



Toronto and Region Conservation Authority

Board of Directors Meeting Agenda

#6/20

September 25, 2020

9:30 A.M.

The meeting will be conducted via a video conference
Members of the public may view the livestream at the following link:

<https://video.isilive.ca/trca/live.html>

Pages

1. **ACKNOWLEDGEMENT OF INDIGENOUS TERRITORY**
2. **MINUTES OF MEETING #5/20, HELD ON JUNE 26, 2020**
Meeting Minutes (Open Session)
(June 26, 2020 Closed Session Minutes will be circulated to Board Members separately)
3. **MINUTES OF THE SPECIAL MEETING OF THE BOARD OF DIRECTORS, HELD ON SEPTEMBER 11, 2020**
Meeting Minutes (Open Session)
(September 11, 2020 Closed Session Minutes will be circulated to Board Members separately)
4. **DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF**
5. **DELEGATIONS**
6. **PRESENTATIONS**
 - 6.1 **Beth Williston, Associate Director, Infrastructure Planning and Permits, TRCA, in regard to item 8.1 - Ontario Line Subway Project**

- 6.2 Nancy Gaffney and Victoria Kramkowski, Government and Community Relations Specialists, TRCA in regard to item 9.1 - Update on Municipal Memorandums of Understanding and Service Level Agreements

7. CORRESPONDENCE

- 7.1 An email dated September 17, 2020 from William and Carole Gardner, Residents, City of Brampton, in regard to Toronto and Region Conservation Authority Conservation Parks Membership 7

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10.	MATERIAL FROM EXECUTIVE COMMITTEE MEETING Meeting Minutes	

10.1 SECTION I - ITEMS FOR BOARD OF DIRECTORS ACTION

10.1.1 IMPERIAL OIL LIMITED

Receipt of a request from Imperial Oil Limited, for a permanent easement required for the Waterdown to Finch Project, located on the west side of Albion Avenue and south of Finch Avenue West (south of the Humber River, in the City of Toronto, Humber River watershed (CFN 63532).

(Executive Committee RES.#B49/20)

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10.1.2 GREENLANDS ACQUISITION PROJECT FOR 2016-2020 (90 MEADOWCLIFFE DRIVE)

Acquisition of property located at rear of 90 Meadowcliffe Drive, in the City of Toronto, under the "Greenlands Acquisition Project for 2016-2020," Flood Plain and Conservation Component, Lake Ontario Waterfront (CFN 63553).

(Executive Committee RES.#B50/20)

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10.1.3 GREENLANDS ACQUISITION PROJECT FOR 2016-2020 (2346 WESTON ROAD)

Acquisition of property located south of Highway 401 and east of St. Phillips Road municipally known as 2346 Weston Road, in the City of Toronto, under the "Greenlands Acquisition Project for 2016-2020," Flood Plain and Conservation Component, Humber River watershed (CFN 62847).

(Executive Committee RES.#B51/20)

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10.1.4 RAISING THE ROOF CHEZ TOIT – 1 CEDAR MAINS DRIVE, CALEDON

Lease Amendment. To amend the lease dated October 16, 2018 between Toronto and Region Conservation Authority (TRCA) and Raising the Roof Chez Toit (Raising the Roof) to allow for an 18-month extension.

(Executive Committee RES.#B52/20)

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10.2 SECTION II - ITEMS FOR EXECUTIVE ACTION

10.2.1 EXTENSION OF CITY OF TORONTO INTEGRATED TELECOMMUNICATIONS INFRASTRUCTURE MASTER AGREEMENT

Adoption of City of Toronto Amending Agreement No. 11 for Request for Proposal (RFP) No. 2104-09-3006 for Bell Canada Integrated Telecommunications Infrastructure, including telephony and connectivity services.

(Executive Committee RES.#B53/20)

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10.2.2 VENDOR OF RECORD ARRANGEMENT FOR ELECTRICAL AND MECHANICAL CONTRACTORS 2020 - 2021

Award of Request for Proposal (RFP) No. 10032967 for a Vendor of Record (VOR) arrangement for on-call electrical and mechanical contractor services at various facilities.

(Executive Committee RES.#B54/20)

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10.3 SECTION III - ITEMS FOR THE INFORMATION OF THE BOARD

10.3.1 FUNDING AND GRANTS PROGRAM

To provide an in-year update to the Funding and Grants program as of August 31, 2020.

(Executive Committee RES.#B55/20)

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10.3.2 2020 SIX MONTH FINANCIAL REPORT

Receipt of Toronto and Region Conservation Authority's (TRCA) unaudited expenditures as of the end of the second quarter, June 30th, 2020, for informational purposes.

(Executive Committee RES.#B56/20)

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10.3.3 COVID-19 FINANCIAL UPDATE

To provide an update to Toronto and Region Conservation Authority's (TRCA) Board of Directors regarding the financial impacts of COVID-19.

(Executive Committee RES.#B57/20)

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10.3.4 Q2 2020 MEDIA SUMMARY

Information report regarding Toronto and Region Conservation Authority's (TRCA) corporate media communication activities during the second quarter of 2020 (April – June).

(Executive Committee RES.#B58/20)

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10.4 SECTION IV - ONTARIO REGULATION 166/06, AS AMENDED

Receipt of Ontario Regulation 166/06, as amended, for delegated permits, which were received at the Executive Committee Meeting #5/20, held on September 11, 2020.

(Executive Committee RES.#B59/20)

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11. CLOSED SESSION

12. NEW BUSINESS

NEXT MEETING OF THE BOARD OF DIRECTORS #7/20, TO BE HELD ON OCTOBER 23, 2020 AT 9:30 A.M. THE MEETING WILL BE HELD ELECTRONICALLY.

John MacKenzie, Chief Executive Officer

/am

Alisa Mahrova

From: Bill gardner [REDACTED]
Sent: Thursday, September 17, 2020 7:37 PM
To: Santos, Rowena - Councillor; Palleschi, Michael - Councillor
Cc: MayorBrown; Carole Gardner; Bill gardner; jrobertwalsh988
Subject: [EXTERNAL]Question about yearly membership fees at TRCA

Follow Up Flag: Follow up
Flag Status: Flagged

Hi:

I would like you to consider discussing at the TRCA a plan for creating a YEARLY membership category for seniors at the TRCA. Currently, none exists for seniors.

Our situation: (and for many other seniors)

My wife and I are 73, and the \$135.00 membership fee is excessive, as it is DESIGNED for permitting a group of six to enter on one membership, and that is not us.. We would be paying for a feature we cannot use. We would rather give money to charity, than pay for features we cannot use.

Simply, we would only be going as a couple, not being able to bubble with grandchildren who go to school, or children, who do not live close to us. No one is in our bubble, once school began.

You currently have a DAILY reduced entrance fee for seniors at both the TRCA and CVC, and in the last few days I used it once at Glen Haffey paying also to fish, and once we went together to Island Lake (Credit Valley Conservation) in Orangeville.

We both use to be members of the Brampton Parks and Recreation, using the gym and fitness classes for almost thirty years. (our memberships expired March 14, 2020, which was rather sad but also good timing) Currently, you have a reduced rate for everyone 55 and older (in Brampton), which came in about 10 years ago. You need a yearly pass for seniors (single and a separate one for two senior people at the TRCA!

With Covid 19, we have not renewed our memberships at the Brampton Recreation Centres!
because we are in the most vulnerable age category,
and it is simply NOT safe.

Having a variety of different TRCA and CVC sites to walk on the trails would make a world of difference.

For the foreseeable future (at least a few years), due to covid 19
we will never have other adults with us in a car,
a separate car entering behind us would have to pay to enter
We can never avail ourselves of having a group of six enter, and we could not walk near them even if they entered for free.

Item 7.1

I would love an explanation as to what you intend to propose for seniors at the TRCA, after considering my recommendations. I recommend to you to offer a seniors pass for two people at a total cost of \$75.00 yearly., or a single senior for \$50.

Keeping seniors

healthy

active

and outdoors

keeps them out of hospitals and long term care.

**Part of the rationalization of reduced gym memberships was to keep the older age population active.
(Brampton has only one over utilized hospital, which you are well aware of)**

Whatever rationale lead to a seniors rate on a day pass, and a seniors yearly membership at Parks and Recreation, must clearly apply to the TRCA/CVC. I think no one has actually thought of it yet, so let us have Brampton's two representatives lead the way.

Time to start thinking of seniors during this pandemic!

PS: personally, we can afford the \$135.00, but some / many seniors might find it difficult.

Please feel free to modify and copy to other members of the TRCA and also the CVC.

Maybe their thinking of old people was their kids would take them as part of their kid's yearly membership, and they would not go there by themself. WRONG!

However, we do NOT go on weekends, because the bicycle road warriors drive too fast and too carelessly to be safe walking on trails. (no bells, no warning, and they whiz past you almost hitting you.)

sincerely

William and Carole Gardner



Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Sameer Dhalla, Director, Development and Engineering Services

RE: **ONTARIO LINE SUBWAY PROJECT**
Draft Environmental Conditions and Early Works reports and future
Environmental Impact Assessment report

KEY ISSUE

To highlight key locations and technical concerns related to Draft Environmental Conditions and Early Works reports that will inform the future Environmental Impact Assessment Report for the Ontario Line Subway Project.

RECOMMENDATION

WHEREAS on June 30, 2020 the Government of Ontario filed O. Reg. 341/20 for the Ontario Line Project which allows for high priority transit projects to be constructed quickly, economically, and transparently while maintaining environmental oversight;

WHEREAS the preferred alignment within TRCA jurisdiction crosses multiple priority areas for natural heritage features and functions, including valley and stream corridors, forests, wetlands, wildlife connectivity areas, as well as natural hazard areas which can exacerbate flood and erosion risks;

WHEREAS the preferred alignment crosses several existing and proposed flood protection infrastructure, most notable of which is the proposed East Harbour Flood Protection Landform;

WHEREAS the preferred alignment crosses several TRCA-owned properties, including the E.T. Seton Park Area of Natural and Scientific Interest (ANSI) and Crothers Woods Environmentally Significant Area (ESA) which would result in significant impacts;

THEREFORE, LET IT BE RESOLVED THAT TRCA staff continue to work with Metrolinx staff through the Ontario Line Regulation (O. Reg. 341/20) and TRCA Voluntary Project Review (VPR) processes to address areas of environmental and development concern, including flood protection, erosion hazard management, natural heritage mitigation and compensation, crossing and pier locations, valleyland encroachment, and the alignment in the E.T. Seton Park ANSI;

THAT Metrolinx be requested to provide written responses to all TRCA comments, reports, and Board recommendations, as well as to provide technical studies in support of the preferred alternatives prior to confirming preferred alternatives and in doing so, address and commit to the recommendations outlined in Attachment 2;

THAT Metrolinx be requested to provide TRCA copies of the Environmental Conditions and Early Works reports, as well as the Environmental Impact Assessment Report and the associated appendices as per the terms of the TRCA-Metrolinx service level agreement;

THAT TRCA staff report back to the Board of Directors once the complete draft Environmental Conditions Report, final Early Works Report and Final Environmental Impact Assessment is submitted by Metrolinx and provide confirmation of the recommended alternatives and their impacts;

AND FURTHER THAT Metrolinx, the City of Toronto, and Waterfront Toronto, and other relevant review agencies be circulated a copy of this staff report.

BACKGROUND

In April 2019, the province announced funding for the Greater Toronto Area's (GTA) transit network of four subway projects, including the new Ontario Line Subway (OLS) as well as the Scarborough Extension, Yonge Subway Extension, and Eglinton West LRT. On June 6, 2019, the Getting Ontario Moving Act received Royal Assent which, in part, amended the Metrolinx Act, 2006 to identify Metrolinx as being solely responsible for the design, development or construction of these projects. On February 18, 2020, to support the Building Transit Faster Act, the province proposed regulations to modify the existing environmental assessment process for four select priority transit projects in the Greater Toronto and Hamilton Area. Amendments made to existing O. Reg 231/08 related to the Scarborough Extension, Yonge Subway Extension, and the Eglinton West LRT. For the Ontario Line, a stand-alone O. Reg. 341/20 was approved in order to allow for more certainty in project planning and reduce the risk of delays. TRCA staff provided comments to the Ministry of Environment, Conservation and Parks on this regulation through the associated Environmental Registry of Ontario (ERO) posting ([ERO #019-0614](#)). A copy of [TRCA's submission](#) to the ERO was included as an attachment to a Summary Report on Policy Consultation Submissions to the Board of Directors, at Meeting #3/20 held on April 24, 2020.

Ontario Line Regulation (O. Reg. 341/20)

The Ontario Line Regulation, O. Reg. 341/20. requires three main components be completed:

1. Environmental Conditions Report,
2. Early Works Report(s), and
3. Environmental Impact Assessment Report.

The new process largely follows the existing Environmental Assessment process for transit projects. Each reporting stage requires technical document support, consultation with the public, agencies, and Indigenous communities, and issues resolution if necessary. Provisions for Early Works projects are new and are intended to increase flexibility in obtaining permits in advance of the environmental impact assessment report being finalized. The approval process for Early Works include provisions for addressing concerns through an issue resolution process. The approval process for both the Early Works Report(s) and the Environmental Impact Assessment Report require Minister's Review and a Statement of Completion.

The Early Works Report can be prepared simultaneously with the Environmental Conditions Report. The Early Works report will summarize the site-specific environmental conditions, evaluate impacts, propose mitigation and monitoring measures, and a list of any permits and approvals that may be required. Detail design can commence once a Statement of Completion is prepared for the Early Works, prior to the Environmental Impact Assessment stage being complete. When the project moves to detailed design, Metrolinx has advised that it will be seeking TRCA Voluntary Project Review (VPR) and as such will adhere to standard

requirements of our regular regulatory review under Ontario Regulation 166/06.

Ontario Line Subway Project

The OLS will accommodate current and future ridership demands on TTC Line 1, increase capacity and relieve crowding at the TTC Bloor-Yonge interchange station, and provide new transit capacity to relieve overcrowding on the surface transit network. The OLS builds on previous work from the TTC Relief Line South and SmartTrack concepts but expands the line north to the Ontario Science Centre, and west to Exhibition/Ontario Place (see **Attachment 1**). In all, 15 stations are proposed, with connections to three GO Transit lines (Lakeshore East, Lakeshore West, and Stouffville), and the Queen, King, Bathurst, Spadina, Harbourfront, and Gerrard/Carlton streetcar routes. The project will be constructed in a dedicated right-of-way with a combination of elevated, tunneled, and at-grade segments.

RATIONALE

TRCA is currently working with Metrolinx to review draft Environmental Conditions and Early Works reports, as well as background technical information. As the information provided by Metrolinx to date is incomplete, much of the environmental information and analysis below was completed for the purposes of this Board report using TRCA information. As such, it should not be used in place of the comprehensive study and evaluation to be completed by Metrolinx.

The following analysis focuses on TRCA regulated areas and key staff recommendations (Attachment 2). As shown on Attachment 1, there are two areas of TRCA focus, the Lower Don, divided into four study areas and the Upper Don River and West Don River, divided into three study areas. Specific TRCA interests are detailed below and a compilation of recommendations are provided in Attachment 2.

Lower Don River Study Areas

- Area 1:** Permanent shift of Richmond Hill GO Corridor north toward the West Don Flood Protection Landform (FPL)
- Area 2:** Two new crossings on either side of the existing rail crossing south of Eastern Avenue (Early Works #1)
- Area 3:** New East Harbour Station between the Lower Don River crossing and Eastern Avenue (Early Works #2)
- Area 4:** Expansion of the Lakeshore East rail corridor between Eastern Avenue and Logan Avenue (Early Works #3)

Of key interest to TRCA in the Lower Don River Study Area are potential flood plain impacts and flood protection concerns, as shown on Attachment 3 and as follows:

- [West Don Lands Flood Protection Landform](#) (WDFPL) – Existing
- [Don Mouth Naturalization and Port Lands Flood Protection Project \(DMNP\)](#) - Proposed
- [East Harbour Flood Protection Landform](#) (EHFPL) - Proposed
- [Broadview and Eastern Flood Protection Municipal Class EA \(BEFP\)](#) – Proposed

AREA 1: LOWER DON RIVER Realigned Richmond Hill Corridor

The Ontario Line tracks will meet grade at the Don Yard, which will require a permanent shift of the Richmond Hill GO corridor further north. Metrolinx has stated that impacts to the WDFPL are not anticipated. However, TRCA staff has concerns that the space limitations of this area may make impacts unavoidable, as the conceptual design presentation identified staging and storage areas on the FPL. TRCA interests in this area include:

1. Flood Control

- a. Flooding remains a main concern for a large part of the Richmond Hill GO corridor. In this section of the corridor, the Don River floods above the 350-year storm event. As TRCA will not support flood plain impacts resulting from the proposed works, mitigation measures may need to be considered.
- b. The project requires a shifting in the alignment of the Richmond Hill Line. In designing the realignment, it will be important to avoid impacting the WDFPL.

2. Parkland, Trails and TRCA Lands

- a. Most lands adjacent to the Richmond Hill GO Corridor are owned by TRCA. Should the realignment of the corridor extend beyond the Metrolinx right-of-way, a length of approximately 550 metres of TRCA land has the potential to be impacted.
- b. TRCA staff is concerned about any potential impacts to Corktown Common, a popular public space amenity in an urban core area with limited nearby greenspace access, managed by the City of Toronto.

AREA 2: LOWER DON RIVER New Lower Don River Crossing - Early Works

The Lower Don Crossing Early Works will include construction of two new rail bridges over the Don River, to the north and south of the existing rail bridge, as well as utility relocations within the Lakeshore East rail corridor. The bridges will be constructed parallel to the existing rail bridge and will also provide multi-use connections for pedestrians and cyclists. TRCA interests in this area include:

1. Flood Control

- a. This area currently floods at the 50-year storm and is completely under water in the Regional Storm. Metrolinx is currently examining flood plain impacts through hydraulic modelling which assumes the proposed downstream flood protection works (i.e., DMNP) have been implemented.
- b. The Don Landing Restoration area is proposed as space for construction staging and offices. This area also floods at the 50-year storm and is a flood conveyance zone for the WDFPL with velocities of up to 1.5 metres/s. This poses flood risk to people and property.
- c. Metrolinx has not addressed impacts associated with the existing and planned flood protection infrastructure in this area, including integration with the East Harbour FPL as could be required to mitigate flood impacts on the OLS. Also not addressed are considerations for joint funding and implementation of a proposed BEFP north of the rail embankment.
- d. Metrolinx has not provided details or mitigation strategies for bridge works that are in proximity to the existing WDFPL.

2. Parkland, Trails and TRCA Lands

- a. Most lands adjacent to the Richmond Hill GO Corridor are owned by TRCA. If encroachment is unavoidable, TRCA staff estimate that approximately 0.5 ha of property could be required.
- b. There is a connection and access to the Regional Trail Network in this area and details regarding how the existing multi-use path is impacted by flooding as well as how it integrates with the WDFPL are required. Through this project there is also opportunity to redesign the trail to improve flood resiliency through features such as landscaping, trail grades and trail surfacing.

AREA 3: LOWER DON RIVER East Harbour Station - Early Works

The East Harbour Station is a multi-modal transit hub that will serve several modes of public transit. This Early Works project includes two cross platforms situated between the Don Valley Parkway and Eastern Avenue, station access points to the north, south, and west (via the crossing), expansion of the Eastern Avenue rail bridge to accommodate the six-tracks, and an interim service road on the north side of the station for construction and emergency access. TRCA interests in this area include:

1. Flood Control

- a. This area is prone to flooding in the 50-year storm and up to 1 metre in the Regional storm. Although the rail embankment and areas south of the rail corridor may no longer be subject to flooding once the implementation of the PLFP Project, areas north of the tracks will remain in the flood plain and vulnerable to flooding even with a complete implementation of the preferred alternative in the DMNP EA (2015). Metrolinx has not yet identified mitigation measures.
- b. TRCA staff understand that Metrolinx is working with all stakeholders in this area regarding key future flood proofing infrastructure. Future mitigation measures will need to address the following items (see **Attachment 4**):
 - [Approved DMNP EA](#) – Key flood protection measures have been authorized to tie-in with the existing railway embankment at Don Valley Parkway and Eastern Avenue Underpass;
 - [Port Lands and South of Eastern Transportation and Servicing Master Plan](#) – requires a new Broadview underpass with expanded flood protection tie-ins and drainage with the railway embankment;
 - [Gardiner Expressway and Lake Shore Boulevard Reconfiguration EA](#) – requires opening of bridge crossing on east side of Don River through railway embankment to accommodate Hybrid 3 option; and,
 - [Broadview Avenue Planning Study](#) – the extension of Broadview Avenue cannot pass under/through the proposed East Harbour Station until flood protection is complete, particularly to the north where proposed remediation is not yet approved or funded. To create an opening from the north, a flood prone area, will jeopardize the flood proofing investments planned and/or implemented to the south as part of the EHFPL.
- c. TRCA staff have identified that there are mutually beneficial outcomes for all stakeholders if the proposed BEFP flood protection infrastructure is constructed prior to the OLS, as this serious flood hazard risk would be mitigated. The City,

Waterfront Toronto, and TRCA are actively working together on this project, however, at this time a preferred strategy, funding and timelines for implementation have not been determined. If the station is built prior to the implementation of the flood protection infrastructure, there is risk of increased flood risk to downstream areas. As such, mitigation strategies may be required for the station in the interim and must be included as part of the Early Works report.

AREA 4: LOWER DON RIVER

Expansion of Lakeshore East Rail Corridor - Early Works

The Lakeshore East Joint Corridor Early Works will primarily consist of the Lakeshore East rail corridor expansion to accommodate six tracks (two for the proposed Ontario Line and four for heavy rail), noise walls, retaining walls, two new bridges on either side of the existing Queen Street East, Dundas Street East, and Logan Avenue rail bridges (totaling 6), and utility relocations. TRCA interests in this area include:

1. Flood Control

- a. Although TRCA's EA for the BEFP is almost complete and will identify the necessary flood protection necessary to remove the flood risk to this area, without funding and implementation, the area to the west of this corridor expansion is entirely within the flood plain during the Regional Storm and mitigation strategies must be identified.

Upper Don River and West Don River Study Areas

Area 5: Minton Crossing - new Upper Don River crossing south of Millwood Avenue

Area 6: New Maintenance and Storage Facility (MSF) – Wicksteed Site

Area 7: New crossing of the West Don River / E.T. Seton Park, north of Overlea Blvd to join Don Mills Road

Of key interest to TRCA in the Upper Don and West Don River are significant earthworks and impacts to the extensive Natural Heritage System, as shown on Attachment 4.

AREA 5: UPPER DON RIVER

Millwood/Minton Crossing

A conceptual rendering a new crossing of the Upper Don River, to be located south of Leaside Bridge on Millwood Avenue, shows the bridge as a concrete segmental bridge with 6 to 8 potential piers within the valley system. The tracks to the south of this area will be below grade and will exit from a portal in the valley wall at Minton Place, then slope upwards to transition to the elevated section of the Ontario Line subway. TRCA interests in this area include:

1. Flooding

- a. Piers placed within the valley corridor could create hydraulic restrictions. Additional flood plain impacts must be avoided.

2. Erosion

- a. Based on preliminary information, upwards of 6,000 m² of valley slope surface may be altered, with a potential need for additional engineered solutions to stabilize slope alterations.

3. Natural Heritage

- a. In total, approximately 27 hectares of natural cover will be impacted within this area including 2 wetland features and a high priority stream.
- b. The proposed alignment fragments the priority areas for habitat connectivity and wildlife movement for species needing to move between forests (60 ha) and wetlands (17 ha). Additional impacts of railways in terms of noise and light pollution are expected, which will ultimately affect the ecological functions of the surrounding habitat and wildlife.
- c. TRCA data of species found within this area, includes 14 flora and 14 fauna regional and urban species of concern, and 1 ELC vegetation community of concern, covering about 1.8 hectares.
- d. In order to better avoid, minimize or mitigate impacts on the natural heritage, as well as to determine portal and pier placement, complete natural heritage surveys on flora, fauna and vegetation community as well as tree inventories should be conducted. As avoidance, minimization and mitigation may not be possible, compensation will be required and will be addressed at the VPR stage when impacts are quantified.

4. Parkland, Trails, and TRCA Lands

- a. The proposed line crosses TRCA-owned, City of Toronto-managed property, Crothers Woods. The area is a popular mountain biking destination and includes sections of the existing Don Mills/Lower Don Recreational Trail as well as part of the regional trail network, The Great Trail (formerly known as the Trans Canada Trail), and the Pan Am Path.

AREA 6: UPPER DON RIVER

Maintenance and Storage Facility (Wicksteed Site)

The Maintenance and Storage Facility (MSF) is in an existing industrial area surrounding Wicksteed Avenue and Beth Neilson Drive. Most of the site is bounded by the steep slopes of the West Don River Valley Life Science ANSI/E.T. Seton Park ESA, with the hydro corridor to the south and the CPR track to the west. TRCA interests in this area include:

1. Erosion

- a. Metrolinx has completed geotechnical and geomorphological analyses to confirm the Long-Term Stable Top of Slope (LTSTOS) and used this information to define the development limit for the MSF and avoid or minimize encroachments onto the slope. This design is still in the conceptual stages as further design and assessment work is needed.
- b. The MSF will require encroachment on the south top of slope and the west end of the south valley, but direct impacts on most of the south valley will be avoided. Encroachment into the south valley will be a maximum of 20 metres on both sides of Beth Neilson Drive. Erosion prevention measures will include a retaining wall (of up to 10 metres) and soil nails in the upper 14 metres of the slope.
- c. *Northeast to East Slope:*
 - i. Metrolinx is seeking to avoid impacting the slope at this area and are exploring engineering options to avoid slope disturbance. If such a solution is feasible for this site, then the disturbed valley wall surface for the northeast to east will be minimal (close to zero); however, the proposed risk mitigation strategy has not been fully assessed to-date and as a result, other options may be required. Should a design change be necessary, to provide the adequate level of stability acceptable to TRCA in terms of factor of safety,

Item 8.1

there is the potential for the removal of slope vegetation for this valley wall slope (up to approximately 35000 m² for the northeast to east boundary).

- ii. For the section of slope where the watercourse meanders close to the slope, channel works may also be needed to prevent toe erosion and not trigger further long-term instability. The additional disturbance to the valley corridor could be 100 to 200 m of the length of the watercourse, particularly at the middle section of the northeast to east slope.
- iii. TRCA has two slope treatment structures next to this area on Wicksteed Avenue. Experience has shown that stormwater runoff is creating serious gulying along the slope, leading to failure of TRCA slope drain systems in place to offset runoff.
- d. *South Slope:*
 - i. Based on what has been presented to TRCA, the south slope may need to be altered and reconstructed to accommodate the proposed works. Stabilization methods include retaining walls (potentially 10 m high), soil nailing and slope reconstruction by infilling or creating a berm. In those scenarios, the majority of the slope segment will need to be disturbed to either accommodate the proposed footprint or to facilitate the temporary means for a safe construction (i.e., temporary excavations and/or alterations to create a construction work area for machinery and installation equipment).
 - ii. The detailed design information has not yet been provided for the earthworks and engineering. The potential disturbance of the valley wall in the south slope area is approximately 25,000 m².

2. Natural Heritage

- a. A total of 23 ha of natural cover may be directly impacted, including 5 wetland features, 12 ha of areas designated as ANSI and 7.5 ha of ESA.
- b. In terms of biodiversity there are 34 flora species of concern, 12 fauna species of concern, and 4 ELC vegetation communities of concern that may be impacted.
- c. This section is also identified as the priority areas for habitat connectivity and wildlife movement for species needing to move between forests (26 ha) and between forests and wetlands (18 ha).
- d. Additional impacts of railways in terms of noise and light pollution are expected, which will ultimately affect the ecological functions of the surrounding habitat and wildlife. Though these cannot be estimated quantitatively without further design details, careful consideration should be given to these impacts and their mitigation.
- e. The slope stabilization engineering works will limit the options for replanting and constrain any the potential to restore parts of the slope face with mature trees. This will cause permanent impacts to this ecologically significant area.

3. Parkland, Trails and TRCA Lands

- a. TRCA owns the entire northern and eastern slope of the proposed MSF. It is estimated that 0.19 ha of TRCA property could be impacted.

AREA 7: WEST DON RIVER

E.T. Seton Park Crossing (Overlea Crossing)

A conceptual rendering a new crossing of the West Don River, to be located near Overlea Blvd., shows the bridge with 6 to 8 potential piers within the valley system, exiting the MSF at grade and crossing the valley to an elevated alignment along Don Mills Road. TRCA interests in this area include:

1. Erosion

- a. *Slope Stability Hazard – West Valley:*
 - i. The west valley slope where the Overlea crossing exits the MSF is very steep and the proximity of the toe of the slope to the watercourse makes it vulnerable to long-term erosion hazards and slope instability. Based on the slope steepness and height, TRCA staff is concerned that engineered slope stabilization works may be needed for the entire slope height, approximately 3000 m².
 - ii. It is further estimated that an area of about 100 metres at the toe of the valley slope near the watercourse will need some additional toe protection works.
- b. *Slope Stability Hazard – East Valley:*
 - i. The alignment will require significant an estimated total of 3,000 m² earthworks, as well as abutment works and retaining walls at the crossing.
- c. After the crossing, the alignment approximately follows the existing top of slope and runs parallel to the existing top of slope for no less than 350 metres in the regulated area, where the slope is about 25 metres high. The alignment needs to be adequately apart from the top of slope to prevent long-term erosion hazards. Due to site constraints, the proposed alignment in this area may also require further engineering of the slope to obtain the necessary stability (i.e., retaining structures, slope reinforcement by soils nail, anchors or similar).
- d. While there are no active erosion hazard sites near the proposed Overlea crossing, erosion control is major consideration for works in this area:
 - i. An existing erosion control structure is located approximately 150-200 metres upstream of the proposed crossing location along a sharp outer meander of the West Don River. This structure is a gabion basket retaining wall/revetment (ID# DR05.9) and is being investigated for potential major maintenance works as part of our upcoming Class EA within E.T. Seton Park.
 - ii. There are dozens of erosion control structures downstream of the confluence of the West Don River and Walmsley Brook. While TRCA does not own most of the structures, TRCA does own/monitor a few revetments along this stretch as well. It will be critical that the Metrolinx crossing/works in this area do not cause velocities to increase downstream, which may adversely impact existing erosion control structures.

2. Natural Heritage

- a. In total, about 39 ha of natural cover will be impacted within this area including 5 wetland features and a high order priority stream. This area also bisects a forest on the valley slope to the north of this valley crossing as it approaches Don Mills Road.
- b. In terms of biodiversity there are 38 flora and 29 fauna species of regional and urban concern, and 5 ELC vegetation community of concern covering about 1.8 ha in area.
- c. The proposed alignment fragments priority areas for habitat connectivity and wildlife movement for species needing to move between forests (89 ha) and between forests and wetlands (40 ha). Additional impacts of railways in terms of noise and light pollution are expected, which will ultimately affect the ecological functions of the surrounding habitat and wildlife.

- d. The slope stabilization engineering works will limit the options for replanting and constrain any the potential to restore parts of the slope face with mature trees. This will cause permanent impacts to this ecologically significant area.

3. Parkland, Trails and TRCA Lands

- a. Depending on the alignment of the Overlea crossing, it is estimated that TRCA property may be impacted.
- b. The proposed alignment in this area crosses TRCA-owned, City of Toronto-managed property (E.T. Seton Park) and an existing section of the Don Mills (West Don) Trail, a [major city-wide cycling route](#) and multi-use path. To ensure that connectivity remains in the long-term, stations should have active transportation amenities (e.g., safe pedestrian connections, lighting, lit crossings, bike parking, bike wash stations, etc.) to promote active transportation as a safe first mile/last mile option for transit connections.

NATURAL HERITAGE RESTORATION AND COMPENSATION

Metrolinx has examined a range of alignment alternatives and due to the magnitude of the proposed work, impacts to the natural heritage system, species and their habitat, and habitat connections will be unavoidable in some locations. Given the complexity of this work, and the unavoidable impacts to significant and sensitive areas throughout the TRCA jurisdiction, it will be imperative that losses to core features and their functions, contributing areas, as well as losses to lands required for habitat connectivity and buffers be restored. The loss of restorable lands as a result of the proposed works through the Don Valley NHS should also be considered and compensated for, to the extent possible, with the intent to preserve and improve ecological health of the area. Metrolinx will use its ecosystem compensation guidelines for this project. TRCA had input into the development of these guidelines and for TRCA regulated areas, the guidelines closely follow TRCA's ecosystem compensation guidelines.

CLIMATE CHANGE MITIGATION

In October 2017, MECP released a guideline under the Ontario environmental assessment legislation directing that all projects going through the EA process, including IEAs, Class EAs, and those governed by EA regulations, must consider impacts to and opportunities for climate change mitigation and adaptation, and consider the vulnerability of projects to climate change. It was further recommended that applicable policies in the 2014 **Provincial Policy Statement** be addressed, including but not limited to encouraging green infrastructure and strengthening stormwater management requirements; requiring consideration of energy conservation and efficiency, reduced greenhouse gas emissions and climate change adaptation (e.g. tree cover); and consideration of the potential impacts of climate change that may increase the risk associated with natural hazards (e.g. flooding due to severe weather).

The climate change section of the EA should include recommendations for Green Infrastructure, Sustainable Energy, Sustainable Buildings and Sustainable Construction Practices. TRCA has recommended that a [completed Sustainable Technologies for Green Building, Green Infrastructure, and Sustainable Energy Design Evaluation Matrix](#) be included in the EA document.

STORMWATER MANAGEMENT

Stormwater management is integral to the health of streams, rivers, lakes, fisheries and terrestrial habitats, and source water protection is integral for managing the quality and quantity

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of drinking water at its source. TRCA will require the OLS to meet the criteria in the TRCA 2012 [Stormwater Management Criteria](#) document for water quantity, water quality, erosion control, discharge water temperature, and water balance for groundwater recharge and natural features. Additionally, TRCA will require that Green Infrastructure techniques, including Low Impact Development (LID) measures should be used to address issues related to stormwater management, as well as maximize ecosystem services and mitigate the impacts of urbanization and climate change as identified in the [TRCA Introduction to Green Infrastructure](#), the Sustainable Technologies Evaluation Program (STEP) -[Urban Runoff Green Infrastructure](#) and the STEP 2010 [Low Impact Development Stormwater Management Planning and Design Guide](#).

PUBLIC REALM AND COMMUNITY BENEFITS

TRCA staff understands that Metrolinx is committed to providing project-based community benefits where possible to support local opportunities for social and environmental improvements. We have identified to Metrolinx that there are a number of TRCA programs that actively engage with local communities to support a green, local economy, such as [TRCA Trails Program](#), [Sustainable Neighbourhood Retrofit Action Plans](#), [TRCA Conservation Land Care Program](#), [TRCA Community Transformation Program](#) and [Partners in Project Green](#), and recommended Metrolinx with TRCA and other partners to integrate such benefits into the OLS project. Specific examples include opportunities for developing trailheads where trails are in proximity to stations, or to explore opportunities to incorporate natural heritage or ecological features into facility design. TRCA staff also see an opportunity to integrate art, environmental education and stewardship into wayfinding for the OLS, such as design graphics and sign elements into the station designs, entrances and pedestrian access points. TRCA often encourages that as a minimum, Metrolinx incorporate simple educational ecological materials, information, or monuments into station entrance design that portray and inform local communities of the nearby natural heritage assets or TRCA/City trails wherever possible.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 3 – Rethink greenspace to maximize its value

Strategy 4 – Create complete communities that integrate nature and the built environment

Strategy 6 – Tell the story of the Toronto region

Strategy 7 – Build partnerships and new business models

Strategy 8 – Gather and share the best sustainability knowledge

Strategy 10 – Accelerate innovation

Strategy 12 – Facilitate a region-wide approach to sustainability

FINANCIAL DETAILS

- The project review fees are included as part of the TRCA-Metrolinx Service Level Agreement.
- Negotiations regarding natural heritage compensation, TRCA property acquisition or other programs not included in the SLA will be addressed through regular TRCA and will be informed through the review process.

DETAILS OF WORK TO BE DONE

- TRCA staff will continue to work with Metrolinx to review and comment on the

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- Environmental Conditions and Early Works reports, as well as the Environmental Impact Assessment Report.
- TRCA staff will report back to the TRCA Board of Directors once the draft Environmental Conditions and Early Works reports, are received as well as the final Environmental Impact Assessment Report and provide updates as to how TRCA recommendations have been addressed.
 - TRCA will work with Metrolinx and ProjectCo. through the Voluntary Project Review process under the terms of the Metrolinx-TRCA Service Level Agreement and advise the Board of Directors of TRCA of issued VPR letters through the regular reporting process.

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Date: September 15, 2020

Attachments: 4

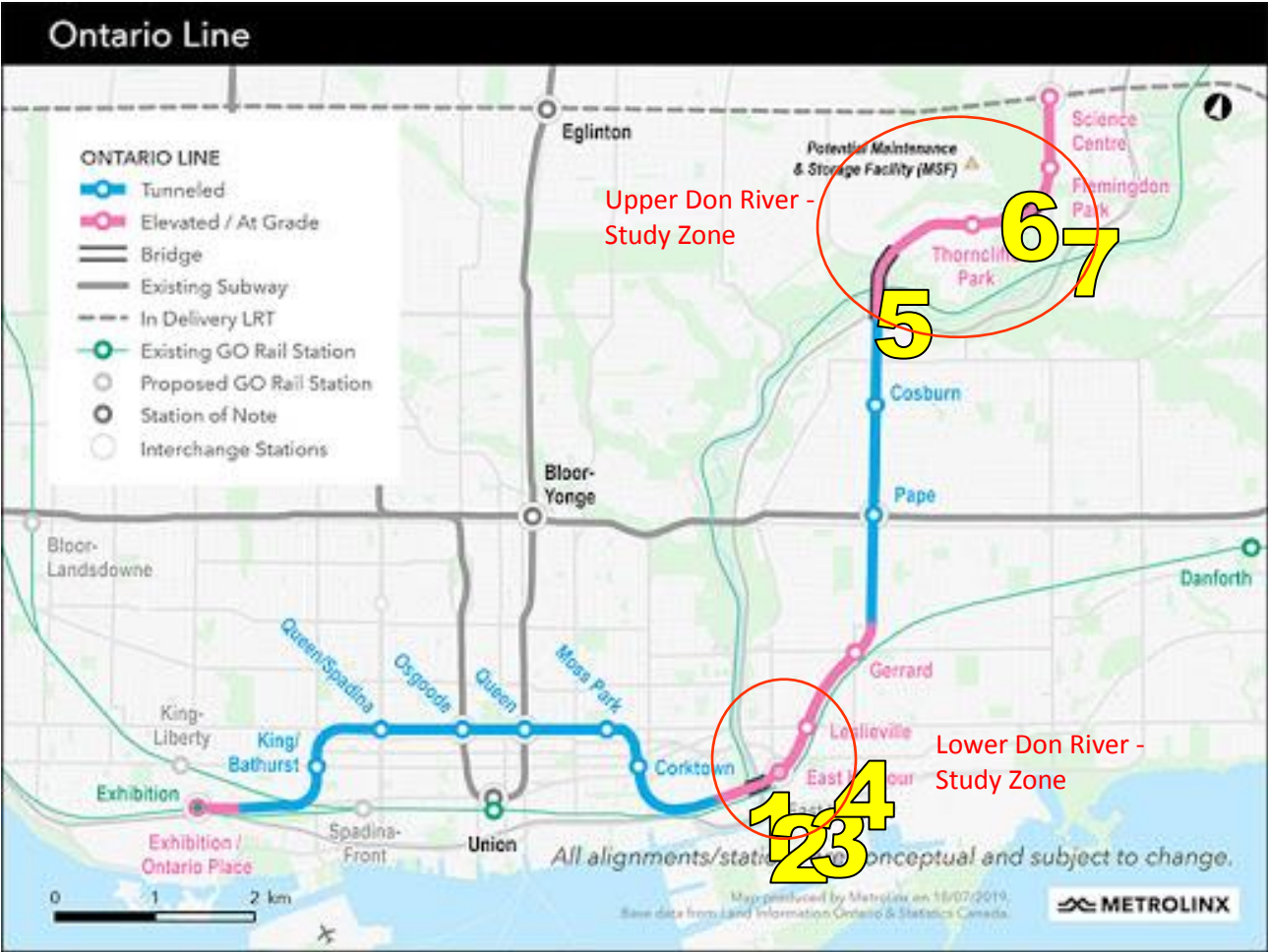
Attachment 1: Ontario Line Alignment

Attachment 2: Recommendations

Attachment 3: Flood Protection Infrastructure of the Lower Don

Attachment 4: Natural Heritage System of the Upper/West Don
the Upper/West Don

Attachment 1: Ontario Line Alignment



Seven Study Areas of Interest to TRCA

Attachment 2: Recommendations

AREAS 1, 2, 3, & 4: LOWER DON RIVER

1. TRCA staff review the high-level Mike Flood 2D floodplain impact study to confirm that there are no additional flood plain impacts resulting from the Richmond Hill corridor works.

