



Muncaster
Environmental
Planning Inc.

April 29, 2020

Mr. Chris Collins
Senior Land Development Manager
1470424 Ontario Inc.
301 Moodie Drive, Suite 100
Ottawa, ON
K2H 9C4

Dear Chris:

RE: Creekside Phase 2 Residential Development, Richmond
Environmental Impact Statement and Tree Conservation Report

I have completed an Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) for a village residential development in Richmond, to the north of Perth Street and west of Eagleson Road in Lots 26 and 27 of Concession 4, Nepean Geographic Township of the City of Ottawa (Map 2). The west portion of the approximately 24.9 hectare site has a municipal address of 2770 Eagleson Road. The site is dominated by cultivated agricultural lands, with the Flowing Creek Municipal Drain to the west of the site, flowing south to Perth Street and then the Jock River approximately 75 metres south of Perth Street.

For the purposes of this report Eagleson Road is considered in a north-south orientation.

Site Context and Proposed Development

The site is within the Village boundaries for Richmond, as designated on Schedule A of the Official Plan, and is zoned Development Reserve (DR1). No Provincially Significant Wetlands, Areas of Natural and Scientific Interest, or Significant Woodlands are in proximity to the site. To the west of the site, unstable slopes are shown along Flowing Creek Municipal Drain on Schedule K of the Official Plan. Most of the west and central portions of the site currently show as floodplain on Schedule K. No terrestrial portions of the City's Natural Heritage System, as mapped on the Schedule L2 Overlay of the Official Plan, are on or adjacent to the site.

There are no Natural Areas, as identified in the Natural Environment Evaluation System (Brunton, 1997) in proximity to the site, with the closest mapped Natural Area the moderate-rated Richmond Natural Area approximately 1.2 kilometres to the east of the site on the south side of the Jock River. This Natural Area has been removed from the landscape.

The site is not shown as natural vegetation on Figure 3-7-1 of MMM (2005), with small areas of *Scrub, thicket, hedgerow* along the Flowing Creek Municipal Drain corridor to the west of the site. This vegetation is identified as scrub thicket riparian cover on Figure 3-7-9 of MMM

(2005) and the riparian cover does not extend onto the site. No forest cover, wetlands, rare vegetation/landform types, Areas of Natural and Scientific Interest, NESS Areas, linkages, or other terrestrial features are identified on or adjacent to the site on Figures 3-7-2, -4, -6, -7, -8, -10, -11, and -12 of MMM (2005).

A total of 422 residential units are proposed for site, composed of 159 townhomes and 262 detached single units. Access for the site will be via a new road west from Eagleson Road and internal crescents. A park is proposed in the southwest portion of the site, adjacent to the Flowing Creek Municipal Drain corridor. The site will be on full municipal services.

Stormwater pond to west? A cut and fill permit was issued by the RVCA in 2010 for the general area, which when the associated work is completed will adjust the actual floodplain. **Is there recent floodplain mapping**

On-site stormwater storage will be designed to control post-development runoff from the site to pre-development levels (? , 2020). Best management practices, including perimeter swales and perhaps infiltration, will be used to provide an enhanced (80 % long-term removal of total suspended solids) level of water quality treatment (? , 2020).

Methodology

An Environmental Impact Statement is required for the proposed residential development to address potential Species at Risk utilization and other natural heritage features that may be present. The EIS component will determine if the proposed development will have a negative impact, as defined in the Provincial Policy Statement, on any significant natural features. This EIS and TCR was prepared in accordance with Section 4.7.8 of the City of Ottawa Official Plan (2010), following the EIS Guidelines and the Guidelines for City of Ottawa Tree Conservation Report, with guidance from the Natural Heritage Reference Manual (OMNR, 2010).

The field surveys and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over thirty-two years of experience in completing natural environment assessments. The report will provide the methodology to mitigate as required negative impacts on significant features and functions. Potential Species at Risk in the general area were identified from Ministry of Natural Resources and Forestry databases, the Ontario Breeding Bird Atlas, and Species at Risk reported for the overall City of Ottawa.

