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RECOMMENDED TERMS OF REFERENCE FOR A COMPREHENSIVE ENVIRONMENTAL IMPACT STUDY AND MANAGEMENT PLAN FOR THE TOWN OF CALEDON SNELL'S HOLLOW EAST SECONDARY PLAN AREA

Introduction

The Town of Caledon is preparing a secondary plan for an area within the Mayfield West Community Development Plan Study Area known as the Snell's Hollow East Secondary Plan Area. This area is generally located north of Mayfield Road, south and west of Highway 410 and east of Kennedy Road (see Figure 1 – Study Area Map). The study area contains part of the Etobicoke Creek watershed; however, the dominant feature is a segment the Heart Lake Wetland Complex (Provincially Significant) and a headwater segment of Spring Creek.

A Comprehensive Environmental Impact Study and Management Plan (EIS & MP) is required as a sub-component of the overall secondary plan to provide detailed information regarding environmental features, functions, linkages and interdependencies, to recommend environmental protection, management and monitoring measures, and to assess the impacts of planned urban development on the ecosystem.

The EIS and MP must be completed in a manner such that the findings of each component study and analysis are integrated throughout the document. In addition, each aspect of the component studies must recognize the principle of adaptive management and incorporate an appropriate level of flexibility into the design. In doing this, interrelationships between components will be more fully considered and a proactive management approach may result. For example, the potential impacts of modifications to surface and/or groundwater on natural features and systems must be considered to determine the feasibility of the proposed land use change and if/what mitigation and adaptive design measures may be required. In this regard, natural and built systems should not be considered in isolation but as integrated and adaptive units.

These technical terms of reference have been developed by the Town of Caledon, jointly with the Region of Peel and Toronto and Region Conservation Authority (TRCA) and reflect the recommended scope and content of a Comprehensive EIS & MP prepared in accordance with the Town's Official Plan policies.

Policy Context

The Town of Caledon Official Plan contains detailed Ecosystem Planning and Management policies whose fundamental objective is to ensure that as land uses change and development occurs, the integrity of Caledon's ecosystems is protected, maintained and, as appropriate, restored and enhanced. To this end, Section 3.1 of the Official Plan establishes detailed Ecosystem Objectives and outlines an overall Ecosystem Planning Strategy, including an Ecosystem Framework and Performance Measures, which must guide planning and development decisions. Section 5.7 of the Official Plan contains further detailed policies regarding the Town's Environmental Policy Area (EPA) land use designation and the requirement for environmental studies.

Section 5.7.3.7.6 of the Caledon Official Plan states:

> *5.7.3.7.6 Proposed large-scale development applications, proposed amendments to this plan, or settlement area expansion proposals, which include, or are adjacent to EPA, and which may have a substantive impact on broader ecosystems, may be required to complete a comprehensive, broader scale environmental study…prior to any planning and development approvals. Such broader scale investigations may be necessary to assess the carrying capacity of the affected ecosystem and the potential cumulative environmental effects of the proposal, within an appropriate environmental framework. The need for and scope of such studies shall be determined jointly by the Town and other relevant agencies.*

In general, the Comprehensive EIS & MP will identify, describe and delineate the ecological systems (form and function), and features within and adjacent to the study area boundary. Some of the base information can be obtained from the TRCA's Terrestrial Natural Heritage System Strategy (2007), Etobicoke Creek Headwaters Subwatershed Synthesis Report (2008), the Mayfield West Natural Features Study (1998), Northwest Brampton Subwatershed Study (2011), and the Master Environmental and Servicing Plan for the Mayfield West Secondary Plan Area (east of Highway 10). Additional field studies will be necessary to fill any data gaps identified during the first phase of the study. The consultant will analyze the base information to determine additional opportunities for ecological linkages and improved environmental quality.

See technical appendices for more information – Appendix A.

Through an analysis of the dynamics and interrelationships of the ecosystem, the study will assess the potential environmental impacts of locating various urban land uses and infrastructure within the study area and their compatibility with the Town's ecosystem goals, objectives, policies and performance measures. The study will recommend environmental protection and enhancement targets, as well as assess the environmental impacts of the planned urban development. Finally, the study will outline an Environmental Management Plan (also referred to as an Adaptive Management Plan) for the proposed secondary plan which will recommend measures for the management, enhancement and restoration of the ecosystem.

Detailed Workplan

A detailed workplan will be required to describe in a more specific technical manner, how the consultant(s) will fulfill the requirements of the terms of reference. The detailed workplan identifies all necessary tasks, including but not limited to: a preliminary listing of all literature and background data to be relied upon, detailed methodology for carrying out environmental characterization, monitoring and technical studies, including required technical expertise, proposed approach to modeling urban land use scenarios and related impact assessments, and identification of anticipated deliverables. Technical appendices, which are attached to this terms of reference, provide an initial guidance tool with respect to existing data and studies, as well as guidelines and recommended protocols. This information has been provided by the TRCA to assist in the creation and scoping of the workplan. However, further consultation with the TRCA will be required to verify to extent and usability of the models/datasets, as well as to gather any additional data not provided in the initial technical appendices.

Consultation

The three-lead review/approval agencies with respect to the Comprehensive EIS & MP are the Town of Caledon, Region of Peel and the TRCA. The Comprehensive EIS & MP will be co-lead by three review/approval agencies which are the Town of Caledon, Region of Peel and the TRCA. Consultation is necessary to effectively deal with the complex CEIS & MP process. Generally, consultation is required and will occur at key milestones between the development proponent(s), Town of Caledon, TRCA and any relevant provincial agencies, where applicable throughout the CEIS & MP.

Study Area

The Study Area is shown on Figure 1 to these terms of reference. While the Comprehensive EIS & MP will focus on this area, ecological features and systems adjacent to the study area boundary that are functionally connected (or are targeted for connection by the TRCA) with the study area will be mapped and, if necessary, assessed in sufficient detail to identify and address environmental linkages. In this regard, consideration shall be given to the directions flowing from the Etobicoke Creek Headwaters Subwatershed study processes.

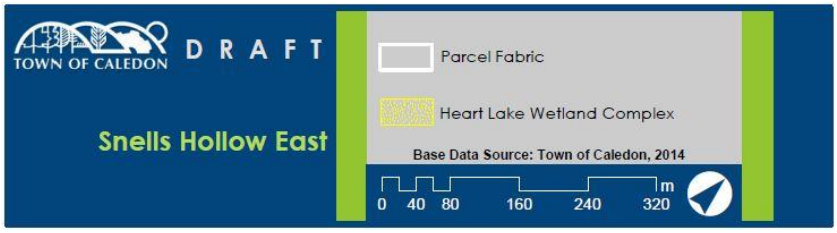
Policy Conformity

It is intended that the Comprehensive EIS & MP not only address the policy requirements of the Caledon Official Plan but also the applicable Provincial policies and/or plans including Provincial Policy Statement (2014), Greenbelt Plan 2017, Greater Golden Horseshoe Growth Plan 2017, CTC Region Source Protection Plan, Planning Act, and requirements of other relevant agencies, including the Region of Peel and the TRCA. In undertaking the Comprehensive EIS & MP, the applicant must be aware of and address all other relevant policy, guidelines, technical requirements and legislation.

Study Approach and Structure

The recommended structure of the Comprehensive EIS & MP consists of fifteen (15) steps generally structured into three parts as outlined in Table 1 (these steps are described in more detail later in the terms of reference).

Figure 1 - Study Area



(ignore Scale on legend at present)

Table 1: Contents of a Comprehensive Environmental Impact Study and Management Plan

Part A **Existing Conditions and Characterization**	1. Introduction to the Study Area 2. Background Environmental Information 3. Baseline Monitoring 4. Existing Conditions Characterization and Initial Constraints and Opportunities Mapping 5. Part A Report
Part B **Impact Assessment and Detailed Studies**	6. Land Use Evaluation and Impact Assessment 7. Detailed Studies 8. Part B Report
Part C **Implementation**	9. Conclusions, Recommendations, Strategies and Management//Mitigation Measures 10. Long Term Monitoring Plan 11. Adaptive Management Plan 12. Policy Conformity Assessment and Recommendations 13. Guidelines for Site Specific Environmental Studies 14. Executive Summary 15. Final Report and Reporting Format

Part A characterizes the environmental resources of the study area. Background and supplemental field data is assessed within each discipline (hydrology/hydraulics, hydrogeology, water quality, stream morphology, aquatics and terrestrial and wildlife) and across disciplines. Key deliverables of Part A include the identification of data gaps and resultant detailed studies required in Part B, and the establishment of initial goals and objectives.

Part B identifies and evaluates the potential impacts of urban development scenarios within the study area. Required detailed studies identified in Part A will be carried out to fill data gaps. Goals and objectives will be finalized and key targets and strategies for meeting the finalized goals and objectives will be developed.

Based on the results of Parts A and B, Part C identifies all necessary components of an implementation strategy which will ensure that all goals, objectives, targets and other related recommendations and management measures are implemented. This will include the establishment of guidelines for the preparation of required site specific environmental studies, including but not limited to site specific Environmental Impact Study & Management Plans (EIS & MP's).

PART A – EXISTING CONDITIONS AND CHARACTERIZATION

1. Introduction to the Study Area

The purpose of this section is to provide a general introduction and overview of the study area to provide context for readers of the document. This shall include but not be limited to textual description and relevant base mapping.

2. Background Environmental Information

This section shall list all literature, background reports, mapping, technical data and all other information sources to be relied upon in the study.

3. Baseline Monitoring

The purpose of the baseline monitoring is to establish the baseline conditions within the study area and existing environmental trends against which future monitoring results will be compared. This will allow the projected impacts of future land uses to be monitored as land uses change over time and will link to the Adaptive Management Plan.

For wetlands, please complete the TRCA wetland risk evaluation to determine what is required for level of Feature-based water Balance (FBWB) and then what monitoring is required (i.e. groundwater and surface water instrumentation). This risk evaluation can be downloaded from the TRCA website at:

https://trca.ca/conservation/greenspace-management/water-balance/

For surface water and ill-defined watercourses, please review the Headwater Drainage Feature (HDF) protocol and recommend baseline monitoring. The HDF protocol can be downloaded from the TRCA website at:

https://cvc.ca/wp-content/uploads/2014/02/HDFA-final.pdf

Information to be collected shall include but not be limited to:

- Surface water quality and quantity;
- Downstream Erosion Analysis – flow gauges will be required to identify the critical threshold;
- Three (3) seasons botanical/vegetation survey is required;
- Hydrology;
- Surface water - groundwater interconnections;
- Groundwater quality, quantity and flow patterns;
- Feature and Site Water budget/balance;
- Terrestrial resources – woodlots, wetlands, wildlife, Environmentally Sensitive Areas, Areas of Natural or Scientific Interest.

When preparing a baseline monitoring plan, it is important to ensure that many different disciplines are being monitored at the same sampling site where possible and appropriate. For example, fisheries and water quality monitoring should take place at the same site.

The monitoring plan should include an explanation of how the indicator parameters were established, e.g. what criteria were used when deciding what to monitor.

The baseline monitoring shall identify the appropriate locations for piezometer/monitoring wells for slope stability and groundwater levels.

The baseline monitoring shall have regard for the Endangered Species Act and identify how the habitat will be protected.

4. Existing Conditions Characterization and Initial Constraint and Opportunities Mapping

Field work should be carried out to better define the existing ecosystem forms, functions, and linkages within the study area shown on Figure 1. Any areas identified as having potential functional connections that are outside the limits of the study area shown on Figure 1 shall be addressed, as appropriate. Detailed constraint mapping (1:5,000 min. specified in step 15) will be prepared which highlights the environmental resources within the study area, as well as agency and municipal constraints (i.e. Fisheries Act, Official Plan designations, valley land setbacks). Initial objectives, which complement and build upon the subwatershed and related studies will be developed based on the information and data inferences.

The mapping shall include but not be limited to:

- All hydrologic features including watercourses, swales, ponds, depression areas, springs, seepage areas and existing stormwater management facilities. Headwater features should be classified and mapped according to the TRCA's guidelines;
- Existing hydrology, hydraulics, floodlines and floodline estimates as per TRCA Flood Plain Management Policies;
- Present day land use;
- Vegetation communities using Ecological Land Classification (ELC) mapping;
- Wildlife species locations, habitat and relative abundance (including amphibian and bird breeding)
- Terrestrial corridors (existing and potential), taking into consideration lands that have been targeted for the restoration of natural cover using TRCA's Terrestrial Natural Heritage System Strategy methodology and relevant subwatershed studies;
- Aquatic Habitat, including Water quality;
- Feature and Site Water balance/water budget assessment;
- Aquatic communities and habitat (with inventory sites), reach delineation, and appropriate setbacks;
- Valley slopes, top of bank, ecological considerations, and geotechnical hazard areas including stable slope lines as per the TRCA technical guidelines;

- Groundwater recharge and discharge areas, the linkages between them and existing condition groundwater recharge rates determined through a water budget assessment;
- Aquifer vulnerability to surface sources of contamination;
- Groundwatersheds (extending outside the study area – if applicable);
- Preliminary channel classifications based on TRCA guidelines;
- Refined municipal constraint limits (Town of Caledon EPA and Supportive Natural Systems and Linkages);
- Existing soils and geology;
- Significant landforms;
- Flora and Fauna species (based upon assessments using accepted protocols and seasonal sensitivities);
- Restoration or enhancement opportunity areas; and
- Ecological buffers.

Data deficiencies and information gaps need to be summarized and a workplan developed for filling gaps through detailed studies to be carried out in Part B. It is anticipated that this will include the review of regional groundwater models for the area (that will be provided by the TRCA) and extrapolate data from the models in combination with monitoring data to explain the groundwater conditions in the study area.

5. Part A Report

Once the requirements of steps 1 to 4 have been fulfilled, a Part A Report will be submitted in draft form to the Town of Caledon, Region of Peel and TRCA for review and approval prior to proceeding to Part B of the Comprehensive EIS & MP.

PART B – IMPACT ASSESSMENT AND DETAILED STUDIES

6. Land Use Evaluation and Impact Assessment

Through an analysis of the dynamics and interrelationships of the ecosystem, the study will assess the potential environmental impacts of locating various future urban land uses and infrastructure within the Study Area and their compatibility with the Town's ecosystem goals, objectives, policies and performance measures.

The study will recommend environmental protection and enhancement measures for use in the formulation of a range of potential development scenarios and assess the environmental impacts and enhancement opportunities of the potential development scenarios. The study will consider the impacts of development adjacent to the enhanced natural system and will generally locate land uses with lower impacts adjacent to the natural system. The location of infrastructure, including roads adjacent to the natural system, will need to be considered with the design eliminating or minimizing any proposed crossings of the enhanced natural system.

The study will outline an Environmental Management Strategy for the preferred scenario which will recommend measures for the management, enhancement, restoration and monitoring of the ecosystem.