AREA 1: LOWER DON RIVER – Realigned Richmond Hill Corridor

2. Metrolinx demonstrate that no temporary or permanent infrastructure, alterations, or construction and temporary excavations will be within 10 metres of the WDFPL footprint. If disturbance is unavoidable, Metrolinx will demonstrate that all other alternatives are not feasible to TRCA's satisfaction.
3. Metrolinx to enter into an agreement with TRCA that:
 - a. Metrolinx adopts measures to mitigate impacts to the FPL to the satisfaction of TRCA.
 - b. Metrolinx restore the WDFPL to original design standard or better post construction; TRCA will review and confirm the appropriateness of the restoration.
 - c. TRCA review and approve any changes to the tie in point of the WDFPL, if needed.
 - d. Metrolinx undertake long-term monitoring to confirm that the long-term function of the FPL is appropriately maintained after the proposed alterations, to the satisfaction of TRCA. Metrolinx will additionally be required to undertake all necessary remedial and mitigative measures, if deemed necessary as per the monitoring results, to the satisfaction of TRCA.
4. Metrolinx confirm TRCA property requirements early in the process to begin the easement.

AREA 2: LOWER DON RIVER – New Lower Don River Crossing

5. Metrolinx confirm the timing of constructing the Lower Don River crossing. If the timing of construction is before the proposed EHFPL and potential flood remediation works resulting from the BEFP Municipal Class EA north of the rail embankment, Metrolinx will need to proactively design to incorporate with future flood protection as well as provide temporary flood protection measures for their project in accordance with provincial hazard and TRCA policy.
6. Metrolinx engage with TRCA and its partners to review the flood protection strategy for this project, including optimizing project solutions, timing and funding to construct the required protection measures in advance of the funding for the permanent infrastructure.

AREA 3: LOWER DON RIVER – East Harbour Station

7. Metrolinx provide more details regarding the proposed East Harbour Station works in the Early Works Report. TRCA should be provided with sufficient time to review the full extent of the proposed works, prior to completion in accordance with the TRCA-Metrolinx SLA. Metrolinx should incorporate TRCA comments into the document prior to public review; however, if Metrolinx is unable to address TRCA comments at this stage, commitments to address comments through the VPR process should be added to the reports or provided in a separate memo.
8. Metrolinx partner with TRCA, the City of Toronto, and Waterfront Toronto to secure funding for flood protection infrastructure for the northern section of this area.
9. Metrolinx update the Early Works report to include the following: a) details on how the East Harbour Station interfaces with the DMNP, Broadview Underpass, Gardiner Expressway and Lakeshore Boulevard Realignment, and Broadview Avenue Extension; and b) potential effects and mitigation measures resulting from these studies.
10. Unless the flood proofing infrastructure to the south and north of the East Harbour Station embankment are implemented, the agency responsible for flooding impacts should be determined prior to construction and/or added as a commitment in the Early Works report.

AREA 5: UPPER DON RIVER – Millwood/Minton Crossing

11. Metrolinx conduct a geotechnical and stability review of proposed alterations as a result of the earthworks for the alignment and to assess the impact of the proposed alterations on the valley slope stability and to develop the appropriate mitigation strategy against potential erosion hazard for the valley slopes at the crossing.
12. Metrolinx identify the potential constraints on replantation of the altered areas by grading or engineering the slope for stabilization purposes as well as the permanent impacts on the ecosystem in the valley slope area.
13. Metrolinx consider a new bridge, adjacent to the Leaside Bridge that can accommodate a railway system, similar to the Bloor Street Viaduct.
14. Metrolinx undertake a more detailed natural heritage inventory and impact assessment to estimate a more up-to-date ecological impacts of the proposed alignment and to inform appropriate mitigation measures.
15. The footprint of the alterations and total piers should be reduced as much as possible allowing for optimal connectivity in the valley.
16. The proposed station in the vicinity of any crossing near the valley system should have active transportation amenities (safe pedestrian connections, lighting, lit crossings, bike parking, bike wash stations, etc.) to promote active transportation as a safe first mile/last mile option for public transit.

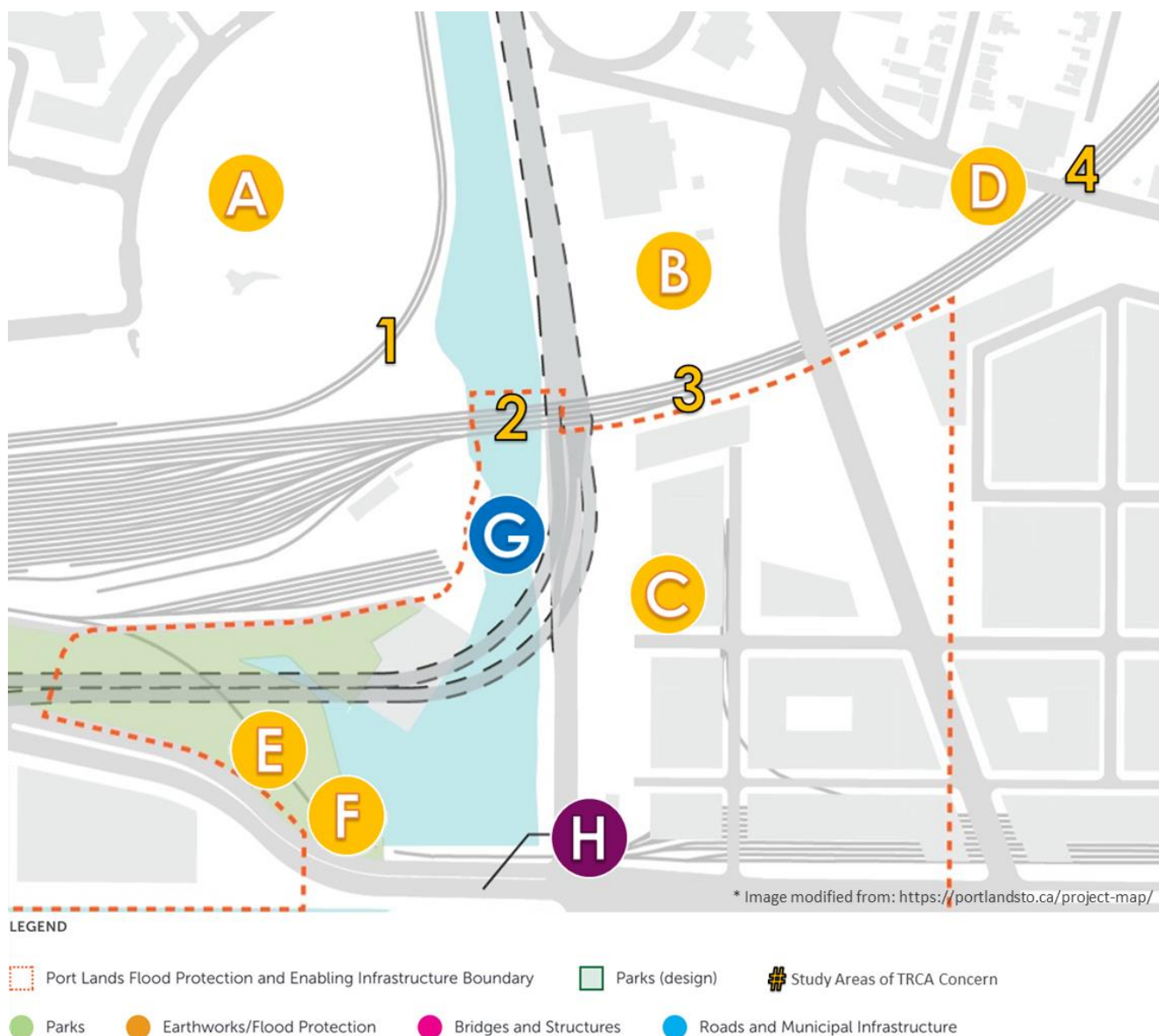
AREA 6: UPPER DON RIVER – Maintenance and Storage Facility (Wicksteed Site)

17. Metrolinx commit to conducting the slope stability study for this site (valley slopes on north/northeast and south) at this stage of the process to inform the feasibility study and to develop the options. This will include LTSTOS (with additional 6-10 m buffer) and grading information for the proposed works (including temporary), so that the extent of the disturbance as well as the appropriate mitigation strategy from the long-term erosion and slope stability hazards are identified.
18. Metrolinx to provide TRCA staff with the design criteria and conditions for the PSOS for review and approval to ensure that TRCA requirements to mitigate the erosion hazard, as well as to protect the slopes and ravines, are met.

AREA 7: UPPER DON RIVER - E.T. Seton Park Crossing (Overlea Crossing)

19. Metrolinx commit to conducting the slope stability study for this site (valley slopes on both sides of crossing and the parallel segment) at this stage of the process to inform the feasibility study and to develop the options. This will include LTSTOS and grading information for the proposed works, so that the extent of the disturbance as well as the appropriate mitigation strategy from the long-term erosion and slope stability hazards are identified.
20. Metrolinx submit a hydraulic assessment memorandum with the latest Don HEC-RAS model which demonstrates that there are no flood plain impacts with the proposed crossing.

Attachment 3: Flood Protection Infrastructure of the Lower Don



A: West Don Lands Flood Protection Landform

This area has a long history of flooding due to its unique location at the mouth of the Don River and the Keating Channel. This area used to be vacant lands, but Waterfront Toronto (WT) was charged with revitalizing the area for development. Before any development could occur, WT and TRCA undertook the Lower Don River West Remedial Flood Protection Project (LDRW) to remove the flood risk and open up approximately 210 hectares of land west of the Don River to redevelopment. This was ultimately done by constructing the WDFPL.

B: Broadview and Eastern Flood Protection Municipal Class EA (proposed - incomplete)

Located at the intersection of some of the City's most ambitious infrastructure and development projects, including a future office and retail nexus as well as key transportation initiatives, the BEFP will seek a solution to address flood vulnerability for an 8 hectare parcel of urban land just east of the Don River and south of Eastern Avenue.

C: East Harbour Flood Protection Landform (proposed - complete)

This flood protection landform will be built on the east bank of the Don River between the Metrolinx Rail Bridge over the Don Valley Parkway and Lake Shore Boulevard. It will eliminate the risk of flooding to the future East Harbour development site, east of the Don River.

D: Eastern Avenue Flood Protection

Waterfront Toronto (WT) will raise the grade of the land surrounding the Eastern Avenue underpass of the CN Rail line to help protect against flooding during major storms.

E: Sediment and Debris Management Area

Sediment and debris need to be removed regularly from the Don River to keep water flowing safely through the river valley, reduce the impact of flooding and maintain safe navigation in the inner harbour. Currently, Ports Toronto dredges mud, silt and larger debris from the Keating Channel. To allow water to flow under the Lake Shore Bridge during a major flood, the Don River needs to be widened and deepened upstream of this bridge. This will slow down the water, releasing more sand and silt onto the riverbed. To address this, WT are moving dredging operations and debris management north of Lake Shore.

F: Flow Control Weirs

WT will install a series of weirs (fences or enclosures) near the Lake Shore Bridge that will allow us to control the amount of water that enters the new river valley and the Keating Channel. This will help avoid flooding and ensure that there's always enough water flowing through the new river valley to support a healthy ecological system.

G: Gardiner Expressway & Lake Shore Boulevard East Reconfiguration

The City and WT selected "the Hybrid" as the preferred solution for the future of the elevated Gardiner Expressway and Lake Shore Boulevard East corridor between Lower Jarvis Street and Cherry Street. The Ministry of Environment and Climate Change approved the EA in November 2017. The design for this solution includes maintaining the existing elevated expressway and rebuilding the Gardiner-DVP connection and Lakeshore Boulevard East along a new alignment closer to the rail corridor.

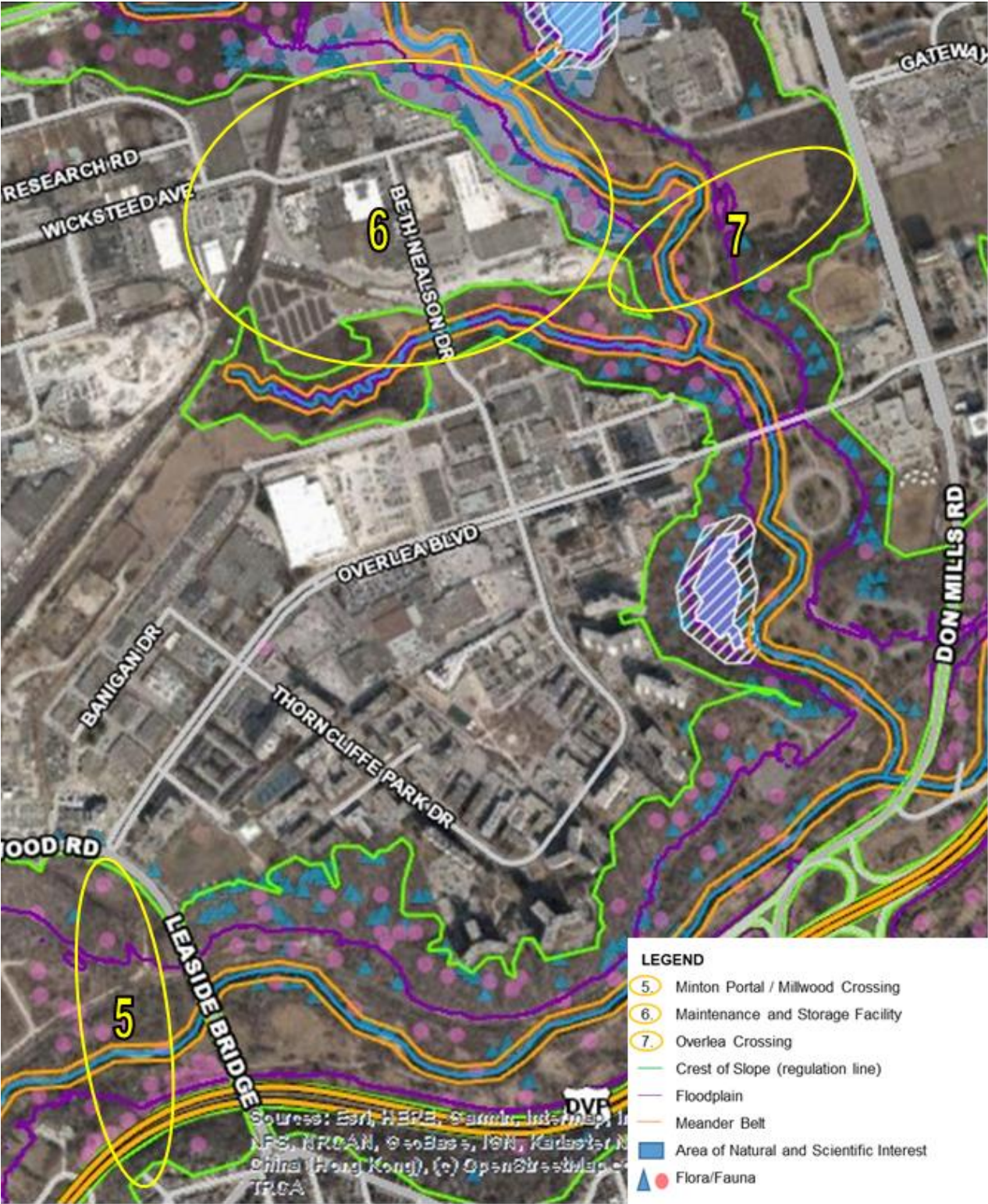
Hydro One Integration

WT is working with Hydro One to address overhead hydro towers along the Don Roadway south of Lake Shore Boulevard and to integrate the proposed Flood Protection Landform with the existing underground high voltage cables. WT will coordinate with Hydro One to make sure the roads and flood protection features are designed to accommodate its infrastructure.

H: Lake Shore Boulevard and Rail Bridge Modifications

The existing bridge at Lake Shore Boulevard and Don Roadway and the adjacent rail bridge act as a pinch point. This restricts the flow of water, increasing flood risks. By extending the Lake Shore Bridge at its west end by three spans, WT will create a wider opening over the Keating Channel. This will allow higher, faster water to flow safely through the channel during major storms. Additional opportunities to coordinate with the Gardiner East Project may offer more significant modifications to this structure.

Attachment 4: Natural Heritage System of the Upper/West Don



Study Areas of Interest to TRCA

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Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Sameer Dhalla, Director, Development and Engineering Services

RE: **METROLINX SERVICE LEVEL AGREEMENT (2020-2022)**

KEY ISSUE

Approval of the 2020-2022 service level agreement (SLA) between Toronto and Region Conservation Authority (TRCA) and Metrolinx.

RECOMMENDATION

WHEREAS Metrolinx has engaged with TRCA through SLAs from 2014 - 2019 for GO and Light Rail Transit (LRT) Projects and would like the formal relationship to continue;

WHEREAS the proposed SLA consolidates the existing agreements for the Metrolinx GO and LRT Projects, and adds the Subway Project;

WHEREAS the proposed SLA continues to include reviews during the environmental assessment, detailed design and voluntary project review (VPR) stages and provides streamlined services through a full-cost recovery budgeting and invoicing process;

WHEREAS the proposed SLA agreement also provides for natural heritage compensation coordination for all Metrolinx GO and Subway Projects;

WHEREAS TRCA on an annual basis, reports to the Board of Directors on the voluntary project review letters issued to Metrolinx and its design-build teams, generically referred to as “ProjectCo”;

WHEREAS outside of the proposed SLA, TRCA will continue to work with Metrolinx to implement projects that satisfy requirements for both natural heritage and Species at Risk (SAR) compensation, public realm benefits such as trails and trailheads, as well as complete negotiations for TRCA property as needed;

THEREFORE, LET IT BE RESOLVED THAT TRCA staff be directed to execute the 2020-2022 SLA with Metrolinx including the obtaining of necessary approvals and execution of any documents for this agreement, as well as any extensions;

THAT staff continue to report to the Board of Directors annually on all VPR letters issued to Metrolinx or ProjectCo.;

That TRCA staff provide a report annually to the Board of Directors regarding any natural heritage or SAR compensation projects undertaken on behalf of Metrolinx;

AND FURTHER THAT staff report back to the Board of Directors in 2022 regarding any proposed extensions to the term of the SLA.

BACKGROUND

Since 2014, TRCA staff has been engaged by Metrolinx to ensure that review during the environmental assessment, detailed design, and voluntary project review stages for the Metrolinx GO and LRT Projects have been undertaken in a streamlined and expeditious manner through separate SLAs. When the previous agreement expired on December 31, 2019, both parties continued to work together under the terms of the previous SLA while finalizing the 2020-2022 agreement. The proposed SLA will continue TRCA's services for three projects: Metrolinx GO, LRT, and Subway (each a "Project" and collectively, the "Projects").

Prior SLAs with Metrolinx did not require Board of Directors' approval, however, TRCA's policies have changed to increase transparency regarding TRCA's relationships with key stakeholders, in accordance with recent changes to the Conservation Authorities Act.

RATIONALE

The proposed SLA shall be in effect for a period of three (3) years, commencing retroactively on January 1, 2020 and expiring on December 31, 2022 unless otherwise amended by the parties. Metrolinx will notify TRCA before the end of June 2022, if it would like to extend this SLA.

The SLA defines the agreed upon scope of work, which includes, review at the environmental assessment, detailed design and when appropriate, construction stages of the Projects. This review is to be completed in accordance with TRCA's mandate, program and policies, and regulatory objectives. The review shall include, but is not limited to, concerns related to flooding, erosion, natural heritage management (including natural heritage compensation coordination), stormwater management and coastal hazards in accordance with TRCA reporting requirements. TRCA is committed to meeting specific service delivery standards and will provide TRCA mapping and data. The SLA defines review requirements at each project stage, and provides for training of TRCA staff, Metrolinx and ProjectCo. to ensure the terms of the agreement as well as the review requirements are understood. In order to fulfil the terms of the agreement, TRCA is responsible for providing and managing planning and technical staff in accordance with its policies. Separate from this agreement, TRCA will engage with Metrolinx or ProjectCo. regarding natural heritage and SAR implementation projects and requirements for TRCA property.

The SLA also requires Metrolinx and ProjectCo. to engage TRCA at recommended contact points, to provide detailed project break downs at the outset of each project stage, including expectations regarding submissions and timing of submissions for each Project, when known, including, but not limited to, environmental assessment and detailed design and voluntary project review by the May of each year to inform service needs and budget expectation for the following year(s). Metrolinx has also committed to following its vegetation guidelines for individual Metrolinx GO and Subway projects on a case by case basis. For LRT projects, TRCA will continue to request compensation using the organization's compensation guidelines. In instances where the services are not directly associated with a Metrolinx GO Project, for example operational projects, the terms of this SLA will not apply. Such projects will be reviewed through TRCA's regular plan input and review process and fees for service will be charged in accordance with TRCA fee schedule.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:
Strategy 7 – Build partnerships and new business models

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FINANCIAL DETAILS

Budget estimates are confirmed each year based on project expectations and service delivery requirements. The projected budgets are as follows: 2020 - \$1.844 M, 2021 - \$1.908 M and 2022 - \$1.972 M. Additional services outside the agreement scope of the agreement will be negotiated separately.

DETAILS OF WORK TO BE DONE

- Designated TRCA and Metrolinx staff to sign and execute the final SLA.
- TRCA staff to provide monthly invoices in accordance with the stipulations in the SLA.
- TRCA staff to continue to deliver plan review and compensation coordination services in accordance with the terms of the SLA.
- TRCA staff to work with Metrolinx to develop virtual training programs for Metrolinx and ProjectCo. that overview SLA, planning and technical deliverables at a cost to be borne by Metrolinx as stipulated in the SLA.
- TRCA staff to prepare annual reports to the BOD regarding VPR letters issued to Metrolinx or ProjectCo., and on natural heritage and SAR compensation projects completed by TRCA.

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Date: August 31, 2020

Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: John MacKenzie, Chief Executive Officer

RE: **PROPOSED AMENDMENTS TO TORONTO AND REGION CONSERVATION
AUTHORITY'S BOARD OF DIRECTORS ADMINISTRATIVE BY-LAW TO
IMPLEMENT PROVISIONS FOR ELECTRONIC MEETINGS**

KEY ISSUE

Approval of the proposed amendments to Toronto and Region Conservation Authority's (TRCA) Board of Directors Administrative By-law, as amended, to implement provisions for electronic meeting participation by Board Members and advisory board members outside of a declared Provincial and/or Municipal emergency.

RECOMMENDATION

WHEREAS, pursuant to March 26, 2020 Minister's Direction, TRCA's Board of Directors Administrative By-Law was amended on April 24, 2020, enabling TRCA to hold virtual meetings during any period where an emergency has been declared to exist in all or part of the conservation authority jurisdiction under section 4 or 7.0.1 of the *Emergency Management and Civil Protection Act (EMCPA)* in alignment with Bill 187, the *Municipal Emergency Act*;

AND WHEREAS the provincial emergency under section 7.0.1 of the *EMCPA* was lifted on July 24, 2020, and it is expected that municipal emergencies under section 4 of the *EMCPA* shall be lifted in the future;

AND WHEREAS Minister, Environment, Conservation and Parks issued an amendment to the March 26, 2020 Minister's Direction on September 10, 2020 directing conservation authorities to amend their by-laws to allow for electronic meeting participation outside of a declared Provincial and/or Municipal emergency;

AND WHEREAS TRCA's Board of Directors, Executive Committee, and advisory boards have successfully held electronic meetings throughout the COVID-19 declared state of emergency;

AND WHEREAS TRCA's Board of Directors deems it expedient to continue to permit electronic participation in the meetings of the Board of Directors, Executive Committee, and advisory boards;

THEREFORE, LET IT BE RESOLVED THAT the proposed amendments to sections A, C.2, C.3, C.12, and C.13 of TRCA's Board of Directors Administrative By-law, as amended, be approved;

AND FURTHER THAT the approved amended TRCA Board of Directors Administrative By-law be forwarded to the Minister of Environment, Conservation and Parks, and to Conservation Ontario, and be posted on TRCA's website.

BACKGROUND AND RATIONALE

TRCA's Board of Directors Administrative By-law (henceforth "the By-law") was approved on September 28, 2018, as a requirement under section 19.1(1) of the *Conservation Authorities Act* (henceforth "the Act"), as amended. The By-law was further amended on October 24, 2020. The document did not permit electronic participation in the meetings of the Board of Directors, Executive Committee, or advisory boards.

On March 17, 2020, the Province of Ontario declared an emergency due to the outbreak of novel coronavirus (COVID-19), instructing organizations to cancel any gatherings in excess of 5 people. To mitigate the impact this declaration had on operations of conservation authorities, most of which at the time did not allow electronic meeting participation (in alignment with the *Municipal Act*), on March 26, 2020 Minister of Environment, Conservation and Parks (the "Minister") has issued the Minister's Direction pursuant to subsection 19.1(7) of the *Act*, which enabled all conservation authorities to conduct electronic meetings during an emergency declaration under section 4 or 7.0.1. of the *Emergency Management and Civil Protection Act* (*EMCPA*). Sections C.3 and C.12 of TRCA's By-law were amended accordingly at the special meeting of TRCA's Board of Directors held on April 24, 2020.

The amendment enables TRCA to conduct electronic meetings while an emergency has been declared "in all or part of an area over which the Authority has jurisdiction". The provincial emergency under section 7.0.1 was lifted on July 24, 2020; however, most municipal emergency declarations under section 4 are still in effect. TRCA's current electronic participation rules expire with the termination of the province and municipal emergency declarations. This means that once the latter of these declarations end, all Members must attend meetings of the Board of Directors, Executive Committee and advisory boards in person.

On September 10, 2020 the Minister issued an amendment to the March 26, 2020 Minister's Direction, directing conservation authorities to further amend their by-laws to allow for electronic meeting participation outside of a declared Provincial and/or Municipal emergency, if they deem such participation appropriate (Attachment 1).

As the emergencies can be expected to end before the risk of community transmission of COVID-19 has been eliminated, and potentially before a second wave of infection is expected to occur, TRCA staff believe it expedient to continue to permit electronic participation in the meetings of the Board of Directors, Executive Committee, and advisory boards, particularly as no TRCA facility can accommodate the above-mentioned meetings while ensuring proper social distancing measures. This would be consistent with the July 21, 2020 Bill 197, the *COVID-19 Economic Recovery Act* which amended the *Municipal Act* and the *City of Toronto Act* to allow City Councils to make remote meeting participation permanent. Each Municipal Clerk's Office is expected to amend their by-laws in line with Bill 197, which permits electronic participation outside of an emergency. Several municipalities within TRCA's jurisdiction have already amended their by-laws accordingly.

To enable TRCA's Board of Directors, Executive Committee, and advisory boards to conduct meetings electronically in the future, it is proposed that the By-law is amended as follows, with amendments provided in blue.

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For clarity, these are Sections A, C.2, C.3, C.12, and C.13 below:

Section A. Definitions

"Electronic Meeting" means a meeting called and held in full or in part via electronic means (including, but not limited to, audio teleconference, video teleconference, or via means of the Internet), and with or without in-person attendance, allowing for electronic participation by Board Members.

Section C.2 Notice of Meeting

(6) The *Chair* or the *Chief Executive Officer* may, if it appears that a weather event or like occurrence will prevent the *Board Members* from attending a meeting, postpone that meeting by advising as many *Board Members* as can be reached or, if warranted, hold the meeting electronically provided quorum and public participation requirements can be met. Postponement shall not be for any longer than the next regularly scheduled meeting date.

Section C.3 Meetings Open to Public

(1) All meetings of the Board of Directors and Executive Committee, regardless of whether they are held in-person or electronically, shall be open to the public. When the meeting is held electronically, TRCA shall provide alternative means of public participation through electronic means.

~~(2) During any period where an emergency has been declared to exist in all or part of TRCA's jurisdiction, under section 4 or 7.0.1 of the *Emergency Management and Civil Protection Act* Toronto and Region Conservation Authority shall implement best practices to make meetings of the Board of Directors, Executive Committee and advisory boards or committees open to the public in accordance with subsection 15(3) of the *Conservation Authorities Act*. Where possible, TRCA shall provide for alternative means to allow the public to participate in any meetings electronically.~~

~~(2) Subject to subsection (2), in times of technological failure (e.g., Internet outage, system crash), failure to open a meeting to the public through means of electronic meeting participation does not call the meeting into question.~~

(2) A meeting or a part of a meeting may be closed to the public if the subject matter meets the criteria for a closed meeting as defined in Section C.4 of this By-law.

(3) All meetings of the Board of Directors and Executive Committee will be webcast and be made publicly available for both live streaming and later viewing or be made similarly available using the best available technological systems, except in times of technological failure.

Section C.12 Electronic Participation

(1) Electronic meetings shall be permitted during any period of time. For further clarity, any hearing or appeal that is dealt with in this By-law may be conducted electronically with provisions for applicants and their agents to participate if the Executive Committee decides to hold any such hearing or appeal as an electronic meeting. All such meetings shall be open to the public unless the meeting is closed to the public pursuant to section C.4 of this By-Law. The Clerk, in consultation with the Chief Executive Officer, may direct that a Board of Directors, Executive Committee or advisory board meeting be conducted wholly as an electronic meeting through electronic participation, via a meeting platform as determined by the Clerk.

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(2) A Board Member ~~shall not shall~~ **will be permitted to** participate electronically in any Board of Directors, Executive Committee or advisory board meeting. **A Board Member participating in a meeting electronically shall have the ability to:**

- (a) register a vote;
- (b) be counted towards determining quorum; and
- (c) participate in a meeting that is closed to the public.

(3) The Board Member or advisory board member who wishes to participate in an electronic meeting electronically shall provide the Clerk a minimum of 24 hours' notice, or as much time that is practically required to ensure appropriate preparations for an electronic meeting.

(4) Members attending an electronic meeting that is closed to the public electronically shall declare at the start of the closed session that they will maintain the confidentiality of the closed session through ensuring that they are alone and that any discussions cannot be overheard.

(5) External stakeholders and the members of the public may participate electronically in any meeting. Those, wishing to participate in the meeting electronically shall provide the Clerk a minimum of 24 hours' notice, or as much time that is practically required to ensure appropriate preparations for an electronic meeting.

(6) Electronic meetings shall be conducted in accordance with the procedures established by the Clerk for facilitating electronic participation, which will ensure the adequate communications during the meeting and allow members of the public to hear and observe meetings open to the public.

~~(2) Staff is never permitted to participate in a meeting electronically. Should the public wish to address the Board of Directors they may not participate by electronic means, except by special permission of the Chair to meet AODA requirements.~~

~~(3) During any period where an emergency has been declared to exist in all or part of TRCA's jurisdiction under section 4 or 7.0.1 of the *Emergency Management and Civil Protection Act* that may prevent Board Members from meeting in person despite subsection (1), any Board Member may participate in meetings electronically and shall have the ability to:~~

- ~~(a) register a vote;~~
- ~~(b) be counted towards determining quorum; and~~
- ~~(c) participate in a meeting that is closed to the public;~~

~~(4) During any period where an emergency has been declared to exist in all or part of the TRCA jurisdiction under section 4 or 7.0.1 of the *Emergency Management and Civil Protection Act* and any Board of Directors, Executive Committee or advisory board or committee meeting is to be conducted electronically, despite subsection (2) TRCA staff, external stakeholders and members of public may participate in the meeting electronically.~~

~~(5) During any period where an emergency has been declared to exist, in all or part of an area over which the Authority has jurisdiction, under Section 4 or 7.0.1 of the *Emergency Management and Civil Protection Act*, that may prevent the Board Members from meeting in person, any hearing or appeal dealt with in this By-law may be conducted electronically with provisions for applicants and their agents to participate if the Executive Committee decides to hold any such hearing or appeal.~~

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(7) All meetings of the Board of Directors and Executive Committee, and other meetings as directed by the Chair, will be webcast except in times of technological failure (e.g., Internet outage, system crash). Meeting recordings shall be made publicly available for later viewing. Failure to webcast or produce a recording does not call the meeting into question.

Section C.13 Delegations

(1) Any person or organization shall be permitted to speak to any item on the Board of Directors, Executive Committee, or advisory board agenda, either in-person or through electronic means. In a case when TRCA offices are closed to the public, written communications will be encouraged, however a delegation through electronic means is possible by contacting the Clerk.

(2) Any person or organization who wishes to address the Board of Directors may make a request in writing by such means as designated by the Clerk. The request should include a brief statement of the issue or matter involved, the position to be taken, and indicate the name, title (if applicable) and contact information of the proposed speaker(s). If such request is received nine days in advance of a scheduled meeting, the delegation shall be listed on the regular agenda and if received three days in advance shall be listed on the added agenda. The cut-off time shall be 12:00 p.m. in each instance.

(3) Any person or organization requesting an opportunity to address the Board of Directors but not having made a written request to do so in the timelines specified above, may appear before a meeting of the Board of Directors but will be heard only if such motion is made by a Board Member at the meeting and the motion passes by the majority in attendance. If such motion passes, the Chair may immediately rule that the hearing of the delegation would be unfair or prejudicial to Board Members or other persons not present because of lack of advance notice and that the hearing of the delegation be deferred to the next meeting and listed on that agenda. The Chair's ruling may be immediately appealed by proper motion and the ruling of the meeting shall then govern. If a person or organization wish to speak to an item through electronic means and have not made a written request to do so in the timelines specified above, they shall provide the Clerk with a minimum of 24 hours' notice to have an opportunity to request consideration of their delegation. Due to technical considerations associated with the conducting the meeting electronically any requests received after such time cannot be accommodated.

(4) Delegations are limited to one meeting of either the Board of Directors, Executive Committee or advisory board, except by approval of the Chair to be heard at an additional meeting(s). This may not be applied if there is a material change in the direction of recommendations related to the item. Further, delegations will be afforded the opportunity to speak at the meeting when the decision is being made, even if they were previously allowed to speak at another meeting.

(5) Delegations shall confine their remarks to the matters on the agenda before the Board of Directors. Should the request for a delegation be in regard to a matter not currently before the Board of Directors, the Chief Executive Officer may defer hearing the matter until such time as it is before the Board of Directors or deem the delegation frivolous. Except by leave of the Chair, each delegation shall be limited to not more than two speakers, with a total time allotment limited to five minutes, for each delegation. Leave for extension may be requested in advance through the Clerk or at the meeting. When a number of people are to appear representing one interest group, it is expected that the group be represented by a maximum of two spokespersons as indicated above

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and be allotted a total time of a maximum of five minutes, and/or submit written submissions.

(6) When the Chair believes that a large number of delegations will request an opportunity to address the Board of Directors with respect to a particular matter or matters, the Chair may summon a special meeting of the Board of Directors to deal with the particular matter or matters.

(7) If the number of delegations present wishing to address a particular matter or matters is such that the meeting will not be able to deal with its agenda properly, then, on proper motion, the particular matter or matters may be adjourned to a special meeting and, if the time, date and place of the special meeting is included in the motion, no further notice of such meeting will be required.

(8) Delegations may submit written submissions for consideration at a meeting up to the start of any meeting on which they have been approved to speak.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:
Strategy 7 – Build partnerships and new business models

DETAILS OF WORK TO BE DONE

Upon the approval, the amended By-law will be posted on TRCA's website and circulated to the Minister of Environment, Conservation and Parks, and Conservation Ontario.

Report prepared by: Alisa Mahrova, extension 5381

Emails: alisa.mahrova@trca.ca

For Information contact: Michael Tolensky, extension 5965

Emails: michael.tolensky@trca.ca

Date: September 16, 2020

Attachments: 1

Attachment 1: Amendment to the Minister's Direction for Conservation Authorities during the COVID-19 Outbreak

**Ministry of the Environment,
Conservation and Parks**

Office of the Minister

777 Bay Street, 5th Floor
Toronto ON M7A 2J3
Tel.: 416-314-6790

**Ministère de l'Environnement,
de la Protection de la nature et des
Parcs**

Bureau du ministre

777, rue Bay, 5^e étage
Toronto (Ontario) M7A 2J3
Tél. : 416.314.6790



September 10, 2020

TO: Conservation Authorities as listed in the attached **Schedule "A"**

SUBJECT: Amendment to the Minister's Direction for Conservation Authorities during the COVID-19 Outbreak

On March 26, 2020, I issued a Minister's Direction ("**Direction**") pursuant to subsection 19.1 (7) of the *Conservation Authorities Act* that applied to all conservation authorities in Ontario, listed in **Schedule "A"** as attached. The Direction enabled conservation authorities to convene a meeting electronically in order to make the necessary amendments to their administrative by-laws to deal with both provincial and municipal emergencies. It identified the minimum areas where the by-laws should be amended, in the manner deemed appropriate by the CA, to make provision for emergency situations (e.g., electronic participation in meetings and hearings and achieving quorum while participating electronically). The Direction also identified that each conservation authority, depending on their individual by-laws, may identify the need to make other necessary amendments to respond to emergencies.

