the report, Slope Stability Study of the Regional Municipality of Ottawa-Carleton, 1976 (Ontario Misc. Paper MP 68) and are shown on Schedule K. Schedule K provides for early identification of slope stability concerns but is not sufficiently detailed to assess constraints on specific sites. [Amendment #76, OMB File # PL100206, July 21, 2011.]*

BCDC Approach to 4.7.3 (5)

All residential development on site will occur beyond the geotechnical limit of hazard.

Policy 4.7.3 (6)

6. Exceptions to the setbacks in policy 2 will be considered by the City in consultation with the Conservation Authority in situations where development is proposed:

a. On existing lots where, due to the historical development in the area, it is unreasonable to demand or impossible to achieve minimum setback distances because of the size or location of the lot, approved or existing use on the lot, or other physical constraint;

b. Adjacent to a minor tributary that serves primarily a surface water function and that may have only an intermittent flow. This provision includes situations where a watershed, subwatershed or environmental management plan exists but does not provide guidance on a minor tributary;
c. Adjacent to an existing top of bank where the regulatory flood line and the geotechnical limit of the hazard lands are within 15 metres from the existing top of bank [OMB decision #1754, May 10, 2006]

BCDC Approach to Policy 4.7.3 (6)

All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain (KAL, 2021).

Policy 4.7.3 (7)

7. *Where an exception to the setback is requested, an alternate setback will be considered by the City in consultation with the Conservation Authority on the basis of a study that addresses the following criteria:*

    a. *Slope of the bank and geotechnical considerations related to unstable slopes, as addressed in Council's Slope Stability Guidelines for Development Applications in the City of Ottawa, 2004;*

    b. *Natural vegetation and the ecological function of the setback area;*

    c. *The nature of the abutting water body, including the presence of a flood plain;*
    d. *The need to demonstrate that there will be no negative impacts on adjacent fish habitat. [OMB decision #1754, May 10, 2006]*

BCDC Approach to Policy 4.7.3 (7)

All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain (KAL, 2021).

Policy 4.7.3 (8)

8. *Notwithstanding policy 3, lot creation by subdivision may be considered which includes land within the required setback in Villages adjacent to a minor tributary that serves primarily a surface water function and that may have only an intermittent flow, subject to the following criteria:*

    a. *Where slope stability is an issue, the lot area outside the geotechnical limit of hazard is sufficient to meet the required minimum lot size and Council's Slope Stability Guidelines for Development Applications in the City of Ottawa, 2004 are satisfied; and*
    b. *The lot area outside the setback is sufficient to accommodate all structures and water and wastewater services. [OMB decision #1754, May 10, 2006]*

BCDC Approach to Policy 4.7.3 (8)

This Site is not within a Village.

Policy 4.7.3 (9)

9. *Notwithstanding policy 3, lot creation by subdivision may be considered which includes land within the required setback in the rural area outside Villages, subject to the following criteria:*

    a. *Where slope stability is an issue, the lot area outside the geotechnical limit of hazard is sufficient to meet the required minimum lot size and Council's Slope Stability Guidelines for Development Applications in the City of Ottawa, 2004 are satisfied; and*
    b. *The lot area outside the setback is sufficient to accommodate all structures and water and wastewater services. [OMB decision #1754, May 10, 2006]*

BCDC Approach to Policy 4.7.3 (9)

This Site is not in a rural area.

Policy 4.7.3 (10)

10. *Notwithstanding policy 3, a lot created by severance in the rural area may include land within the required setback provided the criteria in policy 7 are satisfied. The new lot created by severance in the rural area should be located outside the setback to the extent possible. [OMB decision #1754, May 10, 2006]*

BCDC Approach to Policy 4.7.3 (10)

This Site is not in a rural area.