It is expected that an iterative relationship will exist between steps 6 and 7.

7. Detailed Studies

It is anticipated that certain detailed studies will be required to complete the constraint mapping, confirm the areas functionally connected to the Study Area, carry out required detailed impact assessments and/or develop protection, restoration and enhancement plans for the area. In addition, the evaluation and refinement of land use options and impact assessment described in step 6 above may provide direction regarding detailed study requirements. The need for, and scope of the detailed studies are to be confirmed with the Town of Caledon, in consultation with the Region of Peel and the TRCA, but they may include but are not limited to:

a) Surface Water and Groundwater Resources Study;
b) Aquatic Resources and Water Quality Study;
c) Stream Morphology Study;
d) Natural Heritage Study;
e) Stormwater Management Study;
f) Low Impact Development (LID) Opportunity Study;
g) Headwater Drainage Feature Assessment;
h) Geotechnical and Slope Stability Assessment; and
i) Water Budget/Balance Study (pre- and post-development)

The following subsections outline the potential contents of the above-referenced detailed studies, if it is determined they are required.

a) Surface Water and Groundwater Resources Study

The initial constraint mapping will have identified known hydrologic features within and adjacent to the study area, however, the overall hydrologic system must be described, and features/functions confirmed. The components of the system to be addressed by the detailed studies include but are not limited to:

- Identification of flow characteristics of watercourses and swales, and a description of the water balance within the study area;
- Characterization of all hydrologic features (watercourse, swales, natural areas providing flood storage/attenuation, depression storage, recharge areas, seepage areas and springs). Particular emphasis should be placed on headwater tributaries – to be classified in accordance with TRCA's guidelines - and the functions that they perform within the system.
- Identification of volume and distribution patterns of the major discharge areas and a representative location used for monitoring; and
- Description of the relationship and dependencies between these features and the surrounding terrestrial, wetland and aquatic resources.

Since the Study Area includes wetlands, watercourses, fishery resources and other features of potential sensitivity to changes to groundwater resources, a detailed hydrogeological impact assessment will likely be required. This may include but not be limited to:

- The general groundwater setting and linkages between the local and surrounding groundwater system;
- Sensitivity of the natural environment and the function of the groundwater related to natural features such as the fishery, aquatic system, terrestrial resources, geomorphology, surface water, water quality, water quantity, etc.;
- Approximate high-water table location;
- Regional groundwater flow and direction and the general geologic setting;
- Potential recharge and discharge areas within the study area;
- Local groundwater resource usage within the study area;
- Projected post-development groundwater recharge rates including any anticipated deficits;
- Location and usage of water wells within 1 km of the study area;
- Detailed description of the local geologic conditions and the function of the geologic units from a hydrogeological perspective;
- Detailed assessment of the groundwater flow system, local flow direction, linkages to surface water and the regional groundwater flow system;
- Delineate major and local aquifers in the area and interpret the connection to the study area;
- Studies on springs, surface water courses or discharge to surface water that focus on groundwater/surface water interaction, determining linkages to recharge and discharge areas through baseflow assessment, vertical gradients, and water table location. This information should be incorporated into the water balance;
- Contamination risk assessment that considers aquifer vulnerability and proposed land use changes and identification of a risk management strategy; and,
- Assessment of potential impacts on groundwater flow and volume from required servicing.

b) Aquatic Resources and Water Quality Study

The initial constraint mapping will have identified fish habitat and water quality classification for the tributaries. The detailed study is to provide the following information in support of the habitat classifications and planned land use change conditions:

- Confirm the fish habitat and water quality classifications of all watercourses and fish habitat within the study area;
- The direct and indirect physical and bio-physical impacts of the land use scenarios on water bodies, water quality and quantity;
- The fish species present, and the direct and indirect biological impacts of the physical impacts;
- The life stages of aquatic organisms supported by the impacted habitat; and
- Opportunities for maintaining and enhancing aquatic habitat and species through the land use scenarios

c) Stream Morphology Study

The study will describe the physical form of the watercourse. The following information will be included:

- Characterization of geomorphic features including sensitive reaches, areas of erosion and aggradation, channel migration etc.;
- Determine the relationship between hydrology of the stream and geomorphology, aquatic resources and water quality, using a continuous simulation modeling approach;
- A meander belt width analysis and delineation of the 100-year erosion limit; and
- Assessment of stream bank erosion and the potential for such erosion within a 100-year timeframe, with consideration for potential impacts on the morphology of the valley or stream corridor.

d) Natural Heritage Study

Generally, the study will identify a natural heritage system which will be protected as an outcome. The study will describe the physical form and function of the ecological systems and features within the study area and identify any functional relationships to broader systems (e.g. regional wildlife corridors), define what additional issues must be examined (i.e. opportunities for linkages) and demonstrate how the land use scenarios will affect the ecological features and functions of the study area. This shall include but not be limited to:

- Identification and design of a natural heritage system that enhances the form, function and integrity of ecological features within and surrounding the study area and maintains or enhances connectivity amongst ecological features. This will also include ecological buffers as well as enhancement and restoration opportunity areas; and,
- Consideration of TRCA 'Target' natural heritage systems, and opportunities to (re)establish linkages between natural features and systems. This may include enhancing the form and maintaining the function of linkages that currently exist prior to development.
- Strategies to avoid and/or mitigate anticipated impacts of land use changes on the form and function of ecological features.

e) Stormwater Management Study

This study will address stormwater management considerations, including but not limited to:

- Evaluation of stormwater management options and selection of a preferred stormwater management strategy that includes lot level, conveyance, and end-of-pipe solutions, with emphasis placed on at source controls, and as per TRCA's Stormwater Management Criteria and the stormwater policies of the Growth Plan 2017;
- Complete an erosion assessment as per the approach identified in TRCA's Stormwater Management Criteria Document, including field work to establish erosion thresholds, and continuous modeling;
- Identification of preliminary locations of stormwater management ponds, LID's and infrastructure outside of the natural system (including ecological buffers);

- Identification of major and minor system flow routes, including ensuring safe and secure major system discharge routs to the receiving systems;
- Identification of proposed road crossing locations and criteria, where required complete detailed fluvial assessments to determine appropriate structure size;
- Implementation strategy for inclusion on the overall Study Environmental Management Plan (e.g. phasing, interim works, roles, etc.);
- Identification of erosion and sediment control requirements to be implemented, integrating conservation authority guidelines;
- Methods for mitigating any projected groundwater recharge deficits associated with proposed land use changes;
- Update the CA's hydrology model, based on the proposed land use, and assess the applicability of the quantity control requirements as established as part of TRCA's 2013 Etobicoke Creek Hydrology Update;
- Methods for maintaining the seasonal water budget of hydrologically sensitive terrestrial features (i.e. wetlands and wet forests) affected by proposed land use changes;
- Update the TRCA Etobicoke Creek hydrology model, to include the proposed land uses and run the HEC-RAS model to determine the extent of the floodplain.
- If there is a change in land use as a result of the Secondary Plan that results in a release rate above the TRCA criteria, then the criteria needs to be revised so that there is no on-site and off-site impacts.

f) Low Impact Development (LID) Opportunity Study

The low impact development study will assess opportunities for measures to be incorporated into the design of the community to reduce overall environmental footprint of the community, and to better integrate the natural and built components of the community. This study should, at a minimum, consider the following:

- Maximizing Land Use Compatibility – Natural and Built Form
    - Opportunities for better integration and transition between natural and build components of the community.
    - Locating lower impact/more compatible land uses adjacent to the natural system
    - Community design to reduce infrastructure and long-term maintenance requirements.
    - Eliminate or minimize infrastructure within and crossings of natural system and linkages
    - Consideration of open space to natural system relationship

- Sustainable Community Form (community and building design)
    - Energy
        - Energy consumption reduction (LEED, Energy Star)
        - Community energy production (district energy, cogeneration, energy synergies)
        - Renewable energy technologies integration (e.g. geothermal, solar, wind)

    - Low Impact Community Design
        - Integration of low impact development principles and requirements (such as LEED ND)
        - Street and building alignments to maximize passive solar opportunities

- Low Impact Building Design
  - Water consumption reduction (LEED)
  - Stormwater, thermal

g) Headwater Drainage Feature Assessment

Prepare a HDF assessment to determine the classification of the ill-defined watercourses on the site, the treatment of the watercourses (i.e. retain or mitigate with removal) and the baseline monitoring required. Any wetland communities within the ill-defined watercourses, will need to be characterized and recommendations for management as part of the EIS. Any recommendation for removals must consider compensation as per TRCA's compensation protocol.

h) Geotechnical and Slope Stability Assessment

Introduction

A geotechnical study is required in support of any development proposed on a TRCA-regulated property adjacent to a valley slope. The requirement is triggered by slopes higher than 2 m and steeper than 3H:1V (3 Horizontal: 1 Vertical). An assessment of the Erosion Hazard Limit (EHL) is the main scope of the geotechnical study. The assessment should generally follow the methodology presented in the MNR's *Technical Guide on River & Stream Systems: Erosion Hazard Limit* (2002).

Objective

The final product of the geotechnical study is a plotted location of the EHL over the TRCA-regulated property. EHL is the tool through which the developable limits of the property are determined and safely maintained over the long-term.

Study Contents and Submission Requirements

Subsurface information to a depth corresponding to the valley's bottom should be obtained via minimum two (2) boreholes. Based on the stratigraphy encountered, described in detail by the borehole logs, strength parameters for each stratum are to be evaluated and used in the slope stability analysis, at minimum two (2) cross-sections. In order to satisfactorily determine the Long-Term-Stable Top-of-Slope (LTSTOS), the proposed stable slope gradient has to meet a minimum Factor of Safety = 1.5, as per the TRCA requirement.

Where a subsurface investigation cannot be performed, a stable slope gradient within the range of 2H:1V to 3H:1V may be utilized. In that respect, some guidance could be sought in the MNR's "*Geotechnical Principles for Stable Slopes*" (1998).

An evaluation of the Toe Erosion Allowance (TEA) is also required where the toe of slope is within 15 m of an occurring creek in the valley. TEA figures are provided in Table 3 on Page 38 of the MNR's *Technical Guide on River & Stream Systems: Erosion Hazard Limit* (2002).

A topographical survey plan of the property and close proximity is required. On this plan, several lines or limits are to be plotted, as part of the geotechnical submission. Those are:

- the creek channel, if applicable;
- the bottom of slope (BOS) line;
- the evaluated TEA, applied from the BOS line;
- the existing top of slope (ETOS) line, whether physical or staked;
- the LTSTOS line, based on the projected stable slope gradients, either from the BOS line or from the applied TEA limit; and
- the 6-metre Erosion Access Allowance or the 10-metre TRCA Buffer, depending on a pre-consultation with the TRCA's Planning & Development staff.

Geotechnical studies older than 5 years must be updated before submitted for the TRCA staff review.

h) Feature and Site Water Budget/Balance Study

One component of achieving the sustainability and Adaptive Management objectives for the community, is the integration of best management practices pertaining to maintaining as closely as possible, pre-development ground water conditions post-development. With changes in impervious areas, and potential changes to surface and ground water quality and quantity, best management practices which serve to promote post-development groundwater infiltration/recharge and maintain pre-development water balance conditions to the greatest feasible extent are required. This study should go through the risk assessment framework to determine what level of monitoring will be required. The TRCA has five (5) groundwater monitoring wells in the Heart Lake (3 at intersection of Mayfield and Heart Lake and Regional SWM Pond), two (2) along Kennedy Road and two (2) in Heart Lake Conservation Area. Coordination between Ecology and Water Resources Engineering disciplines will be required. This report (to be completed by a Professional Engineer or Professional Geoscientist with expertise in this area of practice) should include the development of a detailed water balance on a catchment area basis under existing and post development conditions.

The investigation should provide definitive, factual information that verifies the final recommendations and should include the components listed below:

- Introduction
    - Background
    - Hydrogeological setting, geological setting
    - Site location and proposed land use
- Methodology

- Report and water balance objectives
- Background data studies and information utilized and considered
- Data and considerations

- Water Balance Methodology
  - Provided on a catchment basis (existing and proposed)
  - Appropriate long-term water budget assessment (e.g. AES Thormewaite, minimum monthly)
  - groundwater recharge contributions to natural features must be quantified

For preparing the Feature Based Water Balance study methodology, please refer to TRCA's Water Balance Guidelines for the Protection of Natural Features, which can be downloaded at: http://www.sustainabletechnologies.ca/Portals/_Rainbow/Documents/Water%20Balance%20for%20the%20Protection%20of%20Natural%20Features%20Guideline%20.pdf

- Pre development water balance analysis

- Post development water balance analysis
  - Land use considerations

- Comparison of pre and post development water balances
  - Proposed mitigation measures (if required)
  - Potential measures (above and beyond traditional lot level controls) that may be considered in the analysis include:
    - Rain water harvesting from roof-top water collection on more intensive residential uses, commercial or employment lands, which may be used for irrigation purposes (residential for adjacent park areas)
    - Infiltration galleries
    - Exfiltration galleries
    - Biofiltration measures
    - Green roofs
    - Porous pavement
    - Additional non-compacted topsoil
    - 'third pipe' systems
    - additional evapotranspiration measures

  - Preliminary assessment based upon hydrogeological assessment of areas in which enhanced ground water recharge measures may be employed.
  - Establish specific targets, thresholds, and objectives for water balance in these areas. Provide alternative measures that may be employed to meet these objectives utilizing best management practices.
  - Stormwater pond design shall examine the pond liner requirement and place the SWM ponds where the bottom of the pond is a min. 1m above high groundwater level and may consider interflow, baseflow contributions, downstream erosion and thermal impacts mitigation

- Design (may consider interflow, baseflow contributions, downstream erosion and thermal impacts mitigation)
- provide locations in which these measures would be optimized
- Implementation (including funding, cost sharing and landownership considerations if applicable)
- Maintenance
- Monitoring of water balance enhancement measures

- Conclusions and Recommendations

8. Part B Report

Once the requirements of steps 6 and 7 have been fulfilled, a report on Part B will be submitted in draft form to the Town of Caledon, Region of Peel and TRCA for review and approval prior to proceeding to Part C of the Comprehensive EIS & MP. Based on the results of Steps 6 and 7, the Part B report will recommend finalized goals and objectives and key targets and strategies for meeting the finalized goals and objectives.

PART C – IMPLEMENTATION

9. Conclusions, Recommendations, Strategies and Management/Mitigation Measures

This section will synthesize the results of Parts A and B of the study and provide all related conclusions, recommendations, and management/mitigation strategies. This shall include but not be limited to:

- A comparative evaluation of alternative management options leading to the selection of the preferred option;
- Conclusions and recommendations; and
- Strategies and Management Measures – if impacts are expected or may occur, what plans are in place to maintain ecosystem features and functions.