It has come to my attention that certain conservation authorities amended their by-laws to allow virtual meetings only during declared emergencies. Now that the provincially declared state of emergency has ended and municipally declared state of emergencies have or may end, conservation authorities may be prevented from continuing to be able to meet virtually. As such, I am amending the Direction that I issued on March 26, 2020 to remove this barrier. I am directing the conservation authorities listed in Schedule "A" to meet virtually for the purpose of reviewing and amending their by-laws, as applicable, to allow for members of a conservation authority to participate electronically in meetings when it is deemed appropriate by the conservation authority to do so. For greater certainty, the other provisions of the Direction continue to apply.

Effective Date

This amendment to the March 26, 2020 Direction is effective immediately. If it is in the public interest to do so, I will provide further direction or clarification at a later date related to the matters set out in this Direction.

If you have any questions related to this Direction, please contact:

Chloe Stuart
Assistant Deputy Minister, Land and Water Division
Ministry of the Environment, Conservation and Parks
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To learn more about how the province continues to protect Ontarians from COVID-19, please visit www.ontario.ca/coronavirus.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeff Yurek', with a stylized, flowing script.

Jeff Yurek
Minister of the Environment, Conservation and Parks

c: Steve Clark, Minister of Municipal Affairs and Housing
John Yakabuski, Minister of Natural Resources and Forestry
Kim Gavine, General Manager, Conservation Ontario

SCHEDULE "A" CONSERVATION AUTHORITIES

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Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Sameer Dhalla, Director, Development and Engineering Services

RE: **SUMMARY OF RECENT UPDATES TO TRCA FLOOD PLAIN MAPPING PROGRAM**

KEY ISSUE

Toronto and Region Conservation Authority's (TRCA) flood plain maps are a key technical output necessary to fulfilling TRCA's mandate and specific TRCA's Strategic Plan objectives to reduce flood risks and protect communities. Flood plain mapping and the associated studies are the foundation of several programs within TRCA, including flood forecasting and warning, and land use planning and regulation. Leveraging National Disaster Mitigation Program (NDMP) funding, TRCA Engineering Services has completed a comprehensive, jurisdictional wide, flood plain mapping update over the past five years.

RECOMMENDATION

THAT this report, with the associated flood plain mapping available online, be received;

THAT Toronto and Region Conservation Authority (TRCA) staff be directed to communicate to municipal partners and stakeholders the results of TRCA's recent flood plain mapping updates and studies;

THAT this report be circulated to TRCA's municipal and government partners and stakeholders;

AND FURTHER THAT staff be directed to report to the Board of Directors when future comprehensive flood plain mapping updates are completed.

BACKGROUND

The *Conservation Authorities Act* (CA Act) provides the legal basis for TRCA's mandate to undertake watershed planning and management programs that prevent, eliminate, or reduce the risk to life and property from flood and erosion hazards. TRCA undertakes flood plain mapping under the responsibility given to it by Section 28 of the CA Act and TRCA's corresponding Regulation: Ontario Regulation 166/06, as amended (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses).

Flood studies and flood plain mapping are prepared and approved for TRCA by qualified Water Resource Engineers using standards and criteria established by the Ontario Ministry of Natural Resources and Forestry (MNRF).

Flood plains are determined based upon information gathered through flood plain mapping studies, which is analyzed and synthesized as part of a flood plain mapping update. Flood plain mapping studies are technical reports that use topographic data, surveys of infrastructure such as the size of bridges and culverts, land use information, weather data, stream flow data, and detailed hydraulic and hydrologic models (as outlined below) of each watershed in order to

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determine the spatial extent of a flood plain. The flood plain boundaries are shown on detailed topographic maps.

Since its inception, TRCA has undertaken a number of jurisdictional wide flood plain mapping updates to ensure floodlines and regulation mapping remain current and reflective of each watershed's landscape. Flood plain mapping updates leverage technological advancements in mapping products, modelling capabilities, staff resources and expertise, and monitoring data.

TRCA's first comprehensive flood plain mapping update took place in the 1960s. It was undertaken for the purposes of meeting the requirements of Ontario Regulation 253/64 for regulating the construction of buildings or structures in areas below the high-water mark of rivers, creeks or streams; and regulating the placing or dumping of fill of any kind in areas defined by the Authority. It should be noted that the term "below the high-water mark of rivers, creeks, or streams" was in reference to the fact that floodlines at the time were based on recorded high-water marks collected after the Hurricane Hazel event for each watershed. Where water marks were not available, floodlines were based on manual hydrology and hydraulic calculations.

The next comprehensive flood plain mapping update occurred when federal funding becoming available as part of the 1975 National Flood Damage Reduction Program (FDRP). The FDRP was intended to coordinate federal and provincial strategies through defining flood risk areas, by discouraging continuing development in those areas, and by following up with appropriate measures to limit damage to existing development. Flood plain maps were subsequently updated in the early 1980s using analog base-mapping and first-generation hydrology and hydraulic modelling software. This project was completed in 1987 coinciding with the Ontario Regulation 193/86 update, regulating the construction of buildings or structures, the placement or dumping of fill, and the alteration of watercourses in the Metropolitan Toronto Region.

In the early 2000s, TRCA initiated the third comprehensive flood plain mapping update. Leveraging funding from our municipal partners TRCA was able to modernize the program moving away from analog base mapping into a digital environment using modern computer modelling software to establish floodlines. The intent of this comprehensive flood plain mapping update was to convert analog base mapping into a digital format, ensuring both mapping and modelling updates resulting from development applications could occur in real time. The floodlines developed through this flood plain mapping update were one of the criteria for TRCA's Regulation Limit (Ontario Regulation 166/06), regulating construction, alteration and development activities in and around valleys, streams and wetlands and along the Lake Ontario shoreline.

Historically, flood plain mapping updates have been critical for supporting municipal implementation of provincial legislation and policies for managing flood risk through TRCA roles and responsibilities in development and infrastructure planning. However, flood plain maps and their underlying studies are also the foundation of numerous other programs at TRCA, including:

- Flood Forecasting and Warning Program,
- Flood Vulnerable Area and Roads Database,
- Flood Risk Assessment and Ranking, and
- Flood Risk Reduction and Flood Protection Remedial Studies including environmental assessments and feasibility studies.

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Furthermore, TRCA's flood plain mapping program and associated studies provide key information relating to:

- Special Policy Areas,
- Land use planning updates including Official Plans, Block Plans, Zoning Bylaw, and
- Flood Protection and Remediation projects with significant public investment, including projects initiated and driven by municipal partners.

The information is further utilized for emergency and incident management planning, and infrastructure planning and implementation purposes.

With an ever-expanding utility, constant land use changes, advancements in computing capabilities, and the development of sophisticated modelling software including Two-Dimensional (2D) Modelling, best practice within TRCA is to conduct flood plain mapping updates on a 10-year cycle to ensure TRCA's mapping remains current and state-of-the-art. As such, in 2016 TRCA initiated the most recent comprehensive flood plain mapping update which was further accelerated through the availability of NDMP funding.

RATIONALE

Flood plain mapping updates are multi-phased projects that require several studies to be completed before maps can be generated. The first phase consists of the development of a detailed hydrology model to obtain peak flow estimates at any point within the watershed. The second phase consists of the development of a detailed hydraulic model of the watershed to obtain water surface elevations throughout valley and stream corridors. The final phase is the development of topographic maps which identify surface elevations and geospatial data like roads, houses, bridges, and other base-map elements.

Hydrology

Watershed Hydrology is the study of how water moves through the water-cycle. For flood plain mapping purposes, it is the study of how TRCA's watersheds with current and planned land-use changes would respond to rainfall events like Hurricane Hazel as well as hypothetical storms. As noted above, hydrology studies are the first process that needs to be completed to undertake flood plain mapping updates. To help inform hydrology model updates, TRCA continually collects monitoring data (stream flow and precipitation), as well as information on land-use, topography, land cover, and soil.

There have been a number of advancements in modelling software, computing capabilities, and input data like Light Detection and Ranging (LiDAR) which allow TRCA staff to obtain a very good physical representation of the watershed. These advancements have led to the development of higher resolution models capable of predicting flows at a smaller scale and allowing direct input for each catchment into hydraulic models. Previously, manual calculations were required to interpolate flows between a number of points within the watershed. The newer method ensures a more realistic representation of hydrology inputs into hydraulic models, and less user interpretation.

A list of recent hydrology model updates as well as their funding source is available for view in Table 1 below:

Table 1: Summary of Hydrology Updates

Watershed	Date	NDMP Project
Humber River	2015 (Addendum 2018)	No

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Rouge River	2019	No
Don River	2019	No
Highland Creek	2020	Yes
Mimico Creek	2020	Yes
Petticoat Creek	2020	Yes

Several watershed hydrology updates, (Humber River, Rouge River, Don River) have previously been presented to the Board of Directors for approval, reflecting the provincial, municipal, and development-related interests in those watersheds.

In addition to Board approval, hydrology updates for the Humber, Don, and Rouge River watersheds included a detailed third party Peer review process to further confirm and validate the model update process and results to ensure consistency with acceptable engineering practice, and further meet MNRF requirements. For all hydrology model updates, TRCA staff complete detailed reviews of consultant submissions which exceed the typical reviews undertaken through the third-party peer review process. Once the model and results have been approved by staff, they can be used for flood plain mapping studies, and if required, further hydrologic assessments can be conducted to define watershed-specific stormwater management quantity control requirements.

Hydraulics

Open channel hydraulics is the study of how water moves through an open flow conduit like a river channel or valley corridor. A hydraulic model is a representation of the physical characteristics of the valley and stream corridor, including the channel and valley shape, slope, land-use (and the corresponding resistance to flowing water), and water crossings (bridges and culverts). Hydraulic modelling defines the extent of the flood plain, based on these characteristics and the flow inputs for a given storm based on the hydrology model. Hydraulic models provide detailed outputs of various model results, like water surface elevations and velocity which are important for defining flood extents and flood risk.

TRCA uses two different modelling approaches to define floodlines within our watersheds. The majority of TRCA's jurisdiction uses the one-dimensional (1D) modelling approach, while in select areas, where complex hydraulic conditions exist, TRCA uses the two-dimensional (2D) modelling approach.

As noted above, the 1D modelling approach is appropriate for the majority of TRCA's jurisdiction as flood waters are contained within defined valley corridors and flows generally move downstream in one direction. TRCA's modelling software for 1D modelling is the HEC-RAS model developed by the US Army Corps of Engineers Hydrologic Engineering Centre. The HEC-RAS model is well understood, is fully supported by a large international user community, and is the standard 1-D hydraulic modelling platform in Ontario. It is important to note that the development of 1D hydraulic models can be labour-intensive, requiring significant data input to represent water crossings and code topographical information into valley cross-sections. TRCA currently leverages several custom modelling platforms and GIS applications to expedite the creation and review of hydraulic models. In anticipation of the high volume of flood plain mapping updates due to NDMP funding, TRCA purchased several GeoHEC-RAS licences in 2017. GeoHEC-RAS is a software program that integrates GIS utilities on a HEC-RAS model base, and is developed by Civil Geo, a developer specializing in hydraulic modelling tools. GeoHEC-RAS allows TRCA to perform "on the fly" modelling edits which are translated immediately into floodline adjustments, greatly improving the ability to turn over model reviews

and edits in a timely manner.

2D modelling is used in specific areas where flood flows are not contained in a valley corridor, areas with wide, shallow flood conditions, areas where multiple major channel confluences exist, and in areas where complex hydraulic conditions exist. Given the scale and urban nature of TRCA's watersheds, TRCA has a number of locations which require the use of 2D models to define the flood plain extent. TRCA's first 2D modelling study was initiated in 2013, and to date TRCA has used 2D modelling for over 13 flood plain mapping and flood infrastructure studies. Although the model computations in 2D modelling are more complex, requiring significant computational resources and longer run-times, 2D model set-up is much less labor intensive than 1D models. This reflects the gridded nature of 2D models, which require very similar input parameters to the 1D modelling approach. 2D modelling platforms, however, can leverage GIS mapping products for a direct translation of model parameters like topography, land-use, and land cover from GIS products into the model grid, or mesh,

TRCA's standard 2D modelling platform is MIKE Flood which was developed by the Danish Hydraulic Institute (DHI). MIKE Flood is used internationally and can integrate 1D open channel hydraulics and 2D overland flow hydraulics allowing the transition of flow between the two modelling environments. Through investments in computing resources, licence purchases of MIKE Flood, the recruitment of experienced 2D modellers, and staff training, TRCA has built substantial in-house expertise and capacity in this field. Although historically, 2D modelling studies have been undertaken by external engineering consulting firms, TRCA now has the resources and ability to complete 2D modelling assessments in-house. Furthermore, TRCA staff provide valuable advice and input into 2D hydraulic modelling assessments being undertaken by other Conservation Authorities, our municipal partners, and the consulting industry, and are leaders in 2D modelling in Ontario.

While many flood plain mapping studies, and the associated models, have been developed by consulting engineering firms, all hydraulic models are subject to rigorous quality assurance/quality control (QA/QC) processes prior to approval. The QA/QC process ensures that TRCA's models are developed using industry standards that reflect the technical guidance provided by MNRF, which incorporates several conservative assumptions. The process ensures that models leverage the best available data sources and appropriate input parameters to ensure model results are accurate and representative of watershed conditions. Unlike hydrology models, TRCA does not undertake third-party peer reviews for hydraulic modelling updates, this reflects the detailed nature of TRCA's QA/QC process and unparalleled experience and expertise that currently exist at TRCA.

Base Mapping

Historically, base mapping represented the highest cost component of the flood plain mapping update process. TRCA was required to purchase base mapping, which met MNRF technical requirements, from a limited number of mapping vendors. In recent years, TRCA GIS staff have developed and implemented an in-house base map development program for the purpose of establishing a consistent mapping set for flood plain mapping updates. This in-house process ensures a consistent approach is used when developing mapping products, and leverages TRCA's LiDAR data, and digital planimetric data developed by municipal partners. The new base mapping process leverages staff resources, saves time, and budget.

To complete flood plain mapping, the results from TRCA's hydraulic models are transposed onto base maps. Prior to finalization, GIS and Engineering Service staff complete a detailed review of the resulting floodline to ensure the mapping and modelling products are consistent in

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terms of topographic representation (elevation contours) and flood plain elevation. Once the mapping QA/QC process has been completed, the resulting flood plain map is deemed complete and can be signed and stamped by a Professional Engineer. Once signed and stamped, the map can be used in the land-use planning and regulation review processes and can be circulated to municipal partners and the general public. A public-facing flood plain map viewer, together with a set of Frequently Asked Questions, has been available on the [TRCA website](#) for a number of years.

With the new base mapping process, mapping deliverables differ in format from historical flood plain mapping updates. Previously project submissions required hard copy floodline maps at a scale of 1:2000, on 24"x36" map sheets. GIS staff would orient map sheets to maximize coverage and establish map cut lines based on logical transition points like roads and water crossings. Flood plain map sheets would be circulated to interested parties using this format regardless of the area of interest.

Project deliverables now consist of digital floodlines overlaid on digital base mapping of the entire watershed. This new process allows for the development of custom mapping products for interested parties with less staff time involved in developing and orienting set-size map sheets. Mapping is frequently requested by municipal partners, the development industry and associated professional consulting firms, as well as the general public. Custom maps can be prepared easily based on the needs of the user; consulting engineers well-versed in flood plain mapping can request the full suite of mapping information, whereas the general public can be provided simplified maps with the floodline overlaid on an aerial photo base. In all instances, the full mapping product can be made available via the existing data request channels for any interested party.

A list of recent hydraulic model and flood plain mapping updates as well as their funding source is available for view in **Attachment 1**. A map view of the year-by-year comprehensive flood plain mapping updates is available in **Attachment 2**. Note that there are specific 2D areas of study within these watersheds that may have different dates of completion.

Outcomes and Next Steps

Updating flood plain mapping does not alter the flood risk in a given location; it is a technical process that provides an updated *understanding* of the risk at that location based on the best available information. Although comprehensive flood plain mapping updates have been completed for the majority of TRCA watersheds, a number of emerging issues and other program updates will need to be addressed and completed. These consist of the following:

- TRCA's approaches to managing natural hazards with respect to planning and development are outlined in the Living City Policies. While flood plain mapping information is regularly updated, the development and infrastructure planning process advances through a complex hierarchy. Therefore, it is possible for updates to flood plain mapping or hydrology models to occur at various stages of the planning hierarchy. As a result, there may be instances where the review and support of a proposed development by TRCA has previously occurred and the application is proceeding to the next planning stage on the basis of information that changes mid-process. The Conservation Authorities Act is the jurisdictional authority in the permitting process and does not provide for the grandfathering of historical planning decisions. For transitional files (as recognized by TRCA staff), where it is technically feasible and appropriate, innovative design approaches may be considered to address site constraints and accommodate the development while meeting current regulatory requirements. TRCA is committed to utilizing the best available information to achieve the

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policy objectives noted in Section 8.3 of the Living City Policies, including minimizing the risk to people and property due to natural hazards.

The best available information may include updated hydrology model outputs, hydraulic model updates that have passed the point of quality assurance and quality control checks, and updated flood plain mapping that may still be in draft form. It is important to recognize that a solution may not always be technically feasible, and that the above only applies to transitional files that have recent previous support from TRCA staff for the same application. Engineering Services, Development Planning and Permitting, and Planning Policy and Regulation staff are developing an internal guidance document for staff to provide a consistent approach to areas where new floodlines may impact ongoing development and infrastructure applications that have previous TRCA support.

- As the flood plain is the flooding hazard limit, resultant changes to TRCA's Regulation Limit will be undertaken by Engineering Services, Planning Policy and Regulation, and Information Technology and Records Management staff. The results of the Regulation Limit update will be communicated to the Board of Directors yearly by the Planning Policy and Regulation team, as per the current practice.
- Engineering Services staff will initiate a process to update TRCA's Flood Vulnerable Areas and Roads (FVA) database with the modelling results from the most recent flood plain mapping updates. The FVA update will also result in an update to the Flood Risk Assessment and Ranking of flood vulnerable clusters (neighbourhoods).
- Several of the recent flood plain mapping updates have defined areas which warrant further analysis and study, including a number of significant spills, and areas where complex hydraulics exist. Flood Risk Management and Water Resources Engineering staff within Engineering Services will develop a process to rank these areas in terms of risk and development pressures to undertake further assessments, including 2D modelling to quantify flood characteristics, spill extents, and provide a means to "close" floodlines,
- Engineering Services staff will continue to expand our mapping coverage with focus on white belt lands in the Regions of Peel, York, and Durham.
- Given the significant investment for flood plain mapping updates over the past number of years, Engineering Services will actively maintain TRCA's current flood plain map set, including incorporating flood studies and assessments developed as part of development applications and municipal infrastructure works.
- Engineering Services, together with Planning Policy and Regulation, will communicate with municipal partners on the results of TRCA's current flood plain mapping updates, as well as any future hydrology or flood plain mapping studies. Staff will provide an opportunity for stakeholders and interested members of the public to participate in virtual meetings to view, in greater detail, the updated mapping. Note that an up-to-date flood plain mapping viewer is available on the TRCA website.
- TRCA has been selected, together with other Conservation Authority representatives, to participate in the Flood Mapping Technical Team that is being assembled as part of the Ontario Flooding Strategy. This will provide an opportunity to share TRCA's experience and exchange knowledge gained through the significant flood plain mapping efforts undertaken

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as part of the National Disaster Mitigation Program This will provide TRCA an opportunity to provide input towards the critical task of updating provincial guidelines and standards to reflect current modelling technology and the urban/urbanizing context.

As noted above there are a number of processes, procedures, and on-going initiatives related to TRCA's flood plain mapping program which will require input from across the organization. Furthermore, staff have recently been informed that a new intake of the NDMP funding program is likely for projects to be completed in the 2021/2022 federal fiscal year. TRCA staff will continue to pursue NDMP funding to complete flood plain mapping updates for remaining watersheds (Frenchman's Bay and Petticoat Creek), expand flood plain mapping coverage, and undertake further assessments for spills and areas with complex hydraulic conditions.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 4 – Create complete communities that integrate nature and the built environment

Strategy 7 – Build partnerships and new business models

FINANCIAL DETAILS

Financial contributions for TRCA's flood plain mapping update program have been provided by a number of funding sources including the Regions of Peel, York, and Durham, the City of Toronto and the NDMP through accounts 127-90 Floodplain Mapping Program, 107-02 Flood Protection and Remedial Studies, and 129-19 Flood Remedial Works. Matching funds were provided for many of the studies through the federal National Disaster Mitigation Program.

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Date: September 25, 2020

Attachments: 2

Attachment 1: Summary of TRCA's Hydraulic Modelling and Floodplain Mapping Updates 2016 - 2020

Attachment 2: Overview Map of TRCA's Hydraulic Modelling and Floodplain Mapping Updates 2016 - 2020

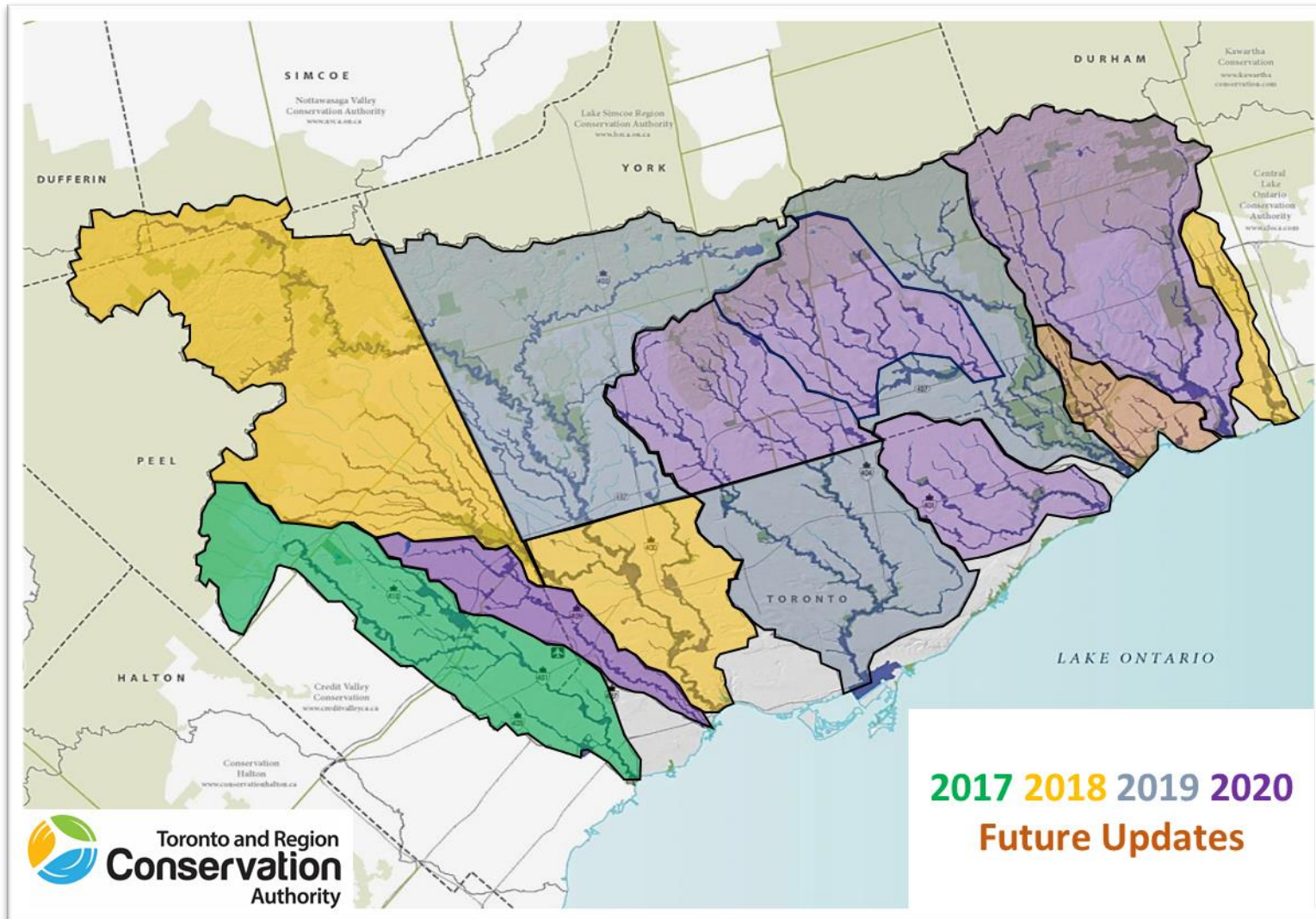
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Attachment 1: Summary of TRCA's Hydraulic Modelling and Floodplain Mapping Studies 2016 – 2020

Project Title	Date	NDMP Project	Hydraulic Modelling Approach	Notes:
Etobicoke Creek Floodplain Mapping Update	2016	No	1D	
Yonge St. and Elgin Mills Road Floodplain Mapping Update	2016	No	2D	Significant cost savings by leveraging modelling work completed by the City of Richmond Hill for Yonge and Elgin Mills Flood Remediation Environmental Assessment
Downtown Brampton Floodplain Mapping Update	2017	No	1D	
Lower Humber River 2D Modelling Study	2015 / 2017	No	2D	Revised in 2017
Pickering and Ajax SPA 2D Modelling Study	2018	Yes	2D	
Black Creek at Rockcliffe SPA 2D Modelling Study	2018	Yes	2D	
Humber River in Peel Region Floodplain Mapping Update	2018	No	1D and 2D	2D MIKE Flood model was developed for Caledon East.
Humber River in the City of Toronto Floodplain Mapping Update	2018	Yes	1D and 2D	2D MIKE Flood model was developed for Albion Creek.
Spring Creek 2D Model Extension and Floodplain Mapping Update	2019	Yes	2D	
Carruthers Creek Floodplain Mapping Update	2019	Yes	1D and 2D	First comprehensive floodplain mapping update completed in-house. 2D MIKE Flood model developed for the Lower Carruthers Creek through the Pickering Beach Community.
Humber River in York Floodplain Mapping Update	2019	Yes	1D	
Unionville SPA 2D Modelling and Floodplain Mapping Update	2019	Yes	2D	Communicated to the Board at meeting #5/19, on Friday, May 24, 2019
Highland Creek Floodplain Map	2020	Yes	1D	
Don River Floodplain Mapping Update – Phase 1	2020	Yes	1D	
Rouge River Floodplain Mapping Update – Phase 1	2020	Yes	1D	
Don River Floodplain Mapping Update – Phase 2	2020	Yes	1D	
Rouge River Floodplain Mapping Update – Phase 2	2020	Yes	1D	
Duffins Creek Floodplain Mapping Update	2020	Yes	1D	

Attachment 2: Overview Map of TRCA's Hydraulic Modelling and Floodplain Mapping Updates 2016 - 2020

(Note: detailed studies such as 2-D modelling updates within watershed-wide updates may have different years of completion)



Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Sameer Dhalla, Director, Development and Engineering Services

RE: **REQUEST FOR PROPOSAL FOR CONSULTING ENGINEERING SERVICES
TO UNDERTAKE THE ROCKCLIFFE RIVERINE FLOOD MITIGATION
PROJECT– MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**
RFP No. 10033298

KEY ISSUE

Award of Request for Proposal (RFP) No. 10033298 for engineering consulting services to undertake a riverine flood protection Municipal Class Environmental Assessment of the Rockcliffe Special Policy Area in the City of Toronto. The key objective of this study is to develop a flood protection plan to reduce the risk of flooding from Black Creek within the Rockcliffe community.

RECOMMENDATION

WHEREAS Toronto and Region Conservation Authority (TRCA) is engaged in a project that requires consulting services;

AND WHEREAS TRCA solicited proposals through a publicly advertised process and evaluated the proposals based on pre-established criteria;

AND WHEREAS TRCA is expected to enter into a Service Level agreement with the City of Toronto to fund the Rockcliffe Riverine Flood Mitigation Project – Municipal Class Environmental Assessment;

THAT, upon execution of the SLA with the City of Toronto, Request for Proposal (RFP) No. 10033298 for the Rockcliffe Riverine Flood Mitigation Project – Municipal Class Environmental Assessment be awarded to Morrison Hershfield at a total cost not to exceed \$1,716,000, plus applicable taxes, to be expended as authorized by TRCA staff

THAT TRCA staff be authorized to approve additional expenditures to a maximum of \$257,000 (approximately 15% of the project cost), plus applicable taxes, in excess of the contract cost as a contingency allowance if deemed necessary;

THAT should TRCA staff be unable to negotiate a contract with the above-mentioned proponent, staff be authorized to enter into and conclude contract negotiations with other Proponents that submitted proposals, beginning with the next highest ranked Proponent meeting TRCA specifications;

AND FURTHER THAT authorized TRCA officials be directed to take whatever action may be required to implement the contract, including the obtaining of necessary approvals and the signing and execution of any documents.

BACKGROUND

The Rockcliffe neighbourhood is located in Ward 5 (York South-Weston) of the City of Toronto and within the regulatory floodplain of Black Creek. Historical development in the floodplain and alterations to the river channel prior to modern floodplain management practices has resulted in significant risk. It is an area with a high concentration of structures in the floodplain, and is the highest ranked Flood Vulnerable Cluster in TRCA's jurisdiction in terms of flood risk and consequence, according to the 2018 Flood Risk Assessment and Ranking study results, which were received by the Board of Directors via Resolution #A180/19, on October 25, 2019. Development in the area is controlled by Special Policy Area (SPA) policies originally approved in 1991. Based on updated hydraulic modelling there are approximately 366 buildings located within the regulatory floodplain. Many of these structures have experienced surface and basement flooding during severe storms in July 2013, August 2018, July 2019, and again in July 2020 due to either riverine flooding and/or pluvial flooding from the City's sewer systems.

TRCA and the City of Toronto have been coordinating efforts to reduce flooding risks in the Rockcliffe area. In 2014, the TRCA and the City completed two separate Environmental Assessment (EA) studies that examined options to reduce riverine and sewer system related flooding, respectively. These EA studies are:

- 1) Black Creek (Rockcliffe Area) Riverine Flood Management Class Environmental Assessment, completed in 2014 by Amec Foster Wheeler – this TRCA EA study investigated riverine flooding and recommended riverine flood remediation measures; and,
- 2) Basement Flooding Study Area 4 and Combined Sewer Overflow Control Environmental Assessment, completed August 2014 by XCG – this City of Toronto EA study investigated sewer system flooding and recommended sewer system improvements to reduce basement flooding.

Since the completion of the 2014 Class Environmental Assessment, TRCA has undertaken several technical modeling studies within the Black Creek and broader Humber River watersheds using updated software, new data and meteorological and flood information from the 2013 and 2018 storm events. These studies include a comprehensive watershed hydrology update resulting in new regulatory and design storm flow estimates for floodplain delineation (2015 Humber River Hydrology Update), and a high resolution two-dimensional (2D) hydraulic model leveraging detailed data inputs like LiDAR within the Rockcliffe community (2018 Black Creek at Rockcliffe 2D Model and Floodplain Mapping Update).

With many properties experiencing flood risk during more frequent storms and the recognition of the various riverine, pluvial, and transportation considerations at play, the results of TRCA's refined models and subsequent discussions with City of Toronto staff resulted in the need to re-assess and evaluate the feasibility of the recommended flood remediation alternatives developed in the 2014 Environmental Assessment. The reassessment of flood remediation solutions formed the basis for the "Black Creek at Rockcliffe Special Policy Area Flood Remediation and Transportation Feasibility Study" (Feasibility Study).

At Board of Directors Meeting #5/20, held on May 24, 2019, Resolution #A77/20 was approved as follows:

THAT TRCA staff be directed to develop and enter into an agreement with the City of Toronto to undertake, as a co-proponent in collaboration with the City, a Municipal Class Environmental Assessment that will finalize the flood remediation recommendations,

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while addressing transportation issues, along Black Creek and its tributaries within the Rockcliffe area;

DETAILS OF WORK TO BE DONE

TRCA is looking to retain the services of a multidisciplinary consulting engineering firm with expertise in the Environmental Assessment process, flood remediation design, geotechnical and structural engineering, fluvial geomorphology, transportation, utility coordination, and ecology to undertake a comprehensive Municipal Class Environmental Assessment study to identify a preferred flood protection plan for the Rockcliffe SPA.

The objectives of the Rockcliffe Riverine Flood Protection Project – Municipal Class Environmental Assessment study are to:

- Complete a Municipal Class Environmental Assessment and obtain approval of the Environmental Study Report (ESR);
- Identify preferred alternatives to provide comprehensive flood protection to the community; and,
- Prepare 30% design level drawings, supporting calculations/modelling and construction cost estimate reflecting a feasible design of the preferred alternative.

The project will include the following key components:

1. Project Initiation

The study team will confirm the project objectives, work plan and schedule. Available background information will be reviewed to identify data gaps and methods to fill those gaps. The study team will develop a stakeholder registry and prepare and publish the Notice of Intent to Undertake a Remedial Project.

2. Baseline Inventory

Baseline conditions include existing physical, biological, cultural, socioeconomic, transportation, utilities and servicing, flooding and erosion characteristics. The study team will document the known baseline conditions and fill data gaps by undertaking investigations and collecting information from other sources. This includes undertaking a subsurface utility investigation and review of existing infrastructure within the study area. Also, geotechnical investigations will be undertaken to further investigate the existing soil characteristics (channel areas and water crossings) and material disposal options.

3. Identify and Evaluate Alternative Solutions

The study team will identify new alternatives to provide flood protection in addition to the preliminary alternatives identified in the 2020 Feasibility Study. All the alternatives will be evaluated against robust criteria to identify the preferred solution which balances flood protection requirements, social and environmental needs, transportation and traffic requirements, cost, and constructability. The study team will identify the permits and approvals that will be required for implementation and undertake consultation with the approval agencies to obtain approval-in-principal.

4. Detailed Environmental Analysis of Alternative Design Concepts for the Preferred Solution

The study team will design the preferred alternative to a greater level of detail (30% design). Multiple variations of the design will be prepared that have differing details such as construction methodology, materials and surface treatments. A preferred design concept will be identified that optimizes flood protection requirements, social and environmental needs, cost, and constructability.

5. Completion of Environmental Study Report

The study team will prepare a comprehensive report documenting all findings, evaluations, public/stakeholder consultation and decisions made throughout the project. The report will also include an Environmental Monitoring Plan to be implemented during and after construction, and a long-term operation and maintenance plan for all proposed flood protection works. The complete report will be presented to the Community Liaison Committee and made available for review by the general public, prior to approval of the project.

Public consultation will be undertaken throughout the Class EA study at key milestones, as required by the Class EA process. These include:

- Publication of notices of the progression of the study and public information centers (PICs) in local media as well as direct notification to identified stakeholders/interested parties.
- Meetings with the broader public (PICs) as well as with a Community Liaison Committee comprised of local stakeholder representatives to inform the public of study findings and obtain public input and comments.
- Meetings with a Technical Advisory Committee and an Executive Steering Committee (comprised of TRCA and municipal senior leadership members) to obtain technical review/input and senior level input, respectively.
- At the completion of the Class EA study the final report (Environmental Study Report) will be made available for public review and comment prior to approval of the project.

RATIONALE

RFP documentation was posted on the public procurement website www.biddingo.com on July 24, 2020 and closed on August 31, 2020. Two (2) addendums were issued to respond to questions received. A total of twenty-four (24) firms downloaded the documents and four (4) proposals were received from the following Proponent(s):

- AECON
- Morrison Hershfield
- Valdor Engineering/Arup
- Wood

An Evaluation Committee comprised of staff from Engineering Services (Nick Lorrain, Rob Chan and Melody Brown), Project Management Office (Meg St. John) and the City of Toronto Transportation Services (Jacquelyn Hayward and Matthew Davis) reviewed the proposals. The criteria used to evaluate and select the recommended Proponent included the following:

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Criteria	Weight	Minimum Score
Conformance with the terms of the RFP	2	1
Understanding of Project and Scope of Work	15	10
Similar Project – Scope and Magnitude	13	8
Expertise of Key Personnel/Project Team	15	10
Approach/Methodology	25	15
Schedule and Availability of Project Team	10	5
Sub-Total	80	49
Pricing	20	
Sub-Total Price	20	
Total Points	100	49

Morrison Hershfield achieved the highest overall score based on the evaluation criteria. Therefore, it is recommended that RFP No. 10033298 be awarded to Morrison Hershfield at a total cost not to exceed \$1,716,000 plus 15% contingency, plus applicable taxes, it being the highest ranked Proponent meeting TRCA specifications. Proponent's scores and staff analysis of the evaluation results can be provided to Board of Directors in an in-camera presentation, upon request.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategic priority set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 7 – Build partnerships and new business models

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 4 – Create complete communities that integrate nature and the built environment

FINANCIAL DETAILS

The current Master Service Level Agreement between the City of Toronto and TRCA allows TRCA to enter into a project-specific Service Level Agreement (SLA), to enable TRCA to undertake projects which address mutual interests, including public safety enhancements and environmental management. TRCA and the City of Toronto are currently finalizing a SLA for the Rockcliffe Riverine Flood Mitigation Project – Municipal Class Environmental Assessment to define project roles and responsibilities, budget, and annual cash flow requirements. Once the SLA is executed, funds for the contract will be directed to account 107-82 Black Creek at Rockcliffe Flood Protection Municipal Class EA Project.

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Date: September 25, 2020

Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Anil Wijesooriya, Director, Restoration and Infrastructure

RE: **REQUEST FOR TENDER FOR EROSION CONTROL CONSTRUCTION SERVICES FOR THE ASHBRIDGES BAY PARK MAJOR MAINTENANCE PROJECT**
RFT No. 10021166

KEY ISSUE

Award of Request for Tender (RFT) No. 10021166 for implementation of erosion control protection by barge along the south shore of Ashbridges Bay Park.

RECOMMENDATION

WHEREAS Toronto and Region Conservation Authority (TRCA) is engaged in a project that requires shoreline stabilization works;

AND WHEREAS TRCA solicited tenders through a publicly advertised process;

THEREFORE, LET IT BE RESOLVED THAT Request for Tender (RFT) No. 10021166 for the Ashbridges Bay Park Major Maintenance Project be awarded to Galcon Marine Ltd. at a total cost not to exceed \$2,592,188, plus applicable taxes, to be expended as authorized by TRCA staff;

THAT TRCA staff be authorized to approve additional expenditures to a maximum of \$259,218 (10% of the project cost), plus applicable taxes, in excess of the contract cost as a contingency allowance if deemed necessary;

THAT should TRCA staff be unable to negotiate a contract with the above-mentioned proponent, staff be authorized to enter into and conclude contract negotiations with other Proponents that submitted quotations, beginning with the next lowest bid meeting TRCA specifications;

AND FURTHER THAT authorized TRCA officials be directed to take whatever action may be required to implement the contract, including the obtaining of necessary approvals and the signing and execution of any documents.

BACKGROUND

TRCA is planning for major maintenance works on an existing engineered erosion control beach within Ashbridges Bay Park along the north shore of Lake Ontario. Typical coastal conditions, significantly exacerbated by the 2017 and 2019 high lake levels and the 2018 severe windstorm, have resulted in displacement and loss of original beach material. This loss of erosive force protection has led to backshore erosion, loss of tableland trees, damage to park paths, and is placing the safety of park users at risk. See Attachment 2 for a photographic example of the damage. TRCA's Erosion Risk Management Program has classified the beach as a failing structure since 2011 and as a high priority as of 2017.