The natural environment features of the site and adjacent lands were reviewed between 10:10 and 12:30 on April 28th, 2020, under sunny skies, with a light breeze and an air temperature of 10° C.

Existing Conditions

The topography of the site is generally level, with a very gentle slope to the south. The soils on the site are mapped as poorly drained silty clay (Schut and Wilson, 1987). The site is dominated by active cultivated fields, planted in soybeans and corn in 2019 (Photos 1 and 2). No swales with aquatic habitat potential were observed on the site.

Scattered deciduous trees are along the field edges. Coppice (multi-stem) Manitoba maples with individual stems up to 34cm diameter at breast height (dbh) dominate the deciduous trees along the central portion of the east site edge, on the west side of Eagleson Road (Photo 3). A few white elm are to the north of the Manitoba maples. Many of these elms appear dead, but a 38cm dbh white elm in the northwest corner of the site appeared to be in better condition (Photo 4). Hawthorn shrubs and regenerating Manitoba maple stems were among the deciduous trees.

Scattered deciduous trees are also in a north-south orientation between the two main cultivated fields. The largest of these trees are mature white ash up to 58cm dbh near the north site boundary (Photo 5). These ash appear to be in poor condition with extensive emerald ash borer damage on the trunks. To the south of the white ash, white elm up to 25cm dbh also appear to be in poor condition, with a couple of the elm stems appearing healthier. Additional green ash and Manitoba maple up to 25cm and 15cm dbh respectively are also present in this area. Further south, a 40cm dbh Manitoba maple had major trunk and lower branch damage.

Manitoba maple and white elm up to 18cm and 25cm dbh are along the southeast edge of the site. Many of the Manitoba maple had damaged lower branches. A small area of cultural meadow in the southwest corner of the site included a couple of mature coppice crack willow with individual stems up to 55cm dbh (Photo 6). Manitoba maple and bur oak up to 25cm dbh and smaller white ash, green ash, and white elm are also in this area. There is a noticeable drop in the elevation west of the cultural meadow, and the site, towards the Flowing Creek Municipal Drain.

Ground flora along the edges of the agricultural fields and among the deciduous trees described above include common burdock, wild carrot, reed canary grass, common brome grass, wild parsnip, common milkweed, common dandelion, wild grape, and wild cucumber, along with red raspberry and slender willow shrubs.

Wildlife observations included white-tailed deer tracks, flocks of Canada geese in the agricultural fields, American crow, red-winged blackbird, blue jay, black-capped chickadee, American robin, American goldfinch, and song sparrow. No potential wildlife cavities were observed in the scattered deciduous trees, and no stone piles or fences that may be used by wildlife were noted.



*Photo 1 – Cultivated fields dominate the site.
This view is looking northwest from the southeast corner of the site*



*Photo 2 – Cultivated fields in the northwest portion of the site.
View looking northwest from the middle of the site*



*Photo 3 – Scattered Manitoba maple along the east site edge, west of Eagleson Road.
View looking northeast*



Photo 4 – White elm along the east site edge, west of Eagleson Road. View looking northeast



Photo 5 – Larger white ash with extensive emerald ash borer damage in the central portion of the north site edge. View looking north



Photo 6 – Crack willow adjacent to the cultivated fields in the southwest corner of the site. View looking northwest

Significant Wildlife Habitat

The potential for significant wildlife habitat was assessed using the guidance in OMNR (2010) and MNR (2015). No flora, fauna, or ecological conditions identified in the background review or field survey that would trigger a Significant Wildlife Habitat designation with respect to the ELC communities present were observed on or adjacent to the site. For example, in the intermittent hedgerows no tree cavities were noted that may support maternity colonies for bats in trees greater than 25cm dbh or other potential wildlife use, and old growth forest or forest interior habitat are not present. No stick nests were observed. Stone fences or areas of broken and fissured rock for potential use by snakes were not observed. No wetland habitat is present that may be used by amphibians, waterfowl, or other wildlife. No evidence of colonial nesting bird breeding habitat or other examples of seasonal concentration areas were observed. No rare vegetation communities as noted in MNR (2015), rare or specialized habitat including seeps or springs, or species of special concern were observed.