It is expected that key components of Part C will include a long-term monitoring program, an adaptive management plan, policy recommendations and guidelines for site specific environmental studies, as generally outlined in Steps 10 to 13 below.

10. Long Term Monitoring Plan

Monitoring is to continue after baseline conditions are established. The monitoring plan should be designed in such a way that impacts can be distinguished from natural trends at an early stage.

If impacts are detected:

- A more aggressive type of monitoring should take place that determines where, why and how fast the change is occurring;

- Establish cause-effect relationships between environmental resources and land use change;
- Be able to deal with change by proposing appropriate mitigative measures (as per adaptive management plan); and
- Focus on evaluating ongoing or proposed management practices.

Items that should be monitored over the long term include but are not limited to:

- Water quality and quantity, including stormwater system performance (including any best management practice measures and/or designs used)
- Fisheries and aquatic resources
- Hydrology and hydraulics
- Groundwater quality and quantity
- Stream morphology and slope stability
- Terrestrial resources – woodlots, wetlands, flora and fauna, Environmentally Sensitive Areas, Areas of Natural or Scientific Interest, terrestrial linkages, buffer areas, invasive species, natural system encroachments, natural system edge management, and vernal pools
- Water balance and the effectiveness of groundwater recharge enhancement measures

It is essential that long term monitoring be included in the final study report, and that the costs and responsibilities for long term monitoring be addressed.

11. Adaptive Management Plan

The broad objective of the Adaptive Management Plan (AMP) is to provide direction for monitoring the performance of the recommended aquatic and terrestrial resource mitigation strategies, and to provide a flexible mitigation system that can be adjusted in response to monitoring results. For the AMP to be effective, flexible measures must be accommodated at the initial stages of all aspects of the community design (e.g. stormwater management infrastructure, open space system, transportation network, landscaping etc.) to allow for an adaptive system that can react to required change. The AMP is a management framework that encompasses and provides for the following:

- Identify key Study Area features and functions and associated protection goals and objectives;
- Management targets required to meet goals and objectives;
- Mitigation measures to address the performance targets;
- Monitoring requirements to monitor the success of the mitigation measures in relation to the targets;
- Evaluation of the monitoring results in relation to the management targets; and
- Long term adjustment of the overall Plan/AMP as needed.

Specifically, the AMP will include a framework for long-term environmental monitoring to measure the performance of the recommended mitigation/management strategies. Recommendations for long-term monitoring of surface water, groundwater, water quality, fisheries, stream morphology and terrestrial/wetland resources will be provided. The data collected as part of the Study will form a baseline for monitoring change over time and for evaluating proposed management practices. Monitoring frequency, parameters and responsibility will also be addressed. The monitoring program will be designed in a way that will help to distinguish between natural variation in ecosystem function and potential land use development impacts.

In keeping with the adaptive management plan approach, the AMP will discuss responses to changing conditions or anticipated impacts. This might include more aggressive monitoring necessary to determine the cause and effect relationship associated with the change or anticipated impact as well as providing general directions for consideration of impact contingency measures that might be considered as adjustments to the plan where necessary after taking into account monitoring results.

The AMP will provide the framework linking the site-specific studies and AMPs into the broad management plan or AMP for the Study Area management, to ensure mitigation and monitoring plans, as well as enhancement and restoration, are consistent and integrated and address the identified resource protection targets, within the context of the broader ecological and water resources context as documented through the Study.

In areas of widespread development, the TRCA may undertake long-term environmental monitoring (should funding be provided) to reduce overall costs and to achieve better consistency.

12. Policy Conformity Assessment and Recommendations

It is intended that the Comprehensive EIS & MP not only address the policy requirements of the Caledon Official Plan, but also the applicable policies and requirements of other relevant agencies, including the Provincial Policy Statement, Provincial Acts, CTC Region Source Protection Plan, Endangered Species Act, the Region of Peel and TRCA. Step 12 of the Comprehensive EIS & MP is intended to clearly reference relevant policy, legislative and technical requirements and describe how the Comprehensive EIS & MP meets or exceeds these requirements.

13. Guidelines for Site Specific Environmental Studies

It is anticipated that one of the products of the Comprehensive EIS & MP will be guidelines for carrying out future site specific environmental studies, including site specific Environmental Impact Study & Adaptive Management Plans to be prepared by individual applicants in support of development proposals in the study area. These site-specific studies will assess the merits of the application and will apply findings, recommendations and strategies contained in the Comprehensive EIS & MP. Establishing guidelines for the preparation of site specific environmental studies will assist future applicants in determining the scope and content of such studies.

14 Executive Summary

Include a summary at the front of the final report (step 15 below) that summarizes the results of Parts A, B and C, highlighting key findings, recommendations and strategies.

15 Final Report and Reporting Format

A complete description of all the work and conclusions involved in the Comprehensive EIS & MP (Parts A, B, and C) is to be included in the final report.

Reports should be submitted in hard copy along with an electronic copy in Microsoft Word 2016 for Windows 2010 Office, and Portable Document Format (PDF) on a USB. Ten copies of all draft and final reports, each with a full set of graphics, artwork and maps shall be submitted to the Town of Caledon.

Graphics
Graphics should be submitted in Microsoft PowerPoint 2016 format on a USB separately from the main report as well as incorporated into the main report.

Artwork
Artwork should be submitted in JPG format on a USB separately from the main report as well as incorporated into the main report.

Mapping
Mapping should be in a scale of 1:5000 or less. It should be noted that Arc GIS 10.3 is the GIS software currently in the Town of Caledon, and as such, ArcView shape files are required.

In general, digital graphic data:

- **must** be georeferenced in UTM using NAD 83;
- **must** be clean, i.e. polygons should be closed, dangles eliminated, polygons with common borders should not overlap, etc.;
- should be packaged/organized into logical layers, for example, a soils layer, a wetlands layer, etc.; and
- must be in vector as opposed to raster format, unless otherwise specified.

Tabular Attribute Data
Attribute data should be provided in Excel 2016 format files (preferred), dBase IV format files, or in formatted (i.e. with defined columns) ASCII files.

Textual Data for Graphics
Text should be provided in Word 2016 for Windows 2010 Office. Please be aware that any tabular data to be referenced to actual map features should **not** be provided as tables in a Word document.

Digital Photos
Digital photos, whether they are scanned photographs or computer-generated artwork, should be provided in JPG format.

Nadine Price

From: ESA Aurora (MNRF) <ESA.Aurora@ontario.ca>
Sent: Monday, January 21, 2019 2:46 PM
To: Nadine Price
Cc: Lorraine Adderley
Subject: RE: Information request - Snell's Hollow Secondary Plan, Town of Caledon (300043952)
Attachments: TOWN_OF_CALEDON.xlsx; InfoRequestGuide_2018-12-18-FINAL.pdf

Natural Heritage Information Request Response

Thank you for your request for information on natural heritage features. In order to provide the most efficient service possible, the attached *Natural Heritage Information Request Guide* has been developed to assist you with accessing natural heritage data and values from convenient online sources.

It remains the proponent's responsibility to complete a preliminary screening for each project, to obtain available information from multiple sources, to conduct any necessary field studies, and to consider any potential environmental impacts that may result from an activity. We wish to emphasize the need for the proponents of development activities to complete screenings prior to contacting the Ministry or other agencies for more detailed technical information and advice.

The Ministry continues to work on updating data housed by Lands Information Ontario and the Natural Heritage Information Centre, and ensuring this information is accessible through online resources. Species at risk data is regularly being updated. In order to ensure access to reliable and up to date information, the attached list provides a summary of species at risk that have been observed, or may potentially be present, at a geographic township / municipal level.

This information will assist in scoping the necessary field assessments for an area if development or site alteration is proposed. This information is not meant to circumvent the responsibility of the proponent to undertake species and / or habitat surveys. Surveys or additional site level assessment are often required to confirm presence or absence of natural heritage features and values. Environmental consulting firms have the professional and technical expertise to assess sites for natural heritage features and can gauge the potential for such features to exist.

Absence or lack of information for a given geographic area does not necessarily mean the absence of natural heritage features. Many areas in Ontario have never been surveyed and new plant and animal species records are still being discovered for many localities. In addition, new species may be listed and new natural heritage features may be defined over time. For these reasons, the Ministry cannot provide a definitive statement on the presence, absence or condition of natural heritage features in all parts of Ontario.

Thank you for your inquiry.

From: Nadine Price <Nadine.Price@rjburnside.com>
Sent: January 17, 2019 11:51 AM
To: ESA Aurora (MNRF) <ESA.Aurora@ontario.ca>
Cc: Lorraine Adderley <Lorraine.Adderley@rjburnside.com>
Subject: Information request - Snell's Hollow Secondary Plan, Town of Caledon (300043952)

Good morning,

Please find attached an information request pertaining to the Snell's Hollow Secondary Plan project, located in the Town of Caledon. In addition to the information request form, we are asking for a copy of the Heart Lake Provincially Significant Wetland (PSW) Complex wetland evaluation report as well as the Heart Lake Forest & Bog Life Science ANSI report and the Brampton Buried Esker Earth Science ANSI report if possible. I am happy to travel to your office to make a photocopy of these reports if this is the best way to get copies.

If you have any questions, please feel free to contact me directly at 289-545-1070.

Thanks,

Nadine

BURNSIDE

Nadine Price, M.Sc.
Terrestrial Ecologist

R.J. Burnside & Associates Limited
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Ministry of
Natural Resources
Aurora District Office
50 Bloomington Road
Aurora, Ontario L4G 0L8

Ministère des
Richesses naturelles

Telephone: (905) 713-7400
Facsimile: (905) 713-7360

Ontario

February 21, 2012

Ms. Carolyn Woodland
Director, Planning and Development
Toronto and Region Conservation Authority
5 Shoreham Drive
Downsview ON M3N 1S4
cwoodland@trca.on.ca

Re: Update to the Provincially Significant Heart Lake Wetland Complex Northwest of Mayfield Road & Heart Lake Road, Parcel Roll Number: 21241300070420000000, Town of Caledon, Regional Municipality of Peel

Dear Ms. Woodland:

The Ministry of Natural Resources (MNR) was requested to attend a September 20, 2011 site visit for wetland boundary delineation of the eastern portion of Wetland No. 1 in the provincially significant Heart Lake Wetland Complex, northeast of Mayfield Road and Heart Lake Road in the Town of Caledon. At the site visit, refinements were made to the wetland boundary based on a surveyed wetland staking carried out with consultants, professional surveyors, MNR Aurora District staff and staff from the Toronto and Region Conservation Authority in attendance. The wetland boundary line was agreed to by all parties, at that time. Please be advised that the MNR has updated the boundary for the Heart Lake Wetland Complex.

For your information, a table is enclosed noting two additional vegetation community found during the site visit. A map is also enclosed showing the updated wetland boundary on an ortho-rectified digital photo base. The updated wetland boundary has been put into MNR's web-accessible digital warehouse (LIO – Land Information Ontario) and can be accessed in a few weeks at http://www.applio.lrc.gov.on.ca/lids/. The information is stored under the "Wetland Unit" data class.

If you have any questions please do not hesitate to call me at 905-713-7370 or e-mail me at steve.varga@ontario.ca

Yours sincerely

Steve Varga

Steve Varga
District Inventory Biologist
MNR Aurora District

cc. Mr. Mark Head, Regional Municipality of Peel
Mr. Tim Manley, Town of Caledon
Mr. Carl Brawley, Glen Schnarr Associates Inc

1. 2. 2. Additional Wetland Vegetation Communities for Wetland No. 1 in the Heart Lake Wetland Complex (based on a September 20, 2011 site visit)

Wetland No.	Map Code	Vegetation Forms	Dominant Species (site type: Pi- palustrine with inflow; soil type; wildlife records)
1	neM6-C	ne*,gc	gc: Aster lanceolatus, Lythrum salicaria, Aster puniceus, Inula helenium, Aster novae-angliae; ne: Leersia oryzoides, Phalaris arundinacea, Agrostis gigantea, Juncus effusus (Pi; loam)
1	neM6-D	ne*,gc	gc: Bidens cernua; ne: Leersia oryzoides (Pi; loam; wildlife: 4 Spring Peepers, 7 Painted Turtles, White-tailed Deer tracks)

Legend

Vegetation Forms:
gc - herbs (ground cover)
ne - narrow-leaved emergents
* - dominant form

Map Codes:
M - Marsh

Ministry of
Natural Resources
Aurora District Office
50 Bloomington Road
Aurora, Ontario L4G 0L8

Ministère des
Richesses naturelles

Telephone: (905) 713-7400
Facsimile: (905) 713-7360

Ontario

November 23 2012

Ms. Carolyn Woodland
Director, Planning and Development
Toronto and Region Conservation Authority
5 Shoreham Drive
Downsview ON M3N 1S4
cwoodland@trca.on.ca

Re: Update to a Portion of the Provincially Significant Heart Lake Wetland Complex At Wetland No. 1, 3728 Mayfield Road, Parcel Roll Number: 2124130006189000000, Town of Caledon, Regional Municipality of Peel

Dear Ms. Woodland:

The Ministry of Natural Resources (MNR) was requested to attend a September 18, 2012 site visit at 3728 Mayfield Road for wetland boundary delineation of the western portion of Wetland No. 1 in the provincially significant Heart Lake Wetland Complex (Town of Caledon). At the site visit, refinements were made to the wetland boundary based on a surveyed wetland staking carried out with professional surveyors, MNR Aurora District staff and staff from the Toronto and Region Conservation Authority in attendance. The wetland boundary lines were agreed to by all parties, at that time. However, despite several requests over the past few months, the wetland staked line has not been sent to the Ministry. The Ministry, in the absence of the staked wetland line, has updated the wetlands based on the boundaries mapped by MNR staff on an ortho-rectified airphoto base map during the site visit.

For your information, a map is enclosed showing the updated wetland boundary on an ortho-rectified digital photo base. The update has been put into MNR's web-accessible digital warehouse (LIO – Land Information Ontario) and can be accessed in a few weeks at http://www.applio.lrc.gov.on.ca/lids/. The information is stored under the "Wetland Unit" data class.