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In September 2018, Baird and Associates was retained to develop detailed designs for the restoration of the existing engineered beach system. Through collaborative discussions involving TRCA Engineering Projects, Aquatic Monitoring and Management, and Restoration & Resource Management staff; Department of Fisheries and Oceans Canada (DFO) regulatory biologists; Baird and Associates coastal engineers; and our funding partners at Parks, Forestry and Recreation (PF&R), staff have decided to implement a shoreline rip rap beach along the western portion of the site and a nearshore underwater rip rap reef along the eastern third of the site. These structures will limit the in-water footprint and the underwater reef will provide a unique aquatic habitat feature for the area. A concept plan of the proposed works is included as Attachment 3.

In order to implement this final solution, TRCA requires the supply, delivery and placement of approximately 25,000 tonnes of 300 – 900 millimetre rip rap by barge.

At Board of Directors Meeting #5/20, held on June 26, 2020, Resolution #A82/20 was approved as follows:

WHEREAS no meetings of the Executive Committee and Board of Directors are scheduled for the months of July and August 2020;

AND WHEREAS Resolution #A184/19, adopted at the October 25, 2019 Board of Directors meeting previously delegated the approval of all time sensitive procurements for the months July and August 2020 to the Chief Executive Officer or his designate;

THEREFORE, LET IT BE RESOLVED THAT the Chief Executive Officer be delegated authority to award Contract 10021166;

AND FURTHER THAT staff report back on the contract award to the Board of Directors at the September meeting.

Although approval to award this contract was delegated to the CEO, delays in obtaining DFO regulatory approval have negated the need to award the contract expeditiously. Therefore, staff have decided to bring the recommendation to award this contract to the Board of Directors in the traditional fashion.

RATIONALE

Request for Tender (RFT) #10021166 was publicly advertised on Biddingo.com on July 20th, 2020, and a mandatory site meeting was held on July 28th, 2020. The following contractors attended this meeting:

- CSL Group;
- Dean Construction;
- Doornekamp Construction Ltd.;
- Galcon Marine Ltd.; and
- McNally Construction.

The Procurement Opening Committee opened the Tenders on August 12th, 2020 at 2:00 pm with the following results:

RFT # 10021166
Ashbridges Bay Park Major Maintenance Project
Construction of a Rip-rap Revetment & Reef

Bidders	Total Tender Amount (excl. HST)
Galcon Marine Ltd.	\$2,592,188
McNally Construction	\$4,475,000
Doornekamp Construction Ltd.	\$4,825,000

Restoration and Infrastructure staff reviewed the bid received from Galcon Marine Ltd. against its own cost estimate and has determined that the bid is of reasonable value and meets the requirements as outlined in the contract documents. Further assessment by TRCA staff of Galcon Marine Ltd. experience and ability to undertake similar projects was conducted through reference checks which resulted in positive feedback that Galcon Marine Ltd. is capable of undertaking the scope of work.

The main tender item that varied substantially between contractors was the proposed mobilization and demobilization costs. The large range in pricing is based on the location of the contractor's equipment relative to the work area and cost associated with transporting their machinery to the site. Galcon Marine intends to mobilize by water from the Toronto shipping Channel and has priced their mobilization accordingly. McNally Construction has to mobilize their equipment by water from Hamilton and Doornekamp Construction must mobilize from Picton Ontario; this is more expensive due to the time and distance from the site.

TRCA staff recommend that Contract #10021166 be awarded to Galcon Marine Ltd. for a total cost not to exceed \$ 2,592,188, plus a 10% contract contingency, plus HST as they are the lowest bidder meeting TRCA's specifications.

Although impact to the public is expected to be minimal (as all work will be completed by barge), notice of project commencement will be communicated to the Councillor's office, the public, local boating facilities and all other stakeholders at least two weeks in advance of mobilization.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategic priority set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 7 – Build partnerships and new business models

FINANCIAL DETAILS

Funding for this project is provided on a recoverable basis by the City of Toronto's Parks, Forestry & Recreation division through their High Lake Event funding, which has been supplemented by Infrastructure Canada's Disaster Mitigation and Adaptation Fund.

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Date: September 4, 2020

Attachments: 2

Attachment 1: Map of the Ashbridges Bay Park project area





Attachment 2: Photo of damaged shoreline

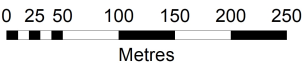
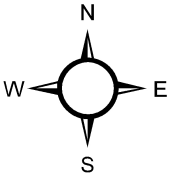
Attachment 3: Concept of proposed works



ASHBRIDGES BAY MAJOR MAINTENANCE PROJECT

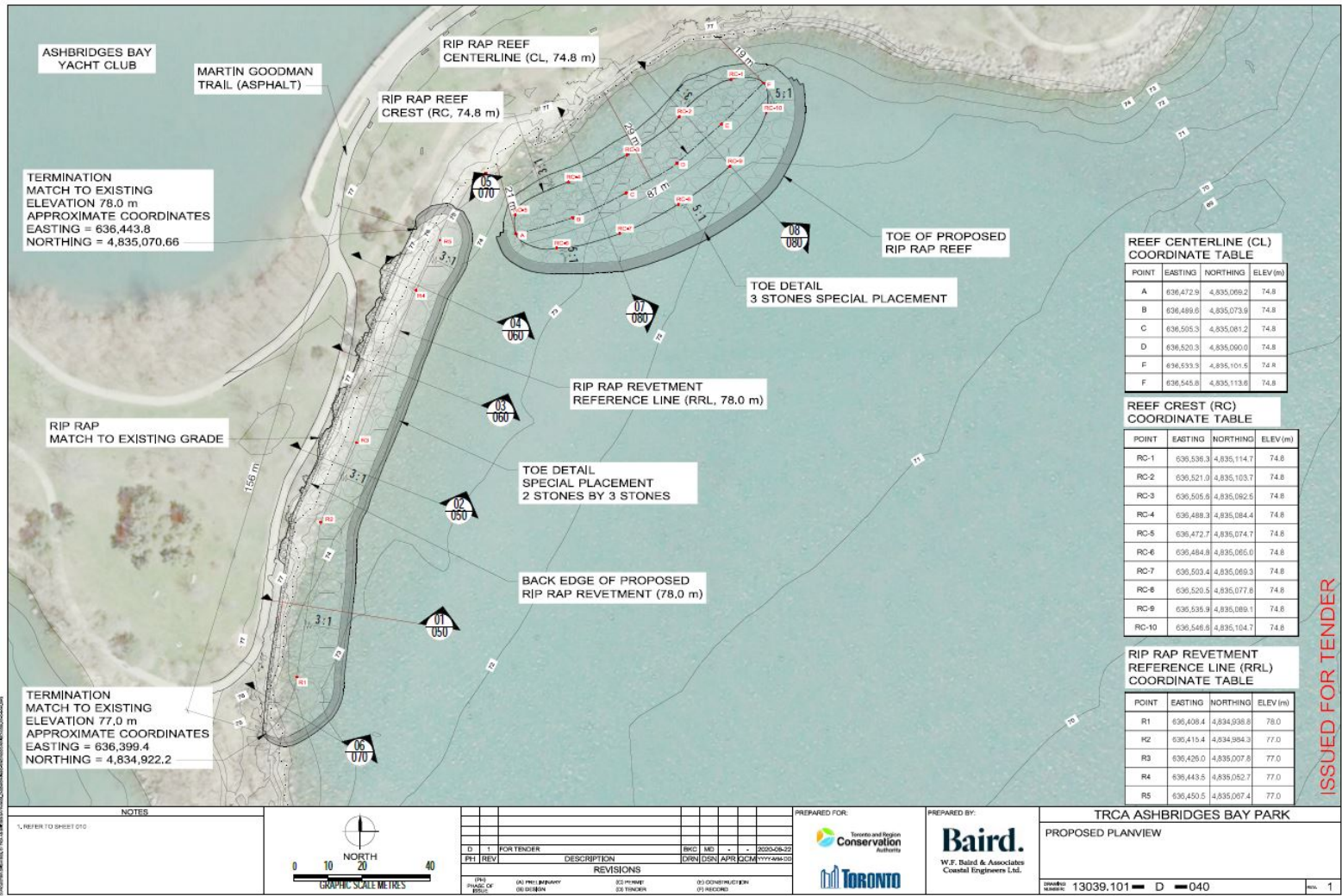
Legend

-  Highways
-  Local Roads
-  Major Roads
-  Beach



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July 25, 2019
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ISSUED FOR TENDER

Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Michael Tolensky, Chief Financial and Operating Officer

RE: **CHABAD LUBAVITCH OF AURORA INC. and HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO AS REPRESENTED BY THE MINISTER OF GOVERNMENT AND CONSUMER SERVICES**
Lease Extensions for 12611 Yonge Street, City of Richmond Hill

KEY ISSUE

Request to extend the lease between Toronto and Region Conservation Authority (TRCA) and Her Majesty The Queen in right of Ontario as represented by the Minister of Government and Consumer Services (MGCS) and to extend the sub-lease between TRCA and Chabad Lubavitch of Aurora Inc., (Chabad) for the use of the property located at 12611 Yonge Street, in the City of Richmond Hill, Regional Municipality of York.

RECOMMENDATION

THAT WHEREAS TRCA is in receipt of a request from Chabad Lubavitch of Aurora Inc., (Chabad) to extend the term of the sub-lease dated December 1, 2015, between TRCA and Chabad for an additional 50-year period;

THAT TRCA support the Chabad request to Her Majesty the Queen in Right of Ontario as Represented by the Ministry of Economic Development, Employment and Infrastructure (now Minister of Government and Consumer Services) (the “Province”);

THAT TRCA enter into negotiation with the Province on their head lease to extend the term for an additional 50-year period to allow for TRCA to continue to sub-lease the two-storey building and gravel parking lot to Chabad;

AND FURTHER THAT the staff report back the terms of the negotiation for final approval by the Board.

BACKGROUND

At Authority Meeting #8/15, held on September 25, 2015, Resolution #A169/15 was adopted as follows:

THAT Toronto and Region Conservation Authority (TRCA) enter into a lease agreement with Her Majesty The Queen In Right Of Ontario As Represented By The Minister Of Economic Development, Employment And Infrastructure (MEDEI) to operate and manage the property owned by MEDEI located at 12611 Yonge Street, said land being Part 5 on Reference Plan 64R-4458, improved with a two-storey building and gravel parking lot, containing approximately 0.489 hectares (1.210 acres), in the Town of Richmond Hill, Regional Municipality of York;

THAT the term of the lease agreement be for 10 years;

THAT the consideration be a nominal sum of \$12.00 per annum;

Item 8.7

THAT the final terms and conditions of the agreement be satisfactory to TRCA staff and solicitors;

THAT the property with the exception of a portion of the parking lot be sub-leased to Chabad Lubavich under the same terms and conditions;

AND FURTHER THAT the authorized TRCA officials be directed to take whatever actions may be required to give effect thereto including obtaining any necessary approvals and signing and execution of documents.

On October 29, 2015 TRCA entered into a 10 year lease agreement with Her Majesty The Queen in Right of Ontario As Represented By The Minister of Economic Development, Employment and Infrastructure ("MEDEI") to operate and manage the property owned by MEDEI located at 12611 Yonge Street, Richmond Hill, Regional Municipality of York (the "Property"). The Property contains a two-storey building and gravel parking lot, containing approximately 0.489 hectares (1.210 acres), and is surrounded by lands managed by TRCA.

TRCA entered into a sub-lease with Chabad on December 1, 2015 under the same terms and conditions of the net lease between TRCA and MEDEI. The terms of the lease included mandatory building improvements.

Chabad has branches across Southern Ontario, offering the community with both educational and social services. Chabad helps individuals and families with their spiritual needs and hosts numerous humanitarian programs. In accordance with the sub-lease Chabad is responsible for all operating costs such as capital upgrades, proportionate property taxes, utilities and servicing. Chabad undertook the required major renovations to the main floor of the building. As more have come to rely on the help of Chabad, Chabad is hoping to secure a longer-term lease for the site.

In return for a longer-term sub-lease, Chabad will continue to be responsible for all costs associated with the operation of the facility and the longer-term security will allow Chabad to undertake the much-needed additional leasehold improvements to the two-storey building and grounds. The longer-term lease will keep the building available for community use and provide security for the building and site.

The current lease and sub-lease are due to expire October 31, 2025.

In order for TRCA to consider the extension of the sub-lease with Chabad, TRCA will need to undertake discussions with the Ministry of Government and Consumer Services (MGCS) for extending the lease for a further 50-year period. The final decision on whether to extend the lease rests with the Province.

Attachment 1 is a sketch illustrating the location of the subject lands. Attachment 2 is an orthophoto illustrating the location of the subject lands. Attachment 3 is a formal request Chabad sent to Infrastructure Ontario for a lease extension.

RATIONALE

Renewing both the main lease and sub-lease for the lands located at 12611 Yonge Street will allow for the continued development and operation of a local community facility. A presence on the site will assist with site security as this area around Bond Lake has become a very popular location for the local residents.

Item 8.7

Chabad will continue to provide a much-needed community support as more families, businesses and individuals are continuing to rely on their help.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 3 – Rethink greenspace to maximize its value

Strategy 7 – Build partnerships and new business models

FINANCIAL DETAILS

TRCA will not bear any costs associated with this lease. All costs will be the responsibility of Chabad in accordance with the terms and conditions of the sub-lease.

Report prepared by: Lori Colussi extension 5303

Emails: lori.colussi@trca.ca

For Information contact: Daniel Byskal, extension 6452

Emails: daniel.byskal@trca.ca

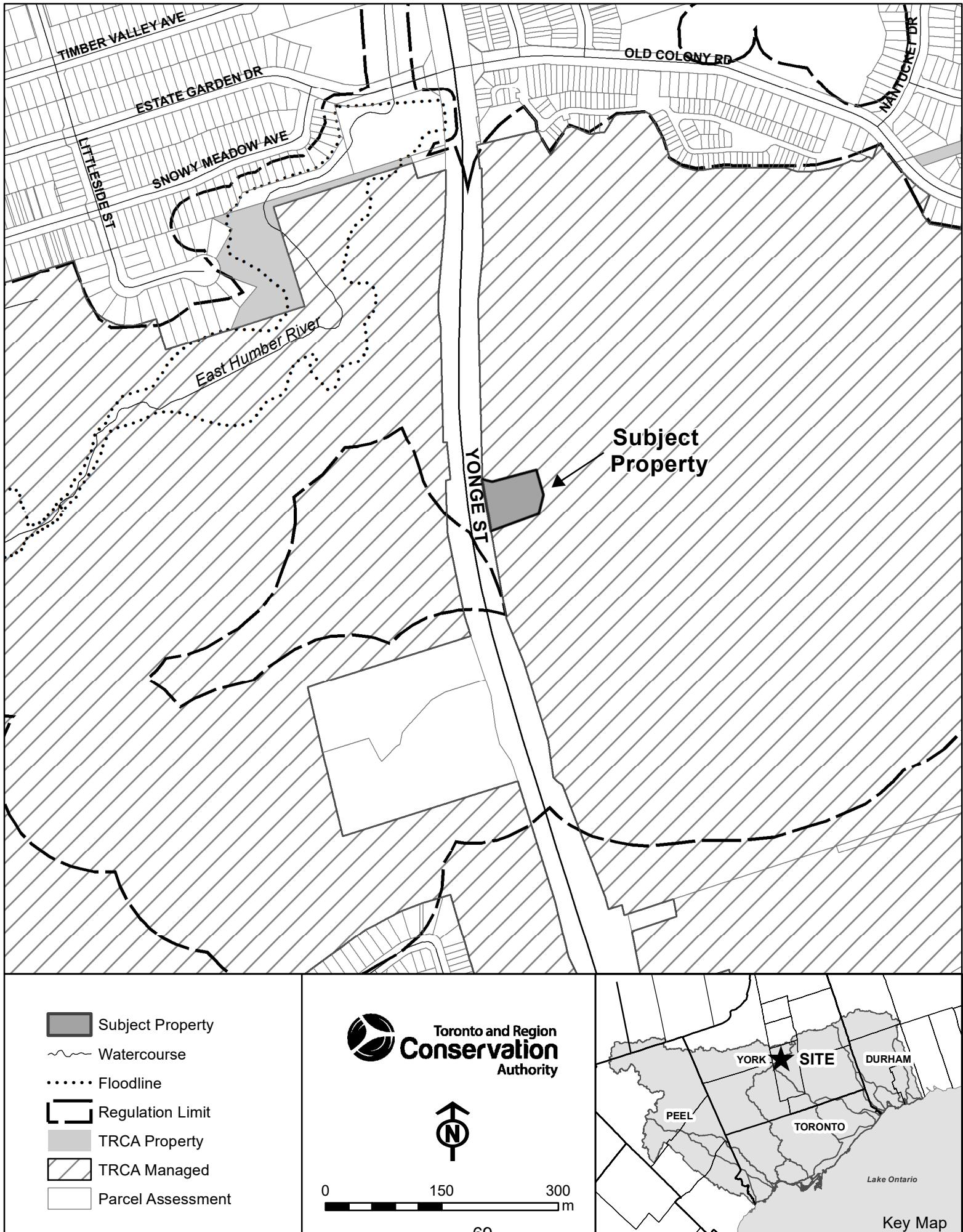
Date: September 2, 2020

Attachments: 3








Attachment 1: Sketch of the subject lands

Attachment 2: Orthophoto of the subject lands

Attachment 3: Formal request from Chabad to Infrastructure Ontario

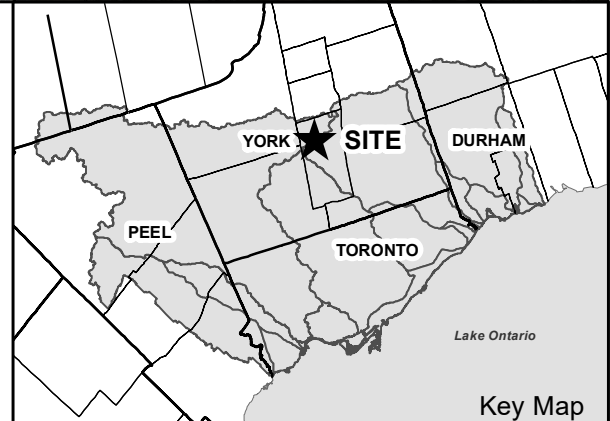




-  Subject Property
-  Watercourses
-  Floodline
-  Regulation Limit
-  TRCA Property
-  TRCA Managed
-  Parcel Assessment



0 150 300 m



CHABAD LUBAVITCH OF AURORA

53 Colonial Crescent, Oak Ridges, Ontario L4E 3X3 • 905-313-8747 • www.chabadofaurora.com
Servicing Aurora, Oakridges and Newmarket

August 1st, 2020

James Harvey/VP, Leasing & Valuation Services
Infrastructure Ontario

Dear Vice President, James

I hope this letter finds you in good health.

Firstly, I would like to thank you for your time the other day. It was greatly appreciated.

As you may recall, Chabad Lubavitch of Aurora are currently the custodians for the property located at 12611 Yonge Street, Richmond Hill, Ontario L4E 1A4. This includes the frontage, parking lot and side lots.

I want to express my thanks to you/Infrastructure Ontario for all your help and assistance to permit Chabad of Aurora to use the sight for our vital work for the Community in the north York Region. We signed the lease with TRCA through IO, that has given us the opportunity, to be of great service to our Community and stay dedicated to our mandate.

Chabad Lubavitch of Aurora is a Jewish social agency dedicated to outreach offered to all indiscriminately. We help individuals and families with their spiritual needs. So too we host numerous humanitarian programs. Some of our programs include, group gatherings, Prayer service, Holiday awareness programs, adult education, and counselling. So too we package and deliver much needed food hampers to families primarily the elderly.

All our programs and projects are planned and executed at the above noted location. As custodians of the Site we have already invested tremendous resources to improve the upkeep of the facility and the surrounding space. This has come out of our organizations budget. A big expense for our Charity.

As a vital community organization, and as we continue to grow, many more families, businesses, and individuals, have come to rely on our helping hand. The need to expand our programs and efforts are paramount. To maximize our ability in helping the community we propose the following. **What we are asking for, Is a Win! Win! For all.**

As we look toward the future, **we would like to obtain an extension for 50 Years. A lease with no subclause that allows the province to cancel with notice.** Honouring the extension of the lease would be a Win! Win! For both parties.

ב"ה



RABBI YOSEF HECHT,
Director

SARA HECHT,
Program Coordinator

Synagogue Services

Preschool

Hospital Chaplaincy

Adult Education

Holiday Awareness Programs

Jewish Woman's Circle

Youth Zone

Chabad Oak Ridges
Alef Bet Hebrew School

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Servicing Aurora, Oakridges and Newmarket

A Win! Win! Opportunity.

1. Our organization (Chabad Lubavitch of Aurora) can continue its vital work for the community,
2. The building continues to be used for the community.
3. Safety Security of the building
4. NO cost to IO.
5. Long term Security will allow us to make much needed substantial leasehold improvements.

With blessings for continued success in all your endeavours,

I would be happy to speak with you regarding the above and look forward to hearing from you soon. I may be reached at 416-837-0962

Respectfully,


Rabbi Yosef Hecht, Executive Director

Chabad Lubavitch of Aurora, Chabad Oak Ridges
e/chabadaurora@gmail.com
w/chabadofaurora.com
T/905-313-8747
C/416-837-0962

ב"ה



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Servicing Aurora, Oakridges and Newmarket

Renovations 12611 Yonge Street

1. Roof \$22,000 + \$30,000 at year 25
2. First floor room renovation for proper use \$35,000 + \$15,000 at year 25 for renewal
3. Gates- Cameras- Alarm- Security \$210,000 + \$100,000 at year 25 for renewal
4. Floors \$25,000 + \$15,000 at year 25 for renewal
5. Second floor room renovation \$95,000 + \$30,000 at year 25 for renewal
6. Basement- Fix all leaks- and foundation problems. \$85,000 + \$25,000 at year 25 for renewal
7. Basement renovation \$70,000 + \$25,000 at year 25 for renewal
8. Sorting all Electrical- Safely storing and arranging all Electrical \$50,000 + \$25,000 at year 25 for renewal
9. Fixing outside of the building, the building itself places where scraping is needed, fixing of holes around the building \$25,000 + \$15,000 at year 25 for renewal
10. Windows - full frame replacement \$30,000 + \$40,000 at year 25 for renewal
11. Wooden porch supports and flooring \$15,000 + \$10,000 at year 25 for renewal
12. Men's and Women's bathroom \$36,000 + \$20,000 at year 25 for renewal
13. Install Natural Gas for heating. To bring the natural gas pipes from the road (which exist) to the house and install proper furnace for natural gas heat. \$20,000 proper duct coordination \$10,000 + \$10,000 at year 25 for new furnace
14. Gardening Maintenance- Snow Plowing. \$6,600.00 \$525.00 Monthly, Per Year. \$165,000 over 25 years
15. Upkeep and maintenance for our water pump and piping. \$25,000-\$45,000.

From the items of the above list. 1-4, we already put a lot of money in for those renovations, more work still needs to be done. Since part of the facility is incredibly old, the work in that area needs to be done very carefully and with extreme sensitivity.

ב"ה



RABBI YOSEF HECHT,
Director

SARA HECHT,
Program Coordinator

Synagogue Services

Preschool

Hospital Chaplaincy

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Youth Zone

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Alef Bet Hebrew School

For the rest of the list and renovations- estimates are outlined here for work that needs to be done. The work outlined above will get this facility up and running and really maximize the great potential this property has. **Which in turn will allow us the opportunity to better service the community.**

Looking forward 25 years, construction would have to be done again on a lot of the above estimating it at a 25% increase of labour and material.

The above is an approximate estimate of the lease hold improvements.

We can only start and **hopefully** put in the necessary work proposed once we are confident, we have the years secured for our lease. We understand and would like to point out, there can be changes in pricing and other unforeseen circumstances that can alter some things. However, the numbers outlined give a good indication of the work that needs to be done.

Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Darryl Gray, Director, Education and Training

RE: **FEDERATION OF CANADIAN MUNICIPALITIES' VISIONARY AWARD
RECOGNITION**

KEY ISSUE

Announcement of national recognition for the Sustainable Neighbourhood Action Plan (SNAP Program) by the Federation of Canadian Municipalities (FCM).

RECOMMENDATION

WHEREAS the Federation of Canadian Municipalities (FCM) has advised that Toronto and Region Conservation Authority (TRCA) and the nine participating partner municipalities (City of Toronto, Regional Municipality of Peel, City of Brampton, City of Mississauga, Town of Caledon, Regional Municipality of York, City of Richmond Hill, City of Markham, and City of Vaughan) are the recipients of an Honourable Mention for the 2020 FCM Sustainable Communities Awards in the Visionary Award category for their submission entitled Sustainable Neighbourhood Action Program;

AND WHEREAS plans for communicating this national recognition have been identified by FCM and TRCA.

THEREFORE, LET IT BE RESOLVED THAT members of TRCA's Board of Directors assist in disseminating news of this national recognition and support their partner municipality's partnerships with TRCA in the continued delivery and growth of the SNAP Program.

BACKGROUND

At Authority Meeting #3/20, held on April 24, 2020, Resolution #A34/20 was approved as follows:

WHEREAS Toronto and Region Conservation Authority (TRCA) has delivered the Sustainable Neighbourhood Action Program in partnership with nine local and regional municipalities since 2009;

AND WHEREAS the Federation of Canadian Municipalities has released a call for applications to the Green Municipal Fund 20th Anniversary Visionary Award, which requires Board of Directors acknowledgement and endorsement of the application;

THEREFORE, LET IT BE RESOLVED THAT TRCA Board of Directors acknowledge and endorse an application for the Sustainable Neighbourhood Action Program to be considered for Federation of Canadian Municipalities' Green Municipal Fund 20th Anniversary Visionary Award;

AND FURTHER THAT staff be directed to report back to the Board of Directors before year end on the next phase of the SNAP Program and proposed opportunities to expand the program to inform municipal budgeting discussions.

Item 8.8

On August 17, 2020, FCM sent a letter to TRCA Chair Innis and Directors of the Board advising that TRCA and the nine participating partner municipalities (City of Toronto, Regional Municipality of Peel, City of Brampton, City of Mississauga, Town of Caledon, Regional Municipality of York, City of Richmond Hill, City of Markham, and City of Vaughan) are the recipients of an Honourable Mention for the 2020 FCM Sustainable Communities Awards in the Visionary Award category for their submission entitled, “Sustainable Neighbourhood Action Program”.

The Visionary Award is a special award, in recognition of the Green Municipal Fund’s 20th anniversary, granted to an initiative that demonstrates how sustainability and innovation can generate long-term community change. The Visionary Award category was especially competitive, given that there were many great sustainability projects applying from across Canada for work done in the last 20 years. However, the Awards Panel felt that the work done through SNAP was highly commendable – particularly the focus on community-driven approaches to sustainability, and the broader uptake and replication of this model throughout Ontario and beyond.

FCM has outlined their communications plans will include:

- Media and communications – announce award winners and honourable mentions (on September 14, 2020 initially and again around the October 20-22, 2020 conference);
- Awards ceremony – acknowledge at FCM’s 2020 Sustainable Communities (virtual) Conference Oct 20-22, 2020;
- Showcase our project – write a case study about SNAP and post on FCM’s website (December 2020).

TRCA has outlined the following communications objectives and key messages:

1. Raise profile for the SNAP program and its impact
2. Recognize and thank our municipal and community partners
3. Build support for the growth of the program

Key communications messages include:

- TRCA is honoured by FCM’s recognition and looks forward to working with FCM in the coming months to share best practices with a variety of stakeholders and partners.
- SNAP is a neighbourhood model for sustainable urban renewal and climate action which is helping make neighbourhoods more resilient.
- SNAP offers great potential to contribute to a post-COVID green recovery through its effective approach at forging implementation partnerships for initiatives in the public and private realms and its attention to local involvement and capacity building.
- SNAP is a growing network, with 10 neighbourhoods in TRCA’s jurisdiction and a growing number in Ontario and beyond.
- TRCA acknowledges and thanks our municipal and community partners with whom we share this recognition. SNAP is truly a collaborative initiative and its achievements are the result of contributions from many partners.
- TRCA also acknowledges other groups leading SNAPs as part of this growing network: including SNAPs being led by Credit Valley Conservation in the City of Brampton and Town of Halton Hills, by Peterborough GreenUP Association, the City of Peterborough and the City of Hamilton.

Item 8.8

- There is great potential to expand the impact of the SNAP model to more neighbourhoods in TRCA's jurisdiction. This will require a concerted effort between partner municipalities, TRCA and other partners to grow this model.

TRCA will amplify FCM's communications by promoting FCM communications through its own networks and using the following additional means to disseminate communications:

- Social media
- TRCA website
- Short feature articles
- Coordination with municipal partner communication leads
- Communications to SNAP program partner network and through local SNAP neighbourhood networks.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:
Strategy 4 – Create complete communities that integrate nature and the built environment

FINANCIAL DETAILS

There was no direct cost for this application and there is no direct cash remuneration for the recognition.

The SNAP Program's core funding is derived from municipal capital support from the regions of Peel and York, and the City of Toronto. TRCA is also in discussion with Durham Region municipalities in our jurisdiction and will provide a report back to the Board on future opportunities for SNAPs in Durham Region. By leveraging these municipal budgets, SNAP has attracted additional public and private funding of over \$3 million dollars over the past 10 years, and has helped establish cost sharing arrangements with other partners, supported neighbourhood-scale efforts toward achieving TRCA's watershed objectives and strategic goals shared with our municipal partners, such as community resiliency, ecosystem restoration and healthy communities. TRCA is exploring with its municipal partners, and others, funding models to support the growth and long-term financial sustainability of this program to ensure even greater impact.

DETAILS OF WORK TO BE DONE

Staff will coordinate with FCM and participating partner municipalities in the communication of this national recognition, as outlined in this report, with particular focus around the FCM's October 20-22, 2020 Sustainable Communities Conference and the anticipated late December 2020 publication of FCM's case study profile article about the SNAP program.

Report prepared by: Sonya Meek, extension 5253

Emails: sonya.meek@trca.ca

For Information contact: Sonya Meek, extension 5253

Emails: sonya.meek@trca.ca

Date: September 8, 2020

Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Michael Tolensky, Chief Financial and Operating Officer

RE: **ETOBICOKE FIELD STUDIES CENTRE**
Update on Expression of Interest for Alternative Uses

KEY ISSUE

Update on the results of the Expression of Interest undertaken to explore alternative uses for the Etobicoke Field Studies Centre, located in Claireville Conservation Area.

RECOMMENDATION

WHEREAS Toronto and Region Conservation Authority (TRCA) completed a Request for Expressions of Interest to explore alternative uses for the Etobicoke Field Studies Centre, located in Claireville Conservation Area, Brampton;

AND WHEREAS the Request for Expressions of Interest that was circulated did not receive any proposals from potential interested parties;

THEREFORE, LET IT BE RESOLVED THAT TRCA continue to explore additional avenues to secure an alternative use for the Etobicoke Field Studies Centre;

AND FURTHER THAT TRCA staff report back to the Board of Directors in 2021 on any potential uses being considered for the site;

BACKGROUND

At Board of Directors Meeting #8/19, held on September 27, 2019, Resolution #A160/19 was approved, in part, as follows:

WHEREAS TRCA provides greenspace for the purposes of out-of-classroom natural science learning experiences to school boards, as enabled under Section 197 of the Education Act (R.S.O 1990), through formal lease agreements;

WHEREAS Toronto District School Board provided written notice on July 3, 2019 to Toronto and Region Conservation Authority of the closure of the Etobicoke Field Studies Centre, effective August 31, 2019;

THEREFORE, LET IT BE RESOLVED THAT a Request for Expressions of Interest be undertaken to explore alternative uses for the Etobicoke Field Studies Centre;

THAT TRCA staff provide a report to the January 24, 2020 Board of Directors meeting on the results of the Request for Expressions of Interest;

Effective August 31, 2019, the Etobicoke Field Studies Centre building and environs previously under lease to Toronto District School Board (TDSB) reverted to Toronto and Region Conservation Authority (TRCA).

Item 8.9

This two-story facility is in good condition and offers much to potential proponents given its location, and layout itself including classrooms and offices on the main and second floor with an additional classroom and storage in the basement level. TRCA utilizes a separate portion of the lower level of the facility for program equipment and file storage.

A Request for Expressions of Interest (EOI) for future use of the Etobicoke Field Studies Centre was prepared by TRCA staff. The EOI was first circulated to internal TRCA business units to determine if there was any TRCA use of the building for the delivery of education/park programming. The internal distribution did not solicit any interest.

During the latter part of 2019 and early 2020 TRCA Government and Community Relations staff had several discussions with the City of Brampton staff regarding the vacant Etobicoke Field Studies Centre and Claireville Conservation Area as a whole, and any potential uses that the City of Brampton would be interested in undertaking or partnering on with TRCA. Accordingly, as a second step in the EOI process the EOI was circulated to City of Brampton staff for their review and internal discussion.

The City of Brampton met with TRCA to discuss the Claireville Conservation Area partnership opportunity. The City of Brampton staff shared the EOI with the City of Brampton Leadership Team in Recreation. Unfortunately due to the great deal of uncertainty around how the City of Brampton Recreation Team would be able to program their own operated facilities due to the COVID-19 impact, they were not able to bid for a new program site at the Claireville Conservation Area and therefor did not respond to the EOI.

Finally, TRCA posted the EOI on Biddingo.com, a government contract portal. On September 4, 2020, the submission opportunity closed on Biddingo.com, without any proposals received.

RATIONALE

To ensure future use of the Etobicoke Field Studies Centre, TRCA staff are proposing to explore additional avenues, and revisit partnership opportunities, to secure a user for the Etobicoke Field Studies Centre.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 3 – Rethink greenspace to maximize its value

Strategy 5 – Foster sustainable citizenship

Strategy 7 – Build partnerships and new business models

FINANCIAL DETAILS

Until a new tenant is secured, TRCA is responsible for building maintenance, security and alarm expenses, utility expenses (heating, hydro and water), snow removal expenses and other state-of-good-repair costs, estimated at \$25,000 annually.

Report prepared by: Lisa Valente, extension 5297

Emails: lisa.valente@trca.ca

For Information contact: Lori Colussi, extension 5303

Emails: lori.colussi@trca.ca

Date: September 10, 2020

Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Sameer Dhalla, Director, Development and Engineering Services

RE: **HIGHLAND CREEK WATERSHED GREENING STRATEGY**

KEY ISSUE

Approval of the Highland Creek Watershed Greening Strategy that will support implementation of greening projects in the City of Toronto.

RECOMMENDATION

WHEREAS the Highland Creek watershed has experienced major riverine erosion issues due to urbanization and lack of stormwater management;

WHEREAS the City of Toronto must manage impacts to municipal infrastructure, such as sanitary sewers, from ongoing creek erosion;

WHEREAS the City of Toronto has developed a Wet Weather Flow Management Plan (WWFMP) and a Highland Creek Geomorphic Systems Master Implementation Plan (HCGSMIP) to manage ongoing erosion through large-scale creek restoration works, sometimes requiring impacts to natural areas;

WHEREAS the City of Toronto has requested assistance from TRCA to identify priority restoration in support of implementation of its HCGSMIP and WWFMP;

AND WHEREAS the Highland Creek Watershed Greening Strategy identifies priority restoration opportunities within the watershed to support City of Toronto and other partner restoration projects, and more broadly identifies priority greening opportunities through green infrastructure implementation, stewardship, and land securement;

THEREFORE, LET IT BE RESOLVED THAT the Board of Directors approve the Highland Creek Watershed Greening Strategy to be used as a tool to guide TRCA and City of Toronto greening in the watershed.

BACKGROUND

The Highland Creek watershed is one of the most urban of the nine watersheds in TRCA's jurisdiction and is contained largely within the City of Toronto. The sewers, watermain and utilities that were required to support development crisscross the valleys and parallel the creek itself. Most of the urban development pre-dated modern stormwater management. In addition, riparian areas were altered, creeks were channelized or buried, natural cover, such as forests and wetlands, were replaced with subdivisions and strip malls. The fishery of the Highland Creek watershed that once supported Atlantic Salmon has become severely impaired. Recognizing these impacts, the City of Toronto embarked on a substantial study of wet weather flow, which included stormwater and combined sewer overflows. The Wet Weather Flow Management Plan (WWFMP) identified Highland Creek as a priority watershed. The WWFMP examined the ability of stormwater management methods to mitigate the effects of urbanization on the hydrologic cycle, following the hierarchical principle of managing stormwater first at the

source, secondly through conveyance, and finally at the end of the pipe. It concluded that stormwater management measures on the tableland had some benefits, but that direct intervention using stream restoration projects were necessary to reduce erosion and improve the geomorphic conditions and biophysical habitats of Highland Creek. The study recommended that, where feasible, elements of stream restoration should include enlarged channels and changes in channel sinuosity based on the principles of natural channel design, to accommodate the increased flows caused by urbanization.

Subsequent to completing the WWFMP, the City of Toronto initiated a number of environmental assessments to improve the geomorphic stability of the Highland Creek watershed and address at-risk infrastructure. The plan was intended to simultaneously address the combined objectives of infrastructure protection and replacement, and aquatic and terrestrial habitat enhancement in a valleyland setting. The Highland Creek Geomorphic Systems Master Implementation Plan (HSGSMIP) established a framework for undertaking stream restoration projects across the watershed to protect infrastructure from channel erosion and improve aquatic systems and in-stream water quality over approximately a two-decade time frame.

RATIONALE

This Highland Creek Watershed Greening Strategy (Highland Greening Strategy) has been developed to support the implementation of the WWFMP and the HCGSMIP. The approach is that the stream restoration project associated with these plans would initially be built, and then the opportunities for additional enhancement of the riparian/terrestrial habitat of the Highland Creek valley system would be implemented. Ideally, the stream restoration and the greening component would be designed in tandem to ensure all greening opportunities are incorporated. To maximize greening benefits to the watershed, the Highland Greening Strategy has been broadened beyond the scope of the HCGSMIP to include both the valley system as well as tableland opportunities.

While there would be benefits from implementing any greening project within the watershed, the Highland Greening Strategy strategically prioritizes greening opportunities organized around four greening principles focused on natural cover, aquatic habitat, green infrastructure and land securement. Together, these greening principles aim to protect, restore and enhance natural cover and aquatic habitat, optimize the watershed and human-health benefits of greening, and protect and expand the size and connectivity of the natural system, while ensuring that these investments are made efficiently. Site selection criteria for each greening principle were used to identify:

- Priority Greening *Sites* for Greening Principle #1 (Natural Cover) and Greening Principle #2 (Aquatic Habitat); and
- Priority Greening *Areas* for Greening Principle #3 (Green Infrastructure) and Greening Principle #4 (Land Securement).