Policy 4.7.3 (11)

11. *Under the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation, pursuant to the Conservation Authorities Act of Ontario, the approval of the Conservation Authority is required for works such as site grading, the placement of fill, the alteration of existing channels of watercourses, and certain construction projects. The Conservation Authority should be consulted for any project near a lake, river, stream or wetland regarding the need for a permit. The Rideau Canal is a federal waterway and as such all shoreline and in-water works along the canal system will also require approval of Parks Canada. [Amendment #76, OMB File # PL100206, July 21, 2011.]*

BCDC Approach to Policy 4.7.3 (11)

There are no natural wetland areas on or adjacent to the development area All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain to protect these aquatic features accordingly (KAL, 2021). Renaturalizatation of floodplain lands within the setback will require site alteration of shoreline/riparian areas, though it constitutes environmental restoration work. The proposed renaturalization will only proceed with the approval of the City and the RVCA.

Policy 4.7.3 (12)

12. *Where development is proposed on private services, no septic tank or distribution piping may be located closer than 30 m from the normal high water mark of a river, lake or stream or other watercourse unless an alternative setback has been permitted by the City in consultation with the Conservation Authority, for example, as may be required for existing lots in the rural area. [OMB decision #1754, May 10, 2006]*

BCDC Approach to Policy 4.7.3 (12)

No part of the development will include servicing on private services.

Policy 4.7.3 (13)

13. *An erosion and sediment control plan will be provided that shows how erosion on the site will be minimized during construction through application of established standards and procedures. Measures to maintain vegetative cover along the slope during and after construction will be addressed.*

BCDC Approach to Policy 4.7.3 (10)

The Design Brief for the project (DSEL, 2021) provides a site Erosion and Sediment Control (ESC) Plan.

Policy 4.7.3 (14)

14. *Natural watercourses should be maintained in their natural condition. Where an alteration is assessed as being environmentally appropriate and consistent with an approved subwatershed plan, environmental management plan or a storm water site management plan or, in the case of public projects, through a Class Environmental Assessment, watercourse alterations must follow natural channel design. Watercourse alterations must also meet any other applicable provincial and federal regulations, as amended from time to time, such as the Lakes and Rivers Improvement Act, Public Lands Act and Fisheries Act and may require written approval from the appropriate Conservation Authority under the Fill, Construction and Alteration to Waterways regulations.*

BCDC Approach to Policy 4.7.3 (14)

All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain to protect these aquatic features accordingly (KAL, 2021). Renaturalizatation of floodplain lands within the setback will require site alteration of shoreline/riparian areas, though it constitutes environmental restoration work. The proposed renaturalization will only proceed with the approval of the City and the RVCA.

Policy 4.7.3 (15)

15. *Development and site alteration will not be permitted in fish habitat except in accordance with federal and provincial requirements. Development applications near or adjacent to water bodies that provide fish habitat will be required to demonstrate that the proposed development will not have a negative impact on fish habitat. Fish habitat is defined as those areas on which fish depend directly or indirectly to carry out their life processes. Fish habitat includes spawning grounds, nursery and rearing areas, areas that supply food, and features that allow migration. In the event that a negative impact is unavoidable, the proposal must be reviewed and authorized by the federal Department of Fisheries and Oceans, or its designate, which may or may not, under the federal Fisheries Act, authorize the work depending on development circumstances and type of habitat. [Ministerial Modification 45, November 10, 2003] [Amendment #76, OMB File # PL100206, July 21, 2011.]*

BCDC Approach to Policy 4.7.3 (15)

All residential development will occur outside of all required setbacks to the Jock River, the Foster Watercourse and the (realigned) O'Keefe Drain to protect these aquatic features accordingly (KAL, 2021). Renaturalizatation of floodplain lands within the setback will require site alteration of shoreline/riparian areas, though it constitutes environmental restoration work. The proposed renaturalization and realignment will only proceed with the approval of the City and the RVCA. Works associated with the proposed renaturalization that, following detailed design, are determined will occur below the normal high-water mark of fish-bearing waters will be submitted for review and approval to DFO.