If you have any questions please do not hesitate to call me at 905-713-7370 or e-mail me at steve.varga@ontario.ca

Yours sincerely

Steve Varga
District Inventory Biologist
MNR Aurora District

cc. Mr. Mark Head, Regional Municipality of Peel
Mr. Tim Manley, Town of Caledon
Ms. Nijole Bates, Homelife/Realty One Ltd. Brokerage c/o of Caledon Mayfield Estates Inc. and the Estate of Palmyra Kucinskaite

R.J. Burnside & Associates Limited 128 Wellington Street West Suite 301 Barrie ON L4N 8J6 CANADA
telephone (705) 797-2047 **fax** (705) 797-2037 **web** www.rjburnside.com

BURNSIDE
[THE DIFFERENCE IS OUR PEOPLE]

February 5, 2019 (Revised March 7, 2019; April 8, 2019)

Via: Email

Adam Miller
Senior Planner
Toronto and Region Conservation Authority
101 Exchange Avenue
Vaughan ON L4K 5R6

Dear Mr. Miller:

Re: Environmental Field Study and Baseline Monitoring Plan - Terms of Reference
Snell's Hollow East Secondary Plan, Snell's Hollow East Landowners Group.
Project No.: 300043952.0000

1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by the Snell's Hollow East Landowners Group to undertake an Environmental Field Study and Baseline Monitoring Program for a development, located at the northeast corner of Kennedy Road and Mayfield Road (herein referred to as the subject property). The subject property is in the Town of Caledon (Town) and within the jurisdiction of Toronto and Region Conservation Authority (TRCA).

The subject property is located at the southern edge of the Town of Caledon, in the proposed Snell's Hollow East Secondary Plan area. The site is bounded by Highway 410 to the north, Heart Lake Road to the east, Mayfield Road to the south and Kennedy Road to the west (Figure 1). The subject property contains portions of the Heart Lake Provincially Significant Wetland (PSW) Complex, which drains beneath Mayfield Road towards Heart Lake Conservation Area to the south. The existing land use is agricultural in the uplands, with meadows on the slopes and ridges adjacent to the PSW unit.

As a part of initial consultations with the Town, the Region of Peel (Region) and TRCA (collectively referred to as the Agencies), the need for a Baseline Monitoring Program was identified. It is our understanding that the establishment of meaningful baseline conditions will contribute to the Secondary Plan study that will begin in early 2019. In particular, the Agencies have identified the following ecological requirements:

- Determine what wetland monitoring is required.
- Recommend baseline Headwater Drainage Feature (HDF) monitoring.
- Propose a program for 3 season botanical/vegetation inventory survey.
- Establish a program with Ministry of Natural Resources and Forestry (MNRF) to assess Species at Risk (SAR).

2.0 Environmental Field Study and Baseline Monitoring Program Framework

This letter provides the proposed Terms of Reference (TOR) for the Environmental Field Study and Baseline Monitoring Program. Although construction of the subject property is not expected in the immediate future, this TOR seeks to establish meaningful pre-development existing conditions and monitoring data. At this time, we are seeking your input on our proposed approach for the field study, which is proposed to start in spring 2019, as well as any additional information you may have that is relevant to our study. We are hoping to receive time sensitive feedback as soon as possible, especially if it affects a closing window for fieldwork.

The TOR are organized as follows:

- Part I: Summary of Background Secondary Source Information.
- Part II: Proposed Environmental Field Study methodology, including:
  - 2019 Fieldwork Program;
  - Criteria for evaluating the significance, sensitivity and rarity of features on, and in the vicinity of the subject property;
  - Methodology for the evaluation of impacts; and
  - Reporting format.
- Part III: Proposed Natural Heritage Monitoring Program, including:
  - Monitoring methodologies to be used;
  - Sampling/survey timelines and schedule;
  - Methodology for the evaluation of monitoring data;
  - Reporting format and scheduling; and
  - Proposed remediation processes should monitor results show impacts to natural features.
- Part IV: Information Requests.

2.1 Part I: Background Secondary Source Information

Burnside has reviewed the following resources:

- The Provincial Policy Statement (PPS) (MMAH, 2014)
- Town of Caledon Official Plan (OP) (April 2018 Consolidation).
- Region of Peel OP (December 2016 Consolidation).
- Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (North South Environmental Inc. et al., 2009)
- The Living City Policies (TRCA, 2014).
- Greening our Watersheds: Revitalization Strategies for Etobicoke and Mimico Creeks, Including the Etobicoke-Mimico Report Card (TRCA, 2002).
- Etobicoke and Mimico Creeks Watershed Technical Update Report (TRCA, 2010).
- Mimico Creek Watershed Report Card (TRCA, 2018).
- Recent Digital Aerial Photography (Google Earth Pro).

- Natural Heritage Information Centre (NHIC) database to identify records of rare wildlife species on, and in the vicinity of, the subject property (January 2019).
- The Ontario Breeding Bird Atlas (OBBA) for records of birds breeding in the area (January 2019).
- Department of Fisheries and Oceans Canada (DFO) Aquatic SAR Mapping (September 2018).

The subject property is located within the jurisdiction of TRCA and the MNRF Aurora District Office. The site primarily consists of actively cultivated fields, cultural meadows, cultural thicket/woodland, rural residences and farm buildings, marsh, swamp and woodlands, while adjacent lands south of Mayfield Road consist of the Heart Lake Forest and Bog Life Science ANSI, the Brampton Buried Esker Earth Science ANSI and additional units of the Heart Lake PSW Complex.

Table 1: Applicable Environmental Land Use Designations

Plan/Regulation	Known Land Use Designations
Provincial Policy Statement Section 2.1 Natural Heritage	Significant Wetlands
Natural Heritage Reference Manual	Significant Wetlands
Caledon OP Schedule A – Land Use Plan Schedule B – Mayfield West Land Use Plan	Mayfield West Study Area Boundary Residential Policy Area A Environmental Policy Area
Region of Peel OP Schedule A – Core Areas of the Greenlands System in Peel Schedule D – Regional Structure Schedule D3 – Greenbelt Plan Area Land Use Designations Schedule D4 – The Growth Plan Policy Areas in Peel Figure 2 – Selected Areas of Provincial Interest	Core Areas of the Greenlands System Mayfield West Study Area Rural Service Centre Settlement Areas Outside the Greenbelt Designated Greenfield Area Rural Settlement
Toronto Region Conservation Authority (Ontario Regulation 166/06)	Large portions of the development are within TRCA regulation limits
Toronto Region Conservation Authority (Living City Policies)	Long-term Stable Top of Slope (10 m buffer) Provincially Significant Wetlands (30 m buffer) TRCA ELC Wetlands (10 m buffer) Watercourse (10 m buffer) Wetland Area of Interference (120 m from PSW, 30 m from un-evaluated wetlands) Regulatory Floodplain/Meanderbelt 10 m buffer

The above is not intended to be an exhaustive list of applicable environmental policies. Policies related to the above Land Use Designations, and other applicable environmental policies, will be reviewed and summarized as a part of the Environmental Field Study report.

In addition to the known land use designations listed above, additional land use designations, as they relate to ecological policies, may be observed based on field investigations, including:

- Significant Woodlands.
- Significant Valleylands.
- Significant Wildlife Habitat.
- Habitat of Endangered and Threatened Species.

Significance of features will be determined based on the PPS, the Significant Wildlife Habitat Technical Guide (MNRF, 2000), Ecoregional Schedules for Ecoregion 6E Criteria (2015), Town and Region Official Plans, the Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study, and MNRF Species at Risk guidelines.

2.2 Part II: Proposed Field Study and Baseline Monitoring Plan Methodology

It is anticipated that the fieldwork and reporting for the Environmental Field Study and Baseline Monitoring will include three main tasks, as follows:

Task 1: Baseline Conditions

Completion of Ecological Land Classification (ELC) according to the Ecological Land Classification for Southern Ontario: First Approximation and Its Application (Lee et al. 1998), with reference to 2008 updated ELC codes (Lee, 2008, 2013) for communities which are not well described under the first approximation.

Completion of an on-site, 3-season ecological botanical/vegetation inventory is proposed for the entire subject property. Vegetation inventories will be performed to help establish baseline habitat conditions, provide early identification of SAR (i.e., to avoid costly delays while obtaining permits associated with late detection), establish relative soil saturation and species variation, and subsequently be used to assess the impacts to habitats throughout various stages development. Baseline conditions need to be established during pre-development surveys conducted in 2019.

In particular, wetland habitats such as swamp lands and marshes exhibit saturated soil conditions capable of supporting vegetation that has adapted to moist to permanently flooded conditions. The identification of wetland plant species can therefore be used to delineate wetlands, determine the presence of species of conservation concern, assess habitat health throughout time and aid in the protection and management of wetland features.

A botanical inventory should be undertaken three times over the course of a year during the following periods:

- Spring (April 15th to June 15th)
- Summer (June 30th to August 15th)
- Fall (September 1st to October 15th)

An ecologist with experience in identifying plants and conducting botanical inventories will perform these surveys. Inventories should be undertaken in such a way that the entire site is surveyed, and a complete list of plants is created that represents all vegetation species observed on the subject property. For the PSW located on the subject lands, it should be noted that is has been formally evaluated by the MNRF (November 2000; updated November 2009 and 2012). The boundaries and vegetation communities of this feature have been previously staked and surveyed with the MNRF and are well-established and will not require new agency staking.

The results of the ELC and botanical surveys will be summarized in a technical memo. If any SAR are identified, additional studies, reporting and permitting may be necessary and will be determined in consultation with the MNRF, as required.

Task 2: Surface Water – Headwater Drainage Feature Assessment

A Headwater Drainage Feature (HDF) assessment will be completed for the entirety of the subject property, according to the TRCA HDF protocols. The protocol calls for up to 3 site visits, based on the findings of the early visits. The results of these surveys will be summarized in a technical memo submitted to the TRCA. Should additional HDF monitoring be required by the TRCA based on the findings of the initial HDF assessment or should the need for surface water quality monitoring be identified, the scope of work will be determined in consultation with the TRCA, as required.

Task 3: Wetland Monitoring

Monitoring is to be completed for 1-year pre-development, 2 years during development, and for 3 years – every other year – post-development.

Vegetation

The wetland will be monitored using methodology similar to the TRCA's Wetland Vegetation Monitoring Protocol, Terrestrial Long-term Fixed Plot Monitoring Program (January 2016). Transects will be established that will extend from the edge of the wetland to its centre. As illustrated in Figure 1 of the TRCA document, 4 m^2 woody plant subplots and 1 m^2 ground vegetation subplots will be established along the transect, centered on points 5 m east and 5 m west of the transect. A wooden stake will be installed in the centroid of each woody plant subplot and numbered to allow for subsequent visits to investigate the same locations. A GPS point will be taken at each centroid as well.

At each woody vegetation subplot, tree and shrub species that are 16 cm tall and greater will be recorded, per species by percent composition, for each subplot. A photograph will be taken of each subplot as well. A soil auger will be used in the woody vegetation subplot to determine the depth from the surface to subsurface water as an additional factor to measure. Following excavation of the hole and reasonable time to fill in with water, the surveyor will measure the distance from the soil surface to the water level. If standing water is present above the surface of the soil, water depth will be recorded.

At each ground vegetation subplot, vascular plants and woody plants less than 16 cm will be recorded, per species by percent composition for each subplot. A photograph will also be taken of each subplot.

Wetland vegetation monitoring will occur once per monitoring year. The first monitoring event is recommended to occur between May 15, 2019 and July 15, 2019. This timing will allow for the determination of ground flora (herbaceous and graminoid) presence at a time when indications of most spring and fall species and all summer species are present. One survey per year between May 15th and July 15th, performed during the summer monitoring period, will allow for the tracking of changes in these plots. Monitoring surveys will continue once per year during construction and once every other year for 5 years following construction (defined as >80% completion). It is assumed for the purposes of this TOR that construction will take 3 years and will begin in 2021. Should additional time be required for construction, or prior to construction, a plan of action will be developed in consultation with TRCA.

Our findings will be summarized yearly in a wetland monitoring report submitted to the TRCA.

Amphibian Breeding Habitat

The wetland will be monitored for Amphibian Breeding Habitat, following the protocol outlined in the Marsh Monitoring Program Participant's Handbook for Surveying Amphibians (Bird Studies Canada, 2008). This protocol requires three surveys annual during the following periods, subject to weather conditions:

- April 15th to April 30th
- May 15th to May 30th
- June 15th to June 30th

The first monitoring event is recommended to occur in spring 2019. One round of surveys per year will be performed during construction and one round of surveys every other year for 5 years following construction. It is assumed, for the purposes of this TOR, that construction will take 3 years and will begin in 2021. Should additional time be required for construction, or prior to construction, an additional scope and cost will be submitted for approval prior to undertaking any additional work.

Our findings will be summarized yearly in a terrestrial monitoring report submitted to the TRCA.

Water Quality Monitoring

Monitoring water quality is an effective way to document the potential impacts of sediment mobilized during construction, develop supplemental mitigation strategies, and provide an early detection system to reduce potential negative effects and avoid serious harm to fish and fish habitat. The application of Erosion and Sediment Control (ESC) and turbidity monitoring programs are important mitigation strategies to ensure that the productive capacity of flowing water features associated with the wetland is maintained. It is expected that water quality monitoring will be completed as part of the Part A: Existing Conditions and Characterization of the future Comprehensive Environmental Impact Study and Management Plan (CEISMP) report.

Table 2: Summary of Field Work Proposed

Study Component	Field Work Requirements	Features/Areas to be Assessed	Survey Timing Window
Ecological Land Classification mapping and 3-season botanica/vegetation inventory	Ecological Land Classification mapping according to the Ecological Land Classification System (Lee et al. 1998). Botanical inventory and analysis of flora rarity (provincial and regional rarity ranking) for all species observed.	Entire subject property including the natural features and wetlands.	Spring (April 15th to June 15th) Summer (June 30th to August 15th Fall (September 1st to October 15th)
Targeted Butternut surveys	Identification of Butternut trees on subject property as part of Botanical Inventory.	Entire subject property, with special attention paid to NHS feature edges where butternut habitat (50 m) may overlap with development plan.	Concurrent with vegetation inventory, during leaf-on period, as defined in MNRF guidelines (May 15, 2019 to August 31, 2019)
Identification and characterization of wildlife habitats	Incidental wildlife meandering survey for features such as: Dens Reptile hibernacula Structures Uncapped chimneys Foundations.	Entire subject property and areas of intrusion into the NHS (i.e., anticipated stormwater outfall and LID locations, grading).	Concurrent with vegetation inventory. Spring (April 15th to June 15th) Summer (June 30th to August 15th Fall (September 1st to October 15th)
Amphibian Breeding Call Surveys	Three surveys, following Marsh Monitoring Program Participant's Handbook for Surveying Amphibians (Bird Studies Canada, 2008), for wetland features potentially impacted by the proposed development.	The PSW wetland and other wetland areas located on the subject lands will be assessed at a minimum of 3 stations in representative habitats within the wetland areas.	April to June Three surveys for pre-construction (2019) and during construction (2021-2023); three surveys (each applicable year), every other year, for 5 years post construction. It is assumed that construction will begin in 2021 and will take 3 years.