Linkage functions associated with the site would be greatly limited by the developed portions of Richmond to the west and south and extensive agricultural operations to the north and east. Some north-south linkage function would exist to the west of the site along the Flowing Creek Municipal Drain, and then south to the Jock River corridor, though the multi-lane Perth Street is crossed to reach the Jock River.

Significant Woodlands

There are no forests on or adjacent to the site.

Species at Risk

No Species at Risk were observed during the field survey. The MNR's Make a Map: Natural Heritage Areas website was reviewed on April 13th, 2020. This site allows for a search of Threatened and Endangered species covered by the 2008 *Endangered Species Act*, as well as other species of interest. A search was conducted on the 1 km squares including the site and adjacent lands (18VR30 – 46, - 55 and - 56). No Species at Risk were identified for these squares. The breeding birds listed in the Ontario Breeding Bird Atlas for the 10 km square 18VR30 identified bank swallow, barn swallow, eastern meadowlark, and bobolink as Species at Risk in the overall 10 km square including the site and this portion of rural Ottawa. Bobolink and eastern meadowlark utilize large grassland areas including hayfields. The cultivated fields do not represent potential nesting habitat for these grassland species. Bank swallow is a colonial nester; burrowing in eroding silt or sand banks and sand pit walls, features not observed on or adjacent to the site. There are no structures on the site that may be used for nesting by barn swallow or chimney swift. A barn to the south of the southeast corner of the site may be used by barn swallow. At its closest point this barn is over 50 metres south of the site and any utilization by barn swallow will not be impacted by the proposed development.

Other potential Species at Risk in the general area include butternut, eastern whip-poor-will, several bat species, and Blanding's turtle (this species is known from the Jock River corridor in the Richmond area). No butternuts were observed on or adjacent to the site. Eastern whip-poor-

will utilize rock or sand barrens with scattered trees, savannahs, old burns, or other disturbed sites in a state of early to mid-forest succession, or open conifer plantations, habitat not present on or adjacent to the site. No larger cavity trees for potential bat utilization were observed on or adjacent to the site. Turtle habitat may be along the Flowing Creek Municipal Drain but there are no wetlands on the site and there are no wetlands to the east of the site that a turtle may be migrating to from the Flowing Creek Municipal Drain via the site

The potential Species at Risk reported for the City of Ottawa were also reviewed, with an emphasis on the endangered and threatened species historically reported in the overall City, including butternut, American ginseng, eastern prairie fringed-orchid, wood turtle, spiny softshell, Blanding's turtle, musk turtle, bobolink, eastern meadowlark, barn swallow, bank swallow, Henslow's sparrow, loggerhead shrike, eastern whip-poor-will, bald eagle, cerulean warbler, golden eagle, least bittern, little brown bat, eastern small-footed myotis, northern long-eared bat, olive hickorynut, eastern cougar, lake sturgeon, and American eel. The habitat requirements of these species along with those listed as special concern were reviewed.

Based on the site and adjacent habitat, the potential Species at Risk most likely to occur on the site is butternut. As indicated above, no butternuts were observed on or adjacent to the site.

Impact Analysis and Recommendations

No significant natural heritage features, as identified in the Provincial Policy Statement and OMNR (2010), are present on or adjacent to the site other than the aquatic habitat associated with the Flowing Creek Municipal Drain and tributaries to the west of the site. No developed portions of the site will be within thirty metres of the Flowing Creek Municipal Drain or its tributaries. The site is dominated by cultivated fields, planted in soybeans and corn in 2019. The fields have very limited environmental features or functions. Scattered deciduous trees are along some of the field edges, but the vast majority of trees present are susceptible to disease and/or shorter longevity including white ash, Manitoba maple, green ash, and white elm. No co-owned trees or trees on adjacent lands with critical root zones that may extend onto the site were observed.