These sites and areas are located where greening would provide the greatest overall benefit to meet the objective of a particular greening principle. Overall, the Highland Greening Strategy is intended as a tool to help with planning of greening projects undertaken by the City of Toronto and the Toronto and Region Conservation Authority (TRCA).

To the extent possible within the limits of the study scope, this strategy is intended to be comprehensive and integrated, and to guide municipal greening interests over the next 25 years, or until the strategy is updated or a watershed plan is developed. It is recommended that this strategy be updated 10 years following approval to track progress if a watershed plan is not completed in the intervening years. Greening efforts in the Highland Creek watershed will be

Item 8.10

driven by a variety of projects ranging from those intended to broadly improve watershed health, human well-being, and community engagement, to projects that are intended to compensate for loss or alteration of specific ecological habitats.

This strategy outlines a transparent and strategic approach for identifying the best locations for greening, and some constraints, along with preliminary details to guide the type of greening project that should occur there. Opportunities for implementation will coincide with environmental assessments associated with implementing the City of Toronto's WWFMP and the HCGSMIP. The strategy will support the objectives of the Toronto Ravine Strategy and other City of Toronto initiatives. It will also promote further greening opportunities as redevelopment and public infrastructure renewal (e.g. through enhancements, offsets and/or ecosystem compensation) occurs throughout the watershed to protect ecological function and resilience. Ultimately, any chosen sites would need to undergo more detailed site assessment and require coordination between city and TRCA staff and local councillors where appropriate prior to implementation.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 3 – Rethink greenspace to maximize its value

Strategy 4 – Create complete communities that integrate nature and the built environment

FINANCIAL DETAILS

Funding for this project is derived from 120-04 and 416-40.

DETAILS OF WORK TO BE DONE

Additional discussions between TRCA and City of Toronto staff are ongoing to ensure a continued collaborative approach to greening projects. Additional discussions will also take place to ensure that relevant data layers are updated and shared between TRCA and City of Toronto. Efforts to track implementation of the Highland Greening Strategy will also be prioritized.

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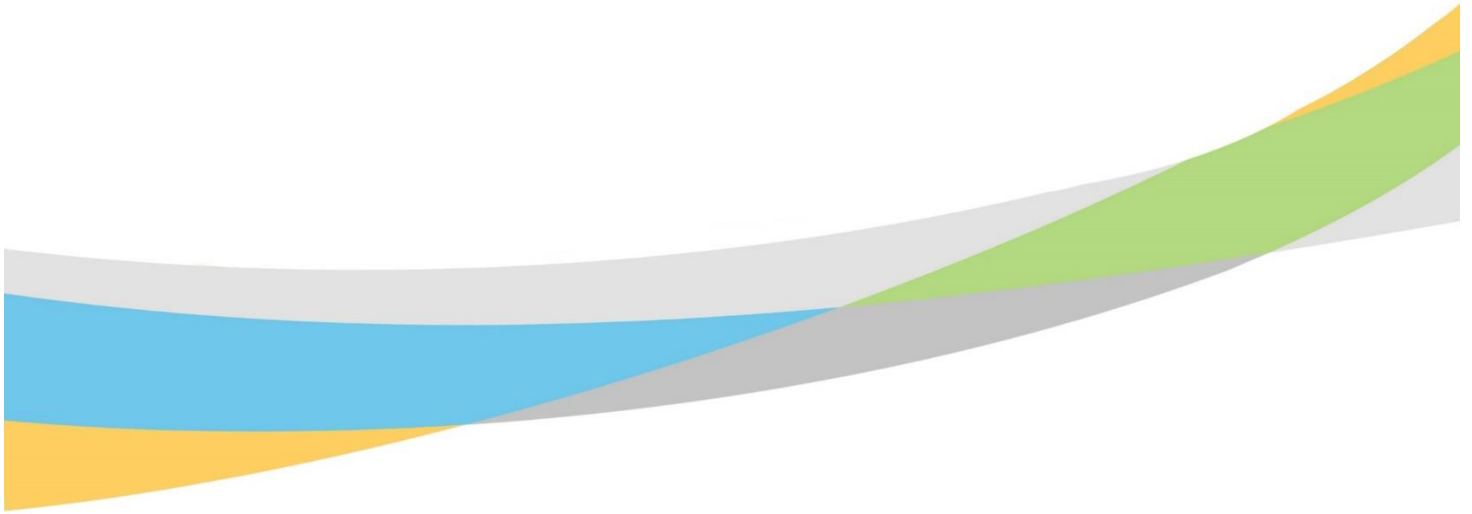
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Date: June 30, 2020

Attachments: 1

Attachment 1: Highland Creek Watershed Greening Strategy



Highland Creek Watershed Greening Strategy

September 18, 2020

Prepared in partnership with the City of Toronto

EXECUTIVE SUMMARY

The Highland Creek watershed is facing some daunting challenges, and investments in the watershed are critical to improving its ecological health and human well-being outcomes. Much of the watershed was developed between the 1950s and 1970s, during which time the landscape was quickly and drastically altered. Urbanization and loss of natural cover in the watershed have resulted in impacts on the hydrologic regime, with significant impacts to in-stream flooding and erosion, water quality, and aquatic habitat.

This Highland Creek Watershed Greening Strategy (Highland Greening Strategy) has been developed to support the Highland Creek Geomorphic Systems Master Implementation Plan (HCGSMIP). The HCGSMIP established a framework for undertaking stream restoration projects across the watershed to protect infrastructure from channel erosion and improve aquatic systems and in-stream water quality over approximately two decades. The approach is that the stream restoration project would initially be built, and then the opportunities for additional enhancement of the riparian/terrestrial habitat of the Highland Creek valley system would be implemented. Ideally, the stream restoration and the greening component would be designed in tandem to ensure greening opportunities are not missed. The Highland Greening Strategy has been broadened beyond the scope of the HCGSMIP to include both the valley system as well as tableland opportunities.

While there would be benefits from implementing any greening project within the watershed, the Highland Greening Strategy strategically prioritizes greening opportunities organized around four greening principles focused on natural cover, aquatic habitat, green infrastructure and land securement. Together, these greening principles aim to protect, restore and enhance natural cover and aquatic habitat, optimize the watershed and human-health benefits of greening, and protect and expand the size and connectivity of the natural system, while ensuring that these investments are made efficiently. Site selection criteria for each greening principle were used to identify:

- Priority Greening *Sites* for Greening Principle #1 (Natural Cover) and Greening Principle #2 (Aquatic Habitat); and
- Priority Greening *Areas* for Greening Principle #3 (Green Infrastructure) and Greening Principle #4 (Land Securement), where greening would provide the greatest overall benefit to meet the objective of a particular greening principle.

Overall, the Highland Greening Strategy is intended as a tool to help with planning of greening projects undertaken by the City of Toronto and the Toronto and Region Conservation Authority (TRCA).

To the extent possible within the limits of the study scope, this strategy is intended to be comprehensive and integrated, and to guide municipal greening interests over the next 25 years, or until the strategy is updated or a watershed plan is developed. It is recommended that this strategy be updated 10 years following approval to track progress if a watershed plan is not completed in the intervening years.

Greening efforts in the Highland Creek watershed will be driven by a variety of projects ranging from those intended to broadly improve watershed health, human well-being, and community engagement, to projects that are intended to compensate for loss or alteration of specific ecological habitats. This strategy outlines a transparent and strategic approach for identifying the best locations for greening, and some constraints, along with preliminary details to guide the type of greening project that should occur there. Opportunities for implementation will coincide with environmental assessments associated with implementing the City of Toronto's Wet Weather Flow Master Plan (WWFMP) and the HCGSMIP.

The strategy will also support the objectives of the Toronto Ravine Strategy and other City of Toronto initiatives. It will also promote further greening opportunities as redevelopment and public infrastructure renewal (e.g. through enhancements, offsets and/or ecosystem compensation) occurs throughout the watershed to protect ecological function and resilience. Ultimately, any chosen sites would need to undergo more detailed site assessment and require coordination between city and TRCA staff and local councillors where appropriate prior to implementation.

HOW TO READ THIS DOCUMENT

The Highland Greening Strategy consists of four sections, a glossary, references, and two appendices. The following is a brief overview of what information is provided in each section.

Section 1: Introduction

An introduction provides an overview of the context and rationale for developing a greening strategy for the Highland Creek watershed.

Section 2: Guiding Principles

Outlines the approach to prioritizing watershed greening, identifies the four greening principles, an explanation of why each greening principle is needed for the Highland Creek watershed, and site selection criteria that guide the selection of greening opportunities.

Section 3: Greening Opportunities

Identifies the top 10 Priority Greening Sites for Greening Principle #1 (Natural Cover) and Greening Principle #2 (Aquatic Habitat), as well as Priority Greening Areas for Greening Principle #3 (Green Infrastructure) and Greening Principle #4 (Land Securement).

Section 4: Implementation of Greening Opportunities

Lists and describes important considerations for planning and implementing greening projects in the Highland Creek watershed.

Glossary: Provides definitions of terms used in the Highland Greening Strategy.

References: Lists documents sourced in the development of the Highland Greening Strategy.

Appendix A: Provides additional site-level information for Priority Greening Sites and all potential restoration opportunities.

Appendix B: Consists of a hydraulic modelling exercise conducted to determine the impacts of planting riparian vegetation along the channelized sections of Highland Creek and its tributaries. The results of this analysis can be used to inform where and how riparian plantings may be undertaken without exacerbating existing flood lines.

[Highland Map Viewer](#)

This is an interactive map viewer that displays Priority Greening Sites, or Areas, for each greening principle, along with data layers used in the selection process. This map viewer is intended for use by Toronto and Region Conservation Authority (TRCA) and City of Toronto staff with planning, coordination and implementation of greening projects in the Highland Creek Watershed.

Note: If you are unable to access the hyperlink for the [map viewer](#), please contact a staff member of TRCA's GIS group, or email info@trca.ca requesting the access link to the Highland map viewer.

The Map Viewer can be used to:

1. Find the Highland Creek Watershed Greening Strategy, which is on the welcome page.
2. Explore Greening Principle # 1: Natural Cover, to zoom in on each of the priority sites for this principle
3. Explore Greening Principle #2: Aquatic Habitat, to zoom in on each of the priority sites for this principle
4. Explore Greening Principle #3: Green Infrastructure, to zoom in on each of the priority sites for this principle
5. Explore Greening Principle #4: Land Securement, to zoom in on priority areas for this principle
6. Explore all data layers for each principle, data layers used for site selection and all supporting data layers

The viewer is designed to be intuitive allowing the user to select which data layers they wish to view and print maps accordingly. Below is a screenshot of Greening Principle #2: Aquatic Habitat selected from the left sidebar and the legend selected on the right sidebar.

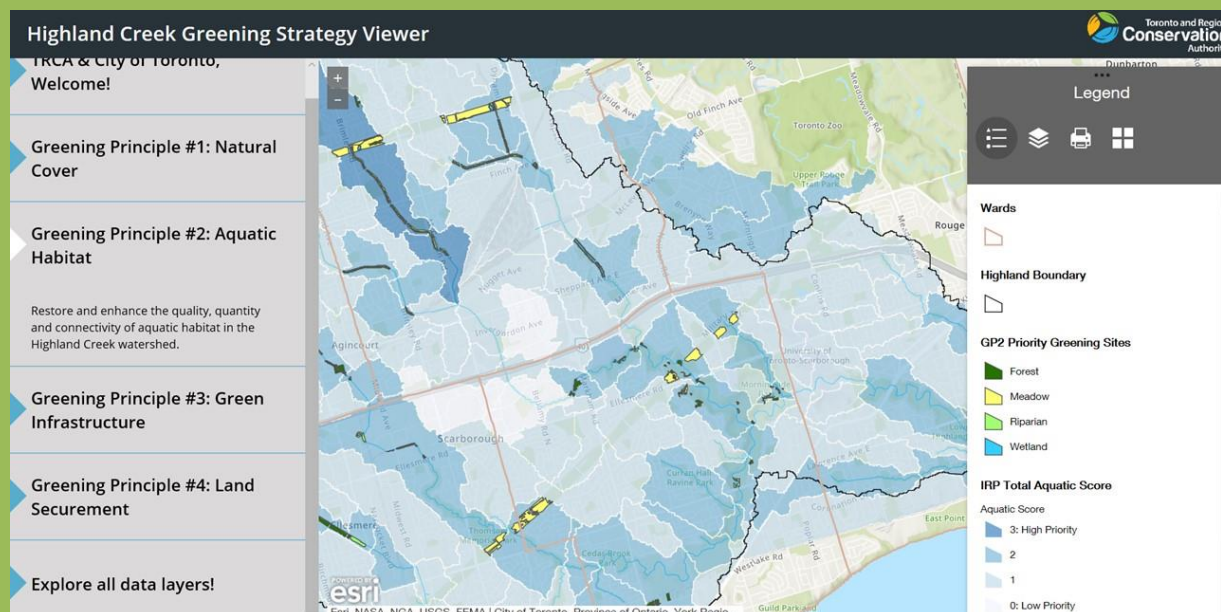


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ACRONYMS

DFO	Department of Fisheries and Oceans
FBI	Family Biotic Index
FVC	Flood Vulnerable Cluster
HCGSMIP	Highland Creek Geomorphic Systems Master Implementation Plan
IBI	Index of Biotic Integrity
IRP	Integrated Restoration Prioritization
LCA	Life Cycle Assessment
LEAF	Local Enhancement and Appreciation of Forests
ROP	Restoration Opportunities Planning
SNAP	Sustainable Neighbourhood Action Program
STEP	Sustainable Technologies Evaluation Program
TRCA	Toronto and Region Conservation Authority
WSE	Water Surface Elevation
WWFMP	Wet Weather Flow Master Plan

1. INTRODUCTION

The Highland Greening Strategy identifies Priority Greening Sites that strategically and transparently prioritize greening opportunities within the Highland Creek watershed. Priority Greening Sites are organized around four Greening Principles that focus on natural cover, aquatic habitat, green infrastructure and land securement. These principles collectively aim to help protect, restore and enhance natural cover and aquatic habitat, optimize watershed health, contribute to social well-being through community greening, and increase the size of the natural system through land securement.

This Strategy is primarily focused on increasing habitat quantity through the identification of areas for additional wetland, riparian, forest or meadow habitat. The Strategy can be used by TRCA and the City of Toronto when looking for beneficial restoration projects and how to coordinate them with other works in the Highland Creek watershed (i.e. City of Toronto Ravine Strategy). The City of Toronto Ravine Strategy has identified a significant portion of the Highland Creek watershed as two of its Priority Investment Areas. The key difference between this Strategy and the Ravine Strategy, is that the Highland Greening Strategy is focused on habitat quantity, whereas the Ravine Strategy is a more broadly-focused framework that aims to ensure a healthy, resilient ravine system that connects people with nature. The Priority Investment Areas of East Highland Creek and Morningside Park, and Lower Highland Creek identified in the City's Ravine Strategy have a high percentage of natural cover compared to other parts of the Highland Creek watershed and were therefore not prioritized by TRCA for restoration opportunities as part of this Strategy. These two Strategies are complementary and will both provide significant benefits to the Highland Creek watershed (see **Subsection 4.1** for more information on the complementary nature of the Ravine Strategy).

Greening efforts in the Highland Creek watershed will be driven by a variety of projects ranging from those intended to improve overall watershed health, or to compensate for the loss or alteration of specific ecological habitats, to projects focused on promoting landowner stewardship and engaging the local watershed community in nature appreciation. This strategy outlines considerations that should be applied to ensure that projects are coordinated appropriately, and advice and direction to help guide the planning of greening projects at the site level.

To the extent possible within the limits of the study scope, the Highland Greening Strategy is intended to be comprehensive and integrated, and to guide municipal greening interests over the next 25 years, or until an updated strategy or watershed plan is developed. It is recommended that this strategy be updated 10 years following approval to track progress if a watershed plan is not completed in the intervening years. It is important to recognize that this strategy may not be able to address all issues related to the aquatic ecosystem, stormwater management, and natural hazards (i.e. flooding and erosion) within the watershed due to the limitations of available information in advance of the completion of a comprehensive watershed plan¹. The Highland Greening Strategy will serve as a bridging document to guide the selection of greening opportunities until a watershed plan is developed for Highland Creek. The best available information was used in developing this strategy, some of which may not be current.

¹ Watershed plans are documents that comprehensively integrate watershed issues and strategically prioritize actions that are needed to address these issues. Toronto and Region Conservation Authority (TRCA) is currently developing the next generation of its watershed planning program, which will identify the scope and schedule of future watershed plans.

1.1. Background and Context

Urbanization and Resulting Watershed Issues

The Highland Creek watershed is one of the most urban of the nine watersheds in TRCA's jurisdiction and is contained largely within the City of Toronto. Much of the watershed was developed between the 1950s and 1970s, during which time the landscape was quickly and drastically altered. Planning practices during this time prescribed that tablelands were for built form and floodplains contained within valleylands should be brought into public ownership. This led to a number of impacts to the aquatic and terrestrial systems within the watershed, as detailed in **Table 1**.

In order to prevent small wastewater treatment plants from discharging into rivers within the city and improve riverine oxygen concentrations, trunk gravity sewers were built in valleylands to convey wastewater to regional treatment plants, located on the Lake Ontario waterfront. This permitted small local wastewater treatment plants to be decommissioned. The sewers, watermains and utilities that were required to support development criss-crossed the valleys and paralleled the creek itself. Many headwater sections of Highland Creek were straightened, following existing rural municipal drains where they existed, and its tributaries hardened. Stormwater was not managed, riparian areas were lost, and on the tablelands agricultural fields and natural cover, such as forests and wetlands, were replaced with sprawling low-rise subdivisions and strip malls. In turn, the fishery of the Highland Creek watershed that once supported Atlantic Salmon has become severely impaired.

Table 1 - Existing Watershed Conditions

Key Watershed Issues	Sub-Issue	Existing Conditions
Aquatic Habitat	Imperviousness	Average of 55.1% imperviousness across the Highland Creek watershed ² .
	Riparian Corridor (30 meter buffer on each side of stream)	Approximately 39.9% natural cover within the riparian corridor of Highland Creek ³ . This compares to an average of 51.2% across TRCA's watersheds.
	Aquatic Barriers	See Highland Map Viewer for data layer of instream barriers.
Terrestrial Habitat	Natural cover	Approximately 9.9% natural cover throughout the watershed; consisting of 5.9% forest, 0.3% wetland, 3.0% meadow and 0.6% successional. This is one of the lowest levels of natural cover in TRCA's jurisdiction.

² Significant impairment in stream water quality and quantity is highly likely above 10% impervious cover and can often begin before this threshold is reached. In urban systems that are already degraded, a second threshold is likely reached at the 25 to 30% level.

³ Higher amounts of riparian natural cover convey the greatest overall benefit to biodiversity and aquatic ecosystem health.

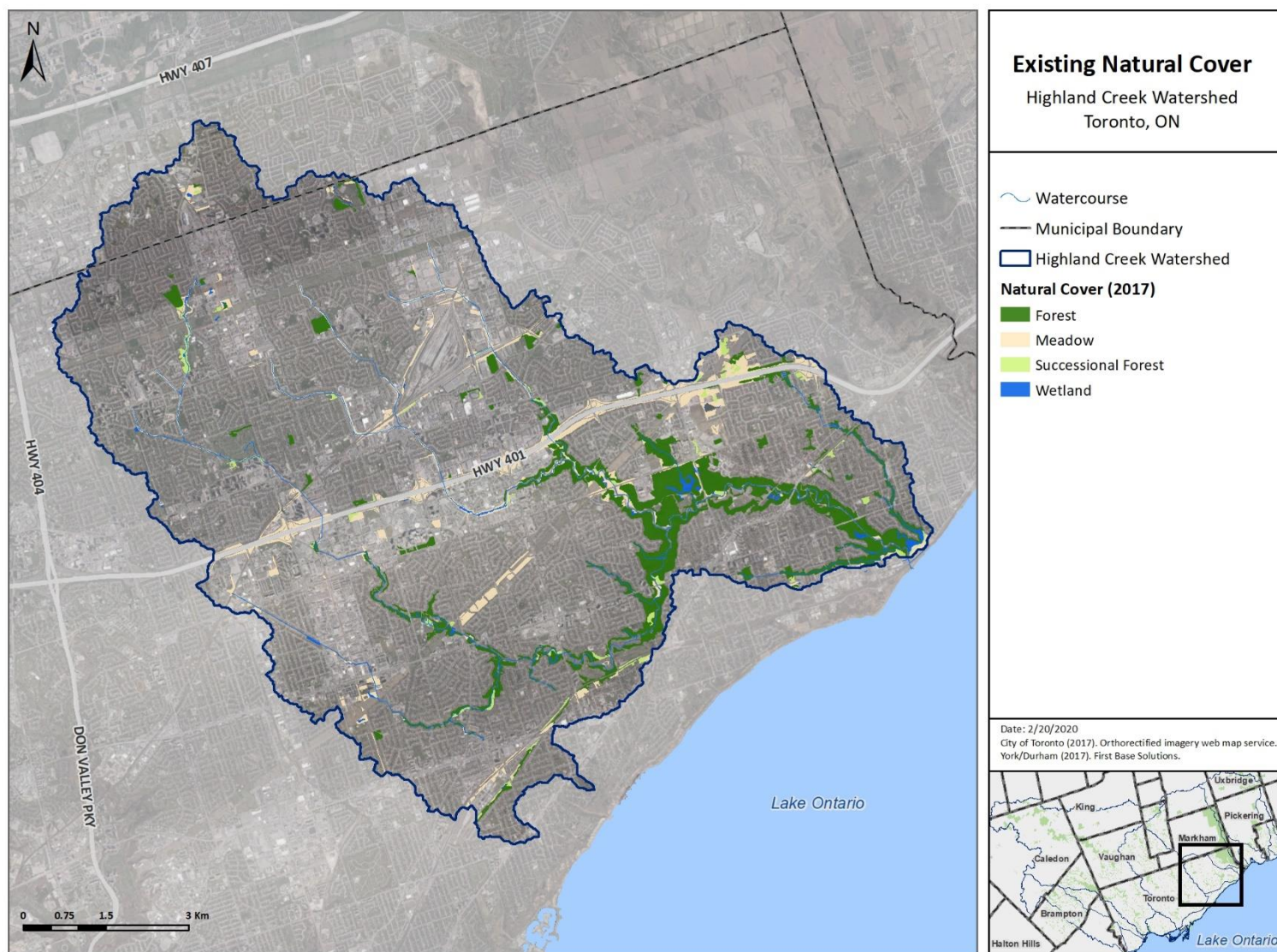
Key Watershed Issues	Sub-Issue	Existing Conditions
		See Figure 1 for a map of existing natural cover.
	Habitat quality	<p>Average quality condition of poor (L4) based on Landscape Analysis Model (LAM)⁴.</p> <p>Rating scale: Excellent (L1), Good (L2), Fair (L3), Poor (L4), Very Poor (L5).</p> <p>Approximately 600 hectares of habitat is poor (L4), 417 hectares is very poor (L5), and 30 hectares is fair (L3).</p>
Water Quality	Parameters of Concern	<p>Water quality data for this watershed show that chlorides, dissolved oxygen, <i>E. coli</i>, and total phosphorus often do not meet established water quality guidelines.</p> <p>The Water Quality Index (WQI)⁵ for Highland Creek is 31.8, which corresponds to a poor rating.</p> <p>Rating Scale: 0 – 44 = poor, 45 – 64 = marginal, 65 – 79 = fair, 80 – 94 = good, 94 – 100 = excellent</p>
Natural Hazards	Flooding	<p>The Highland Creek watershed contains three Flood Vulnerable Clusters (FVC)⁶:</p> <ul style="list-style-type: none"> • Progress Business Park – located on the Markham branch of the East Highland Creek between Finch Ave E and Bellamy Rd N at Corporate Drive. Ranked⁷ 7 out of 41 for FVC's within TRCA's jurisdiction. • Kennedy Commons – located on the Bendale branch of the West Highland Creek from Sheppard Ave E south to McCowan Rd. Ranked 13 out of 41. • Dorset Park – located on the Dorset Park branch of the West Highland Creek near Birchmount Rd and Ellesmere Rd, and west of Midland Ave at Lawrence Ave. South properties at risk farther downstream at Brimley Rd. Ranked 17 out of 41.

⁴ The LAM is based on principles of landscape ecology and uses a GIS based technique to summarize the quality of all habitat patches based on their size, shape and impacts from surrounding land uses (i.e. matrix influence).

⁵ The WQI is a tool for summarizing water quality conditions from multiple parameters into a single measure of water quality per site. The WQI represents the number of parameters that exceed their guidelines, as well as the frequency and magnitude of those exceedances. Score on a scale of 0 – 100, with higher values indicating higher water quality.

⁶ A FVC is a sub-area within the regulatory storm flood plain that contains multiple existing structures and/or roads for which a single, comprehensive flood remediation approach may be viable.

⁷ FVC rankings are determined based on weighting of four categories, availability of data, and stakeholder input. The four categories are: building related damages (e.g. dollar value structure and content damages) accounting for 50% of total risk score, community impacts (e.g. institutional buildings such as schools and recreation facilities) accounting for 10% of total risk score, social vulnerability (e.g. demographic factors such as age, income, housing tenure) accounting for 20% of total score, and disruption to infrastructure (e.g. roads) accounting for 20% of total score.



Disclaimer: The data used to create this map was compiled from a variety of sources and dates. TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes & corrections at anytime without notice. For further information about the data on this map, please contact TRCA. 416.661.6600

Figure 1 - Existing Natural Cover

Wet Weather Flow Master Plan

By the 1990s, scientists were beginning to understand the impacts of urbanization and loss of natural cover on the hydrologic regime, with predictable impacts to in-stream flooding and erosion, water quality, and aquatic habitat. Recognizing these impacts, the City of Toronto embarked on a substantial study of wet weather flow, which included stormwater and combined sewer overflows. The WWFMP identified Highland Creek as a priority watershed. Additionally, during this period, more robust climate change modelling was painting a clearer picture of how significant increases in carbon dioxide and other greenhouse gases were causing our global climate to change and it was predicted that these changes would impact our planet. In urban centres, such as Toronto, significant and predictable impacts included heat stress, and alterations to flooding and erosion, in addition to the impacts of urbanization to which the city's watercourses were still adjusting.

The WWFMP examined the ability of stormwater management methods to mitigate the effects of urbanization on the hydrologic cycle, following the hierarchical principle of managing stormwater first at the source, secondly through conveyance, and finally at the end of the pipe. It concluded that stormwater management measures on the tableland had some benefits, but that direct intervention using stream restoration projects were necessary to reduce erosion and improve the geomorphic conditions and biophysical habitats of Highland Creek. The study recommended that, where feasible, elements of stream restoration should include enlarged channels and changes in channel sinuosity based on the principles of natural channel design, to accommodate the increased flows caused by urbanization.

The WWFMP recognized that ecological function in the Highland Creek watershed should be improved. In the 1990s, TRCA, the City of Scarborough and the Ministry of Natural Resources worked together to develop the *Draft Highland Creek Watershed Fisheries Management Plan*. The Highland Creek Fisheries Management Plan confirmed that stormwater management measures alone would be insufficient to meet the fish habitat and community targets, and that in-stream measures would be needed. The Fisheries Management Plan conceptually identified numerous in-stream works that emphasized fish barrier removal, riparian plantings and habitat enhancements coincident with major channel works. Restoration projects were often completed in conjunction with the environmental assessment and emergency repair projects needed to secure the existing infrastructure.

Highland Creek Geomorphic Systems Master Implementation Plan

Subsequent to completing the WWFMP, the City of Toronto initiated a number of environmental assessments to improve the geomorphic stability of the Highland Creek watershed and address at-risk infrastructure. Around the same time, multiple emergency repairs were undertaken as infrastructure was close to the point of failure or had already failed. Significant brainstorming among staff at the City of Toronto, TRCA, the Ministry of Natural Resources and Forestry, and the Department of Fisheries and Oceans (DFO), regarding a long-term solution for Highland Creek, resulted in the consulting company Aquafor Beech being hired by the City of Toronto to build on the recommendations of the WWFMP through the development of the HCGSMIP. The HCGSMIP was the first attempt by the City of Toronto, and perhaps the first Canadian municipality, to take a watershed-based approach to developing this type of urban watercourse restoration plan. The plan was intended to simultaneously address the

combined objectives of infrastructure protection and replacement, and aquatic and terrestrial habitat enhancement⁸ in a valleyland setting.

Based on the leadership of DFO, and other partners, a complementary Master Plan Environmental Assessment study was undertaken by Parish Geomorphic in parallel to the HCGSMIP for a valley segment of the Highland Creek watershed known as VS4/4a. By focusing on a defined geographic area within the watershed, the VS4/4a study developed a solution for 1.6 km of the Markham Branch of the creek where there had been multiple repeat exposures of the sanitary trunk sewer during the 1990s and 2000s. The solution involved using the principles of natural channel design, expanding the channel width by 2-3 times, decreasing the channel sinuosity to avoid valley wall contacts, and required the removal of a large number of trees due to the larger channel footprint. The restoration works resulting from the VS4/4a study were completed between 2011 and 2015.

Simultaneous to initiating the HCGSMIP and VS4/4a studies, on August 19, 2005, a significant storm centred on the northern part of the Highland Creek watershed in the cities of Markham and Toronto caused significant levels of flooding and erosion. Over the course of three days, which was the time it took for the runoff event to subside, Highland Creek moved laterally one to several meters at multiple locations, and a large sanitary trunk sewer paralleling the creek in Morningside Park broke. Sewage spilled into the river, flowing into Lake Ontario, resulting in an emergency containment and repair.

The HCGSMIP established a new methodology for managing this alpine-like river, with its sandy substrates and flashy flows. To protect the infrastructure, not only did the stormwater need to be managed, but the vertical and lateral channel migration had to be controlled in a manner that allowed for natural channel migration and protected the existing infrastructure. The HCGSMIP established a framework for undertaking stream restoration projects across the watershed to protect infrastructure from channel erosion and improve aquatic systems and in-stream water quality over approximately a two decade time frame. Working to protect the most vulnerable sections of infrastructure first, the HCGSMIP recommends that reaches or valley segments be studied in more detail, and mitigated following a prescribed methodology. Because the stream power of Highland Creek, particularly downstream of Hwy 401 is equivalent to that of an alpine (i.e. Canadian Rocky Mountain) river system, specific stream design methodologies are needed to mitigate this extreme erosive power.

Towards a Riverine Fish Habitat Model for Highland Creek

Paralleling work on the HCGSMIP, Golder Associates undertook a modeling exercise: Towards a Riverine Fish Habitat Model for Highland Creek. The study was intended to build on the Fisheries Management Plan and develop a restoration implementation methodology for ensuring that the long-term fish community targets developed and established as part of the Fisheries Management Plan would be achieved. At this same time, TRCA and the City of Toronto further recognized that restoring ecological function to the watershed required attention to not only the in-stream and riparian habitats, but the forests and meadowlands as well. The *Toronto Ravine Strategy* further confirmed that significant investment in stream geomorphology, infrastructure maintenance and improvements, and ecosystem restoration for the watershed is a priority.

⁸ It is the premise of the HCGSMP that instream restoration constructed on a reach or longer basis will provide a significant benefit to restoration of aquatic habitat. The focus is the biophysical component of aquatic habitat rather than the biochemical basis.

Path Forward for the Highland Creek Watershed

The City of Toronto's commitment to restoring the watershed's ecosystem through the Highland Greening Strategy dates back to the WWFMP, and the original emergency repair works of the large sanitary sewer following the storm event in 2005. Since the time that TRCA agreed to develop the Highland Greening Strategy, climate change knowledge has improved, additional studies of the watershed have been completed, and strategies for restoration and remedial action have been developed. Green infrastructure, the Ravine Strategy, greenspace planning, stream geomorphology, and ecosystem restoration opportunities have now all converged. The Highland Greening Strategy is meant to complement and support existing strategies and plans by strategically prioritizing greening opportunities within the watershed.

Operationally, the approach is that the stream restoration project associated with the HCSGMIP would initially be implemented, followed by additional enhancement of the riparian and terrestrial system of the Highland Creek valley system according to the priorities identified in this strategy. This Highland Greening Strategy also includes greening opportunities and priorities in tableland areas. Within the City of Toronto, the Highland Greening Strategy will be especially beneficial to Parks, Forestry and Recreation division staff.

2. GUIDING PRINCIPLES

It is clear that the Highland Creek watershed is facing some daunting challenges, and investments in the watershed are critical to improving its ecological health and human well-being outcomes. While there would be benefits from implementation of any greening project within the watershed, a series of greening principles and site selection criteria have been developed to guide the selection of Priority Greening Sites to ensure that these investments are efficiently made, and that projects are:

1. Prioritized transparently;
2. Undertaken strategically to maximize benefits and build ecosystem resilience to the ongoing impacts of urbanization and climate change;
3. Coordinated appropriately with other projects to ensure that they occur in the appropriate order; and
4. Developed to adequately compensate for ecological impacts from current or planned future infrastructure and public use works within the watershed.

2.1 Approach to Prioritizing Watershed Greening

As part of its role in managing watersheds, TRCA has developed a number of strategies and plans for improving watershed conditions throughout its jurisdiction. Some of the key strategies and plans include:

- *Watershed plans* which assess overall watershed conditions and stressors and then identify and prioritize measures to protect, restore or enhance the health of the watershed.
- *Fisheries Management Plans* also assess watershed conditions and stressors and recommend priority actions to improve these conditions with a focus on the management of the aquatic ecosystem.
- The target *Terrestrial Natural Heritage System Strategy* was developed for TRCA's jurisdiction in 2007 in response to the continued loss of biodiversity and natural cover. This system comprises both existing and potential natural cover that could be restored, which together achieve TRCA's targets for native biodiversity and set the foundation for a restored and functioning natural system within the Toronto region. Refinements to the Terrestrial Natural Heritage System were made at the watershed scale as part of the Highland Greening Strategy and can be viewed through the Highland Map Viewer.

While a watershed plan or Fisheries Management Plan is not currently in place for the Highland Creek watershed, much is known about the watershed through TRCA's routine monitoring programs and data collection. Using priorities from some of the key TRCA strategies as the foundation, TRCA's approach to watershed greening includes layering priorities with identified restoration opportunities to prioritize greening opportunities in the Highland Creek watershed. Implementation of greening opportunities will provide water management, climate resilience, aquatic habitat, natural cover, and community well-being benefits.

Integral to the prioritization of watershed greening projects in Highland Creek are the innovative approaches TRCA has developed to strategically guide decisions on restoration planning throughout its jurisdiction. The Integrated Restoration Prioritization (IRP) framework identifies priority catchments across TRCA's watersheds where restoration efforts would provide the greatest number of benefits to

aquatic and terrestrial ecological functions based on the priorities outlined in TRCA's key strategies and plans. From these priority catchments, restoration projects can be further prioritized using the Restoration Opportunities Planning (ROP) database that identifies on-the-ground details and opportunities.

Integrated Restoration Prioritization Methodology⁹

TRCA designed the IRP methodology to provide a watershed perspective to site level restoration planning through the consideration of multiple objectives related to terrestrial and aquatic ecosystem health. IRP uses a comprehensive, consistent and repeatable framework to help guide restoration planning by prioritizing catchments based on the following objectives:

1. Restore natural hydrologic processes and associated ecological systems by reversing, repairing or mitigating alterations and impairments (e.g. drained headwater features, poor water quality);
2. Restore and/or increase natural cover (i.e. forest, meadow, riparian and wetland);
3. Maximize size, shape and connectivity of natural heritage features and areas;
4. Enhance landforms and restore soil and soil processes to promote self-sustaining natural communities.

The IRP framework has initially been applied to all nine watersheds within TRCA's jurisdiction, with a particular emphasis on headwater areas. The application of the IRP framework to the Highland Creek watershed represents the first application to a fully urbanized watershed.

IRP sub-divides TRCA watersheds into 30 ha catchments, on average, based on topography and drainage patterns. Each catchment is then assessed using available data pertaining to four ecological conditions, including: existing natural cover, altered hydrology, aquatic condition and terrestrial natural heritage connectivity, after which these four factors are integrated (**Figure 22**). A summary of the metrics used to determine each ecological condition is provided below. The complete methodology for the framework is outlined in *Integrated Restoration Prioritization: A multiple benefit approach to restoration planning*.

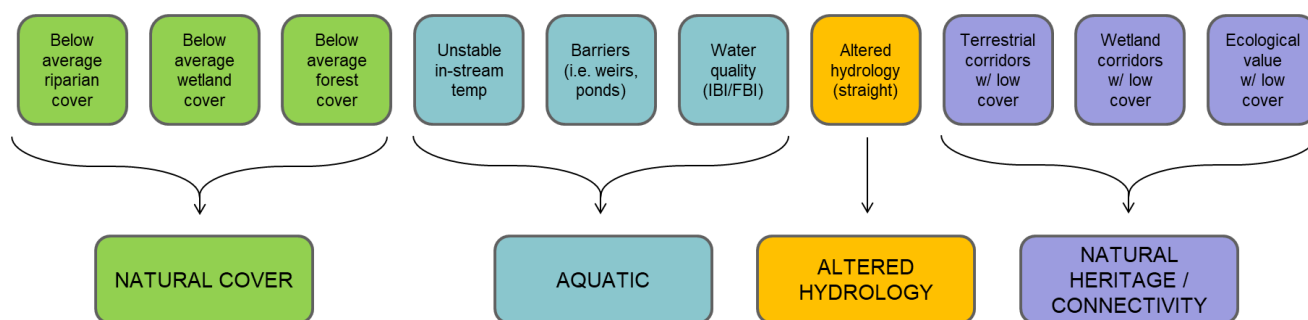


Figure 2 - Integrated Restoration Prioritization (IRP) framework

⁹ East Highland and Morningside Park and the Lower Highland have been identified as Priority Investment Areas within the Toronto Ravine Strategy. The prioritization of sites within the larger Highland Creek watershed is a result of TRCA's methodology based on ecological principles and this does not preclude alternate site prioritization to take advantage of opportunities to coordinate with other projects (major municipal capital works).

Existing Natural Cover

Existing natural cover is represented by three metrics in the IRP framework: percent riparian cover, percent wetland cover, and percent forest cover. These metrics were calculated within each catchment based on the 2013 natural cover evaluation performed by TRCA. Catchment values for each metric were then compared against average percentages for the entire watershed. Catchments with below average cover for a particular metric were given a score of 1, indicating that the catchment was in need of more cover of that particular type. A total natural cover score was then calculated as the sum of the scores for riparian, wetland and forest cover, indicating catchments that are low (1), medium (2) and high (3) priority for natural cover.

Altered Hydrology

Orthophoto interpretation was used to determine the extent of altered hydrology across TRCA's jurisdiction according to the method outlined by the Center for Watershed Protection. Four metrics were visually assessed using GIS analysis of 2015 imagery for the region to determine the severity of altered hydrology: percent of straightened reaches, presence of online ponds, presence of tile drainage, and presence urban cover. Each catchment was ranked as having an overall low (0), medium (1), or high (2) amount of hydrologic alteration.