Study Component	Field Work Requirements	Features/Areas to be Assessed	Survey Timing Window
Headwater Drainage Feature Assessments	Confirmatory field work following the Credit Valley Conservation and TRCA Headwater Drainage Feature Guidelines (Finalized January 2014).	The entire property will be surveyed for the presence of HDFs.	Up to three site visits, between late March and August, 2019
Wetland vegetation monitoring	Following the TRCA Wetland Vegetation Monitoring Protocol.	Transects within the PSW habitat.	A single site visit per year for pre-construction (2019) and during construction (2021-2023); a single site visit every other year for 5 years post construction. It is assumed that construction will begin in 2021 and will take 3 years.

2.3 Part III: Criteria for Determining the Significance, Sensitivity and Rarity of Features Found On-site

The PPS (MMAH, 2014) provides general policies on land use patterns, resources, and public health and safety that guide development across Ontario. Specifically related to this location is the requirement to identify natural heritage systems (NHS) in southern Ontario (Ecoregions 6E and 7E), Policy 2.1.3.

Eight types of natural heritage features are identified in Sections 2.1.4 and 2.1.5 of the PPS, as follows:

1. *Significant wetlands in Ecoregions 5E, 6E and 7E;*
2. *Significant coastal wetlands;*
3. *Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;*
4. *Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
5. *Significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and St. Marys River);*
6. *Significant wildlife habitat;*
7. *Significant areas of natural and scientific interest; and,*
8. *Coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to Policy 2.1.4(b)*

Sections 2.1.6 and 2.1.7 identify two additional natural features where development and site alteration are not permitted:

1. *Fish habitat except in accordance with provincial and federal requirements; and,*
2. *Habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*

In accordance with the Natural Heritage Reference Manual (MNR, 2010), habitats of endangered and threatened species are identified and evaluated based on provincial criteria. Burnside will consult with the MNRF to ensure that the appropriate criteria are utilized, including species-specific habitat regulations and guidance material.

By contrast, the identification of candidate Significant Woodlands and Significant Wildlife Habitats and the area-specific criteria for evaluation of these features are undertaken at the local planning level. The Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study identifies criteria for evaluating Significant Woodlands and Significant Wildlife Habitats within the study area. In addition, the Significant Wildlife Habitat Ecoregional 6E Schedule (MNRF, 2015) provides ecoregional evaluation criteria for the evaluation of Significant Wildlife Habitat.

These criteria require detailed field investigations which are typically undertaken at the EIS stage. Beyond review of mapped features, full assessment of all potential significant features is premature at this stage. While this work plan is intended to aid in the completion of the Part A CEISMP report, in order to fully evaluate these features, detailed surveys are more suited to studies that will be required during the CEISMP stage (i.e., full wildlife assessment). Any known PPS protected features, and candidate features observed during the Environmental Field Study will be identified.

Additionally, local significance of flora and fauna will be based on:

- Species' status under the *Endangered Species Act, 2007.*
- Species' S-rank as provided on the NHIC database.
- Species' L-rank as provided on the TRCA website.
- Rarity for Peel Region as listed in The Distribution and Status of the Vascular Plants of the Greater Toronto Area (Varga *et al*., 2000).

Analysis and Recommendations

The Monitoring Plan will provide an analysis of impacts for the monitoring parameters.

Reporting

Reports will be provided for each of the three tasks as follows:

Task 1: Baseline Conditions Report

A single report will be prepared and submitted following the completion of Baseline Conditions surveys in 2019. It is expected that the Significant Wildlife Habitats (SWH) fieldwork and identification will be completed as part of the Part A CEISMP report; however, vegetation community boundaries and types will be verified and refined as needed as part of the collection of baseline conditions. The focus of the baseline conditions will be to screen for the presence of any potential SWH. Locations of Endangered and Threatened species, as well as concentrations of other significant species that may constitute SWH, will be documented using GPS at this stage. As stated above, any other known PPS protected features, and candidate features observed during the Environmental Field Study will also be documented using GPS.

It is also expected that water quality monitoring will be completed as part of the Part A CEISMP report.

Task 2: Surface Water – Headwater Drainage Feature Assessment Report

A single report will be prepared and submitted following the completion of HDF assessment in 2019.

Task 3: Wetland Monitoring (Vegetation and Amphibian Breeding Habitat) Report

A summary memo will be prepared yearly, following the completion of that field season's monitoring. Monitoring is to be completed for 1-year pre-development, 2 years during development, and for 3 years – every other year – post-development. These memos will summarize findings.

A final monitoring report will be submitted at the completion of the Wetland Monitoring Program.

All findings will be summarized in a report, complete with figures. The locations of all provincially rare species encountered will be recorded (i.e., using GPS) and included on the figures (excepting those classified by MNRF as *Restricted Species*). Locally rare species will also be recorded in the ELC unit in which they are found.

2.4 Part IV: Information Requests

We kindly request the following information to assist in our study:

- A copy of any locally rare species lists, or comment on which locally rare species list is preferred, in order to assist with the assessment of species significance and rarity.
- Any additional records of natural features, flora, or fauna in the area. Digital mapping would be preferred.
- TRCA Regulation mapping, including a breakdown of the features contributing to the Regulation Limit (i.e., floodplain, steep slopes, etc.). Digital mapping would be preferred.

If you have any questions or comments regarding these Terms of Reference, do not hesitate to contact the undersigned.

Yours truly,

R.J. Burnside & Associates Limited

Lorraine Adderley, M.Sc., C.E.R.P.
Project Coordinator – Terrestrial Ecologist
LA:rm

Jennifer Szczerbak, B.Sc., EMPD
Senior Ecologist

Enclosure(s) Figure 1 – Study Area

April 8, 2019 (Revised March 7, 2019; April 8, 2019)
Project No.: 300043952.0000

cc: Ron Webb, Davis Webb LLP (enc.) (Via: Email)
Jane Deighton, DPG (enc.) (Via: Email)
Jason Afonso, Glen Schnarr & Associates Inc. (enc.) (Via: Email)
Carl Brawley, Glen Schnarr & Associates Inc. (enc.) (Via: Email)
Debra Kakaria, MacNaughton Hermsen Britton Clarkson Planning Limited (enc.) (Via: Email)
Dilip Jain, 2528061 Ontario Inc. (enc.) (Via: Email)
Marco Benigno, (enc.) (Via: Email)
Paramjeet Sandu, (enc.) (Via: Email)
Tom Baskerville, Coscorp Inc. (enc.) (Via: Email)
Lorena Niemi, R.J. Burnside & Associates Limited (enc.) (Via: Email)

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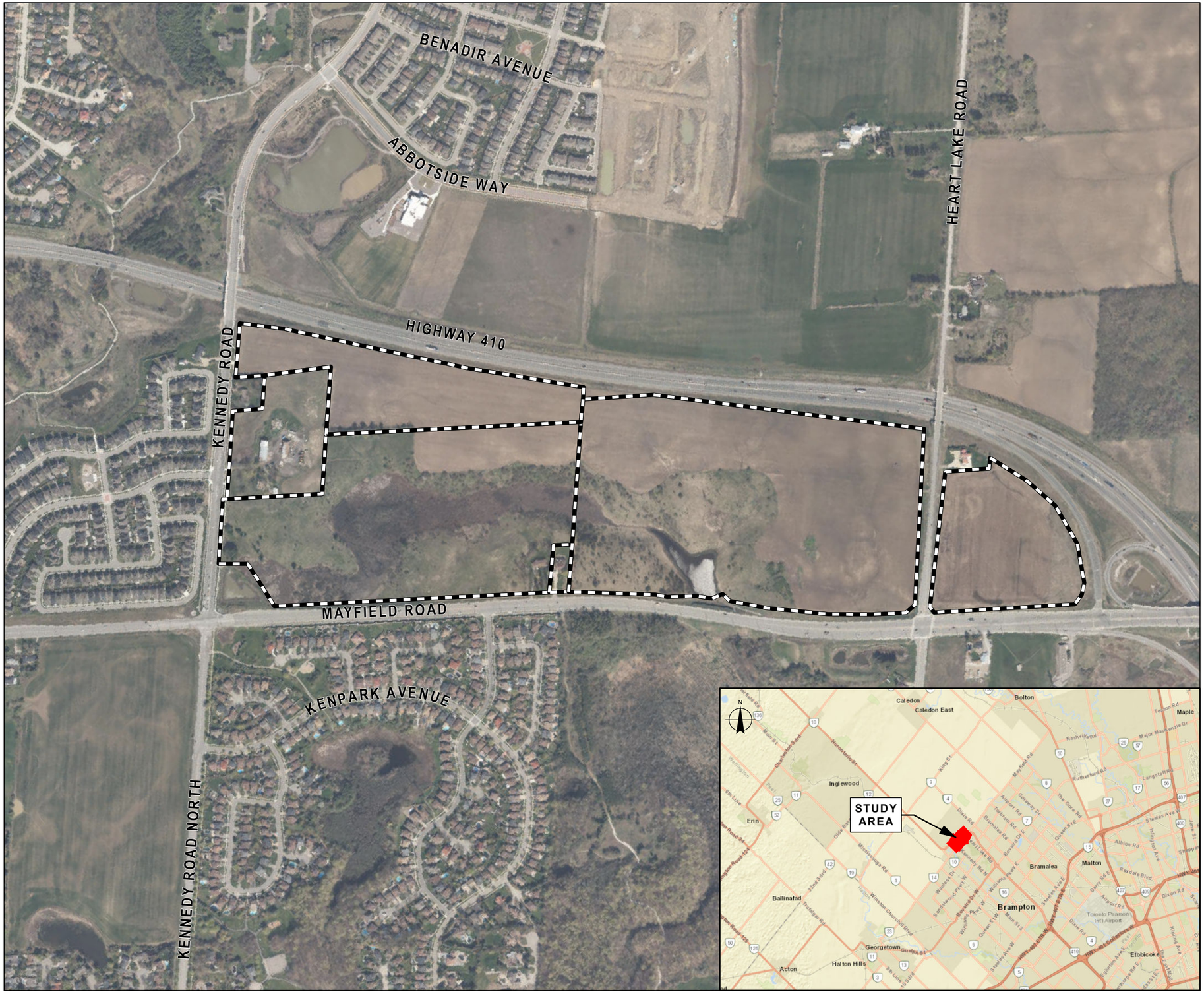
08/04/2019 11:34 AM



Study Area

Sources:

1. Ministry of Natural Resources and Forestry, © Queen's Printer for Ontario.
2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.

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Page Orientation: 310.49°	Scale Factor: 0.99960

Grid North

0 100 200 300 400 500
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Client

SNELL'S HOLLOW LANDOWNER GROUP

Figure Title

SNELL'S HOLLOW SECONDARY PLAN

STUDY AREA

Drawn	Checked	Date	Figure No.
HN	LA	2019/01/28	1
Scale		Project No.	
H 1:7,500		300043952	

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R.J. Burnside & Associates Limited 1465 Pickering Parkway Suite 200 Pickering ON L1V 7G7 CANADA
telephone (905) 420-5777 **fax** (905) 420-5247 **web** www.rjburnside.com

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May 5, 2020

Via: Email

Mr. Adam Miller
Senior Planner
Toronto and Region Conservation Authority
101 Exchange Avenue
Vaughan ON L4K 5R6

Dear Mr. Miller:

Re: Snell's Hollow East Secondary Plan CEISMP
Proposed Fieldwork Plan 2020 in Support of the Natural Heritage Study and Aquatic Resources and Water Quality Study
Town of Caledon, Ontario
Project No.: 300043952.0000

1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by the Snell's Hollow East Landowners Group to undertake the Comprehensive Environmental Impact Study and Management Plan (CEISMP) for a residential development, located at the northeast corner of Kennedy Road and Mayfield Road (herein referred to as the 'subject lands'). The subject lands are in the Town of Caledon (Town) and within the jurisdiction of Toronto and Region Conservation Authority (TRCA). See Figure 1 attached.

Burnside was retained by the Snell's Hollow East Landowners Group to undertake the Baseline Monitoring Program of the Snell's Hollow East Secondary Plan Area in 2019. This program is detailed in the Environmental Field Study and Baseline Monitoring Plan Terms of Reference (TOR), which was finalized and approved by the Agencies (the Town, the Region of Peel and TRCA) on April 8, 2019.

As part of the April 2019 TOR, Burnside submitted three ecological reports to the Landowners Group for review and are awaiting review and approval from the Landowners Group and TRCA.

These reports include:

- Baseline Conditions Report (March 2020).
- Annual Wetland Monitoring Report – Year 1 (January 22, 2020).
- Technical Memorandum – 2019 Headwater Drainage Feature Assessment (March 12, 2020).

In preparation for the Snell's Hollow East Secondary Plan Area, the Town, Region of Peel and the TRCA developed a TOR for the CEISMP (dated April 3, 2019). A CEISMP is required as a

sub-component of the overall Secondary Plan to provide detailed information regarding environmental features, functions, linkages and interdependencies, to recommend environmental protection, management and monitoring measures, and to assess the impacts of planned urban development on the ecosystem. The CEISMP is structured into three parts:

- Part A: Existing Conditions and Characterization.
- Part B: Impact Assessment and Detailed Studies.
- Part C: Implementation.

The expectation is that the baseline reports prepared under the TOR dated April 8, 2019 will fulfill the terms of Part A as they pertain to the natural environment. This is to be confirmed pending TRCA's review of these reports in the near future. Any data gaps and detailed studies required in Part B were identified in the Baseline Conditions Report (March 2020) and are detailed in this letter. As such, this letter assumes that the requirements for Part A have been fulfilled.

2.0 Background

The subject lands are located at the southern edge of the Town of Caledon, in the proposed Snell's Hollow East Secondary Plan area. The site is bounded by Highway 410 to the north, Heart Lake Road to the east, Mayfield Road to the south and Kennedy Road to the west (Figure 1). The subject lands contain portions of the Heart Lake Provincially Significant Wetland (PSW) Complex, which drains beneath Mayfield Road towards Heart Lake Conservation Area to the south. The existing land use is agricultural in the uplands, with meadows on the slopes and ridges adjacent to the PSW unit. Adjacent lands south of Mayfield Road consist of the Heart Lake Forest and Bog Life Science ANSI, the Brampton Buried Esker Earth Science ANSI and additional units of the Heart Lake PSW Complex.

Although natural heritage features and the NHS were characterized generally in the Baseline Conditions Report (March 2020), detailed field studies will be required in support of the CEISMP. Burnside will complete the fieldwork in the spring/summer of 2020. At this time, we are seeking your input and would appreciate any comments on our fieldwork approach.

3.0 Proposed Field Investigations

Part I: Background Information Review and Agency Consultation

Burnside has reviewed background existing data sources as part of the Baseline Conditions Report (March 2020), which includes but is not limited to the following:

- The Provincial Policy Statement (PPS) (MMAH, 2014).
- Town of Caledon Official Plan (OP) (April 2018 Consolidation).
- Region of Peel OP (December 2018 Consolidation).
- Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (North-South Environmental Inc. et al., 2009).
- The Living City Policies (TRCA, 2014).
- Greening our Watersheds: Revitalization Strategies for Etobicoke and Mimico Creeks, Including the Etobicoke-Mimico Report Card (TRCA, 2002).
- Etobicoke and Mimico Creeks Watershed Technical Update Report (TRCA, 2010)
- Mimico Creek Watershed Report Card (TRCA, 2018).