Due to the density of residential development and associated required urban servicing and grading, no tree retention is anticipated within the footprint of development. As shown on Map 2, some trees will be retained within a cultural meadow in the southwest corner of the site, west of the proposed residences.

Plantings of native vegetation as part of the development will provide a diversity of natural environment and aesthetic features. Potential native species to plant include nannyberry, elderberry, and dogwood shrubs, along with sugar maple, red maple, basswood, balsam fir, white cedar, red oak, and white spruce trees. Sourcing native species from local seed sources is strongly recommended to ensure adaptability and longevity. Due to the clay soils in many areas tree and shrub species that have a high water demand are generally not recommended. These species include willow, poplar, and elm.

The following mitigation measures are recommended:

1. Woody vegetation removal is to occur before April 15th or after August 15th for the protection of breeding birds, unless a survey conducted by a qualified biologist within five days of the vegetation removal identifies no bird nesting activity. A brush pile in the northeast corner of the site, approximately 45 metres west of Eagleson Road should also be removed outside of the breeding bird period identified above;
2. Any trees to be retained are to be protected with sturdy temporary fencing at least 1.2 metres in height installed from the tree trunk a distance of ten times the retained tree's diameter where possible. Signs, notices, or posters are not to be attached to any tree. No grading, heavy machinery traffic, stockpiling of material, machinery maintenance and refueling, or other activities that may cause soil compaction are to occur within the critical root zones of the trees to be retained and protected. The root system, trunk, or branches of the trees to be retained are to be protected and not damaged. If any roots of trees to be retained are exposed during site alterations, the roots shall be immediately reburied with soil or covered with filter cloth, burlap, or woodchips and kept moist until the roots can be buried permanently. A covering of plastic should be used to retain moisture during an extended period when watering may not be possible. Any roots that must be cut are to be cut cleanly to facilitate healing and as far from the tree as possible. A qualified arborist is to prune prior to construction any branches from retained trees on or adjacent to the site that may be damaged during construction. Exhaust fumes from all equipment during construction will not be directed towards the canopies of retained trees.

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

3. Where required, temporary seepage barriers such as silt fencing, straw bale check dams, and other sediment and erosion control measures are to be installed to OPSD requirements in any temporary drainage ditches, around disturbed areas during construction, and stockpiles of fine material. These control measures must be properly maintained to maximize their function during construction and will be removed at the completion of construction once the site has stabilized. Any dewatering of groundwater is to be properly treated before release. Re-vegetation of exposed, non-developed areas is to be achieved as soon as possible to reduce surface erosion and the extent of exposed soils is to be kept to a minimum at all times;
4. In addition, silt fencing is to be installed and maintained along the west edge of the development area, and wrapped for a minimum of thirty metres to the east at each end, to filter any surface water heading towards the Flowing Creek Municipal Drain and help isolate the development area from potentially sensitive wildlife;