Policy 4.7.3 (16)

16. *In addition to the provisions for setbacks described in this section, development proposals adjacent to municipal drains and other works under the Drainage Act must also maintain clear access to the legal working space adjacent to the drain. This working space is defined in the Engineer's Report adopted through a By-law approved by Council under the Drainage Act for the construction and future maintenance of drainage works. Many drains also provide fish habitat. [Amendment #76, OMB File # PL100206, July 21, 2011.]*

BCDC Approach to Policy 4.7.3 (16)

The O'Keefe Drain currently crosses the Site. The proponent will seek approval from the RVCA to realign that feature to the west side of the Site. The Design Brief for the project (DSEL, 2021) provides plans for stormwater management including appropriate access to drainage works.

Policy 4.7.3 (17)

17. *In support of the policies of this Plan, the City will:*

    a. *Support initiatives of the Ministry of Agriculture and Food, other provincial ministries, farming organizations, Conservation Authorities and others, which encourage sound agricultural land management and soil conservation practices and other measures that minimize or eliminate the amount of pesticides, nutrients, silt and other contaminants that can enter the ground and surface water systems of Ottawa; [Ministerial Modification 46, November 10, 2003]*

    b. *Investigate means to control land alteration in significant wetlands and natural areas, and the removal of top soil and peat extraction, by applying the provisions of the Conservation Authority Act, or the Municipal Act as amended from time to time, in partnership with the Conservation Authorities;*

    c. *When reviewing its own practices, serve as a model and ensure that the development of its properties and the provision of its infrastructure take advantage of opportunities to design with nature;*

    d. *Initiate an annual recognition program to recognize innovative projects that design with nature.*

BCDC Approach to Policy 4.7.3 (17)

No response required.

4.7.4 – Protection of Endangered Species

Endangered and threatened species are those species either listed under the regulations of the Ontario Endangered Species Act *or are considered by the provincial government to be at risk of becoming endangered through all or a portion of its Ontario range. The habitat of these species is identified and protected by the Ministry of Natural Resources* [and Forestry]*. Wildlife habitat generally is protected through environmental designations in this Plan.*

Butternut (Juglans cinerea) is an endangered tree whose main threat is a fungal disease that kills the infected trees. Butternut trees have special policies under the Ontario Regulation 242/08 of the Endangered Species Act 2007, administered by the Ministry of Natural Resources. The identification of butternut (and other trees) on a site will be required under the policies in Section 4.7.2 of this Plan. Where butternut is identified, the health of the tree(s) will be assessed by a certified Butternut Health Assessor and a permit from the Ministry of Natural Resources is required to remove a healthy tree.

Policy 4.7.4 (1)

1. *Endangered and threatened species are those listed under Ontario Regulation 230/08 of the Endangered Species Act, 2007.*
2. *Significant habitat of endangered and threatened species is defined as the habitat, as approved by the Ontario Ministry of Natural Resources, that is necessary for the maintenance, survival, and/or recovery of naturally occurring or reintroduced populations of endangered species or threatened species, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part of its life cycle. Significant habitat of endangered and threatened species will be identified by:*
    a. *Regulations made under the Endangered Species Act, 2007;*
    b. *An Environmental Impact Statement in areas where there is potential for significant habitat to exist; or,*
    c. *Other studies as approved by the City and Ministry of Natural Resources (e.g. subwatershed studies or environmental management plans).*
3. *The Ministry of Natural Resources has mapped areas with potential for significant habitat, based on known occurrences of endangered and threatened species. These maps will be consulted during pre-consultation to determine the need for an EIS and its scope as described in Section 4.7.8. The requirements of the Environmental Impact Statement will vary depending on such matters as the scale of proposed development, the nature of the site, the availability of comprehensive studies for the area and other matters identified in Section 4.7.8.*
4. *Environmental Impact Statements that address the potential for significant habitat of endangered or threatened species will be reviewed by the Ministry of Natural Resources. The Ministry of Natural Resources will approve the extent of significant habitat for endangered and threatened species.*
5. *No development or site alteration, as defined in Section 4.7.8, will be permitted in significant habitat of endangered and threatened species. [Ministerial modification #50, December 24, 2009]*
6. *Development and site alteration will not be permitted within 120m of the boundary of identified significant habitat of endangered and threatened species unless the ecological function of the adjacent lands has been evaluated and the Environmental Impact Statement demonstrates that*

there will be no negative impact (as defined in Section 4.7.8) on the significant habitat of endangered and threatened species or on its ecological functions. [Ministerial modification #50, December 24, 2009]