- Recent Digital Aerial Photography (Google Earth Pro).
- Natural Heritage Information Centre (NHIC) database to identify records of rare wildlife species on, and in the vicinity of, the subject lands (January 2019).
- The Ontario Breeding Bird Atlas (OBBA) for records of birds breeding in the area (January 2019).
- Ontario Reptile and Amphibian Atlas (ORAA) for records of reptiles and amphibians in the area (January 2019).
- Department of Fisheries and Oceans Canada (DFO) Aquatic SAR Mapping (April 2019).
- Ministry of Natural Resources and Forestry (MNRF) Provincially Significant Heart Lake Wetland Complex evaluation (November 2000).
- MNRF SAR list for Town of Caledon (provided January 2019).
- *A turtle population study in an isolated urban wetland complex in Ontario reveals a few surprises* (Dupuis-Désormeaux et al., 2019).

Burnside has contacted the Ministry of Environment, Conservation and Parks (MECP), MNRF, DFO and CLOCA to gather pertinent information regarding species or significant natural heritage features. This information has helped to guide the proposed field investigations as described in Part II of this letter.

Part II: Field Investigations in Support of the CEISMP in 2020

Burnside will undertake appropriate field investigations within the subject lands' boundaries to determine existing terrestrial and aquatic habitat conditions, constraints and restoration possibilities to be documented in the CEISMP. Fieldwork will be conducted during appropriate season(s) and be sufficient in scope to satisfy requirements for necessary approvals.

If Species at Risk (SAR) or potential SAR habitat are identified, additional studies, reporting and permitting may be necessary.

To align with approved assessment protocols and regulatory requirements, field investigations must be conducted during specific timing windows, which vary depending on the survey being conducted. Table 1 outlines the surveys that are proposed during the 2020 field season. Please note that Burnside has already started to complete these surveys outlined below in order to ensure that no timing windows are missed.

Table 1: Summary of Existing Information and Proposed Fieldwork in 2020

Study Component	Existing Data	Fieldwork Requirements	Features/Areas to be Assessed	Survey Timing Window
Structure Surveys	Baseline Conditions (Burnside, 2020).	• Inspection of exterior of structures to assess habitat suitability for Barn Swallow, Chimney Swift, and SAR bats. • Findings will determine what (if any) further studies are required during the field season.	All farm/industrial-related structures, and any chimneys.	Early spring (prior to mid-May)
SAR Bat Leaf-off and Leaf-on Surveys	Baseline Conditions (Burnside, 2020).	• Leaf-off and leaf-on surveys for candidate maternity roosting habitat following the Guelph MNRF protocol (April 2017), in treed ecosites potentially impacted by the development.	Treed ecosites and any other trees identified as suitable habitat.	During leaf-off period, and leaf-on period until June 1.
Turtle Overwintering/ Basking Surveys	Baseline Conditions (Burnside, 2020). Heart Lake Complex PSW Wetland Evaluation (2009); Turtle population study (Dupuis-Désormeaux, M., et al, 2019).	• Surveys to be completed generally following the MNRF Survey Protocol for Blanding's Turtle in Ontario (2015) for visual encounter surveys. • 5 surveys completed after ice cover has melted on warm, sunny, days. • Spread over a minimum of 3 weeks. • Supplemental observations during all other site visits.	All wetland ecosites where open water is present.	After ice cover has melted and no later than June 15.

Turtle Nesting Surveys	Baseline Conditions (Burnside, 2020). Heart Lake Complex PSW Wetland Evaluation (2009); Turtle population study (Dupuis-Désormeaux, M., et al, 2019).	• Surveys to be completed generally following the MNRF Survey Protocol for Blanding's Turtle in Ontario (2015) for nesting surveys. • 6 evening surveys completed between 18:00 and 21:00 within all areas suitable for nesting (i.e., friable soils dominated by sand and gravel and exposed to sun and warmth).	Upland areas adjacent to wetland ecosites.	To commence when the first sign of Midland Painted Turtle or Snapping Turtle nesting has begun in this area and continue for approximately three weeks.
Targeted Butternut surveys, including Butternut Health Assessments	Baseline Conditions (Burnside, 2020).	Identification of Butternut trees during leaf-on period on subject lands. If Butternut are found, Butternut Health Assessments to be completed and samples obtained for hybridity testing.	Subject lands (based on areas to be affected by draft concept plan).	May 15 to August 31.
Breeding Bird and Grassland SAR Bird Surveys (Bobolink and Eastern Meadowlark)	Habitat suitability identified from Baseline Conditions (Burnside, 2020).	Assume 3 surveys to be completed following the MNRF Survey Protocol for Eastern Meadowlark (2013). Breeding bird surveys would incorporate observations of all Barn Swallow (THR) and Chimney Swift (THR). NOTE: If SAR birds are observed entering/exiting any structures, a tally of active nests inside these structures would be required prior to demolition.	Subject lands (based on areas to be affected by draft concept plan).	Between May 21 and July 3.

Marsh Breeding Bird Surveys	Habitat suitability identified from Baseline Conditions (Burnside, 2020). Heart Lake Complex PSW Wetland Evaluation (2009).	Assume 2 surveys to be completed following the Marsh Monitoring Program for Surveying Marsh Birds (2009). To be completed concurrently with Breeding Bird Surveys.	All wetland ecosites.	Between May 20 and July 5.
Aquatic Habitat Assessments	HDF and Baseline Conditions (Burnside, 2020).	One aquatic habitat assessment of the Tributary and the pond in the PSW.	Subject lands.	May to August
Fish Sampling	Previous sampling has not been completed within the Study Area according to MNRF Aquatic Resources Area mapping.	One day of sampling within the watercourse and pond using a combination of electrofishing, dip netting, seine netting and minnow traps, as conditions permit.	Tributary and ponded area within the subject lands.	May to August
Identification and characterization of wildlife habitats	Baseline Conditions (Burnside, 2020).	General wildlife meandering survey for features such as: • Dens • Reptile hibernacula • Structures • Uncapped chimneys • Foundations	Subject lands.	During all site visits.
Incidental Wildlife Observations	Baseline Conditions (Burnside, 2020).	Observations recorded during all site visits.	Subject lands.	During all site visits.

Burnside is looking for your input or comments on the proposed fieldwork plan.

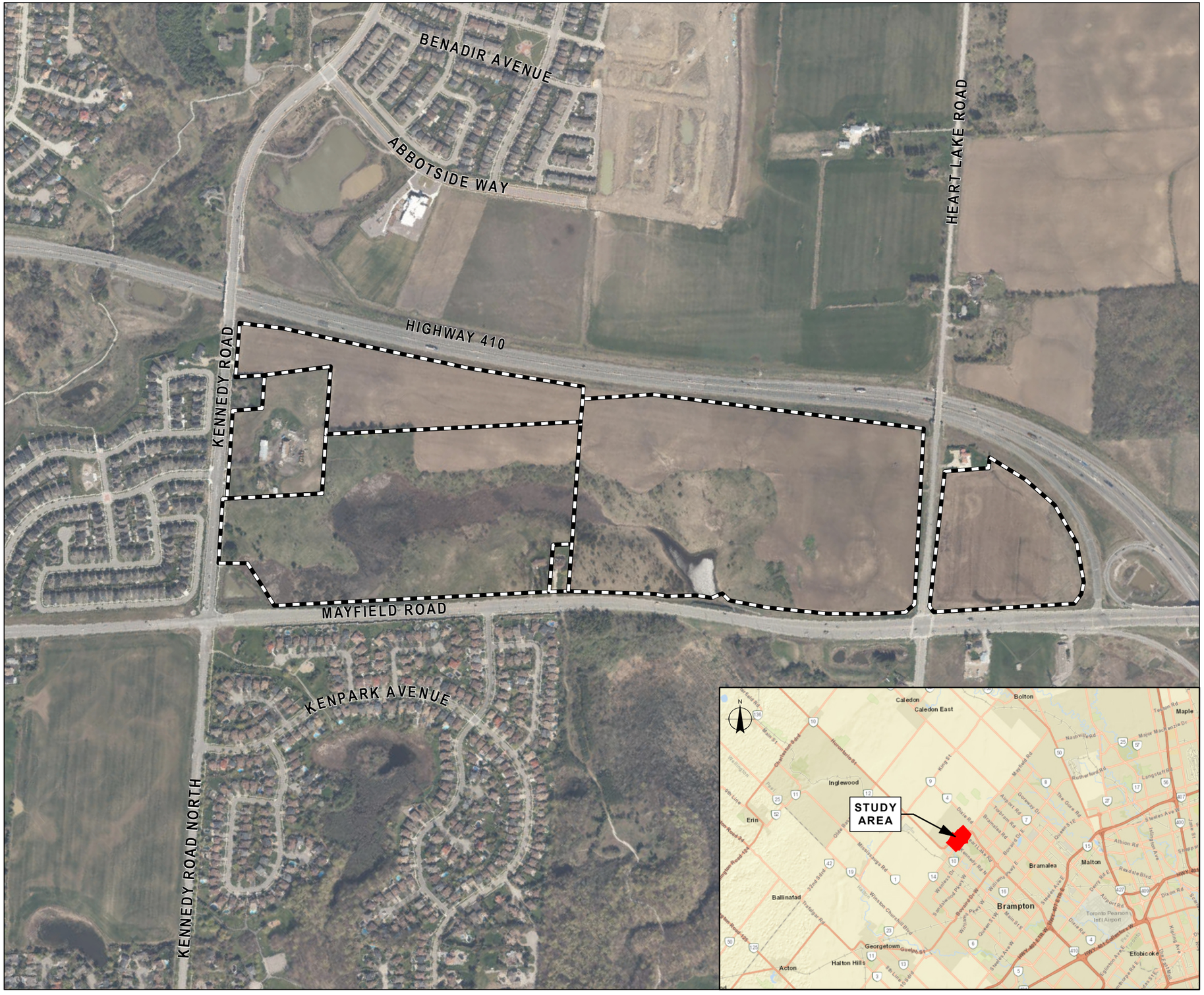
Yours truly,

R.J. Burnside & Associates Limited

Hannah Maciver
Ecologist / Project Coordinator
HM:lam

Enclosure(s) Figure 1: Study Area

cc: Mr. Jason Afonso, GSAI (enc.) (Via: email)



Study Area

Sources:

1. Ministry of Natural Resources and Forestry, © Queen's Printer for Ontario.
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Grid North

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SNELL'S HOLLOW LANDOWNERS GROUP

Figure Title

SNELL'S HOLLOW EAST SECONDARY PLAN

STUDY AREA

Drawn	Checked	Date	Figure No.
HN	LA	2020/01/24	1
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File Path: \\elmogis\Project\300\043952 (Snell's Hollow)\Map\Carto\043952 Study Area.mxd Print Date: 2020/01/24 Time: 10:10 AM

July 21, 2020 CFN 54295

BY EMAIL: jasona@gsai.ca

Mr. Jason Afonso, Senior Associate
Glen Schnarr & Associates Incorporated
10 Kingsbridge Garden Circle, Suite 700
Mississauga, ON
L5R 3K6

Dear Mr. Afonso:

Re: Snell's Hollow East Secondary Plan
Baseline/Existing Conditions Analysis and Monitoring Results - Comprehensive Environmental Impact Study & Management Plan (CEISMP)
Town of Caledon
Snell's Hollow Developers Group (Agent: Glen Schnarr & Associates Incorporated)

This letter will acknowledge receipt of the following documents in support of the future Official Plan Amendment (OPA) to the Snell's Hollow planning area (received on May 14, 2020):

- Cover Letter, dated May 13, 2020, prepared by R.J. Burnside & Associates Limited;
- Baseline Conditions Report – 2019, dated January 2020, prepared by R.J. Burnside & Associates Limited;
- Technical Memorandum – 2019 Headwater Drainage Feature (HDF) Assessment, dated March 12, 2020, prepared by R.J. Burnside & Associates Limited;
- Annual Wetland Monitoring Report – Year 1 (2019), dated January 22, 2020, prepared by R.J. Burnside & Associates Limited;
- Fluvial Geomorphological Assessment and Flow Monitoring, dated April 15, 2020, prepared by GeoMorphix.

Thank you for the opportunity to review and provide comments. As per the "Living City Policies for Planning and Development within the Watersheds of the TRCA" (LCP), staff provides the following comments as part of TRCA's commenting role under the *Planning Act*, the Authority's delegated responsibility of representing the provincial interest on natural hazards encompassed by Section 3.1 of the Provincial Policy Statement (PPS, 2020); TRCA's Regulatory Authority under the *Conservation Authorities Act* and O. Reg. 166/06, *Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses* (as amended); and our Memorandum of Understanding (MOU) with the Region of Peel, wherein we provide technical environmental advice.

TRCA staff understand the above noted reports have been submitted to provide a preliminary assessment of the baseline/existing conditions analysis and the monitoring results completed to-date for the subject lands, which will inform the future Comprehensive Environmental Impact Study and Management Plan (CEISMP) in support of the proposed Snell's Hollow East Secondary Plan. We further understand that the landowner's group will file an OPA and submit a CEISMP, which is required as a subcomponent of the overall Secondary Plan submission to provide detailed information regarding environmental features, functions, linkages,

recommendations for environmental protection, management and monitoring measures, and to assess the impacts of the planned urban development on the natural heritage system.

As background and in advance of the work completed to-date, a CEISMP Terms of Reference (TOR), dated April 3, 2019, has been reviewed and approved. Further, an Environmental Field Study and Baseline Monitoring Plan TOR, dated April 8, 2019, and Proposed Fieldwork Plan 2020 in Support of the Natural Heritage Study and Aquatic Resources and Water Quality Study, dated May 5, 2020 have been reviewed and approved.

Purpose of Application

We understand the lands subject to the proposed amendment are bounded by Mayfield Road to the south, Kennedy Road to the west, and Highway 410 to the north and east. The lands encompass approximately 60 ha (150 acres) of land. As part of the Town's Development Application Review Team (DART) Meeting, a Preliminary Development Concept has been provided which consists of 442 low-density residential units; 315 medium-density residential units; 381 medium-high density residential units; 1.47 ha for a commercial use block; 1.01 ha of parkland; 2 stormwater management ponds; natural heritage system; and internal road network.