Aquatic Condition

Three metrics were chosen to indicate aquatic condition: in-stream temperature, in-stream barriers and water quality. Thermal data were evaluated to determine whether in-stream water temperatures were stable and moderate, or unstable and extreme, corresponding to a score of 0 or 1, respectively. In-stream barriers were assessed based on the presence of field-verified barriers such as dams, weirs or online ponds. A score of 1 was assigned if one or more barriers were present within a catchment. Water quality was evaluated using the benthic invertebrate Family Biotic Index (FBI). Where FBI values were not available, the fish Index of Biotic Integrity (IBI) was used. If a catchment ranked 'fairly poor' to 'very poor' for benthic invertebrates (according to the FBI) or 'fair', 'poor', or 'none' for fish (according to the IBI), it was assigned a score of 1, indicating impaired aquatic conditions. If a catchment was evaluated as having of an aquatic impairment, the assessment was applied to all relevant upstream catchments. A total aquatic score was then calculated as the sum of the scores for in-stream temperature, in-stream barriers, and water quality, indicating catchments that are low (1), medium (2) and high (3) priority for aquatic restoration.

Terrestrial Natural Heritage/Connectivity

Three metrics were used in conjunction with the natural cover layer to reflect terrestrial natural heritage connectivity: ecological value surface, terrestrial habitat connectivity, and wetland connectivity. Based on various ecological criteria (e.g. distance from natural or urban areas, etc.) an ecological value surface raster and scoring method was developed for existing and potential cover areas. If a catchment received a higher than average watershed score for ecological value surface and a lower than average natural cover score it was assigned a score of 1, identifying it as a priority catchment for restoration. In addition to the ecological surface value layer, predictive terrestrial habitat connectivity and wetland connectivity layers have been developed to provide information about the relative contribution of a particular location to maintaining the overall connectivity of existing habitat patches. Catchments assessed as having above average terrestrial habitat connectivity and/or wetland connectivity scores, and corresponding below average natural or wetland cover, respectively, were assigned a score of 1 and considered a priority for restoration in order to improve spatial cohesion among habitat patches and build resilient habitat networks. A total connectivity score was calculated by combining the scores for each of the three metrics, with a score of 3 being indicative of higher priority catchments.

Integration

Based on the number of impairments for the ecological conditions described above, and the potential natural heritage benefit that could be realized if restoration was undertaken, each catchment was ranked high, medium or low for overall restoration priority. For example, a catchment was deemed to be 'high priority' if it had multiple impairments (e.g. poor water quality, low natural cover, significantly altered hydrology, etc.) and if restoration is expected to generate ecological benefits (e.g. an important natural corridor exists there). The sum of the score for each of the ecological conditions considered (natural cover, altered hydrology, aquatic condition, terrestrial natural heritage connectivity) were added to generate a final catchment score ranging from 0 to 11. Special designation of 'protection' has been given to very low scoring catchments in order to highlight the importance of maintaining resiliency in these areas through strategic restoration actions (e.g. in-stream barrier removal or invasive species control). The IRP scoring can then be used as a screening tool to further refine and prioritize potential opportunities identified through restoration opportunities planning.

Restoration Opportunities Planning

ROP is TRCA's process for identifying and cataloguing potential restoration opportunities based on the existing level of aquatic and terrestrial habitat impairment and the anticipated ecological improvements the project would offer. The ROP data are based on survey methods that allow technicians to perform consistent and repeatable desktop and field assessments of restoration opportunities. Surveys have a strong hydrological focus and are designed to be rapid, streamlined, and strategic. The ROP process is divided into two analyses: terrestrial opportunities and stream opportunities. Identification of terrestrial restoration opportunities involves desktop and/or field assessment of terrestrial habitats (i.e. forest, meadow, riparian and wetlands). ArcGIS software is utilized to view orthophotos, digital elevation models, and ArcHydro modelled drainage lines. The ArcHydro lines calculate and delineate drainage patterns on the landscape, which often reveal critical wetland or headwater drainage feature restoration opportunities. Identification of stream restoration opportunities involve field assessments to identify impairments and restoration solutions associated with in-stream aquatic habitats. Desktop analyses can be completed for assessing stream opportunities but have limited capacity to identify specific in-stream aquatic impairments (e.g. erosion, failing culverts, barriers, etc.).

It is noted that while some aquatic restoration opportunities have been documented, comprehensive individual stream restoration opportunities have not been collected or mapped for the entire Highland Creek watershed. As such, mapping that documents opportunities for improving aquatic habitat or for compensating for loss of aquatic habitat to address the 'no-net loss' requirements of permitting agencies are not comprehensively documented in this Highland Greening Strategy. The greening priorities described later in this document under Greening Principle #2, emphasize the greening of the riparian zone associated with high priority aquatic catchments as this provides many benefits to the aquatic ecosystem, including shade and temperature regulation, nutrients, and stabilization of channel banks by the vegetated root structure. In addition, mitigating known barriers and restoring hardened channels could assist with achieving "no net loss" requirements. Removing barriers increases access by fish to other watershed areas to complete their lifecycle processes and restoration of hardened channels would provide habitat value where there previously was none. Both of these would benefit the aquatic ecosystem and increase fish productivity.

See **Figure 3** for all identified restoration opportunities in the Highland Creek watershed. As restoration occurs at the Priority Greening Sites identified for each greening principle in the following sections, additional restoration opportunities should be considered, including land securement.

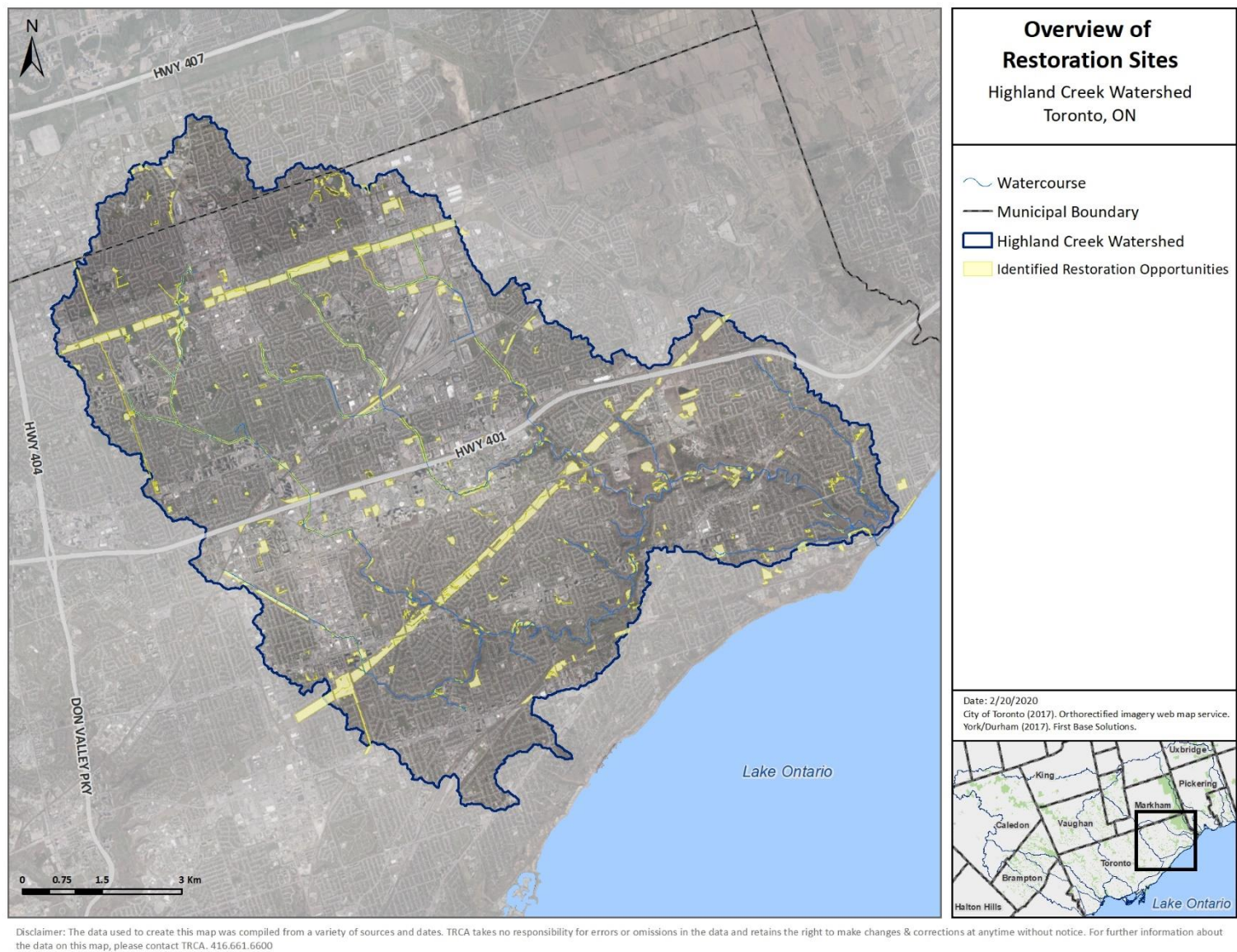


Figure 3 - All Potential Restoration Opportunities

2.2 Strategic Greening Principles

Priority Greening Sites will be identified through four greening principles and corresponding site selection criteria. The greening principles and site selection criteria will apply when considering greening opportunities and are customizable to the greening effort being proposed. Generally, the principles are summarized as follows:

- **Greening Principle #1 (Natural Cover):**
Protect, restore, and enhance natural cover
- **Greening Principle #2 (Aquatic Habitat):**
Restore and enhance aquatic habitat
- **Greening Principle #3 (Green Infrastructure):**
Implement green infrastructure to maximize ecosystem service benefits.
- **Greening Principle #4 (Land Securement):**
Protect and expand the size and connectivity of the natural system.

Priority Greening Sites and Areas identified through the site selection process for each greening principle are outlined in the **Section 3 (Greening Opportunities)** of this document with additional site level details in **Appendix A**. Implementation of greening projects should be coordinated appropriately with other projects. Implementation considerations related to planned infrastructure upgrades and maintenance, natural hazard management, and ravine and natural feature protection are outlined in the **Section 4 (Implementation of Greening Opportunities)**.

Greening Principle #1 (Natural Cover)

Protect, restore and enhance the quality, quantity and connectivity of natural cover in the Highland Creek watershed for its ecological benefits.

Rationale:

The amount of natural cover remaining within the urbanized Highland Creek watershed (approximately 11%) is well below the target recommended in TRCA's *Terrestrial Natural Heritage System Strategy*. Protecting existing natural cover is paramount to ensuring degradation of the health of the Highland Creek watershed does not continue and can be reversed. Restoring areas of potential natural cover to forest, meadow, riparian and wetland habitats where it increases the size, shape, and connectivity of existing habitat patches will make conditions more favourable for terrestrial species within the watershed. Locations where terrestrial restoration projects can occur on existing public lands are likely the easiest to implement, so prioritizing these lands will facilitate quick ecological gains. Lands that offer larger restoration and enhancement opportunities where there are areas of

Highland Map Viewer

Greening Principle #1 (Natural Cover)

- GP1 Priority Greening Sites
- IRP Total Connectivity Score

Explore All Data Layers

- Refined Target Terrestrial Natural Heritage System 2018
- Existing Natural Cover 2017

relatively low natural cover and where there are gaps in connectivity between habitat patches usually provide the most ecological benefits.

Site Selection Criteria:

- a. Prioritize areas that provide the greatest benefit to the quality, quantity and connectivity of natural cover within the watershed by selecting restoration opportunities (from TRCA's ROP database) according to the following:
 - i. Prioritize restoration opportunities located in high, then medium, priority catchments using Terrestrial Natural Heritage Connectivity in TRCA's IRP mapping; and
 - ii. Prioritize restoration opportunities that demonstrate the greatest total restoration potential within publicly-owned land. Consider the total sizes of combined restoration opportunities for forest, meadow, riparian and wetland habitats. For larger restoration sites (e.g. hydro corridors), only the portions of the project located within high or medium priority catchments are prioritized for natural cover improvements.
- b. Coordinate implementation of projects to maximize value and efficiency of restoration efforts. See **Section 4 (Implementation of Greening Opportunities)** for detailed considerations.

Greening Principle #2 (Aquatic Habitat)

Restore and enhance the quality, quantity and connectivity of aquatic habitat in the Highland Creek watershed.

Rationale:

Restoring riparian areas with naturally meandering streams and natural vegetation, and removing concrete-lined channels will make conditions more favourable for aquatic species within the watershed. Removing barriers will also provide opportunities for aquatic species to move between habitats for their lifecycle functions. Implementation of in-stream restoration as recommended by the HCGSMIP will generate improvements to the biophysical aquatic habitat conditions of the creek. Additional habitat restoration opportunities should be coordinated with implementation of the HCGSMIP. Locations where aquatic restoration projects can occur on existing public lands are likely the easiest to implement, so prioritizing these lands will facilitate quick ecological gains. Lands that offer larger restoration and enhancement opportunities where there are areas of relatively low aquatic function and where there are gaps in riparian connectivity between habitats usually offer the most ecological benefits.

Site Selection Criteria:

- a. Prioritize areas that provide the greatest benefit to the quality, quantity and connectivity of the aquatic system by selecting restoration opportunities (from TRCA's ROP database) according to the following:
 - i. Prioritize restoration opportunities located in high, then medium, priority catchments using Total Aquatic Score in TRCA's IRP mapping; and

Highland Map Viewer

Greening Principle #2 (Aquatic Habitat)

- GP2 Priority Greening Sites
- IRP Total Aquatic Score

Explore All Data Layers

- Evaluation of Floodplain Roughness to Guide Riparian Plantings
- Potential Crossing Improvements
- Potential Channel Improvements
- Aquatic Barriers 2018

- ii. Prioritize restoration opportunities that demonstrate the greatest total restoration potential within publicly-owned land. Consider the total sizes of combined restoration opportunities for forest, meadow, riparian, and wetland habitats. For larger restoration sites (e.g. hydro corridors), only the portions of the project located within high or medium priority catchments are prioritized for aquatic habitat improvements¹⁰.
- b. Coordinate implementation of projects to maximize value and efficiency of restoration efforts. See **Section 4 (Implementation of Greening Opportunities)** for detailed considerations.

Note: the Highland Greening Strategy does not provide mapping of opportunities for improving aquatic habitat or compensating for the loss of aquatic habitat to address 'no-net loss' requirements by aquatic habitat permitting agencies. However supporting data layers available in the Highland Map Viewer, including confirmed aquatic barriers, can be used to help meet this requirement.

Greening Principle #3 (Green Infrastructure)

Implement green infrastructure in urban portions of the Highland Creek watershed to maximize ecosystem service benefits and address multiple watershed issues or opportunities.

Rationale:

Implementing green infrastructure, particularly in urban environments can provide important ecological benefits to restore natural system function and in some cases improve biodiversity. Various forms of appropriately designed green infrastructure can help to protect and improve terrestrial and aquatic biodiversity by supporting ecological functions across the landscape, including the natural heritage system. In turn, this provides other ecosystem services towards improving human well-being. For example, green infrastructure projects, such as installing low impact development stormwater management practices, can help protect public safety, property and infrastructure by reducing the risk of flooding and erosion. Further, urban tree planting initiatives (i.e. street trees, parkland trees or natural area trees) help to reduce the urban heat island effect, which also improves community resilience to the effects of climate change. While implementing green infrastructure anywhere within the watershed would be beneficial, here we prioritize areas where the need is greatest based on the criteria below.

Site Selection Criteria:

- a. Prioritize areas that maximize ecosystem service benefits according to the following:

Highland Map Viewer

Greening Principle #3 (Green Infrastructure)

- GP3 Priority Greening Areas
- IRP Total Score

Explore All Data Layers

- Identified Restoration Opportunities
- Priority Neighbourhoods for Urban Tree Canopy Enhancements
- Catchments Upstream of Flood Vulnerable Clusters
- Ecologically Significant Groundwater Recharge Areas (ESGRAs)
- Surficial Geology
- Depth to groundwater

¹⁰ Restoration opportunities outside of the riparian zone but within a priority catchment are still considered Priority Greening Sites for improving aquatic conditions. It is important to consider headwater drainage features beyond the watercourse layer and restore where possible to improve water storage, infiltration, and evapotranspiration. This is especially true in heavily altered landscapes, such as the Highland Creek watershed where most natural headwater features have been severely altered or removed.

- i. Select highest priority sites that overlap with the following data layers:
 - o High and medium priority neighbourhoods for urban tree canopy enhancement;
 - o High and medium priority catchments using Total Score in TRCA's IRP mapping; and
 - o Catchments upstream of Flood Vulnerable Clusters.
- b. Where redevelopment or retrofits are planned, capitalize on the opportunity presented to implement green infrastructure solutions regardless of their priority catchment.
- c. Coordinate implementation of projects to maximize value and efficiency of restoration efforts. See **Section 4 (Implementation of Greening Opportunities)** for detailed considerations.

Greening Principle #4 (Land Securement)

Protect and expand the size and connectivity of the natural system in the Highland Creek watershed by adequately securing¹¹ and restoring privately-owned lands, and exploring redevelopment opportunities to restore natural cover and address multiple watershed issues or opportunities.

Rationale:

TRCA's target *Terrestrial Natural Heritage System Strategy* recommends that at least 30% of its jurisdiction should be comprised of natural cover in order to maintain regional biodiversity. The amount of natural cover within the Highland Creek watershed (approximately 11%) is already far below this recommended target, so it is critically important to protect and restore as much natural cover as possible. Given that the watershed is nearly fully built-out, there are limited opportunities to restore natural cover beyond existing public lands. Public lands are also constrained by multiple uses, such as recreation, infrastructure, and utilities. For these reasons, an approach to strategically increasing the size and connectivity of the natural system is needed, while simultaneously addressing other watershed issues by exploring private land securement opportunities.

Site Selection Criteria:

- a. Prioritize areas that increase the size of the natural system according to the following:
 - i. Select sites that overlap with and integrate as many of the following data layers as possible:
 - o Locations where the floodline extends onto private property
 - o Private properties that contain a stream feature and could expand the natural heritage system by connecting public lands (IRP Private Parcel Strategy)
 - o Areas where the Refined Terrestrial Natural Heritage System (TRCA 2018) intersects private property
 - o Locations where vegetation communities, flora, and fauna of conservation concern (L1-L3) intersect with private property

Highland Map Viewer

Greening Principle #4 (Land Securement)

- GP4 Priority Greening Areas

Explore All Data Layers

- Identified Restoration Opportunities

¹¹ TRCA secures property rights in one or a combination of the following ways: fee simple, leasehold, easement, covenant, or stewardship agreements (TRCA, 2016).

- Locations where Environmentally Significant Areas designated in the City of Toronto Official Plan extend onto private property
 - Locations where current and historic wetlands intersect on private property
- b. Each candidate property will be evaluated on its suitability for securement according to the factors outlined in TRCA's *Greenlands Acquisition Project 2016–2020*.

Refer to **Section 4 (Implementation of Greening Opportunities)** for further discussion about opportunities for land securement that can be explored to assist with implementation of Greening Principle #4 (Land Securement).

3. GREENING OPPORTUNITIES

3.1 Priority Greening Sites and Areas

Priority Greening Sites and Areas were identified according to the site selection criteria for each greening principle. This prioritization process creates a hierarchy of greening opportunities in the Highland Creek watershed that best address each of the greening principles. The Highland Map Viewer should be used for detailed maps of each Priority Greening Site. **Appendix A** provides additional details for each of the Priority Greening Sites associated with Greening Principle #1 (Natural Cover) and Greening Principle #2 (Aquatic Habitat). For these two Greening Principles, ground-truthed site-level information has been identified for each Priority Greening Site, including the type (i.e. forest, meadow, riparian and wetland), size, and location of restoration opportunities. This information allows greening efforts to be customized to meet specific project goals. Note that all restoration needs to ultimately be ground-truthed and coordinated with the appropriate City of Toronto and TRCA groups, and any other relevant landowners or land managers. In addition, any relevant activities (e.g. plantings in existing manicured parklands) should be coordinated with local councillors. Some of the priority sites are part of ongoing restoration.

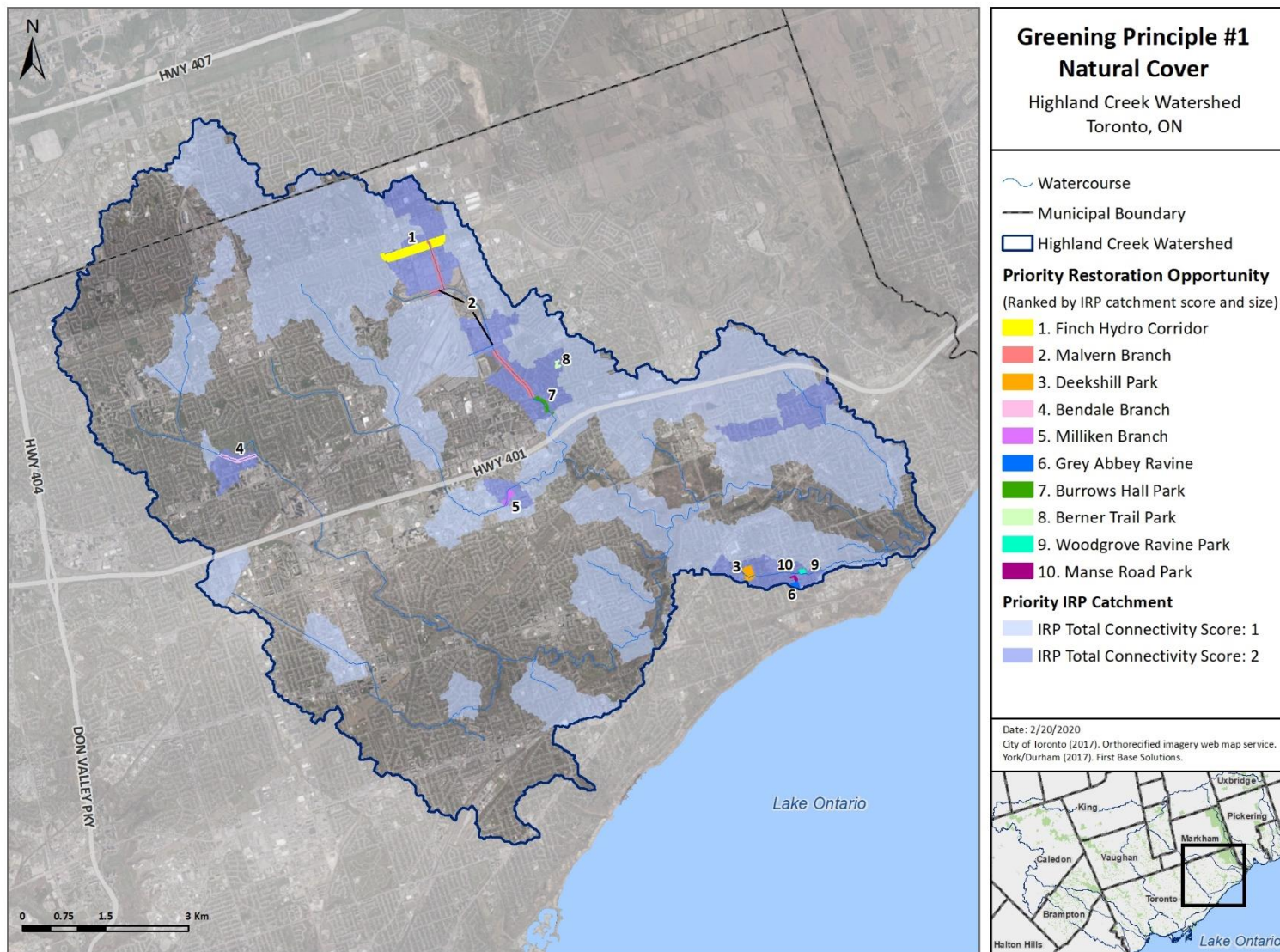
Greening Principle #1 (Natural Cover) Priority Greening Sites

The top 10 Priority Greening Sites that address Greening Principle #1 (Natural Cover) based on the site selection criteria are provided below, in order of priority, and are shown in Error! Reference source not found.4.

1. Finch Hydro Corridor
2. Malvern Branch
3. Deekshill Park
4. Bendale Branch
5. Milliken Branch
6. Grey Abbey Ravine
7. Burrows Hall ParkBerner Trail Park
9. Woodgrove Ravine Park
10. Manse Road Park

Greening Principle #1 (Natural Cover):

Protect, restore and enhance the quality, quantity and connectivity of natural cover in the Highland Creek watershed for its ecological benefits.



Disclaimer: The data used to create this map was compiled from a variety of sources and dates. TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes & corrections at anytime without notice. For further information about the data on this map, please contact TRCA, 416.661.6600

Figure 4 – GP #1 - Priority Greening Sites

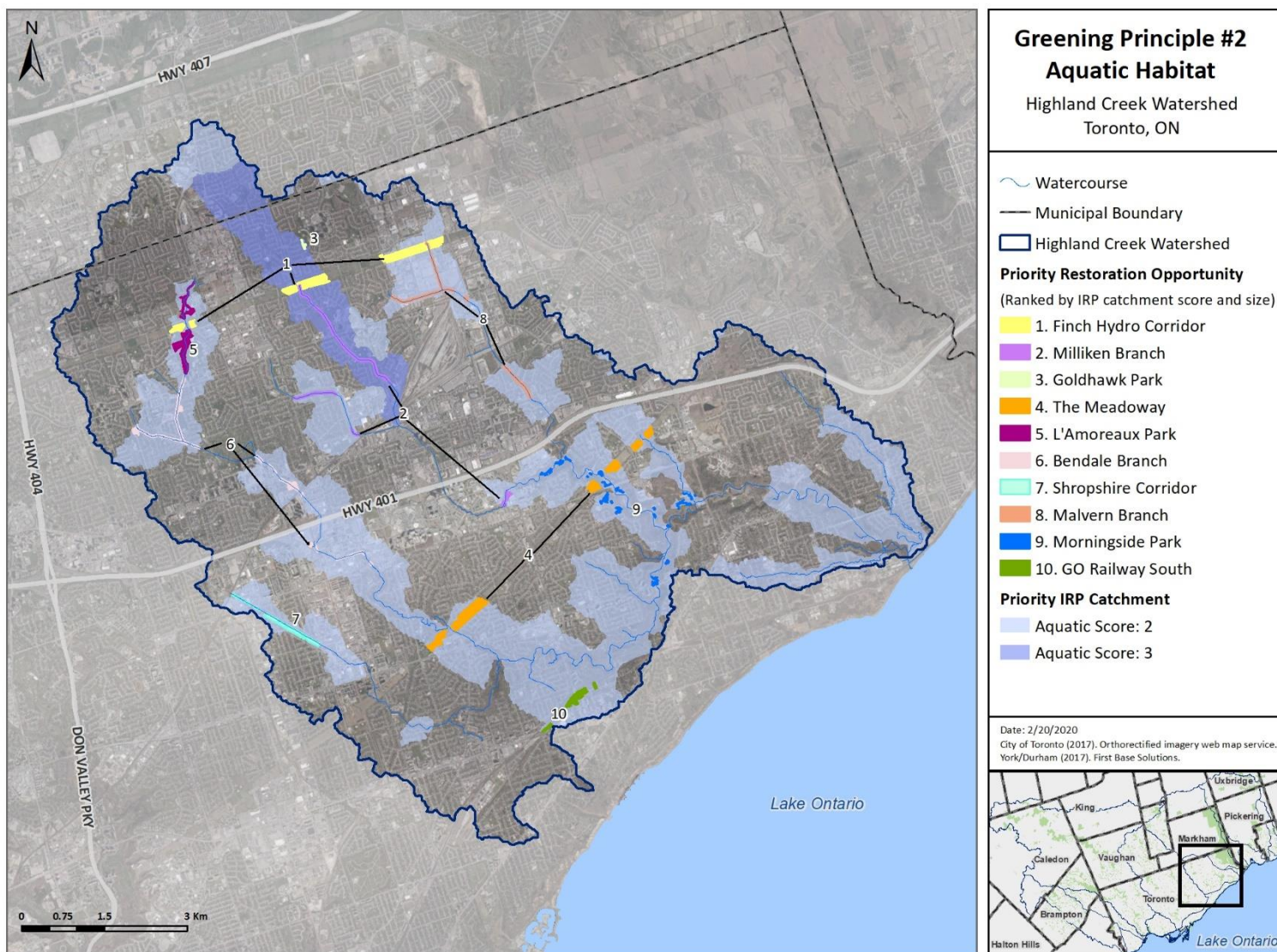
Greening Principle #2 (Aquatic Habitat) Priority Greening Sites

The top 10 Priority Greening Sites that address Greening Principle #2 (Aquatic Habitat) based on the site selection criteria are provided below, in order of priority, and are shown in Error! Reference source not found.5.

- 1. Finch Hydro Corridor
- 2. Miliken Branch
- 3. Goldhawk Park
- 4. The Meadoway
- 5. L’Amoreaux Park
- 6. Bendale Branch
- 7. Shropshire Corridor
- 8. Malvern Branch
- 9. Morningside Park
- 10. Go Railway South

Greening Principle #2 (Aquatic Habitat):

Protect, restore and enhance the quality, quantity and connectivity of natural cover in the Highland Creek watershed for its ecological benefits.



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Figure 5 – GP #2 - Priority Greening Sites

Greening Principle #3 (Green Infrastructure) Priority Greening Area

Since the potential restorable area in the Highland Creek watershed is low due to existing urbanization, further examination of current public greenspace, residential boulevards, and public/private parking lots for green infrastructure and low impact development opportunities was needed. **Error! Reference source not found.6** identifies the Priority Greening Area¹² within the Highland Creek watershed where implementation of green infrastructure should be prioritized in order to

maximize ecosystem service benefits and address multiple watershed issues or opportunities. This area is located upstream of known flood vulnerable clusters, has been noted as having low tree canopy cover, is impaired in terms of low natural cover (i.e. forest, meadow, riparian, wetland), has altered hydrology, has poor water quality scores, and contributes to natural heritage system connectivity.

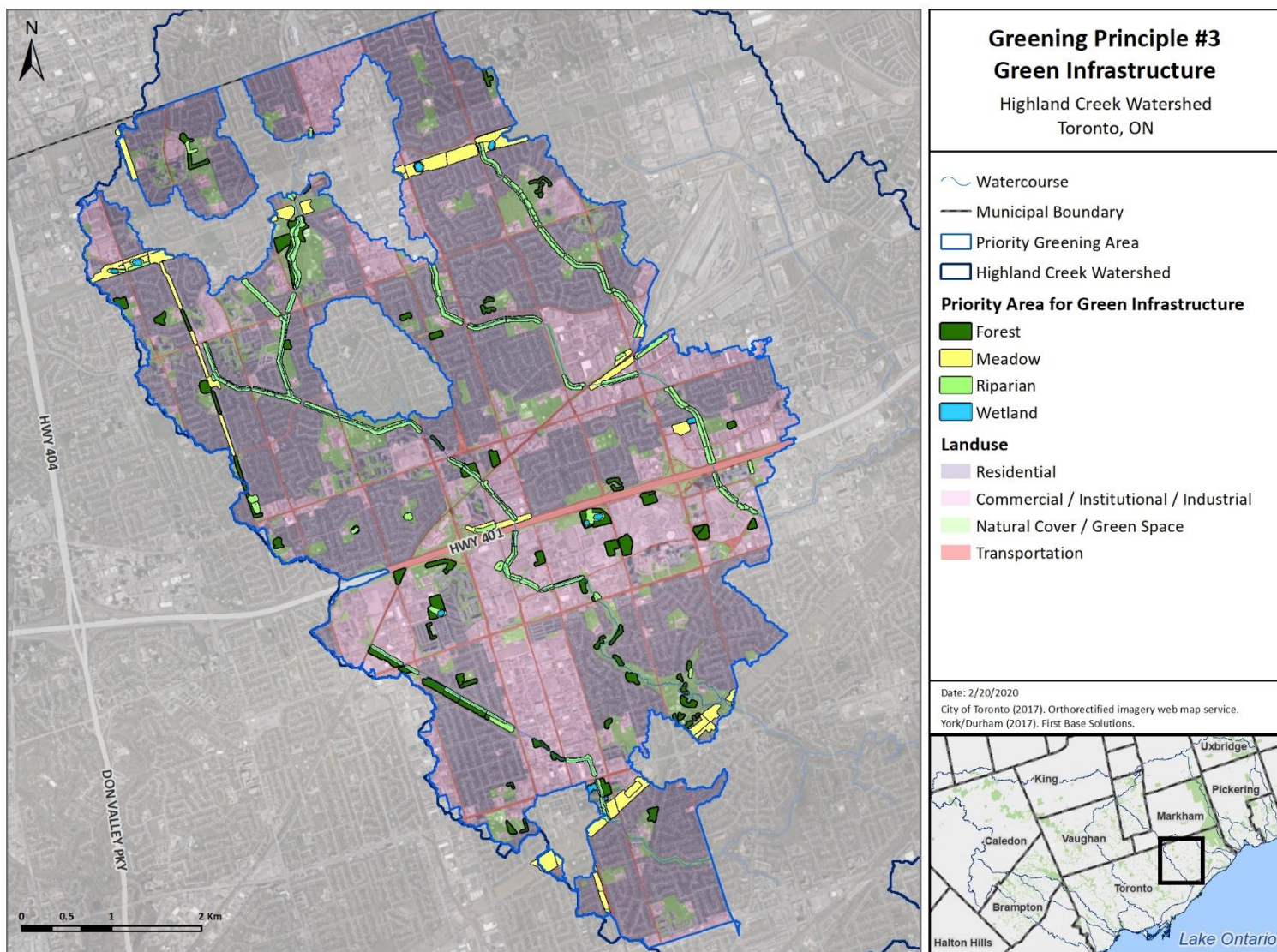
Programs that enhance the urban tree canopy through backyard greening on residential and commercial properties within the Priority Greening Area will help to meet the objectives of Greening Principle #3 (Green Infrastructure) and additional support for these programs should be considered. TRCA continues to encourage the use of low impact development and green infrastructure techniques through its reviews of development and permit applications.

Restoration opportunities (from TRCA's ROP database) located within the Priority Greening Area for Greening Principle #3 (Green Infrastructure) should explore opportunities to implement green infrastructure as a component of greening projects. Additional green infrastructure opportunities in the Priority Greening Area require access to private lands or coordination with existing infrastructure or development projects to inform implementation. To aid in planning of green infrastructure projects, land use information has been mapped to help inform approaches to additional green infrastructure. Detailed information regarding appropriate green infrastructure for specific land uses is provided in **Section 4 (Implementation of Greening Opportunities)** as well as key spatial layers that might help guide where existing conditions could support certain types of green infrastructure (e.g. backyard tree planting, blue roof installation, road right of way low impact development, permeable parking lot retrofits, etc).

Greening Principle #3 (Green Infrastructure):

Implement green infrastructure in urban portions of the Highland Creek watershed to maximize ecosystem service benefits and address multiple watershed issues or opportunities.

¹² A priority area was chosen for Greening Principle #3 (Green Infrastructure), as opposed to selected greening sites, due to limited field information available for private properties not examined as part of the ROP assessment process.



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Figure 6 – GP #3 - Priority Greening Areas

Greening Principle #4 (Land Securement) Priority Greening Areas

A “multiple hits” analysis was used to identify Priority Greening Areas for land securement. Because the data layers used in the site selection criteria were developed using multiple spatial scales, a standardized spatial unit was derived by dividing the watershed into 25 ha hexagonal units. Each hexagon was then analyzed and assigned a score based on the number of criteria layers found within that geographic area, with a higher score being assigned to hexagons that had more criteria layers¹³. The resultant Priority Greening Areas for Greening Principle #4 (Land Securement) are shown in **Figure 7**. Although there would be

benefit to securing and restoring any privately-owned lands within the watershed, the Priority Greening Areas where 5 or 6 of the site selection criteria occur in the same hexagonal unit will provide the greatest opportunity to protect and expand the size and connectivity of the natural system within the Highland Creek watershed.

The highest Priority Greening Areas include¹⁴:

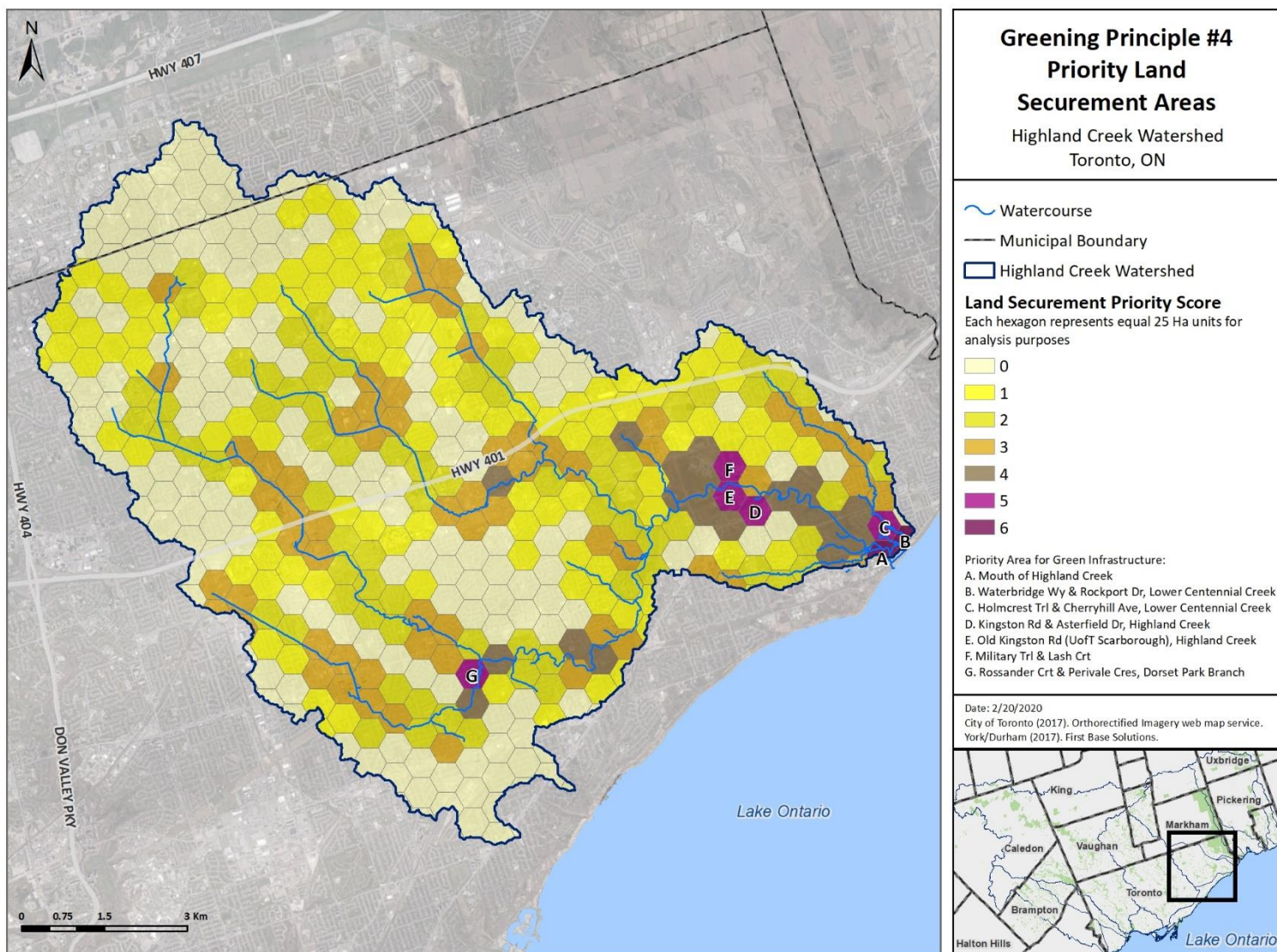
- Mouth of Highland Creek
- Waterbridge Wy & Rockport Dr, Lower Centennial Creek
- Holmcresc Tri & Cherryhill Ave, Lower Centennial Creek
- Kingston Rd & Asterfield Dr., Highland Creek
- Old Kingston Rd (UofT Scarborough), Highland Creek
- Military Trl & Lash Crt
- Rossander Crt & Perivale Cre, Dorset Park Branch

Greening Principle #4 (Land Securement):

Protect and expand the size and connectivity of the natural system in the Highland Creek watershed by adequately securing and restoring privately-owned lands, and exploring redevelopment opportunities to restore natural cover and address multiple watershed issues or opportunities.