BCDC Approach to Policy 4.7.4

The EIS for the project by KAL (2021) provides mitigation measures to limit or prevent negative impacts to the species at risk potentially occurring in the vicinity.

4.7.5 – Protection of Groundwater Resources

In order to safeguard the integrity of groundwater resources, the City will ensure that new development can be accommodated within the system without affecting supplies available to other users. Some uses however, are not appropriate in areas where residents rely on groundwater and are more appropriately located in a fully serviced industrial park probably within the urban area. [Amendment #76, August 04, 2010]

Policy 4.7.5 (1)

1. *When reviewing development applications, the City will consider the potential for impact on groundwater resources.*
    a. *A groundwater impact assessment may be required where the City has identified that the lands play a role in the management of the groundwater resource or the need is indicated in other available information such as subwatershed plans or local knowledge, and*
    b. *A groundwater impact assessment may be required where the proposed use has the potential to negatively impact the groundwater resource. [Amendment #76, August 04, 2010*

In either case, the proposed use will not be permitted without a favourable impact assessment.

BCDC Approach to Policy 4.7.5 (1)

The Site does not occur within a wellhead protection area. A groundwater impact assessment was not required.

Policy 4.7.5 (2)

2. *When evaluating a non-residential land-use in a rural land-use designation reliant on private, individual services, Council will consider whether or not it would be better located in a fully serviced part of the City because of its potential impact on groundwater quality and quantity. [Amendment #76, August 04, 2010]*

BCDC Approach to Policy 4.7.5 (2)

No part of the development will include servicing on private services.

Policy 4.7.5 (3)

3. *Regardless of the provisions in policies 1 and 2 above, an application to amend the zoning by-law to permit a high risk industrial use will not be permitted in the rural area. In this regard, high risk means an industrial use;*
    a. *Which requires the use of water in an processing operation and;*
    b. *Which has as a by-product water-borne wastes requiring municipal waste treatment.*

[Amendment #76, August 04, 2010]

BCDC Approach to Policy 4.7.5 (3)

The proposed development is not high-risk industrial land use.

Policy 4.7.5 (4)

4. *Where wellhead protection areas have been identified, the policies in Section 4.8.2 will apply.*

BCDC Approach to Policy 4.7.5 (4)

The proposed development is not located within a wellhead protection area.

4.7.6 – Stormwater Management

The City's commitment to plan on a watershed and subwatershed basis is outlined in Section 2.4.3. The City will implement the recommendations of the watershed, subwatershed and environmental management plans through the implementation mechanisms of this Plan or other appropriate mechanisms. In reviewing applications, the City will require that stormwater site management plans be submitted in accordance with the guidance set out in the environmental management, subwatershed and watershed plans.

Policies

Policy 4.7.6 (1)

1. *A stormwater site management plan will be required to support subdivision and site-plan applications.*

BCDC Approach to Policy 4.7.6 (1)

DSEL is preparing the final stormwater management plan for the project. It will be included within the submission package.