5. As recommended in City of Ottawa (2015) prior to beginning work each day, the work area is to be checked for wildlife by conducting a thorough visual inspection of the work area and immediate surroundings. See Section 2.5 of the City's Protocol for Wildlife Protection during Construction (City of Ottawa, 2015) for additional recommendations on construction site management. Any turtles or snake observed in the vicinity of the work areas or that may otherwise be in danger are to be safely relocated to the Flowing Creek Municipal Drain corridor to the west. Animals should be moved only far enough to ensure their immediate safety. See Appendix 1 and the links in Section 4 of City of Ottawa (2015) for suggestions on how to effectively relocate turtles and snakes;
6. Many helpful wildlife oriented mitigation measures are detailed in the City's Protocol for Wildlife Protection during Construction (City of Ottawa, 2015). The contractor is to review in detail and understand the City's Protocol for Wildlife Protection prior to starting construction. The contractor is to be aware of the potential Species at Risk including butternut. Appendix 1 of City of Ottawa (2015) describes these species. Appendix 1 for this project is to include the contact information of the project biologist, Bernie Muncaster (613-747-3753). Species at Risk sightings are to be immediately reported to MECP and work that may impact the species suspended immediately;
7. Maintenance on construction equipment, such as refuelling, oil changes or lubrication, will only be permitted at designated areas of the work area where all precautions have been made to prevent spills, including oil, grease, antifreeze or other materials inadvertently entering the ground or the surface water flow. Properly constructed and maintained spill pans and traps will be required for all machinery utilized on the site. All waste oils, lubricants and filters will be collected following equipment servicing and disposed of in an appropriate manner at an approved location. Lubricants, fuels or other hazardous materials will not be placed outside of the work areas. The washing of any type of equipment or machinery is not to occur outside of designated areas;
8. No burning or burying of rubbish and waste materials is permitted on the site and unauthorized disposal of solvents on or off the site will not be permitted. Municipal by-laws and provincial regulations for noise will be followed and utilities will be located as required in the vicinity of the site prior to construction;
9. Waste will be managed in accordance with provincial regulations and the contractor will have a spill kit on-hand in case of spills or other accidents; and,
10. Roof runoff should be directed to grass or other permeable surfaces wherever possible.

Schedule of Proposed Works

Removal of the on-site woody vegetation not to be retained is proposed for 2020 after the breeding bird season.

Conclusion

Four-hundred and twenty-two residential units are proposed for site, composed of 159 townhomes and 262 detached single units. The site is within the northeast portion of the Village

of Richmond and is disturbed from a natural environment perspective by a dominance of cultivated agricultural fields. No Species at Risk utilization was observed or is anticipated for the site other than butternut, which was not noted. No significant natural heritage features are on the site, with the Flowing Creek Municipal Drain to the west of the site. There will be no site alterations within thirty metres of the watercourse or its tributaries.

Planting of native trees and shrubs will add to the features and functions of the site and over time replace the limited functions of the scattered trees to be removed. With the proper implementation of the mitigation measures outlined in this report it is anticipated that there will be no negative impacts, as defined in the Provincial Policy Statement, on the natural environment features of the general area, including the Flowing Creek Municipal Drain corridor to the west.

References

Brunton, D.F. 1997. Summary: Natural Area Reports for Natural Areas West of Rideau River (500 series). Prepared for the Regional Municipality of Ottawa-Carleton, Planning and Development Approvals Department. 164 pp.

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

Marshall Macklin Monaghan and WESA. 2005. Jock River Reach 2 & Mud Creek Subwatershed Study. Existing Conditions Report. May 2005. Three Volumes

Novatech. 2017. 4139 Moodie Drive. Zoning By-law Amendment. Servicing Options and Conceptual Stormwater Management Report. Revised October 31, 2017. 7 pp & append.