¹³ Maps depicting the individual criteria layers are available from TRCA, however due to privacy concerns, only the multiple-hits analysis mapping results are shown herein.

¹⁴ Priority Greening Areas for Greening Principle #4 (Land Securement) have not been prioritized in any particular order. Each candidate property should be evaluated on its suitability for securement as outlined in the site selection criteria.



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Figure 7 – GP #4 - Priority Land Securement Areas

4. IMPLEMENTATION OF GREENING OPPORTUNITIES

4.1 Opportunities for Implementation

Greening efforts in the Highland Creek watershed will be driven by a number of complementary TRCA and City of Toronto strategies and initiatives. These initiatives will range from those intended to broadly improve watershed health, human well-being, and environmental community engagement, to projects that are intended to restore or enhance specific sites, compensate for loss or alteration of specific habitats and enhance urban tree canopy. Opportunities for implementation will coincide with infrastructure planning processes associated with implementing the WWFMP and HCGSMIP, as well as City of Toronto infrastructure renewal work such as roads, public building/property renovations, stormwater and water supply and wastewater works. In all cases, applicable permit approvals should be obtained prior to initiating a project. In areas regulated by TRCA, permits may be required for projects and will provide an opportunity for TRCA and the City of Toronto to identify synergies between known projects.

This section outlines the potential connections between greening opportunities identified in the Highland Greening Strategy and City of Toronto priorities identified through existing and ongoing strategies and initiatives. In this section, we further discuss some of the mechanisms and associated consideration pertaining to a number of the key opportunities for implementing greening projects in the Highland Creek Watershed, such as redevelopment opportunities, ecosystem mitigation and compensation, community engagement and land securement.

Complementary Initiatives

Biodiversity Strategy for Toronto

Vision: Imagine a Toronto with flourishing natural habitat and an urban environment that supports a great diversity of wildlife. Envision a city whose residents treasure their daily encounters with the remarkable and inspiring work of nature, and the variety of plants and animals with whom we share this place. A Toronto that aspires to be world leader through citizens who take pride and engage in the protection, restoration and enhancement of our flora and fauna.

Potential connections to greening opportunities: The Biodiversity Strategy implements the natural environment policies of the Official Plan and is aligned with the Ravine Strategy to address shared issues including invasive species management, the use of native plant material and ecological integrity. Priorities identified in Greening Principle #1 (Natural Cover) and Greening Principle #2 (Aquatic Habitat) of the Highland Greening Strategy directly support the principles of the Biodiversity Strategy by expanding and restoring terrestrial and aquatic ecosystems and their functions.

Sustaining and Expanding the Urban Forest: Toronto's Strategic Forest Management Plan

Vision: A healthy and expanding urban forest, incorporating sound urban forestry practices and community partnership.

Potential connections to greening opportunities: Implementation of greening projects within Priority Greening Sites or Areas identified in the Highland Greening Strategy can help to achieve the Strategic Forest Management Plan goal of protecting, maintaining and expanding the urban forest to achieve a healthy, sustainable forest with a canopy cover of 40%.

Toronto Complete Streets Guidelines

Vision: Toronto's vision for complete streets is built on the vision for streets in the City's Official Plan. There is a deep interdependence between how we design our streets and the people of the city, the health of our communities and the strength of our economy. Toronto's streets must serve a multitude of roles, functions and users. Complete streets should be designed for people, for placemaking and for prosperity.

Potential connections to greening opportunities: The benefits of including elements of green infrastructure in street design is explicitly recognized in Toronto's Complete Streets Guideline and is further supported where street improvements are contemplated in the transportation corridors of the Priority Greening Area identified in Greening Principle #3 (Green Infrastructure) of the Highland Greening Strategy.

Toronto Parkland Strategy

Vision: The Parkland Strategy is a 20-year plan that will guide long-term planning for new parks and expansion and improved access to existing parks. It will aid in the decision-making and prioritization of investment in parkland across the city.

Potential connections to greening opportunities: The Priority Greening Areas identified in Greening Principle #4 (Land Securement) of the Highland Greening Strategy could support and provide additional rationale for expanding access to existing parks where these areas within the watershed coincide with priorities of the Parkland Strategy.

Toronto Pollinator Protection Strategy

Vision: Toronto is home to diverse pollinator communities that contribute to resilient ecosystems and enhance urban biodiversity.

Potential connections to greening opportunities: The strategy identifies six priorities to achieve the vision including: creating and enhancing habitat, designing and connecting green spaces, partners and building relationships, investing and incentivizing, education and training, and celebrating and recognizing achievements. Actions associated with the priorities align with the Highland Creek Greening Principles.

Toronto Ravine Strategy

Vision: A ravine system that is a natural, connected sanctuary essential for the health and well-being of the city, where use and enjoyment support protection, education and stewardship.

Potential connections to greening opportunities: Implementation of the Ravine Strategy has identified ten Priority Investment Areas including high-level estimates of the capital funding required to address issues, including ecological and user experience concerns. East Highland Creek and Morningside Park and Lower Highland Creek have been identified as Priority Investment Areas in the Ravine Strategy over the next ten years. See **Table 2** for an overview of the Priority Greening Sites, or Areas, established as part of the Highland Greening Strategy that are within or outside of the two Priority Investment Areas in the Highland Creek watershed identified as part of the Ravine Strategy.

Table 2 - Priority Greening Sites or Areas within Ravine Strategy Priority Investment Areas

Highland Greening Strategy – Greening Principle	Sites within / outside of Ravine Strategy – Priority Investment Areas
Greening Principle 1 – Natural Cover (ten sites total)	All sites are outside of the Priority Investment Areas. This is not surprising since the Highland Greening Strategy is focused on increasing natural cover through restoration planting across the watershed to improve overall amount and connectivity of habitats, and the Ravine Strategy is focused on protecting areas of high existing ecological value from planned capital works and nearby population growth.
Greening Principle 2 – Aquatic Habitat (ten sites total)	<p>Two of the ten sites have portions located within the Priority Investment Areas. These are site 4, the Meadoway and site 9, Morningside Park.</p> <p>Both of these Priority Greening Sites consist of several patches of restoration opportunities. Of the priority patches for the Meadoway, 7.2% of the identified restoration opportunities are within the Priority Investment Areas. For Morningside Park, 91.5% of the identified restoration opportunities are within the Priority Investment Areas.</p> <p>For Priority Greening Sites outside the Priority Investment Areas, these sites were selected for their benefit to aquatic habitat in other parts of the watershed.</p>
Greening Principle 3 – Green Infrastructure (numerous areas)	All areas are outside of the Priority Investment Areas. This Greening Principle is focused on areas within the watershed where green infrastructure (e.g. LID or urban canopy) would be most beneficial, which is primarily in heavily urbanized portions of the watershed away from the ravine features.
Greening Principle 4 – Land Securement	Six of the seven identified hexagons for land securement are within the Priority Investment Areas. Land securement is supported by the Ravine Strategy (Action #10), so there is strong alignment between the two strategies. TRCA and the City of Toronto will collaborate to secure these areas in a manner consistent with both strategies.

Toronto's Resilience Strategy

Vision: Toronto's first Resilience Strategy sets out a vision, goals and actions to help Toronto survive, adapt and thrive in the face of any challenge, particularly climate change and growing inequities.

Potential connections to greening opportunities: Several actions within the Resilience Strategy support the Highland Greening Strategy, including advancing a system of green and blue infrastructure.

Ecosystem Mitigation and Compensation

Redevelopment or infrastructure renewal projects could be an opportunity to implement greening projects within the watershed as a means of mitigating ecological impacts from these projects. Greening opportunities could be explored as part of the redevelopment or infrastructure renewal process. Impacts to natural cover resulting from redevelopment or infrastructure renewal projects should be avoided wherever possible. This is particularly important in the most sensitive areas of the watershed, such as:

- the City of Toronto's environmentally significant areas,
- provincially or locally significant wetlands,
- Areas of Natural and Scientific Interest,
- significant valleylands,
- woodlands,
- wildlife habitat,
- fish habitat,
- communities and species of local conservation concern, and
- habitat of endangered and threatened species.

However, not all impacts can be mitigated. If works within or adjacent to these areas cannot be avoided, a high level of effort to protect and restore ecosystem functions before, during, and following construction will be required.

Where impacts to natural features are unavoidable, mitigation should be implemented to the extent possible. Restoration of disturbed habitats and other available areas within the project area should be undertaken. If a residual, unavoidable loss of ecosystem services remains following mitigation, City bylaws and TRCA's *Guideline for Determining Ecosystem Compensation* should be consulted to determine appropriate ecosystem compensation procedures. The applicable bylaw or guideline depends on the nature and scale of the impacts proposed. In instances where species at risk could be impacted, achieving overall benefit to the species under federal or provincial species-at-risk legislation may be required. Compensation outcomes should strive to fully replace the same level of lost ecosystem structure and function near where the loss occurs (on-site compensation is preferred), and where possible, to achieve an overall gain. "Like-for-like" ecosystem compensation (e.g. restoring a forest to address impacts to a forest) is the preferred approach in most cases.

Given the extent of urbanization and the limited opportunities for restoration within the Highland Creek watershed, it may not always be possible to restore the same ecosystem type that was lost. Other forms of natural cover may be considered for compensation, but replacement sites must occur within the same municipality and subwatershed as the natural cover that has been removed. The site selection criteria for Greening Principle #1 (Natural Cover) and Greening Principle #2 (Aquatic Habitat) can further help to prioritize the selection of compensation sites. While it is recognized that forms of green infrastructure (e.g. implementing low impact development measures) provide watershed and community health benefits and should be encouraged, they should not be considered when compensating for natural feature losses.

Community Engagement

Stewardship and education opportunities should be explored or continued in order to enhance the engagement of community residents in greening projects to help integrate green infrastructure with

other greening priorities to maximize ecosystem service benefits where they align with the priorities identified in the Highland Greening Strategy. Where appropriate, emphasis should be on engagement opportunities within Neighbourhood Improvement Areas, nurturing existing and seeking new partnerships with culturally diverse organizations, religious groups, Indigenous communities, and other community members. The Highland Creek watershed is a multicultural area with a population around 430,000 people. Visible minorities represent 76% of the population with 51% of residents living in apartment buildings. Some of the recommended restoration projects and educational programs to focus on include:

- Work with community groups and other partners to facilitate restoration, particularly tree planting projects and invasive species control, of Priority Greening Sites identified for Greening Principles #1 (Natural Cover) and Greening Principle #2 (Aquatic Habitat). Examples of programs include Toronto's Community Stewardship Program and TRCA's Community Engagement and Outreach Programs.
- Educate the community about the negative effects of illegal dumping and encroachment on aquatic habitat through community outreach targeting homeowners who live adjacent to ravines and waterways within the watershed.
- Continue ongoing community outreach and engagement initiatives, including TRCA's Greening Your Grounds workshops, to promote lot-level stormwater management, targeting residential homeowners within the Priority Greening Area for Greening Principle #3 (Green Infrastructure).
- Develop education and engagement programs to promote lot-level stormwater management, targeting industrial and commercial businesses within the Priority Greening Area for Greening Principle #3 (Green Infrastructure).
- Implement demonstration projects across the watershed to showcase low impact development measures and to encourage implementation of low impact development technologies on private property, within the Priority Greening Area for Greening Principle #3 (Green Infrastructure).
- Support community outreach and education to prepare residents for flooding with priority placed on flood vulnerable clusters.
- Promote stewardship through planting and incentive programs available for property owners such as Local Enhancement & Appreciation of Forests' (LEAF) tree planting programs, TreeMobile and City of Toronto's Tree for Me program, particularly within the Priority Greening Areas identified for Greening Principle #3 (Green Infrastructure) and Greening Principle #4 (Land Securement).
- Educate the community about the negative effects of non-native invasive plants and the benefits of native plant gardening through community outreach (e.g. Grow Me Instead guide) targeting homeowners that live next to natural areas.
- Initiate TRCA's youth engagement and employment program within the City of Toronto and target promotion to schools located within Neighbourhood Improvement Areas. Continue to host interpretive walks and other outreach programs, such as the Highland Creek Salmon Festival, in order to engage the local watershed community in nature appreciation.
- Explore opportunities to develop and implement Sustainable Neighbourhood Retrofit Action Plans (SNAPs) and the Partners in Project Green (PPG) program, in collaboration with the City and local stakeholders, as a way to coordinate delivery and amplify action on multiple local greening initiatives on public and private lands.

Land Securement

Land securement in key areas will help to expand the natural system and build resilience to future climate and population growth impacts within the Highland Creek watershed. While fee simple purchase of properties may be challenging given current land prices, there are a few potential opportunities for land securement, in addition to stewardship, that can be explored to assist with implementation of Greening Principle #4 (Land Securement). Some of these opportunities are briefly described below:

- TRCA's compensation guideline includes consideration of offsetting lost land base to ensure that the cumulative effects of lost natural cover do not reduce the overall size of the natural heritage system, and instead promotes expansion over time. There may be opportunities to secure land, in addition to promoting restoration of those lands, through implementation of this guideline.
- Redevelopment will continue to occur in the Highland Creek watershed over time. As redevelopment occurs, there may be opportunities to secure hazard-prone or sensitive natural heritage lands through parkland dedication processes or other municipal acquisition tools.
- There may be opportunities that arise through government funding or incentive programs (e.g. Ecological Gifts Program) bequeaths, and/or philanthropic partnerships that could be leveraged to secure or mitigate high risk hazard areas or secure lands with ecologically sensitive habitats.

Environmental Sustainability and Associated Co-benefits

Consideration for environmental sustainability issues and the associated co-benefits should be included in the implementation process for each project. Incorporation of sustainability will help each project address issues that contribute co-benefits to the Highland Greening Strategy that are core issues and benefits to the strategic direction of the City of Toronto and contribute to the sustainability of the region.

Sustainability can be readily integrated into the implementation process for each project by applying a set of sustainability lenses. Sustainability lenses are a set of perspectives that prompt users to consider the sustainability costs, benefits and consequences of their decisions. The two lenses recommended for consideration through implementation of greening projects are a) Climate Mitigation/Adaptation; and b) Community Benefits.

Climate Mitigation/Adaptation

TransformTO is the City of Toronto's ambitious climate action strategy approved by council in 2017. Incorporating a Climate Mitigation/Adaptation lens to the implementation of each greening project will align project outcomes with the City's climate strategy. Climate issues that should be addressed through this lens include:

- What is the net Life Cycle Assessment (LCA) carbon emissions associated with each project?
- How can the project be modified to reduce net LCA emissions or make the project carbon positive?
- Can the project contribute to the City's adaptation to climate change? If so, how and by how much?
- Can the project contribute to increased resilience of the City? If so, how and by how much?

Tools for addressing these questions are still evolving and TRCA would work with City staff and other experts in developing and applying these tools.

Community Benefits

The City of Toronto's community benefits framework offers a way for government and other institutions to multiply the impact of their spending. Community benefits can be leveraged by infrastructure projects that are funded through City procurement processes, or incentivized by the City. The Community Benefits Framework utilizes City funded infrastructure projects to achieve desired outcomes. Some of the desired outcomes include targeted hiring and training opportunities, providing economic opportunities, reducing poverty, and support for community priorities among Indigenous peoples and equity seeking groups in Toronto. Specific issues and questions to include in each implementation project should be identified in consultation with the City's Community Benefits Framework and appropriate City of Toronto staff.

4.2 Project Coordination

Once a decision has been made to initiate a greening project, detailed site-level considerations should be applied to ensure that projects occur in the appropriate order to maximize the value and efficiency of efforts. It is also important to work with both City of Toronto and TRCA staff to ensure that appropriate staff are consulted and projects are sufficiently coordinated. Ideally, the infrastructure projects and the greening component would be designed in tandem to ensure that greening opportunities are not missed. The factors described in this section should be considered before a greening project is initiated. Data layers identified in this section should be consulted in order to help determine which implementation considerations are appropriate for each project.

City of Toronto Infrastructure

Consideration should be given to coordinating greening opportunities with future infrastructure works. The intent is that stream restoration projects needed to address the geomorphic system within the riparian zone/meander belt as outlined in the HCGSMIP would be constructed first, followed by implementing greening projects locally in the vicinity of the stream restoration project.

In locations where HCGSMIP or WWFMP projects have been identified in close proximity to Priority Greening Sites, greening projects must be coordinated with the City of Toronto to ensure that:

- 1) Planned infrastructure projects must be completed in advance of greening projects; and
- 2) Restoration work completed in this area must not interfere with future access to infrastructure. Consideration should be given to the type, size, location and anticipated maintenance required for any greening projects.

Project to be coordinated with:	Data layers to be considered:
City of Toronto – Toronto Water	<ul style="list-style-type: none">• Geomorphic Systems Master Implementation Plan<ul style="list-style-type: none">○ Feasible Stormwater Management Facility Retrofits○ Restoration Project Sites• Watermain crossing• Sanitary Sewer Crossing• Stormwater Management Ponds

Natural Hazard Management

Greening projects that involve a component focused on stream enhancements should ensure that existing natural hazard issues are addressed first, where appropriate. Natural hazards include riverine flooding, riverine erosion, and geotechnical slope instability. If natural hazard issues cannot be addressed or may become more severe upon implementation of a proposed greening project, the greening projects should be avoided until these hazard issues have been resolved.

Flooding

In order to determine the impacts of planting riparian vegetation along the channelized sections of Highland Creek and its tributaries, a hydraulic modelling exercise was undertaken by TRCA. In this modelling exercise, the roughness coefficient (i.e. resistance to flow) within the study area was changed to reflect the potential increase in vegetative cover, informing whether restoration in these areas would affect the existing floodlines. The results of this analysis can be used to inform where and how riparian plantings may be undertaken without exacerbating existing flood lines. The results also inform where riparian plantings are not appropriate unless channel capacities are modified or issues in flood vulnerable clusters are resolved first. Overall, the results recommended that conveyance within flood control channels be maintained, therefore planting is not recommended within concrete-lined flood control channel. Instead it is recommended that vegetation and debris within these channels be removed. Plantings should also be avoided in the vicinity of hydraulically constraining structures, such as bridges and culverts, as an increase in roughness in these areas will result in reduced conveyance through an already constraining flow structure.

The branches of Highland Creek studied included the Dorset Park Branch, West Bendale Branch, Markham Branch & Malvern Branch. Many of these channels were initially constructed as flood control channels some of which are still concrete-lined. Three of the branches are also known Flood Vulnerable Clusters (FVC), including Dorset Park FVC on the Dorset Park Branch, Kennedy Commons FVC on the West Bendale Branch, and Progress Business Park FVC on the East Markham Branch. Detailed methodology and mapping results showing appropriate and inappropriate areas for planting can be found in **Appendix B**. Coordination with TRCA and/or the City of Toronto would be required prior to implementing greening along any of the channels assessed through this modelling exercise.

Erosion

Comprehensive erosion monitoring in the City of Toronto is currently being undertaken by TRCA. From this monitoring data, TRCA has developed a database that prioritizes erosion risks associated with fluvial geomorphic processes across the city, including the Highland Creek watershed. A fluvial geomorphologist should be consulted prior to initiating a greening project in the vicinity of high priority areas for erosion remediation to ensure that erosion risks do not jeopardize the future success of the restoration efforts.

A greening project could follow an erosion project and increase the scope of the original restoration plan for the erosion works. This would require detailed restoration opportunity review in the vicinity and should include forest and invasive management opportunities.

Geotechnical Instability

Ravine banks may be unstable (or could become unstable in the long-term) in areas where certain geotechnical processes are occurring along valley slopes. Over-steepened valley slopes (greater than 3:1) or where the toe of a slope is within 15 m from the watercourse may lead to eventual slope failure and threaten the success of the restoration effort over time. On the other hand, restoration may also

help to delay the initiation of slope instability and time to trigger the failure in some cases. It is important to check with a geotechnical engineer to determine whether geotechnical stability is in question before implementing stream restoration projects.

Project to be coordinated with:	Data layers to be considered:
TRCA – Engineering Services	<ul style="list-style-type: none"> • Evaluation of Floodplain Roughness to Guide Riparian Plantings • Flood Vulnerable Clusters • Floodline • Potential Crossing Improvements • Potential Channel Improvements • Erosion Hazard: Score \geq 70 • Erosion Structure: High Priority
TRCA – Policy Planning	<ul style="list-style-type: none"> • Crest of Slope

Ravine and Natural Feature Protection

While greening projects will likely ultimately benefit the natural heritage system, it is important to understand the existing features, functions, and sensitivities of the surrounding area to ensure that greening projects properly mitigate any potential impacts during implementation. All works must take into account the level of protection of the area, existing features, and wildlife to design plans that are not in conflict with existing conditions or species-at-risk within the ravine system. It is also critical that all necessary permits are adequately secured before a project proceeds. When projects are located within the ravine or natural heritage system it is important to first determine:

- the boundary of the feature
- whether the proposed Natural Heritage System, Environmentally Significant Areas, or evaluated wetlands are located within or adjacent to the project site
- the presence of aquatic barriers that could be mitigated as part of a greening project
- flora, fauna, and vegetation documented within or adjacent to the project site that may affect how a project proceeds (e.g. requiring special permits prior to initiating work)

Project to be coordinated with:	Data layers to be considered:
City of Toronto – Planning	<ul style="list-style-type: none"> • Toronto ravine by-law • Greenbelt¹⁵ • Environmentally Significant Areas • Areas of Natural and Scientific Interest (ANSI) • MNRF wetlands¹⁶
City of Toronto Planning	
TRCA – Development Planning	
TRCA – Development Planning	<ul style="list-style-type: none"> • TRCA regulation mapping
TRCA – Research and Knowledge Management	<ul style="list-style-type: none"> • Refined Terrestrial Natural Heritage System (TRCA 2018) • Aquatic barriers

¹⁵ The province is the source of data related to the Greenbelt.

¹⁶ Ibid.

TRCA – Environmental Monitoring and Data Management

- Ecological Land Classification (ELC)
- Flora and fauna

Other Considerations

There may be other data layers available from other strategies and plans that may be of interest to greening project coordinators. Below, a number of those known initiatives are listed for consideration, but note that this is not an exhaustive listing, or additional strategies or plans may be initiated in future.

Project to be coordinated with:	Data layers to be considered:
City of Toronto - Planning	<ul style="list-style-type: none">• Trails<ul style="list-style-type: none">○ Existing Cycling Network○ Proposed Cycling Network
TRCA – Greenspace Conservation	<ul style="list-style-type: none">• TRCA Trails Strategy

4.3 Greening Approaches at the Site Level

Site-specific considerations are needed to confirm the appropriateness of greening projects at the local scale. Below, additional advice and direction are provided to help guide the planning of greening projects at the site level.

Restoration opportunities have been identified in the Highland Creek watershed for forest, meadow, riparian, and wetland habitats. The restoration and enhancement approaches typically employed by TRCA for each habitat type are outlined below and should be utilized to help address greening projects intended to improve the quality and quantity of natural cover and aquatic habitat. Additional considerations are provided for the implementation of green infrastructure projects.

Forest Habitat

Two types of restoration opportunities for forest habitat have been identified in the Highland Creek watershed: reforestation and forest enhancement.

Reforestation focuses on increasing the total amount of existing forest cover and enhancing species richness by providing additional and improved habitat, providing corridors and linkages to other habitats, and increasing the width of buffers along watercourses. Native, site-appropriate and climate resilient species should be selected. A combination of coniferous, deciduous, and berry producing wildlife shrub nodes should be used to promote a diversity of wildlife habitats that provide food, shelter and nesting opportunities. Structural reforestation using large woody debris should be placed in and around planting zones to increase plant survival by retaining soil moisture and moderating drought, while providing structural habitat, wildlife cover and organic material that would be present in mature woodlands.

Some areas within the Highland Creek watershed have been identified for forest enhancement. These areas are existing woodlots that have suffered some form of degradation and could be improved by intervention. A common example of this is informal trail systems causing compaction and limited

understory. Techniques for enhancement might include understory planting, access restriction, and invasive species control.

Forest restoration creates benefits such as:

- Enhanced biodiversity
- Increased wildlife habitat for food, shelter, and nesting opportunities
- Improved habitat connectivity
- Ecosystem services, including carbon sequestration, soil stabilization, reduced soil and air temperature, etc.
- Climate change mitigation and adaptation

For compensation projects, the size of forest offset requirements will be determined based on the area of forest loss and the area of proposed reforestation (i.e. the area of forest enhancement is not counted).

Meadow Habitat

To restore meadow habitat and the ecological services they provide, TRCA strategically selects locations where meadows are complementary to existing or proposed land use or natural cover, and/or provide specialized habitat for species of conservation concern. Proper site preparation is very important to the success of any meadow project and will vary depending on site conditions. Following site preparation, TRCA will plant/seed the area with native wildflowers and grasses. Habitat features can be installed to enhance terrestrial functions, such as downed woody debris, raptor poles, snake hibernacula, and nest boxes. Monitoring and maintenance are critical to meadow restoration in the absence of natural disturbances, such as fire or grazing. Without a maintenance regime, meadows in Ontario will typically succeed into forest communities. Maintenance will need to occur throughout the life of the meadow project to ensure native seed establishment, minimize the expansion of invasive species, and promote meadow biodiversity. Invasive species are a significant threat to the long-term ecological integrity of a meadow. Maintenance regimes will vary depending on site characteristics and restoration goals.

Meadow restoration creates benefits such as:

- Support of pollinator services
- Improved wildlife habitat for foraging, breeding, nesting, and overwintering for open country species
- Enhanced natural corridors and connectivity for wildlife
- Carbon absorption, climate change mitigation
- Improved resilience of greenspaces

Utility corridors have been identified as prime candidates for meadow habitat restoration since woody vegetation is maintained by utility companies. Projects like **The Meadoway** in the Gatineau Hydro Corridor have been instrumental in piloting the conversion of turf grass into productive meadow habitat, while not impeding the management and operational requirements of the site.

Riparian Habitat

Historical and current land use changes continue to have significant impacts on natural features. Streams and riparian areas in the Highland watershed have become impaired as a result of various landscape alterations. These alterations may contribute to a variety of impacts to natural system function, which may reduce the ecological services that streams provide.

To mitigate impairments to streams and riparian areas and the ecological services they provide, the City of Toronto and TRCA restore these areas through natural channel design, bank stabilization works, planting of the riparian zone and barrier removal or mitigation throughout our watersheds. Ultimately, the streams in the Highland watershed run into Lake Ontario and restoration in the headwaters and lower reaches can have a direct influence on the water quality and habitat along the waterfront.

Restoring riparian habitat is particularly important to improve overall health of aquatic systems. Riparian vegetation in headwater areas and permanent watercourses influence the size and structure of woody debris entering a stream, potentially increasing its habitat diversity and organic matter levels. These external inputs of organic matter are an important source of energy, food and habitat. Headwater drainage features and permanent watercourses with adequate riparian cover also play an important role in moderating stream temperature by providing a thermal buffer by way of stream bank shading. Temperature is one of the most important factors controlling in-stream processes and aquatic ecosystem dynamics, such as species metabolism, organic matter decomposition and gas solubility. Riparian cover also plays a critical role in stabilizing stream banks and intercepting harmful sediment or nutrient inputs. Stream banks in healthy riparian systems are more stable, because they are held together by plant roots. As a result, erosion and subsequent sediment influx rates are decreased. The introduction of harmful nutrients and chemicals is also counteracted by riparian buffers, as the buffer acts as a filter between the input source and the stream.

Riparian restoration creates benefits such as:

- Improved hydrology and water quality
- Increased stream bank shading to help moderate stream temperatures
- Stabilized stream banks
- Increased habitat diversity and availability

Wetland Habitat

Wetland restoration generally refers to rehabilitating a degraded wetland or re-establishing a wetland that has been drained or removed from the landscape. Small changes to reverse altered hydrologic conditions can often restore a wetland to its former state (i.e. removing agricultural drainage systems). Wetland creation refers to constructing a wetland in a location that was never a wetland in the past. When creating wetlands, existing conditions must be assessed to determine whether hydrologic conditions can be created or optimized to sustain a new wetland habitat. Created wetlands are often built to treat run-off from agricultural sites or urban outfalls.

There are opportunities to enhance some of the low wet areas within the watershed to create scattered wetland pockets. Enhancement work may involve more direct measures, such as subtle changes in contours and drainage to embellish the existing wetland area and diversity of water depths. Wetland creation/enhancement projects can help to improve water quantity and quality, attenuate stream flows, help to reduce sedimentation and erosion and provide wildlife habitat. In addition, some low wet areas would benefit from planting wet shrub thickets as a buffer and to complement and expand upon the existing habitat mosaic, enhancing peak flow attenuation and ground water recharge.

Wetland restoration creates benefits such as:

- Improved biodiversity
- Increased wildlife habitat
- Flood attenuation

- Improved water quality
- Recreational opportunities
- Improved habitat connectivity

Green Infrastructure

Green infrastructure, in the form of gardens, street trees and other landscape features, including low impact development stormwater management practices, will help restore and improve ecosystem function and biodiversity, help to store and attenuate flows from extreme precipitation events, with added benefits of providing cooling effects in urban neighbourhoods. Greening projects could incorporate green infrastructure by providing additional natural features (e.g. vegetation, naturalized ponds), regulating hydrologic conditions (e.g. stabilizing base and peak flows, water infiltration, water storage/evapotranspiration), and enhancing ecological processes and connectivity (e.g. wildlife movement, pollination).

While implementing green infrastructure anywhere within the watershed will have benefits, the greatest benefit for flooding and natural heritage will be gained by implementing green infrastructure within the Priority Greening Area for Greening Principle #3 (Green Infrastructure). Error! Reference source not found. identifies the primary land uses within the Priority Greening Area to help inform the type of green infrastructure that may be most appropriate for each land use category.

Land Use Categories in Priority Greening Area for Greening Principle #3 (Green Infrastructure) and appropriate types of greening considerations include:

- **Commercial, institutional, industrial:** Roofs and parking lots are the dominant features to manage stormwater. Consider green roofs, blue roofs, permeable paving, bioretention, swales, stormwater tree cells and planters, and rainwater cisterns.
- **Residential:** Creative use of front yards, boulevards and backyards should be encouraged to manage stormwater. Boulevard bioretention, vegetated swales, tree planting, rain gardens and rain harvesting (barrels and cisterns) appropriate for this type of land use.
- **Transportation:** Corridors include road right-of-ways, ditches, and curbs. Tree planting along road right-of-ways (especially highways) should consider stormwater planters and tree cells. Other greening measures include bioretention, infiltration trenches, exfiltration storm sewer systems, and vegetated swales. Note that green infrastructure can be designed with road safety features in mind (e.g. bioretention bumpout, trees for traffic calming).
- **Greenspace:** It may be possible in manicured or some hardened areas of ravines and city greenspace to restore lands to natural cover, such as forest, meadow, riparian, and wetlands habitats. Urban wetlands or raingardens around catchbasins, and the addition of trees and shrubs, or pollinator gardens should be promoted instead of manicured lawn in parklands, where appropriate.

Low Impact Development Stormwater Management Practices

Low impact development stormwater management practices can include lot-level, conveyance, and end-of-pipe measures. This section provides an overview of low impact development techniques that may be considered for greening projects within the Highland Creek watershed. The Sustainable Technologies Evaluation Program (STEP) *Low Impact Development Stormwater Management Planning and Design Guide* should be referenced for best practices and site-level considerations before implementing low impact development projects. STEP has also developed a Treatment Train Tool that allows the stormwater benefits of low impact development to be quantified for different low impact

development configurations, which is a good resource for project designing. Toronto's *Green Streets Technical Guidelines* provide further direction for the planning, design, integration and maintenance of a range of green infrastructure options appropriate for Toronto street types and conditions.

- **Bioretention:** As a stormwater filter and infiltration practice, bioretention temporarily stores, treats and infiltrates runoff. Bioretention techniques include the installation of a filter bed (a mixture of sand, fine and organic material), mulch ground cover and plants adapted to the conditions of a stormwater practice. Bioretention is designed to capture small storm events or the water quality storage requirement. An overflow or bypass is necessary to pass large storm event flows.
- **Green roofs:** Green roofs consist of a thin layer of vegetation installed on top of a conventional flat or sloped roof. Green roofs can offer benefits such as improved energy efficiency, reduced urban heat island effects, and create habitat for insects and birds. From a hydrologic perspective, the green roof acts like a lawn or meadow by storing rainwater in the growing medium and ponding areas. Excess rainfall enters underdrains and overflow points and is conveyed in the building drainage system. After the storm, a large portion of the stored water is evapotranspired by the plants, evaporates or slowly drains away.
- **Infiltration practices:** On sites suitable for underground stormwater infiltration practices, there are a variety of facility design options to consider, such as bioswales, infiltration trenches and infiltration chambers. Suitable sites include those where the water table is at sufficient depth (>1 m below the depth of the facility). These facilities have the smallest footprint in pervious soils such as sand and gravel. Where appropriate, these facilities can be installed below road right-of-ways, boulevards, parking lots, and parks adjacent to impervious surfaces. In general, paved or landscaped areas downstream of existing catchbasins and upstream of stormwater outfalls are all places to consider these technology retrofits.
- **Permeable pavement:** Permeable pavements, an alternative to traditional impervious pavement, allow stormwater to drain through them and into a stone reservoir where it is infiltrated into the underlying native soil or temporarily detained. They can be used for low traffic roads, parking lots, driveways, pedestrian plazas and walkways. Permeable pavement is ideal for sites with limited space for other surface stormwater best management practices.
- **Rainwater harvesting:** Rainwater harvesting is the process of intercepting, conveying and storing rainfall for future use. The rain that falls upon a catchment surface, such as a roof, is collected and conveyed into a storage tank. When harvested rainwater is used to irrigate landscaped areas, the water is either evapotranspired by vegetation or infiltrated into the soil, thereby helping to maintain predevelopment water balance.
- **Swales:** Enhanced grass swales are vegetated open channels designed to convey, treat and attenuate stormwater runoff. Check dams and vegetation in the swale slows the water to allow sedimentation, filtration through the root zone and soil matrix, evapotranspiration, and infiltration into the underlying native soil. A dry swale is a design variation that incorporates an engineered soil media bed and optional perforated pipe underdrain system. Where development density, topography and depth to water table permit, enhanced grass swales are a preferred alternative to both curb and gutter and storm drains as a stormwater conveyance system. When incorporated into a site design, they can reduce impervious cover, accent the natural landscape, and provide aesthetic benefits.
- **Vegetated filter strips:** Vegetated filter strips are gently sloping, densely vegetated areas that treat runoff as sheet flow from adjacent impervious areas. They function by slowing runoff velocity and

filtering out suspended sediment and associated pollutants, and by providing some infiltration into underlying soils. Vegetation may be comprised of a variety of trees, shrubs and native plants to add aesthetic value as well as water quality benefits.

Urban Tree Planting and Backyard Greening

Urban tree planting and backyard greening, including industrial and commercial opportunities, should be explored throughout the Priority Greening Area for Greening Principle #3 (Green Infrastructure). Often municipal tree canopy targets cannot be met on municipal lands alone. Therefore, to achieve tree canopy goals the City must encourage and promote trees to be planted on private properties. Greening projects might include: backyard greening (planting native trees and shrubs, downspout disconnection to native rain gardens), street trees, parkland trees, natural area trees, and stormwater planters.

Priority neighbourhoods for enhancing the urban tree canopy have been identified based on where the need and opportunities are greatest as determined by satellite imagery interpretation. Urban street tree planting projects should be prioritized in neighbourhoods where existing tree canopy is lowest, and where these trees could also provide the most watershed benefits. See the Map Viewer for priority neighbourhoods for urban tree canopy enhancement.

GLOSSARY OF TERMS

Ecological integrity: Which includes hydrological integrity, means the condition of ecosystems in which:

- a. the structure, composition and function of the ecosystems are unimpaired by the stresses from human activity;
- b. natural ecological processes are intact and self-sustaining; and
- c. the ecosystems evolve naturally.

(*Greenbelt Plan*, 2017)

Ecosystem services: benefits people obtain from ecosystems. There are four categories of ecosystem services, including provisioning services (e.g. food, drinking water), regulating services (e.g. carbon regulation, water purification), cultural services (e.g. recreational, spiritual), and supporting services (e.g. nutrient recycling and soil formation) (Adapted from Millennium Ecosystem Assessment, 2005).

Flood vulnerable cluster: sub-area within the *Regulatory Storm Flood Plain* containing multiple existing structures and/or roads for which a single, comprehensive flood remediation approach may be viable (TRCA, 2014).

Geomorphic systems: in this context are river processes that govern the movement of sediment and erosion or deposition on the river bed and banks.

Green infrastructure: Natural and human-made elements that provide ecological and hydrologic functions and processes. Green infrastructure can include components such as natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs (*Growth Plan*, 2019).

Green street: A green street is a road or street that incorporates green infrastructure, which includes natural and human-made elements such as trees, green walls, and low impact development stormwater infrastructure that provide ecological and hydrological functions and processes.

Low impact development: An approach to stormwater management that seeks to manage rain and other precipitation as close as possible to where it falls to mitigate the impacts of increased runoff and stormwater pollution. It typically includes a set of site design strategies and distributed, small-scale structural practices to mimic the natural hydrology to the greatest extent possible through infiltration, evapotranspiration, harvesting, filtration, and detention of stormwater. Low impact development can include, for example: bioswales, vegetated areas at the edge of paved surfaces, permeable pavement, rain gardens, green roofs, and exfiltration systems. Low impact development often employs vegetation and soil in its design, however, that does not always have to be the case and the specific form may vary considering local conditions and community character (*Growth Plan*, 2019).

Natural cover: includes lands occupied by naturally and culturally occurring native or non-native vegetation (e.g. forest, wetland, or meadow) that is not characterized as agricultural or urban land uses (TRCA, 2014).