Policy 4.7.6 (2)

2. *Stormwater site management plans will be prepared in accordance with the guidance set out in a subwatershed or watershed plans (see Section 2.4.3). Generally, stormwater site management plans will include details on subdivision management, specific best management practices for stormwater, erosion and sediment control, and details for enhancement and rehabilitation of*

natural features. Where no subwatershed plan or environmental management plan exists, the City will review stormwater site management plans to ensure that:

a. *Watercourse flows are not altered in a way that would increase the risk of downstream flooding or channel erosion;*

b. *Base flow in the watercourse is not reduced;*

c. *The quality of water that supports aquatic life and fish habitat is not adversely affected;*

d. *The quality of water that supports water-based recreational uses is not affected;*

e. *Natural habitat linkages that are located in or traverse the site are maintained or enhanced;*

f. *Groundwater is not negatively impacted;*

g. *Any other impacts on the existing infrastructure or natural environment are addressed in a manner consistent with established standards and procedures;*

h. *Objectives related to the optimization of wet weather infrastructure management are realized.*

BCDC Approach to Policy 4.7.6 (2)

DSEL is preparing the final stormwater management plan for the project. It will be included within the submission package.

4.7.7 – Landform Features

Landform features are geomorphic, geological and other landform features that are distinctive to Ottawa. Many of these features were described in a 1975 study Geological Sites and Features in the Regional Municipality of Ottawa-Carleton, undertaken in partnership with the Ministry of Natural Resources. The MNR has identified some of these features, such as Hog's Back Falls as provincially significant Earth Science Areas of Natural and Scientific Interest that are part of the City's natural heritage system. Geomorphic, Geological and Landform Features are shown on Schedule K. [Amendment #76, August 04, 2010]

Policy 4.7.7 (1)

1. *When reviewing development proposals or when designing or reviewing public works, the City will ensure that the educational, scientific and landscape value of the Geomorphic, Geological and Landform Features, as shown on Scheduled K, will not be impaired. Only permitted development that is sympathetic to the unique characteristic of the resource, its setting and its interpretation value will be considered. Earth Science ANSIs are subject to the policies of Section 2.4.2 [Amendment #76, August 04, 2010]*

BCDC Approach to Policy 4.7.7 (1)

On the basis of the various studies commissioned by BCDC, there are no significant geomorphic, geological and other landform features within the proposed residential development area.

Policy 4.7.7 (2)

2. *Development and site alteration within provincially significant Earth Science Areas of Natural and Scientific Interest or on land within 50m of these features will not be permitted unless it is demonstrated through an Environmental Impact Statement that there will be no negative impact on the feature or its ecological functions. These features are shown on Schedule K. Definitions of these terms and the policies regarding Environmental Impact Statements are provided in Section 4.7.8. [Amendment #76, OMB File # PL100206, Ministerial Modification # 51, July 21, 2011.]*

BCDC Approach to Policy 4.7.7 (2)

On the basis of the various studies commissioned by BCDC, there are no provincially significant Earth Science Areas of Natural and Scientific Interest in or within 50 m of the proposed residential development area.

Policy 4.7.7 (3)

3. *The City will encourage the protection of other significant landform features, such as rock outcrops, escarpments, knolls, valley or other features identified in such studies as provincial ANSI studies, or municipal subwatershed studies and community design plans.*

BCDC Approach to Policy 4.7.7 (3)

On the basis of the various studies commissioned by BCDC, there are no other significant landform features, such as rock outcrops, escarpments, knolls, or valleys within the proposed residential development area.

Policy 4.7.7 (4)

4. *When considering subdivision or site plan applications, the City will ensure the protection of landform features by encouraging owners or developers to implement such measures as:*

    a. *Selective grading to minimize topographic change;*

    b. *Orienting buildings and roads parallel to topographic contours;*

    c. *Setting back development from the bottom and top of steep slopes;*

    d. *Flexible setbacks;*

    e. *Providing flexibility for road layouts and right-of-way requirements.*

BCDC Approach to Policy 4.7.7 (4)

On the basis of the various studies commissioned by BCDC, there are no provincially significant Earth Science Areas of Natural and Scientific Interest or significant landform features (e.g., rock outcrops, escarpments, knolls, or valleys) within the proposed residential development area.

4.7.8 – Environmental Impact Statement

Development within or adjacent to woodlands, wetlands, and other natural features has potential to impact the feature and its functions by removing vegetation, increasing the amount of paved or other impermeable surfaces, changing the grading of the site, or making other changes. The Environmental Impact Statement serves to identify the natural features of a site early in the development process and consider ways to avoid or mitigate these impacts, and enhance natural functions. [Amendment #76, OMB File # PL100206, April 26, 2012.]