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

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

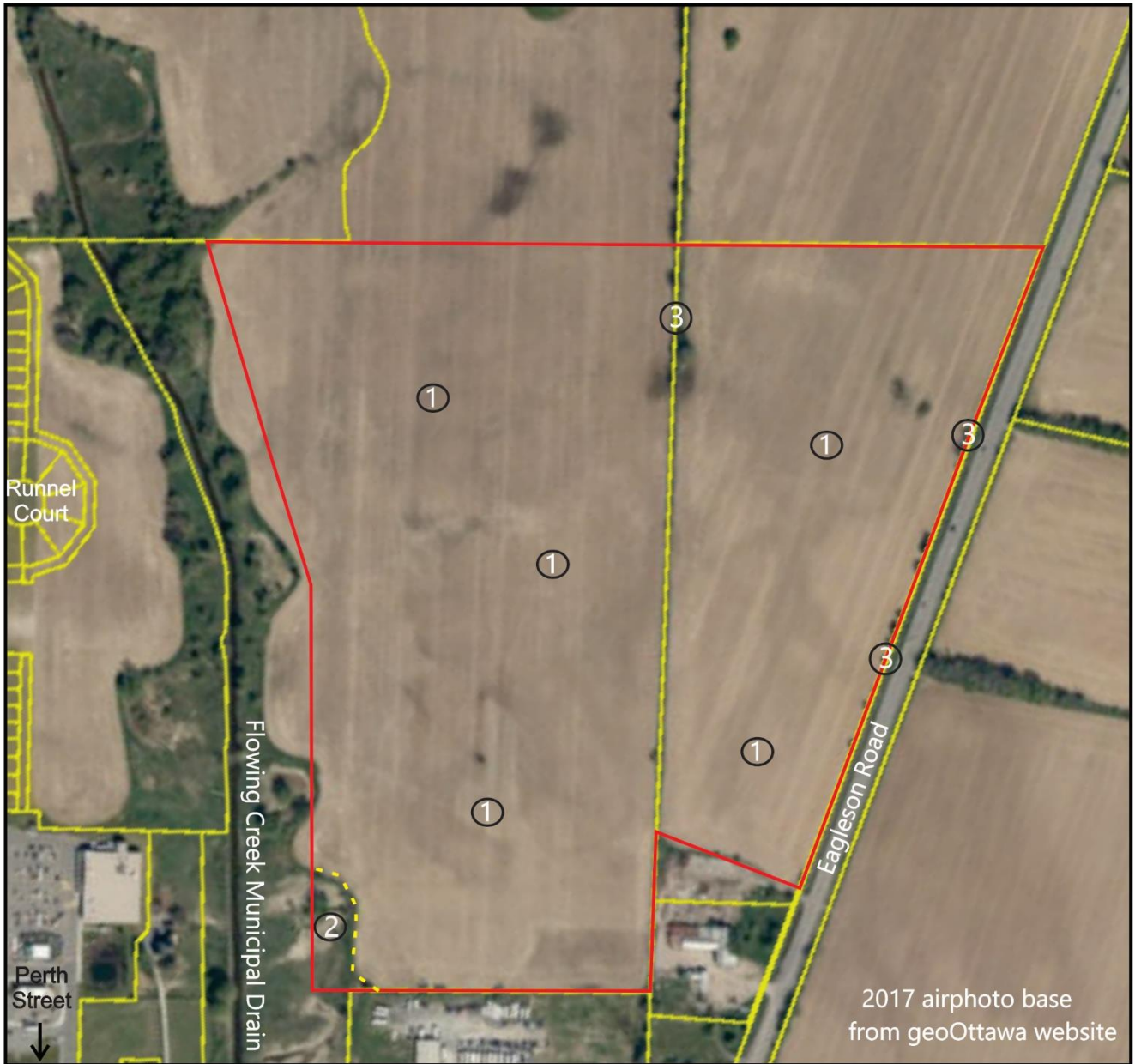
Please call if you have any questions on this EIS and TCR.

Yours Sincerely,
MUNCASTER ENVIRONMENTAL PLANNING INC.





Bernie Muncaster, M.Sc.
Principal




creeksideeis



Legend

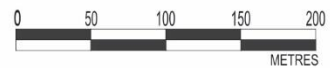
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-  Vegetation Communities