O. Reg. 166/06

The subject lands are traversed by Spring Creek, a tributary of the Etobicoke Creek Watershed. Also, the subject property contains portions of the Heart Lake Provincially Significant Wetland (PSW) Complex. As such, a significant portion of the subject lands are located within TRCA's Regulated Area and are subject to O. Reg. 166/06 (as amended) and TRCA's LCP. Based on our review of the preliminary development concept, the proposed development is located within the regulated portion of the subject site. As such, a TRCA permit will be required from TRCA prior to any works commencing within the regulated portion of the site. TRCA staff will discuss permit fees and requirements with the applicant at such time that the review and approvals have advanced and TRCA permits are required to facilitate the proposed development.

Review Comments

Please address the following comments and resubmit revisions/additional information for additional technical review. To expedite the review of the resubmission, please advise the applicant to include a cover letter detailing how each of the concerns listed below have been addressed.

Planning Ecology

1. Please note that the subject lands are located within the Etobicoke Creek Watershed. The reports submitted with this circulation refer to Mimico Creek Watershed. Please ensure that all reference to Mimico Creek Watershed is revised to Etobicoke Creek Watershed, including the applicable planning and natural heritage information reviewed as part of the high-level assessment.

2. Section 5.2.2: Significant Valleylands indicates that Significant Valleylands are not present on the subject property and that the site lacks a large, well-defined valleyland system. In determining significance, the report notes that the Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Reference Manual (NHRM) provides criteria for identifying Significant Valleylands. TRCA staff agree that this is one document that needs to be considered as part of the significance evaluation, which also provides technical guidance for implementing the full suite of natural heritage policies (Section 2.1) of the PPS. Further, the report notes that Significant Valleylands are defined as "a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year" and "large well defined valleylands are often significant landscape features essential to the character of an area". This definition provides the valleylands definition from the PPS and incorporates the Comments Section from the Landform Prominence Criteria used to help evaluate significance as per the NHRM. However, the definition does not speak to significance as per the PPS. In accordance with the PPS, Significant Valleylands are defined as "ecologically important in terms of features, functions, representation or amount, and

contributing to the quality and diversity of an identifiable geographic area or natural heritage system". To build on this definition, the NHRM also speaks to other important criteria beyond landform prominence such as surface water functions; groundwater functions; distinctive geographic landforms; degree of naturalness; community and species diversity; unique communities and species; habitat value; and linkage function that need to be considered as part of the significance evaluation.

As it relates to landform prominence, Table 8-1: Recommended Significant Valleylands Evaluation Criteria and Standards of the NHRM identifies areas with well-defined valley morphology (i.e., floodplains, meander belts, and valley slopes) having an average width of 25 m are considered significant. The landform depression on the subject property includes a floodplain; meander belt; steep valley slopes greater than 10 m from the top of bank to the toe of slope; and a corridor width between 150 m to 300 m. Further, TRCA staff staked/approved the top of bank associated with the large valley corridor associated with this property on October 24, 2018, and the valley corridor is identified on Figure 3: Natural Heritage Constraints. As such, it is our opinion that the "landform depression" meets the criteria to be considered significant. Further, it is our opinion that the valley corridor meets many of the other criteria identified in Table 8-1 that make this a Significant Valleyland.

It is important to note the NHRM is only one document that needs to be considered to determine significance as it relates to valleylands. The CEISMP TOR, as well as the Environmental Field Study and Baseline Monitoring TOR, identify other relevant planning policies beyond the NHRM, which must be used to evaluate natural heritage features. The planning hierarchy includes the Region of Peel Official Plan (OP), Town of Caledon OP, Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study; TRCA's LCP; Etobicoke Creek Watershed Plan, etc. It is important to note that the PPS is strictly for those natural features and area that are identified as "significant". In this regard, the PPS sets out the standards for conservation at a provincial level, and allows and encourages municipalities to go beyond this standard to reflect the needs for conservation at the local scale. Additionally, the NHRM identifies the important relationship to the CA Act and in this case TRCA's LCP. It is our opinion the "landform depression" identified in Section 5.2.2 is considered a valley corridor that warrants protection pursuant to O. Reg. 166/06 (as amended).

Based on our review of the Region of Peel's Core Area of the Greenlands System map (Schedule A), it appears a significant portion of the subject lands are located within the Core Area land use designation. The Region's Core Area land use designation is an additional criteria used to determine significance as it relates to valley corridors. Core Areas represent provincially and regionally significant features and areas and are considered a sub-set of what would be significant under the PPS. Where there is a discrepancy between Schedule A and the identification of Core Areas in the text of the OP, the text shall govern. Section 2.3.2.2 (g) (Core Areas) of the Region's OP identify Core Areas as being valley and stream corridors meeting one or more of the criteria in Table 2: Criteria and Thresholds for the Identification of Core Valley and Stream Corridors. In our opinion, the "landform depression" identified in Section 5.2.2 meets the test of Core Areas as identified in the text of the Region's OP.

Please revise the report to ensure that the valley corridor is identified and is recognized as being significant as per the PPS, as well as several other applicable planning documents used to evaluate significance.

3. Headwater Drainage Features (HDFs) 2, 3, 9, 10, and 12 appear to contribute flows to the wetland complex. The no management recommendation would not seem to be appropriate given the contributing nature of the HDFs. While no management would not seem to be appropriate, it is likely, given the information provided in the analysis that various solutions would be available for the

purposes of ensuring that the HDF functions are not lost through the development and incorporated into the post-development scenario. This would likely need to include an overland flow route to ensure that primary inputs are maintained to the downstream system. Please ensure that options are maintained to the downstream system. Please also ensure that options for maintaining HDF functions continue to be considered as the planning process moves forward.

Floodplain Management

4. Based on our review of the reports and the constraints mapping submitted, the existing hydrology, hydraulics, and floodlines have not been submitted for our review to determine the extent of the Regulatory Floodplain. As noted in the Environmental Field Study and Baseline Monitoring Plan TOR, the extent of the Regulatory Floodplain is necessary to determine limits of development and the extent of the natural heritage system.

Geotechnical Engineering

5. There are slope segments within the study area which contain steep slope greater than 3:1 and the presence of a watercourse feature within 15 m of the toe of slope. As such, there is a potential risk of toe erosion and overstepping in the long-term should toe erosion occur. These areas need to be reviewed by a qualified geotechnical engineer to determine the long-term stable top of slope with a minimum factor of safety of 1.50. The slope stability review needs to consider both slope stability and the potential impact of the fluvial process resulting from toe erosion and over steepened slopes vulnerable to slope instability in the long-term. The slope stability review will provide the erosion hazard limits for the slopes and will determine the safe setback for the future development to ensure that there is no risk associated with slope instability and toe erosion. As noted in the Environmental Field Study and Baseline Monitoring Plan TOR, the extent of the long-term stable top of slope is necessary to determine limits of development and the extent of the natural heritage system. For your assistance, a figure has been included with this letter identifying potential areas within erosion hazards, which need to be assessed. Also, the general TOR for slope stability study to determine the erosion hazard is available by visiting the following website: http://www.trca.on.ca/dotAsset/40047.pdf.

We thank you for the opportunity to review the baseline/existing conditions analysis and monitoring results completed to-date and provide our comments as per our commenting, regulatory, delegated authority, and technical advisory roles. Further, we trust these comments are of assistance. TRCA staff will continue to work with Town staff, the landowner's group, and their team of consultants to ensure that TRCA's expectations for meeting TRCA's CEISMP requirements are met. We look forward to reviewing updated/revised submissions, as well as the future CEISMP in support of the Snell's Hollow East Secondary Plan. Should you have any questions or comments, please do not hesitate to contact the undersigned.

Yours truly,

Adam Miller, BES, MCIP, RPP
Senior Manager
Development Planning & Permits
Extension 5244
/am

cc: Stephanie McVittie, Town of Caledon: stephanie.mcvittie@caledon.ca
Dylan Prowse, Region of Peel: Dylan.prowse@peelregion.ca
Hannah Maciver, R.J. Burnside & Associates Ltd.: Hannah.maciver@rjburnside.com
Tom Baskerville, Coscorp Kennedy Inc.: tbaskerville@coscorp.ca

R.J. Burnside & Associates Limited 1465 Pickering Parkway Suite 200 Pickering ON L1V 7G7 CANADA
telephone (905) 420-5777 **fax** (905) 420-5247 **web** www.rjburnside.com

BURNSIDE
[THE DIFFERENCE IS OUR PEOPLE]

August 19, 2020

Via: Email

Adam Miller
Senior Manager
Development Planning and Permits
Toronto and Region Conservation Authority
101 Exchange Avenue
Vaughan ON L4K 5R6

Dear Mr. Miller:

Re: Snell's Hollow East Secondary Plan
Baseline/Existing Conditions Analysis and Monitoring Results – Comprehensive Environmental Impact Study & Management Plan (CEISMP)
Town of Caledon
Project No.: 300043952.0000

R.J. Burnside & Associates Limited (Burnside) received comments from Toronto and Region Conservation Authority (TRCA) on July 21, 2020 pertaining to the following Burnside documents:

- Baseline Conditions Report – 2019, dated January 2020;
- Technical Memorandum – 2019 Headwater Drainage Feature (HDF) Assessment, dated March 12, 2020; and,
- Annual Wetland Monitoring Report – Year 1 (2019), dated January 22, 2020.

The following comments from TRCA are provided below and referenced as per TRCA's letter; Burnside's response is provided below each comment in *italics*.

Planning Ecology

1. Please note that the subject lands are located within the Etobicoke Creek Watershed. The reports submitted with this circulation refer to Mimico Creek Watershed. Please ensure that all reference to Mimico Creek Watershed is revised to Etobicoke Creek Watershed, including the applicable planning and natural heritage information reviewed as part of the high-level assessment.

Burnside Response:

Thank you for this correction. We have corrected our reports where this error was made – the Baseline Conditions Report and the Annual Wetland Monitoring Report (see attached).

2. Section 5.2.2: Significant Valleylands indicates that Significant Valleylands are not present on the subject property and that the site lacks a large, well-defined valleyland system……Please revise the report to ensure that the valley corridor is identified and is recognized as being significant as per the PPS, as well as several other applicable planning documents used to evaluate significance.

Burnside Response:

We have revised our reports to acknowledge that the subject property is identified as a provincially Significant Valleyland and added additional text to support this statement (see attached).

3. Headwater Drainage Features (HDFs) 2, 3, 9, 10, and 12 appear to contribute flows to the wetland complex. The no management recommendation would not seem to be appropriate given the contributing nature of the HDFs. While no management would not seem to be appropriate, it is likely, given the information provided in the analysis that various solutions would be available for the purposes of ensuring that the HDF functions are not lost through the development and incorporated into the post-development scenario. This would likely need to include an overland flow route to ensure that primary inputs are maintained to the downstream system. Please ensure that options are maintained to the downstream system. Please also ensure that options for maintaining HDF functions continue to be considered as the planning process moves forward.

Burnside Response:

The recommendation for HDF 2 and HDF 3 is "mitigation." As such, mitigation measures such as replicating the function of the HDF through lot level conveyance, or by utilizing low impact development (LID) stormwater options will be should be incorporated into the planning process.

Within the wetland complex, the downstream reaches of HDF 9, HDF 10 and HDF 12 were assigned "mitigation" recommendations. The conceptual plan for the development does not indicate any potential alteration to these reaches. The upper reaches of HDF 9, HDF 10 and HDF 12, located in the agricultural fields, have been assigned "no management required." As outlined in the Guidelines for Evaluation, Classification and Management of Headwater Drainage Features (The Guide) (TRCA-CVC, 2014), undefined features or swales that are dry or contain standing water (but are not wetlands) during the spring assessment, are considered to have 'limited hydrological function.' During the April 2019 site visit, these features were observed to be dry (HDF 9 and HDF 12) or contained standing water (HDF 10). Based on this criterion and given these features do not provide important terrestrial habitat or riparian function, a management recommendation of 'no management required' was selected, as outlined on page 20 of The Guide. As such, no specific mitigation measures are recommended for these features, which can be addressed through site level water balance and Stormwater Management Design. We have not made any changes to the HDF Assessment Technical Memorandum.

Floodplain Management

4. Based on our review of the reports and the constraints mapping submitted, the existing hydrology, hydraulics, and floodlines have not been submitted for our review to determine the extent of the Regulatory Floodplain. As noted in the Environmental Field Study and Baseline Monitoring Plan TOR, the extent of the Regulatory Floodplain is necessary to determine limits of development and the extent of the natural heritage system.

Burnside Response:

Noted. The existing hydrology, hydraulics and floodlines will be provided in the future once this information has been completed by other members of the Team.

Geotechnical Engineering

5. There are slope segments within the study area which contain steep slope greater than 3:1 and the presence of a watercourse feature within 15 m of the toe of slope. As such, there is a potential risk of toe erosion and overstepping in the long-term should toe erosion occur. These areas need to be reviewed by a qualified geotechnical engineer to determine the long-term stable top of slope with a minimum factor of safety of 1.50. The slope stability review needs to consider both slope stability and the potential impact of the fluvial process resulting from toe erosion and over steepened slopes vulnerable to slope instability in the long-term. The slope stability review will provide the erosion hazard limits for the slopes and will determine the safe setback for the future development to ensure that there is no risk associated with slope instability and toe erosion. As noted in the Environmental Field Study and Baseline Monitoring Plan TOR, the extent of the long-term stable top of slope is necessary to determine limits of development and the extent of the natural heritage system. For your assistance, a figure has been included with this letter identifying potential areas within erosion hazards, which need to be assessed.

GSAI Response:

Please find at the link below access to the DRAFT Geotechnical Setback Assessment for Erosion Hazard Limit, as prepared by Golder dated June 18, 2019. The Geotech investigation did not result in identifying a setback line. So, there is no additional setback info to include on any constraint mapping.

Download Link

Yours truly,

R.J. Burnside & Associates Limited

Hannah Maciver
Project Coordinator / Ecologist
HM:clr

Enclosure(s) Baseline Conditions Report – 2019, dated January 2020 (revised August 19, 2020), prepared by R.J. Burnside & Associates Limited;
Annual Wetland Monitoring Report – Year 1 (2019), dated January 22, 2020 (revised August 19, 2020), prepared by R.J. Burnside & Associates Limited

cc: Jason Afonso, Glen Schnarr & Associates Inc. (GSAI) c/o Snell's Hollow East Landowners Group (enc.) (Via: Email)
Stephanie McVittie, Town of Caledon (Via: Email)
Dylan Prowse, Region of Peel (Via: Email)

JULY 11, 2023

PROJECT NO: 2479-6729

SENT VIA: EMAIL

Toronto and Region Conservation Authority
101 Exchange Avenue
Vaughan, ON, L4K 5R6

Attention: Mr. Adam Miller, BES, MCIP, RPP
Associate Director, Development Planning and Permits
Development and Engineering Services

RE: SNELL'S HOLLOW – CLEARBROOK DEVELOPMENT LAND

Dear Mr. Miller,

Thank you for your July 4, 2023 email that outlined the TRCA's requirements for restoration to offset encroachments to regulated areas identified within the Snell's Hollow/Clearbrook Lands (see attached).