Almost all of the city's natural heritage system, defined in Section 2, is contained within areas designated as Rural Natural Features, Urban Natural Features, Significant Wetland, and Natural Environment Areas. The requirements for an Environmental Impact Statement for development proposed within Rural Natural Features or on lands adjacent to these designated areas are described in Section 3. An Environmental Impact Statement is also required for development proposed within or adjacent to significant woodlands, significant valleylands, significant wildlife habitat and other components of the natural heritage system, regardless of their designation in the Plan. [Amendment #76, OMB File # PL100206, Ministerial Modification #52, April 26, 2012.]

Policy 4.7.8 (1 & 2)

1. *An Environmental Impact Statement is required for development and site alteration proposed within and adjacent to natural heritage features designated as Rural Natural Features and adjacent to land designated as Urban Natural Feature, Significant Wetland, and Natural Environment Area. It is also required for development and site alteration within or adjacent to other elements of the natural heritage system, as required in Section 2, that are not designated on Schedule A or B. [Amendment #76, OMB File # PL100206, April 26, 2012]*
2. *No development or site alteration will be permitted within the natural features described in policy 1 above, where permitted by the policies of this Plan, or on adjacent lands unless an Environmental Impact Statement indicates it will have no negative impact, defined as degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities. [Amendment #76, OMB File # PL100206, April 26, 2012]*

BCDC Approach to Policy 4.7.8 (1 & 2)

No Rural Natural Features or Urban Natural Features as designated or identified in the City's Urban Natural Areas Environmental Evaluation framework are present on or adjacent to the proposed residential development area.

Policy 4.7.8 (3, 4, 5, 6)

1. *Development is defined as creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act, but does not include activities*

that create or maintain infrastructure authorized under an environmental assessment process; or works subject to the Drainage Act. [Amendment #76, OMB File # PL100206, April 26, 2012]

2. *Site alteration is defined as activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site. [Amendment #76, OMB File # PL100206, April 26, 2012]*
3. *Ecological function are defined as: the natural processes, products or services that living and nonliving environments provide or perform within or between species, ecosystems and landscapes, including biological physical and socio-economic interactions. [Amendment #76, OMB File # PL100206, Ministerial Modification #53, April 26, 2012]*
4. *The requirements for an EIS adjacent to natural heritage features designated on Schedule A and B in this Plan are described in Section 3. The requirements for an EIS adjacent to the significant habitat of endangered and threatened species and Earth Science Areas of Natural and Scientific Interest are described in Section 4. [Amendment #76, OMB File # PL100206, April 26, 2012]*

BCDC Approach to Policy 4.7.8 (7)

No response required.

Policy 4.7.8 (3, 4, 5, 6)

5. *Where significant woodlands, significant wildlife habitat, significant valleylands or other natural heritage features are not designated, development and site alteration will not be permitted for:*
    a. *any development permitted under the policies of this Plan within the feature;*
    b. *any development permitted under the policies of this Plan within 120 metres of the feature in the rural area;*
    c. *any development permitted under the policies of this Plan within 30 metres of the feature in the urban area;*

BCDC Approach to Policy 4.7.8 (7)

No significant woodlands, significant wildlife habitat, significant valleylands or other natural heritage features occur within the proposed residential development area.