Vegetation Communities

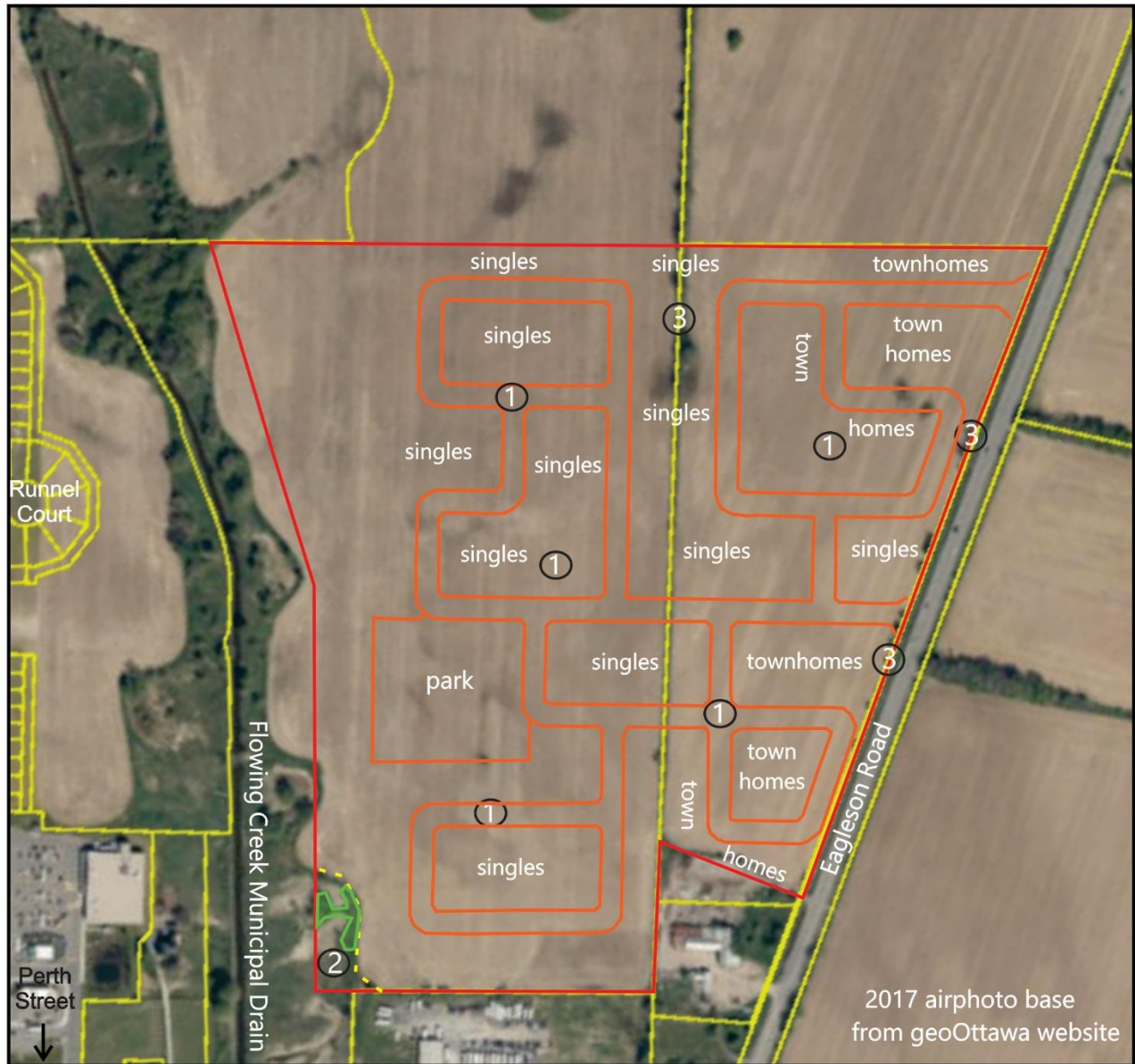
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-  Cultural meadow
-  Intermittent deciduous hedgerow



Approx. Scale 1: 5,000






FILE: 20 - 01	Map 1	March 24, 2020
CURRENT VEGETATION Creekside Phase 2 Richmond, City of Ottawa		
Prepared for: Cardel Homes		
Prepared by: 		Muncaster Environmental Planning Inc.






2017 airphoto base from geoOttawa website

Legend

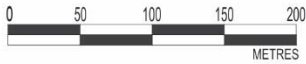
-  Site
-  Vegetation Communities
-  Anticipated Tree Retention

Vegetation Communities

-  Cultivated field
-  Cultural meadow
-  Intermittent deciduous hedgerow



Approx. Scale 1: 5,000



FILE: 20 - 01	Map 2	April 29, 2020
PROPOSED CONSERVED VEGETATION Creekside Phase 2 Richmond, City of Ottawa		
Prepared for:		Cardel Homes
Prepared by:		 Muncaster Environmental Planning Inc.