In response to the noted restoration requirements, we have worked with the affected landowners to prepare a drawing and general restoration specification that we trust will meet with your approval.

The proposed restoration plan (see attached) and the general specifications prepared below indicate four (4) Zones of required restoration to provide the 1:1 or greater encroachment area to offset compensation area (per your email). The proposed four (4) Zones of restoration treatment are generally described below and are intended to comply with the TRCA Post-Construction Restoration Guidelines (2004) and the Guideline for Determining Ecosystem Compensation (June 2018).

Zone 1 – Proposed Natural Heritage Areas – 1.21 ha (3.01 ac)

- To enhance the Natural Heritage Areas, native trees and shrubs will be interplanted amongst existing vegetation or in small clusters and overseeded with an approved TRCA seed mix. Plantings will be planted in late Spring or Autumn when plants are dormant, and weather is cooler. Utilizing the principles of planting only native trees and shrubs species similar to those already present in the area and augmented by additional native species will add diversity and provide the most benefit to wildlife.

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CONSULTING ENGINEERS

Zone 2 – Valley Corridor Restoration / Enhancement Areas – 0.47 ha (1.16 ac)

- To enhance the valley corridor, new plants or propagules will be interplanted amongst existing vegetation or in small clearings. To be sensitive to the ecosystem, site preparation (weeding, digging, and grading) will be undertaken manually to be less intrusive and reduce impacts on existing drainage feature. Existing vegetation will be kept in place to minimize erosion and protect the drainage feature from sedimentation.
- Plantings along the pond edge and valley areas will be planted in late Spring or Autumn to avoid flooding. Utilizing the principles of planting only native trees, shrubs, and ground covers species similar in nature to those already present in the area and augmented by other native species will add shade, diversity and provide the most benefit to wildlife while providing thermal benefit/mitigation.

Zone 3 – Parks Patches (Pollinator/Rain Garden) – 0.12 ha (0.3 ac)

- To enhance the edge of the park adjacent to the vegetated buffer area, two shallow depressions lined with 0.5m bioretention media will be created and planted with drought tolerant native shrubs and perennials and grasses that attract pollinators. The bioretention media and plants filter storm water runoff prior to entering the valley corridor to enhance water quality. The shrubs and perennials will attract pollinators and provide additional habitat for wildlife. These areas have been identified by the Town of Caledon as a component of the "facility fit" plan prepared for this particular park.

Zone 4 – Fully Vegetated Buffer – 0.9ha (2.23 ac)

- To enhance the 10-metre-wide vegetated buffer, native trees and shrubs will be planted amongst existing vegetation and in clusters along the linear corridor. Plantings will be planted in late Spring or Autumn when plants are dormant, and weather is cooler. Utilizing the principles of planting only native trees, shrubs, and ground covers species similar to those already present in the area and augmented by additional native species will add diversity and provide the most benefit to wildlife.

The combined restoration areas of Zones 1-3 provide 1.8ha (4.45ac) of restored and/or enhanced compensation offset habitat. The restoration areas therefore represent a better than 1:1 compensation for the proposed encroachments 1.485ha (3.665ac). It should be noted that even if just including restoration Zone 1 & 2 areas, the total offset provided 1.6ha (4.15ac) still represents a greater than 1:1 compensation. We do intend to discuss the inclusion of the restoration patches (pollinator/raingarden) within the Park Block (Zone 3 areas) as the Town has identified the pollinator/raingardens within their facility fit drawing for the park.

While we are committed to providing enhanced buffers, we have not included the fully vegetated buffer areas within the total restoration area calculation (only Zones 1-3) because as you have noted, the fully vegetated buffers are a TRCA expectation beyond compensation.

In summary, the restoration being provided to compensate/provide offset for the proposed 1.483ha (3.665ac) is outlined below and includes:

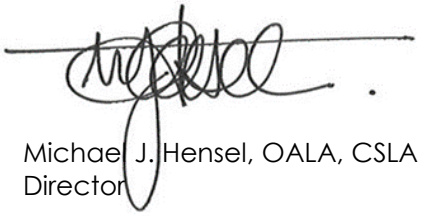
Zone 1 – Proposed NHS 1.21ha (3.01ac)
Zone 2 – Valley corridor 0.47ha (1.16ac)
Zone 3 – Park patches (if Town approves) 0.12ha (0.30ac)
Zone 4 – Fully vegetated buffer 0.90ha (2.32ac)

We trust that the Zones 1-3 restoration area proposed is consistent with your noted requirements and can form the basis to move forward and formalize the proposed encroachments and associated restoration plans. Upon your acceptance of the general drawing and specifications outlined herein, we will provide direction to RJ Burnside to ensure that restoration plans and specifications are incorporated into the final CEISMP currently being finalized by their office.

Please let us know your response to this submission and if you have any questions at all, don't hesitate to contact me.

Best Regards,

C.F. CROZIER & ASSOCIATES INC.

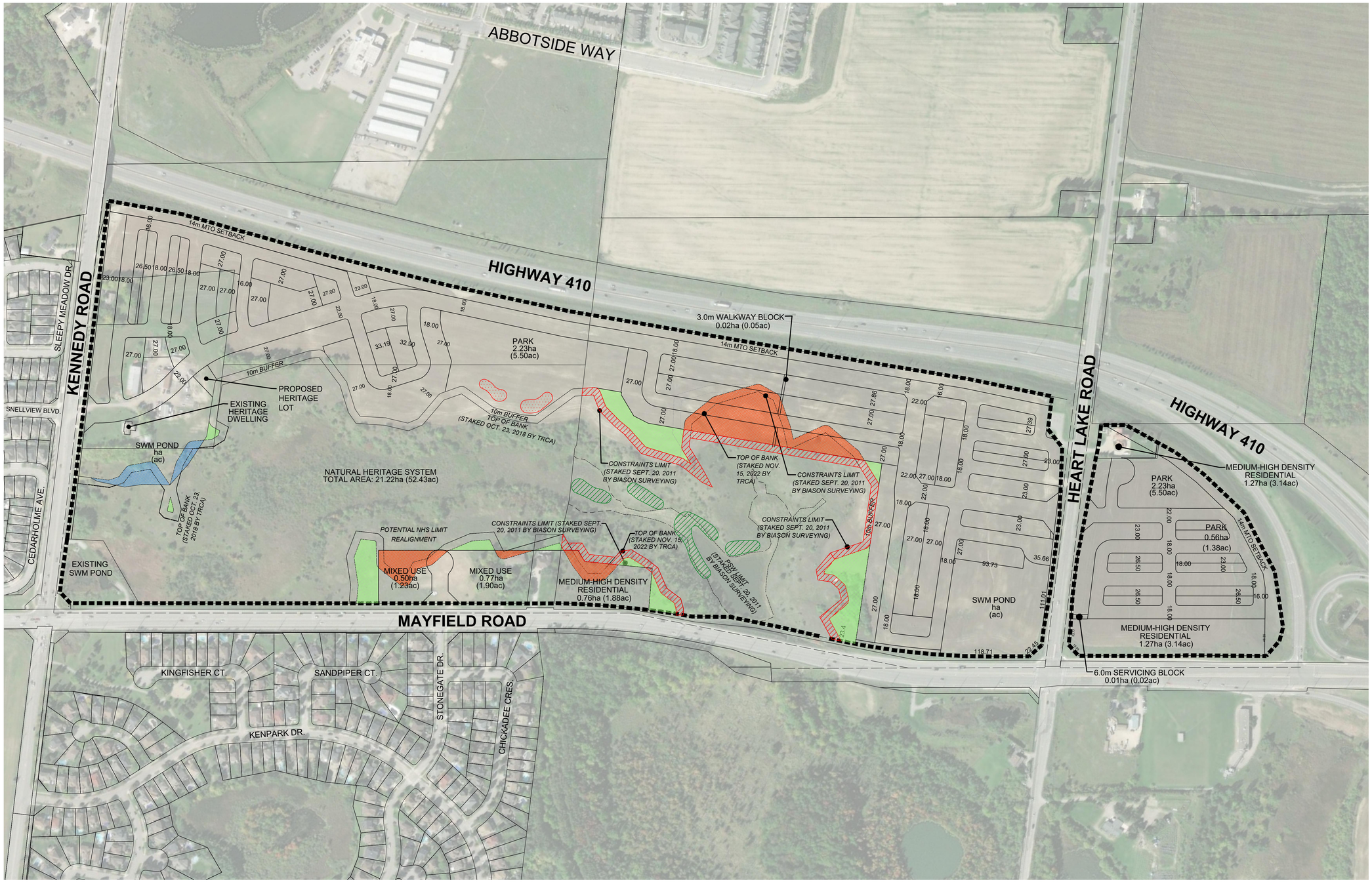


Michael J. Hensel, OALA, CSLA
Director

Enclosure

2023.07.05 Proposed NHS Encroachment and Compensation Plan

\\Crozier-Files\Projects\2400\2479 - Clearbrook Developments Ltd\6729 - Snell's Hollow\Letters



LEGEND

- SECONDARY PLAN AREA

LAND AREAS

- PROPOSED NHS ENCROACHMENT AREAS: 1.483 ha (3.665ac)
- PROPOSED NHS COMPENSATION AREAS: 1.21ha (3.01ac)
- SWM POND WITHIN NHS AREA: 0.25ha (0.65ac)

COMPENSATION/ RESTORATION ZONES

- ZONE 1 - PROPOSED NHS COMPENSATION BLOCKS: 1.21ha (3.01ac)
- ZONE 2 - VALLEY CORRIDOR RESTORATION/ENHANCEMENT AREAS 0.47ha (1.16ac)
- ZONE 3 - PARK PATCHES (POLLINATOR/RAIN GARDEN) 0.12ha (0.30ac)
- ZONE 4 - FULLY VEGETATED BUFFER: 0.90ha (2.32ac)

N

50 0m 50 100 150 200

SCALE: 1:2500

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6. DO NOT SCALE DRAWINGS.

TEMPORARY BENCHMARKS

TBM#1-
TBM#2-
TBM#3-

***ADD REFERENCE TO SURVEY/SOURCE

Town

No.	ISSUE	DATE: YYYY/MM/DD
1.	ISSUED FOR COORDINATION	2023/07/05

LANDSCAPE ARCHITECT

LANDSCAPE ARCHITECT

DRAFT
FOR DISCUSSION PURPOSES ONLY

Project

SNELL'S HOLLOW
TOWN OF CALEDON

Drawing

PROPOSED NHS ENCROACHMENT AND COMPENSATION PLAN

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Drawn By	Design By	Project
L.M.	M.H.	2479-6729
Check By	Check By	Drawing
M.H.		CP-1

Data provided by the Town of Caledon, Region of Peel, Ministry of Natural Resources, Toronto Region Conservation Authority, GSAI

Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: North American 1983 CSRS	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -53°	Scale Factor: 0.99960

Grid North

0 100 200 300 400

Metres

- SECONDARY PLAN AREA
- Constraints Limit (Staked by Biason Surveying)
- TRCA Top of Bank 10m Buffer
- Top of Bank (Staked by TRCA, 2018)
- Top of Bank (Staked by TRCA, 2022)
- BACK-TO-BACK TOWNHOUSES
- DETACHED / SEMI-DETACHED / ST. TOWNHOUSES
- DUAL-FRONTAGE TOWNHOUSES
- MEDIUM DENSITY RESIDENTIAL
- OPEN SPACE/ BUFFERS
- PARK
- Road
- SWM POND
- MEDIUM-HIGH DENSITY RESIDENTIAL
- MIXED USE
- NATURAL HERITAGE SYSTEM
- Non-Participating Property

BURNSIDE

Client

SNELL'S HOLLOW DEVELOPERS GROUP

Figure Title

SNELL'S HOLLOW EAST SECONDARY PLAN

DRAFT CONCEPT PLAN

Drawn	Checked	Date	Figure No.
PS	HM	2023/09/22	9
Scale		Project No.	
1:5,000		300051670	

File Path: \\elmo\gis\Project\300\043952 (Snell's Hollow)\043952.aprx Print Date: 2023/09/22 Time: 11:22 AM

Hannah Maciver

From: Adam Miller <Adam.Miller@trca.ca>
Sent: Wednesday, November 15, 2023 7:59 PM
To: Mike Hensel
Cc: Julie Scott; Brennan Paul; Hannah Maciver; Jason Afonso
Subject: RE: Snell's Hollow/Clearbrook Letter for Compensation of Encroachments

Hi Mike, I apologize for the delay. The plan is acceptable on our end for what we need at the detailed design stage.

Thank you,

Adam

Adam Miller, BES, MCIP, RPP
Associate Director
Development Planning and Permits | Development and Engineering Services

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Toronto and Region Conservation Authority

From: Mike Hensel <mhensel@cfcrozier.ca>
Sent: Tuesday, October 24, 2023 10:09 AM
To: Adam Miller <Adam.Miller@trca.ca>
Cc: Julie Scott <jscott@cfcrozier.ca>; Brennan Paul <Brennan.Paul@trca.ca>; Hannah Maciver <Hannah.Maciver@rjburnside.com>; Jason Afonso <jasona@gsai.ca>
Subject: RE: Snell's Hollow/Clearbrook Letter for Compensation of Encroachments

Hello again Adam,

I hope all is well with you.

Sorry for the delay in getting back to you…..I'm following up on your email below to let you know that we have taken the comments to heart and Hannah at Burnside has put together a conceptual restoration areas plan for areas within the NHS that we trust meets with your acceptance (attached). If the areas noted on the attached plan are generally acceptable, please let us know. The actual areas and planting specifications of the restoration would be provided at the detailed design stage as you suggest.

Please confirm that we have the plan attached is acceptable to the TRCA subject to the detailed restoration design being provided to support individual draft plan submissions.

If we need to meet to discuss in more detail please let me know.

Regards, Mike.

Toronto and Region Conservation Authority

From: Mike Hensel <mhensel@cfcrozier.ca>
Sent: Wednesday, July 12, 2023 4:12 PM
To: Adam Miller <Adam.Miller@trca.ca>
Cc: Julie Scott <jscott@cfcrozier.ca>
Subject: Snell's Hollow/Clearbrook Letter for Compensation of Encroachments

Hello Adam,

I hope all is well.

Attached is the letter I promised to further articulate our (Clearbrook's) compensation proposal as a response to your last email outlining requirements. Please have a read and let me know if this is sufficient information for you to confirm an official agreement to move forward with this plan. We will then notify Burnside who is finalizing the CEISMP document to ensure that the compensation requirements are entrenched within both the text and mapping.

If you have any questions please don't hesitate to give me a call. My cell is best as I am frequently out of the office.

Regards, Mike.

Mike Hensel, OALA, CSLA
Director
Office: 705.446.3510
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