Policy 4.7.8 (8 & 9)

6. *The need for an Environmental Impact Statement and its scope will be confirmed through pre-consultation with the City early in the development review process, based on a preliminary screening for natural environment features within and adjacent to the study area. Aerial photographs, watershed and sub-watershed studies, field investigations and other information sources such as the Natural Heritage Information Centre may be consulted. The screening should consider the potential for endangered or threatened species habitat, significant woodlands, valley lands, wetlands and wildlife habitat that are not designated in the plan, in accordance with the Provincial Policy Statement definition of significant and the relevant identification and evaluation factors specified in the Natural Heritage Reference Manual for the Provincial Policy Statement. [Amendment #76, OMB File # PL100206, Ministerial Modification #53, April 26, 2012]*
7. *There are different types of Environmental Impact Statements:*

a. *Full site-impact statements to assess the effects of large-scale development proposals, such as a subdivision proposal. They are prepared by a qualified professional with expertise in assessing impacts on the natural environment, but reviewed and approved by the municipality;*
b. *Impact statements for lands adjacent to Urban Natural Features where the emphasis will be on managing the interface or transition zone between urban developments and natural features in an urban context. This would include such concerns as surface drainage adjacent to the feature; natural infiltration and soft edges adjacent to features such as wetlands, wet meadows and moist forests; protection of woodland edges (drip-line setbacks, soil compaction, removal and stock-piling); and management of access and other potential issues related to uses along the edge of the feature;*
c. *Scoped site-impact statements to assess the potential impacts of smaller development proposals, such as single-lot severances, where impacts would be minor. A scoped impact study can be as simple as a checklist of matters to be addressed as part of the application process, and can be completed by the applicant. Scoped site-impact studies may also be appropriate to address the potential impacts of larger proposals if more detailed studies, such as a comprehensive impact study, are available.*

BCDC Approach to Policy 4.7.8 (8 & 9)

No response required.

Policy 4.7.8 (10)

8. *No development or site alteration will be permitted within the natural features described in policy 1 above, where permitted by the policies of this Plan, or on adjacent lands unless an Environmental Impact Statement indicates it will have no negative impact, defined as degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities. [Amendment #76, OMB File # PL100206, July 21, 2011.]*

BCDC Approach to Policy 4.7.8 (10)

This project was reviewed and assessed under an EIS by KAL (2021), which concluded the project would have no significant negative impacts.

Policy 4.7.8 (11)

9. *Environmental Impact Statements will include:*
    a. *A map drawn to scale identifying the location and extent of the feature, a description of the environmental values within the environmental feature or designation which could potentially be adversely affected by the proposed development, a description of the terrain/topography, vegetative cover and types, soil type and depth, and surface water movement patterns;*
    b. *Where the potential for significant habitat of endangered and threatened species has been identified, a description of the habitat present on the site and its suitability for the*

specific endangered and threatened species that potentially may use the area, as required in Section 4.7.4. [Amendment #76, August 04, 2010]

c. *A description of the proposed development;*
d. *A description of the impacts on the environmental feature that might reasonably be expected to result from the proposed development;*
e. *A description of the actions that may be reasonably required to prevent, change, minimize or mitigate impacts on the environmental feature as a result of the proposed development, including the identification of opportunities for ecological restoration, enhancement and long-term conservation of the feature;*
f. *A description of the flora and fauna present on the site and how the development may impact on the flora and fauna within the site or natural feature and proposed mitigation measures to be taken during and after construction;*
g. *An evaluation of the cumulative effects of the proposed development and other existing or proposed activities or development within or adjacent to the study area. For the purpose of this policy 'proposed activities or development' refers to applications that have been lodged with and which are waiting or have received City approval. The evaluation will assess residual effects following mitigation on the natural features and ecological functions identified in the area; [Amendment #76, OMB File # PL100206, April 26, 2012]*
h. *A professional opinion on whether negative effects on the natural features and ecological functions will occur, and the significance of these impacts in the context of the evaluation of the natural area (i.e. the natural features and functions for which the area was originally identified as significant and the residual impact of the proposed development on the general significance rating of the larger natural area);*
i. *Identification of monitoring needs and recognition of parties to be responsible for assessing and reporting on these needs over a prescribed period of time.*

BCDC Approach to Policy 4.7.8 (11)

The EIS for this project was produced KAL (2021) and addresses all points except for *"i."* regarding monitoring requirements. A monitoring program will be required under the proposed realignment of the O'Keefe Drain but will be established as part of the detailed design.