Natural Heritage System: A system made up of natural heritage features and areas, and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems. The system can include key natural heritage features, key

hydrologic features, federal and provincial parks and conservation reserves, other natural heritage features and areas, lands that have been restored or have the potential to be restored to a natural state, associated areas that support hydrologic functions, and working landscapes that enable ecological functions to continue (*Growth Plan, 2019*).

Urban tree canopy: the urban forest, or urban tree canopy, consists of valleyland and tableland trees, street, park, and yard trees all in an urban setting, which make an important contribution to the beauty and ecological function of the urban landscape; the older ravine system, under pressure from increasing population due to intensification targets, is bolstered by this green infrastructure (TRCA, 2014).

Watershed Planning: Planning that provides a framework for establishing goals, objectives, and direction for the protection of water resources, the management of human activities, land, water, aquatic life, and resources within a watershed and for the assessment of cumulative, cross-jurisdictional, and cross-watershed impacts.

Watershed planning typically includes: watershed characterization, a water budget, and conservation plan; nutrient loading assessments; consideration of climate change impacts and severe weather events; land and water use management objectives and strategies; scenario modelling to evaluate the impacts of forecasted growth and servicing options, and mitigation measures; an environmental monitoring plan; requirements for the use of environmental best management practices, programs, and performance measures; criteria for evaluating the protection of quality and quantity of water; the identification and protection of hydrologic features, areas, and functions and the interrelationships between or among them; and targets for the protection and restoration of riparian areas. Watershed planning is undertaken at many scales, and considers cross-jurisdictional and cross-watershed impacts. The level of analysis and specificity generally increases for smaller geographic areas such as subwatersheds and tributaries (*Growth Plan, 2019*).

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APPENDIX A

This appendix provides an overview of all the potential restoration opportunities in the Highland Creek watershed, as well as the Priority Greening Sites for Greening Principles 1 and 2.

Table 3 identified all potential restoration sites within TRCA's ROP database. See **Figure 3** or the map viewer for a visual representation of these sites.

Table 3 - All Potential Restoration Sites

Restoration Site (alphabetical order)	Size of restoration opportunity by habitat type (ha)				Total size of potential habitat restoration (size in ha)	Amount of site publicly owned (size in ha)	Amount of site privately owned (size in ha)
	Forest	Meadow	Riparian	Wetland			
1 Toyota Place	0.000	0.000	0.170	0.000	0.170	0.000	0.170
110 Grangeway Ave	1.689	0.000	0.000	0.000	1.689	0.000	1.689
1100 Bellamy Rd N	0.430	0.000	0.000	0.000	0.430	0.000	0.430
165 Tapscott Rd	1.485	0.000	0.000	0.000	1.485	0.000	1.485
1680 Brimley Rd	1.340	0.000	0.000	0.000	1.340	0.000	1.340
1750 Brimley Rd	2.978	0.000	1.297	0.268	4.543	0.000	4.543
184 Galloway Rd	0.208	0.000	0.000	0.000	0.208	0.000	0.208
1845 Birchmount Rd	2.430	0.000	0.535	0.143	3.108	0.000	3.108
2075 McNicoll Ave	0.000	2.728	0.000	0.000	2.728	0.000	2.728
211 Prudential Dr	0.000	0.000	0.258	0.275	0.533	0.000	0.533
2150 McNicoll Ave	0.659	0.000	0.272	0.226	1.157	1.157	0.000
2250 Markham Rd	2.092	0.000	0.000	0.000	2.092	0.019	2.072
2265 Markham Rd	1.044	0.000	0.000	0.000	1.044	0.028	1.016
25 Borough Dr	2.026	0.000	0.000	0.000	2.026	0.000	2.026
28 Blaisdale Rd	0.083	0.000	0.000	0.000	0.083	0.000	0.083
288 Clayton Dr	0.263	0.000	0.030	0.015	0.308	0.000	0.308
290 Scarborough Golf Club Rd	0.542	0.000	0.000	0.000	0.542	0.476	0.065

Restoration Site (alphabetical order)	Size of restoration opportunity by habitat type (ha)				Total size of potential habitat restoration (size in ha)	Amount of site publicly owned (size in ha)	Amount of site privately owned (size in ha)
	Forest	Meadow	Riparian	Wetland			
3 Clayton Dr	0.523	0.000	0.000	0.000	0.523	0.000	0.523
30 Milner Ave	0.231	1.214	0.000	0.000	1.444	0.000	1.444
31 Tapscott Rd	0.452	0.000	0.000	0.000	0.452	0.000	0.452
3159 Lawrence Ave E	0.141	0.062	0.000	0.000	0.203	0.000	0.203
3450 McNicoll Ave	3.819	0.361	1.219	0.085	5.484	0.000	5.484
38 Pullman Crt	0.722	0.204	0.000	0.000	0.926	0.001	0.924
385 Passmore Ave	0.395	0.000	0.000	0.000	0.395	0.000	0.395
400 Passmore Ave	0.083	0.000	0.000	0.000	0.083	0.000	0.083
4171 Sheppard Ave E	0.988	0.000	0.000	0.000	0.988	0.000	0.988
44 Milner Ave	0.000	0.000	0.107	0.191	0.299	0.000	0.299
465 Coronation Dr	0.835	0.000	0.000	0.000	0.835	0.000	0.835
500 Progress Ave	1.337	0.000	0.000	0.000	1.337	0.000	1.337
55 Mike Myers Dr	0.782	0.000	0.000	0.000	0.782	0.000	0.782
7077 Kennedy Rd	0.459	0.000	0.000	0.000	0.459	0.000	0.459
80 Dale Ave	0.550	0.000	1.251	0.288	2.090	2.090	0.000
85 Executive Crt	0.000	0.000	0.034	0.015	0.049	0.000	0.049
Albert Campbell Collegiate Institute	0.532	0.000	0.000	0.000	0.532	0.532	0.000
Amberdale Ravine	0.188	0.000	0.086	0.000	0.275	0.275	0.000
Appleby Cres E/S	0.412	0.000	0.000	0.000	0.412	0.000	0.412
Beechgrove Ravine	2.701	0.000	0.000	0.000	2.701	0.861	1.839
Bendale Branch	2.892	0.000	14.949	0.000	17.841	14.886	2.955
Berner Trail Park	0.445	0.000	0.000	0.000	0.445	0.445	0.000
Beverly Glen Park	0.693	0.000	0.000	0.000	0.693	0.693	0.000
Birkdale Ravine	1.687	0.000	0.000	0.000	1.687	1.687	0.000
Bramber Woods Park	0.160	0.000	0.000	0.000	0.160	0.160	0.000
Bridgeport Dr	1.614	0.000	0.000	0.000	1.614	0.000	1.614

Restoration Site (alphabetical order)	Size of restoration opportunity by habitat type (ha)				Total size of potential habitat restoration (size in ha)	Amount of site publicly owned (size in ha)	Amount of site privately owned (size in ha)
	Forest	Meadow	Riparian	Wetland			
Brindlewood (Unknown)	3.400	0.000	0.610	0.000	4.010	0.000	4.010
Brooks Road	0.806	0.000	0.750	0.000	1.556	1.556	0.000
Burrows Hall Park	0.572	0.000	0.578	0.000	1.150	0.996	0.154
Canmore Park	0.213	0.000	0.083	0.000	0.296	0.296	0.000
Cedar Ridge Park	0.346	0.000	0.000	0.000	0.346	0.346	0.000
Cedarbrook Park	1.155	0.031	0.972	0.000	2.158	2.158	0.000
Centennial Creek	0.232	0.000	0.000	0.000	0.232	0.097	0.135
Centennial Park	1.136	0.000	0.299	0.019	1.454	1.454	0.000
Chartland Park	0.508	0.000	0.000	0.000	0.508	0.508	0.000
Chester Le Park	0.837	0.000	0.000	0.000	0.837	0.837	0.000
City of Toronto Open Space	0.745	0.000	0.046	0.040	0.831	0.086	0.745
Colonel Danforth Park	1.529	0.567	0.468	1.312	3.876	3.841	0.035
Confederation Park	1.003	0.000	0.138	0.000	1.140	1.140	0.000
Cornell Park	0.654	0.000	0.251	0.000	0.905	0.905	0.000
Curran Hall Ravine Park	1.010	0.000	0.079	0.000	1.089	1.089	0.000
Deekshill Park	2.743	0.000	0.898	0.000	3.641	3.331	0.311
Denison St S	2.227	0.000	0.050	0.014	2.292	0.000	2.292
Donwood Park	0.284	0.000	0.000	0.000	0.284	0.284	0.000
Dorset Park	1.692	0.000	0.000	0.000	1.692	0.881	0.810
Finch Hydro Corridor (McNicol Hydro Corridor)	1.602	76.369	3.343	2.346	83.660	78.267	5.393
Dorset Park Branch	2.168	0.000	2.218	0.229	4.615	1.049	3.567
Future TTC Bus Garage	0.000	6.384	0.000	0.000	6.384	6.384	0.000
Glamorgan Park	1.311	0.000	0.000	0.000	1.311	1.311	0.000
GO Railway North	0.000	4.878	0.877	0.000	5.755	0.000	5.755
GO Railway South	4.829	0.422	0.344	0.000	5.596	5.494	0.102
Goldhawk Park	0.477	0.000	0.112	0.131	0.721	0.487	0.234

Restoration Site (alphabetical order)	Size of restoration opportunity by habitat type (ha)				Total size of potential habitat restoration (size in ha)	Amount of site publicly owned (size in ha)	Amount of site privately owned (size in ha)
	Forest	Meadow	Riparian	Wetland			
Greenspire Rd E/S	0.000	0.000	0.520	0.000	0.520	0.520	0.000
Greenvale Park	0.289	0.000	0.000	0.000	0.289	0.289	0.000
Grey Abbey Ravine	5.384	0.000	0.000	0.430	5.814	5.592	0.222
Hague Park	0.931	0.000	0.109	0.000	1.040	0.927	0.113
Harvest Moon Park	0.294	0.000	0.000	0.000	0.294	0.294	0.000
Havendale Park	0.975	0.000	0.000	0.000	0.975	0.975	0.000
Heron Park	0.027	0.000	0.000	0.000	0.027	0.027	0.000
Highgate Park	0.000	0.000	0.410	0.000	0.410	0.410	0.000
Highland Creek Park	1.015	0.000	1.108	0.000	2.124	2.124	0.000
Highland Heights Park	0.413	0.000	0.000	0.000	0.413	0.413	0.000
Hunters Glen Park	0.865	0.000	0.000	0.000	0.865	0.829	0.037
Huntingwood Dr	0.230	0.000	0.000	0.000	0.230	0.000	0.230
Inglewood Heights Park	0.000	0.000	0.327	0.000	0.327	0.327	0.000
Knob Hill Park	0.641	0.000	0.188	0.000	0.828	0.828	0.000
Knott Park	0.400	0.000	0.000	0.000	0.400	0.400	0.000
L'Amoreaux Park	5.963	0.000	5.967	0.000	11.930	11.346	0.584
Lawson Rd S N	0.307	0.000	0.000	0.000	0.307	0.307	0.000
Lower Highland Creek	0.144	0.000	0.000	0.000	0.144	0.144	0.000
Lower Highland Creek Park	1.835	0.000	1.313	0.233	3.381	3.381	0.000
Lusted Park	0.682	0.000	0.000	0.000	0.682	0.682	0.000
Lynngate Park	0.195	0.000	0.096	0.000	0.291	0.291	0.000
Malvern Branch	0.560	3.393	7.966	0.000	11.919	8.359	3.560
Manse Road Park	0.216	0.000	0.000	0.000	0.216	0.216	0.000
McCowan Park	3.076	0.000	0.000	0.000	3.076	3.076	0.000
Mcgregor Park	0.583	0.000	0.000	0.000	0.583	0.000	0.583
McLevin Ave S	1.502	0.000	0.000	0.000	1.502	1.502	0.000

Restoration Site (alphabetical order)	Size of restoration opportunity by habitat type (ha)				Total size of potential habitat restoration (size in ha)	Amount of site publicly owned (size in ha)	Amount of site privately owned (size in ha)
	Forest	Meadow	Riparian	Wetland			
Megan Park	0.411	0.000	0.384	0.000	0.795	0.795	0.000
Milliken Branch	3.200	0.000	18.379	0.000	21.579	20.215	1.364
Milliken Park	1.588	0.796	1.529	0.635	4.547	4.547	0.000
Mondeo Park	0.175	0.000	0.000	0.000	0.175	0.175	0.000
Morningside Park	4.097	1.092	3.376	2.538	11.103	11.103	0.000
MTO Lands	0.906	2.754	0.358	0.000	4.018	2.557	1.460
MTO ROW	0.527	0.000	0.284	0.000	0.811	0.000	0.811
Muirlands Park	0.245	0.000	0.000	0.000	0.245	0.245	0.000
North Bendale Park	0.566	0.000	0.809	0.000	1.375	1.375	0.000
North Bridlewood Park	1.102	0.000	0.000	0.000	1.102	1.097	0.005
Passmore Ave	0.795	0.000	0.000	0.000	0.795	0.000	0.795
Port Union Village Common	0.489	0.000	0.000	0.000	0.489	0.489	0.000
Pringdale Ravine	0.145	0.000	0.000	0.000	0.145	0.145	0.000
Rosebank Park	1.033	0.000	0.391	0.000	1.424	1.424	0.000
Scarborough Hydro Green Space	0.000	7.466	0.426	0.000	7.892	7.018	0.875
Scarborough SWM	0.028	0.000	0.057	0.000	0.086	0.086	0.000
Scottfield Dr	0.626	0.000	0.000	0.062	0.688	0.000	0.688
Shropshire Hydro Corridor	7.055	0.000	2.704	0.000	9.760	7.418	2.342
Snowhill Park	0.461	0.000	0.000	0.000	0.461	0.461	0.000
SRT Expansion	0.998	0.000	0.000	0.000	0.998	0.998	0.000
State Crown Blvd S	0.317	0.000	0.000	0.000	0.317	0.000	0.317
Tabor Hill Memorial Park	0.803	0.000	0.000	0.000	0.803	0.803	0.000
Terry Fox Park	1.114	0.000	0.163	0.000	1.277	1.277	0.000
The Meadoway (Gatineau Hydro Corridor)	0.889	112.690	1.503	1.413	116.495	116.350	0.146
Thomson Memorial Park	2.209	0.000	0.000	0.000	2.209	2.209	0.000
Trudelle Park	0.000	0.122	0.000	0.000	0.122	0.122	0.000

Restoration Site (alphabetical order)	Size of restoration opportunity by habitat type (ha)				Total size of potential habitat restoration (size in ha)	Amount of site publicly owned (size in ha)	Amount of site privately owned (size in ha)
	Forest	Meadow	Riparian	Wetland			
UTSc	1.519	6.191	1.659	1.921	11.291	0.010	11.281
Vradsberg Park	0.620	0.000	0.000	0.000	0.620	0.587	0.033
Wanita Park	0.985	0.187	0.416	0.000	1.588	1.524	0.064
Warden Park	0.578	0.000	0.051	0.000	0.629	0.629	0.000
West Hill Park	0.613	0.000	0.000	0.000	0.613	0.613	0.000
White Haven Park	0.366	0.000	0.000	0.000	0.366	0.366	0.000
Woodgrove Ravine Park	0.403	0.000	0.000	0.000	0.403	0.403	0.000
Zaph Ave E/S	0.651	0.000	0.000	0.000	0.651	0.651	0.000
Zaph Ravine	0.161	0.000	0.000	0.000	0.161	0.161	0.000

Table 4 identifies the ten priority sites associated with Greening Principle 1 – Natural Cover and provides an overview of the size of the restoration opportunity by habitat type and land ownership. See **Figure 4** or the map viewer for a visual representation of these sites.

Table 4 - GP #1 Priority Greening Sites

Restoration Site	GP1 Priority #	Highest Terrestrial Natural Heritage/ Connectivity IRP Score	Ownership	Size of Restoration Opportunities				
				Forest	Meadow	Riparian	Wetland	Total (Public & Private)
Finch Hydro Corridor	1	Medium priority (2)	Public – 13.13 ha Private – 0.22 ha	0 ha	12.27 ha	0.75 ha	0.34 ha	13.35 ha
Malvern Branch	2	Medium priority (2)	Public – 4.65 ha Private – 0.12 ha	0 ha	0.01 ha	4.76 ha	0 ha	4.77 ha
Deekshill Park	3	Medium priority (2)	Public – 3.33 ha Private – 0.31 ha	2.74 ha	0 ha	0.90 ha	0 ha	3.64 ha

Restoration Site	GP1 Priority #	Highest Terrestrial Natural Heritage/ Connectivity IRP Score	Ownership	Size of Restoration Opportunities				
				Forest	Meadow	Riparian	Wetland	Total (Public & Private)
Bendale Branch	4	Medium priority (2)	Public – 1.93 ha Private – 0 ha	0 ha	0 ha	1.93 ha	0 ha	1.93 ha
Milliken Branch	5	Medium priority (2)	Public – 1.35 ha Private – 0.01 ha	1.14 ha	0 ha	0.22 ha	0 ha	1.36 ha
Grey Abbey Ravine	6	Medium priority (2)	Public – 1.16 ha Private – 0.22 ha	1.38 ha	0 ha	0 ha	0 ha	1.38 ha
Burrows Hall Park	7	Medium priority (2)	Public – 0.68 ha Private – 0.01 ha	0.57 ha	0 ha	0.11 ha	0 ha	0.69 ha
Berner Trail Park	8	Medium priority (2)	Public – 0.45 ha Private – 0 ha	0.45 ha	0 ha	0 ha	0 ha	0.45 ha
Woodgrove Ravine Park	9	Medium priority (2)	Public – 0.40 ha Private – 0 ha	0.40 ha	0 ha	0 ha	0 ha	0.40 ha
Manse Road Park	10	Medium priority (2)	Public – 0.22 ha Private – 0 ha	0.22 ha	0 ha	0 ha	0 ha	0.22 ha

Table 5 identifies the ten priority sites associated with Greening Principle 2 – Aquatic Habitat and provides an overview of the size of the restoration opportunity by habitat type and land ownership. See **Figure 5** or the map viewer for a visual representation of these sites.

Table 5 - GP #2 Priority Greening Sites

Restoration Site	GP2 Priority #	Highest Aquatic IRP Score	Ownership	Size of Restoration Opportunities				
				Forest	Meadow	Riparian	Wetland	Total (Public & Private)
Finch Hydro Corridor	1	High priority (3)	Public – 25.84 ha Private – 1.84 ha	0.72 ha	25.59 ha	0.84 ha	0.53 ha	27.68 ha
Milliken Branch	2	High priority (3)	Public – 10.31 ha Private – 1.35 ha	1.14 ha	0 ha	10.52 ha	0 ha	11.66 ha
Goldhawk Park	3	High priority (3)	Public – 0.45 ha Private – 0 ha	0.45 ha	0 ha	0 ha	0 ha	0.45 ha
The Meadoway	4	Medium priority (2)	Public – 23.02 ha Private – 0.15 ha	0.10 ha	22.74 ha	0.21 ha	0.12 ha	23.17 ha
L'Amoreaux Park	5	Medium priority (2)	Public – 10.57 ha Private – 0.15 ha	5.75 ha	0 ha	4.97 ha	0 ha	10.72 ha
Bendale Branch	6	Medium priority (2)	Public – 10.22 ha Private – 2.94 ha	2.88 ha	0 ha	10.27 ha	0 ha	13.15 ha
Shropshire Corridor	7	Medium priority (2)	Public – 7.42 ha Private – 2.34 ha	7.05 ha	0 ha	2.70 ha	0 ha	9.75 ha
Malvern Branch	8	Medium priority (2)	Public – 6.78 ha Private – 1.35 ha	0.20 ha	0.93 ha	7.00 ha	0 ha	8.13 ha
Morningside Park	9	Medium priority (2)	Public – 5.91 ha Private – 0 ha	2.84 ha	0.98 ha	1.92 ha	0.17 ha	5.91 ha

Restoration Site	GP2 Priority #	Highest Aquatic IRP Score	Ownership	Size of Restoration Opportunities				
				Forest	Meadow	Riparian	Wetland	Total (Public & Private)
Go Railway South	10	Medium priority (2)	Public – 5.21 ha Private – 0.10 ha	4.55 ha	0.42 ha	0.34 ha	0 ha	5.31 ha

APPENDIX B

This appendix explains the evaluation process of floodplain roughness to guide riparian plantings that may occur as part of the implementation of the Highland Greening Strategy. Enhancing the riparian vegetation can produce local hydraulic impacts and hence result in a change in floodplain extents. An increase in floodplain elevation resulting in an increase in floodplain extents is undesirable. Therefore, it is imperative that prior to changing the type of vegetation, the impact of the change in vegetation be studied. **Please contact TRCA's engineering staff if you need more information.**

A hydraulic modelling exercise was undertaken to determine if the enhancement of riparian vegetation would affect the existing floodlines. This appendix outlines the methodology, results and conclusions of that modelling exercise. Areas where riparian plantings may be undertaken have also been specified along with other recommendations.

This exercise focused on the channelized sections of Highland Creek that are generally located north of the hydro corridor that runs in a north-west direction south of Highway 401. The branches of Highland Creek studied include the Dorset Park Branch, West Bendale Branch, Markham Branch & Malvern Branch. Many of these channels were initially constructed as flood control channels some of which are still concrete-lined. Three of the branches are also known flood damage centers and are included in TRCA's Flood Vulnerable Clusters (FVCs) database, namely, Dorset Park on the Dorset Park Branch, Kennedy Commons on the West Bendale Branch, and Progress Park on the East Markham Branch (see the map viewer for locations of the FVCs).

Methodology

Prior to the commencement of this exercise, a general methodology was decided on, in conjunction with Watershed Planning & Reporting, and Restoration Projects staff. The study utilizes the existing Highland Creek HEC-RAS hydraulic model constructed for the purposes of determining the regulatory floodplain extents. In order to examine whether a change in riparian vegetation has impacts on flood elevations, the Manning's n parameter was adjusted. Four proposed conditions scenarios were modelled where a different treatment of Manning's n was used for each scenario.

The resulting water surface elevations for each proposed condition were compared to the water surface elevations resulting from the existing conditions as represented in the existing model. The comparisons were made for the 1:100-year flow and the Regional flow. These flows were chosen because the City of Toronto has expressed that they are particularly interested in the 100 year flows and the TRCA is interested in looking at the Regional flows which form for the basis of the floodplain mapping program.

Proposed Riparian Greening Areas

Slopes and top of bank of the channelized water courses that appeared to have limited tree

and shrub cover were delineated as areas for riparian plantings. Low flow channels were omitted from having riparian planting potential. The widths of the delineated riparian polygons range from 2.5 m to about 30 m. The majority of the widths are within the 15 m to 20 m range. Polygons within 30 m of a watercourse are considered to have an impact and are generally classified as riparian. All delineations were performed using aerial photographs. A large portion of the delineated riparian polygons were field verified in 2011.

Manning's n

Manning's n is a roughness coefficient that represents the resistance to flood flows in channels and floodplains. The factors that affect channel and floodplain roughness vary from the physical form of the channel (meandering tendencies and channel geometry changes) to the nature of the channel (materials in the channel, surficial irregularities such as obstructions in the channel). It is commonly used in hydraulic models that utilize energy equations within the standard step procedure to determine water surface elevations for a given discharge. To represent the increase in roughness caused by the increase in riparian vegetation, the Manning's n value is increased.

For the typical floodplain mapping projects, TRCA uses standard values which are presented in **Table 6**.

Table 6 - Standard Manning's Roughness Coefficients for TRCA Watershed Hydraulic Modelling

Land Use	Description and Conditions	"n" Value ¹⁷
Channel Component		
Watercourse/ Channel	<ul style="list-style-type: none"> low flow channel extends typically from bank to bank 	0.035
Hydraulic Structures	<ul style="list-style-type: none"> culvert crossings (e.g., corrugated metal, concrete open/closed footing etc.) bridge crossings 	Variable ¹⁸
Floodplain Component		
Urban Uses (Impervious)	<ul style="list-style-type: none"> Road crossings, existing parking lots or any large impervious surfaces etc. typically located within valley and stream corridors Does not include structures or buildings (to be modelled using available ineffective flow 	0.025

¹⁷ Manning's "n" values represent average values based on literature data assuming flooding conditions.

¹⁸ Refer to HEC-2 and/or HEC-Ras User's Manual for further details.

Land Use	Description and Conditions	"n" Value ¹⁷
	area options) ²	
Urban Uses (Pervious)	<ul style="list-style-type: none"> • <u>Existing</u> uses including municipal parks, playing fields, golf courses etc. • typically located within valley and stream corridors • Regular maintenance of area <u>is</u> required 	0.050
Natural Areas	<ul style="list-style-type: none"> • Pasture, meadow, agricultural, riparian vegetation, brush and forest • located within urban and/or rural land use setting • typically located within valley and stream corridors • <u>Not</u> subject to regular maintenance • Assumes regeneration of open space type uses including pasture, meadow and agricultural uses within floodplain areas (Consistent with TRCA's VSCMP and Natural Heritage Strategies) 	0.080
Flood Control Channels	<ul style="list-style-type: none"> • Flood control channels and associated works designed specifically for flood flow conveyance (eg., trapezoidal lined and un-lined channels etc.) • "n" value based on original design or maximum allowable value determined through a sensitivity analysis • Regular maintenance of area <u>is</u> required 	Variable ¹⁹

¹⁹ Ibid

Figure 8 shows an example of riparian plantings with the associated n values.



Figure 8 - Example Plantings and Associated Roughness

As per TRCA's standard table, Manning's n (n) value of 0.035 is typically used for the low flow channel and it typically extends bank to bank. However, in the case of hydraulic structures, the channel roughness can be variable. A value of 0.035 typically represents a roughness within a channel with stony bottom and weedy banks for excavated or dredged channels that are characterized as "earth winding and sluggish". The value of 0.035 also characterizes "natural streams". Within this context, a natural stream is a non-excavated/non-dredged channel with a top width less than 100 feet at flood stage which is relatively straight and is characterized by stones and weeds. Please refer to the appended documents for details on ranges of the Manning's n values for a variety of scenarios.

The floodplain is typically modelled using one of three values – 0.025, 0.050 and 0.08. These values represent the urban impervious, the urban pervious and the natural areas that will not be maintained, respectively. The floodplain component of flood control channels, however, may be modelled using the design Manning's n values or a maximum allowable value as determined through a sensitivity analysis.

Existing Conditions Model

The existing HEC-RAS model has a very non-detailed and a conservative representation of channel floodplain roughness as required by TRCA standards for the purposes of modelling the regulatory flood. Each cross section has three zones of n values: left overbank, channel and right overbank. At almost all cross sections, n values at both left and right overbanks were equal. These overbank/floodplain roughness values range from 0.025 to 0.08 which represent roughness ranging from urban impervious to fully regenerated natural areas.

Since the existing model provides a non-detailed representation of roughness, an additional scenario – “Updated Existing Conditions” scenario was modelled wherein the channel and floodplain roughness were updated for two pilot study branches– the East Markham Tributary and the Malvern Tributary. Within these reaches, the landuse mapping was used to update both the floodplain and channel roughness. Additionally, the channel bank stations were adjusted to reflect the appropriate location of channel roughness.

Proposed Conditions Model

The following four proposed conditions scenarios were modelled:

- Proposed 1 (P1): Building on the existing conditions, cross sections within the Highland Riparian study area with Manning’s n (n) values of less than 0.08 (0.02 to 0.063) were increased to 0.08 – in the floodplains only
- Proposed 2 (P2): Same as Proposed 1, and additionally, cross sections with n values of 0.08 were increased to 0.1 (25% increase) – in the floodplains only
- Proposed 3 (P3): Same as existing conditions but with an increase in in-channel n values to 0.08 within the Highland Riparian study area.
- Proposed 4 (P4): Same as the updated existing conditions but with the Manning’s n within the riparian areas of part of the pilot study reaches were increased to 0.1. An updated existing conditions model was used wherein a few pilot reaches (East Markham Tributary & Malvern Branch of Highland Creek) were updated to reflect a more detailed floodplain and channel roughness. The reaches within the study area that did not have Flood Vulnerable Areas were chosen as the pilot reaches.

For the first scenario (P1), the overbank n values for all cross sections within the Highland Riparian area were increased to 0.08. For the second scenario, the floodplain roughness was represented by two n values 0.08 and 0.1. A total of 169 cross sections were represented by a floodplain roughness of 0.08; whereas the rest (222 cross sections) were represented by a floodplain roughness of 0.1. In the third scenario, the floodplain roughness was left unchanged (same as the existing conditions model). However, the in-channel roughness values within the Highland Riparian areas were increased to 0.08. The fourth proposed conditions scenario was built on the updated existing conditions. Two pilot study branches were chosen – Malvern Branch and East Markham Tributary. The reaches within the study area that did not have Flood Vulnerable Clusters were chosen as the pilot reaches. Within the pilot study area, the floodplain riparian areas were assigned a roughness of 0.1.

The roughness values chosen are fairly conservative. A floodplain n value of 0.08 represents a maximum value for light brush and trees (summer conditions). Whereas a value of 0.1 represents medium to dense brush in summer. It is anticipated that as part of the Highland Greening Strategy, the riparian plantings within the channelized sections of Highland Creek will be limited to shrubs and not trees. It is also expected that only the upper part of the side slopes of the trapezoidal channel that are above the low flow channel (in non-concrete lined channels) and the overbank areas will be planted.

Given the type of plantings proposed in the riparian areas, the choice of the floodplain roughness values is quite conservative. Furthermore, P2 is more conservative than P1 as it represents dense brush. The roughness values chosen also account for the assumption that the channel will have minimal maintenance, if any. The choice of the n values is also in keeping with TRCA's standard Manning's n roughness values. Scenario P3, is fairly conservative since it assumes that the entire channel will be planted. This option was also included because the bank stationing in the existing model does not align with the limits of the proposed riparian planting area. Therefore, part of the proposed planting area is within an area that is identified by the model to be "in-channel".

Scenario P4 offers the most accurate representation of Manning's n in both the proposed riparian areas and the remaining areas of the floodplain. The updated existing conditions model was further updated such that the delineated riparian areas outside the designated "in-channel" area was assigned a Manning's n value of 0.1 which, as mentioned previously, is representative of medium to dense brush in summer. This roughness value is a fairly accurate representation of the expected long-term established vegetation.

Results and Analysis

100-year Flow Results

Table 7 presents the water surface elevation (WSE) differences between the existing conditions and the proposed conditions for the four scenarios modelled (P1, P2, P3 & P4) for the 100-year event. Of the two scenarios where only the floodplain roughness was changed, the proposed scenario P2 generally shows larger increases in WSE than P1. The highest increase in the WSE is 0.14 m. The highest increases were noted at two locations – West Bendale Branch east of Kennedy Road and at the Markham Branch south of Hwy 401. At these locations, the difference in the lateral flood extents is negligible. Both the proposed conditions with riparian plantings and the existing conditions for the 100-year flood result in floodplain extents that are largely contained within the same area.

The WSE increases (above the WSE under the existing conditions scenario) for the P3 scenarios are significantly higher compared to the P2 scenario with the largest increase being 1.64 m. The largest increases were noted within the West Bendale Branch -west of Kennedy Road, East Markham Branch west of McCowan Road and Malvern Branch. **Please contact TRCA for these data sets.**

Table 7 - 100-year Water Surface Elevation Differences and Summary Statistics

Summary Statistics	P1-Ex	P2-Ex	P3-Ex	P4-UpEx
Min (m)	0.01	0.01	0.01	0.01
Max (m)	0.11	0.14	1.64	0.73
Mean (m)	0.01	0.02	0.51	0.17
Standard Deviation (m)	0.01	0.02	0.37	0.16
# of XS > 5 cm change	3	5	399	46*

Summary Statistics	P1-Ex	P2-Ex	P3-Ex	P4-UpEx
# of XS with an increase	148	192	448	66*
*Note: P4 scenario shows fewer total cross sections that show increases because changes were only made to two pilot study branches of Highland Creek in this scenario.				

Though the WSE appears to be significant, the mapping of these elevations on a DEM suggests that the lateral extents are not expected to change significantly if the floodplain roughness were to increase likely due to the fact that the flood is contained within the valley. However, an increase in the in-channel roughness causes a significant increase in the water surface elevations and the lateral flood extents in some areas.

Within the pilot study reaches for P4, the 100-year WSE results show that increases as high as 0.73 m can be expected. Within the East Markham Tributary reach, most of the increases were noted at the downstream end of the reach and at other locations downstream of a bridge or culvert. However, an examination of the flood extent polygon shows that no increase in existing flooding extents is expected. Within the Malvern Branch, the highest increases were noted at Malvern-1, the upstream-most reach and at immediately upstream of Sheppard Ave.

Regional Flow Results

Table 8 presents the WSE differences between the existing conditions and the proposed conditions for the four scenarios modelled (P1, P2, P3 & P4) for the Regional event.

The number of locations where WSE increased were noted under the regional event are much larger than those noted in the 100-year event. The number of cross sections showing large increases (i.e. greater than 5 cm, for the most conservative proposed conditions scenario (P3) is 405). This is very significant since it exceeds the number the total number of cross sections (391) that intersect with the proposed areas of riparian planting.

Table 8 - Regional Water Surface Elevations Differences and Summary Statistics

Summary Statistics	P1-Ex	P2-Ex	P3-Ex	P4-UpEx
Min (m)	0.01	0.01	0.01	0.01
Max (m)	0.13	0.16	1.85	0.77
Mean (m)	0.02	0.03	0.48	0.17
Standard Deviation (m)	0.02	0.03	0.36	0.17
# of XS > 5 cm change	14	46	405	56
# of XS with an increase	189	252	447	72
*Note: P4 scenario shows fewer total cross sections that show increases because changes were only made to two pilot study branches of Highland Creek in this scenario.				

Similar to the 100-year event, of the scenarios where only the floodplain roughness was changed, the P2 scenario shows the largest increases. The highest increase is 0.16 m. As with the 100-year event, the floodplain extents under proposed conditions (P2) do not appear to be very different from those under existing conditions.

For the P3 scenario, the average increase in the Water Surface Elevation was determined to be 0.48 m and the maximum increase was determined to be 1.85 m. These increases are fairly large compared to the P2 scenario. The increase in Manning's n from a range of 0.015 - 0.035 to a value of 0.08 is substantial and hence such results are expected.

Within the pilot study reaches, the Regional WSE results show that increases as high as 0.77 m can be expected. Within the East Markham Tributary reach, most of the increases were noted at the downstream end of the reach and at other locations downstream of a bridge or culvert. However, an examination of the flood extent polygon shows that no increase in existing flooding extents is expected. Within the Malvern Branch, the highest increases were noted at Malvern-1, the upstream-most reach and at immediately upstream of Sheppard Ave. An increase in floodplain extents was noted at Malvern-1.

Conclusions

1. Based on the modelled results & available information, the largest increase in water surface elevations (WSE) happens under the P3 scenario. The largest expected increases are 1.64 m for 100-year flow and 1.85 m for a regional flow.
2. The largest increases occur in the West Bendale Branch (upstream of Kennedy Road), East Markham Branch (upstream of Sheppard Ave) and Malvern Branch of the Highland Creek.
3. Within the pilot study reaches, water surface elevation increases as high as 0.77 m were noted. However, in almost all areas, the increase in the WSE did not result in increase in floodplain extents, Malvern-1 reach being the exception. The WSE increases were noted to mainly occur downstream of hydraulically constraining structures such as bridges and culverts. It must be noted that the absence of increase in lateral floodplain extents do not imply a lack of increase in flood risk.
4. Potential flooding impacts of stormwater outfalls backwatering as a result of increased vegetation in the vicinity of the outfalls were not examined in this exercise. The locations of stormwater outfalls must be considered prior to any riparian plantings.
5. Areas where plantings may be supported are shown in **Figure 9**. However, it must be noted that any reach identified as "Yes" may also have other constraining factors that must be taken into consideration before any riparian plantings.

Recommendations

1. A reassessment of the hydraulic work should be completed once the updated model is available.
2. Based on our current understanding of the hydraulic conditions of the watershed, additional riparian plantings within the following areas are not supported without further

site-specific modelling:

- a. Locations identified as Flood Vulnerable Clusters. TRCA and the City of Toronto will be undertaking a Flood Remediation Environmental Assessment to determine flood mitigation measures within the East Markham branch south of Hwy 401 for that FVC.
- b. It is recommended that the conveyance within the flood control channels be maintained. Therefore, Engineering Services does not recommend plantings within the concrete-lined flood control channels. Instead it is recommended that vegetation and debris within concrete channels be removed.
- c. Plantings should be avoided in the vicinity of hydraulically constraining structures, such as bridges and culverts as an increase in roughness in these areas will result in reduced conveyance through an already constraining flow structure. This will adversely affect WSE, and potentially the flood extents.
3. Plantings may be undertaken within areas outside of the FVCs and outside the concrete-lined flood control channels. Such areas would be the flat areas adjacent to the top of banks. The upper side slopes of the trapezoidal channels may also be planted. However, further detailed site-specific study would be required. Within these specified constraints, plantings may be undertaken in the following reaches:
 - a. West Bendale branch of Highland Creek upstream of Kennedy Road
 - b. East Markham Tributary of Highland Creek
 - c. East Markham branch of Highland Creek upstream of Finch Ave
 - d. Malvern branch of Highland Creek (with the exception of Malvern -1 reach, which is the upstream reach that showed an increase in floodplain extents)
4. There are a number of City of Toronto stormwater outfalls within the study area. When implementing the riparian plantings, it is recommended that a suitable buffer be maintained from the outfall, depending on their location and elevation, to avoid potential backwater and flooding issues. The City of Toronto should also be consulted to determine the appropriate buffer distance.
5. It should also be noted that Toronto Water does not permit planting of trees within a 10 m bank centered about a trunk sewer, i.e., 5 m on either side of the sewer centerline. Prior to undertaking riparian plantings, Toronto Water should be consulted to confirm sewer alignment related constraints.
6. If riparian plantings are desired in areas other than those recommended in this study, a detailed site-specific study is recommended. If channel conveyance inhibited by proposed vegetation is to be implemented, a change in channel dimensions (i.e. channel widening and/or deepening, may be required). Any such channel modification would require specific geomorphic assessments and hydraulic modelling to determine if natural channel design principles can be supported.
7. Proposed plantings should be evaluated on a case-by-case basis starting with priority sites. The flood risk associated with the specific plantings should be evaluated, at a minimum, using the technical guidelines established in the Ministry of Natural Resources and Forestry's Technical Guide for River and Stream Systems: Flooding Hazard Limit. There may be other site-specific requirements depending on the landuse and the associated risks.
8. Toronto Water should be consulted regarding the site-specific studies which could impact

City infrastructure and/or City property.

9. Please contact TRCA for data layers containing water surface elevation (WSE) results at all cross sections in the study area, and the hydraulic model. The WSE data layer can be used to help determine the appropriate locations for increasing the riparian cover within Highland Creek watershed.

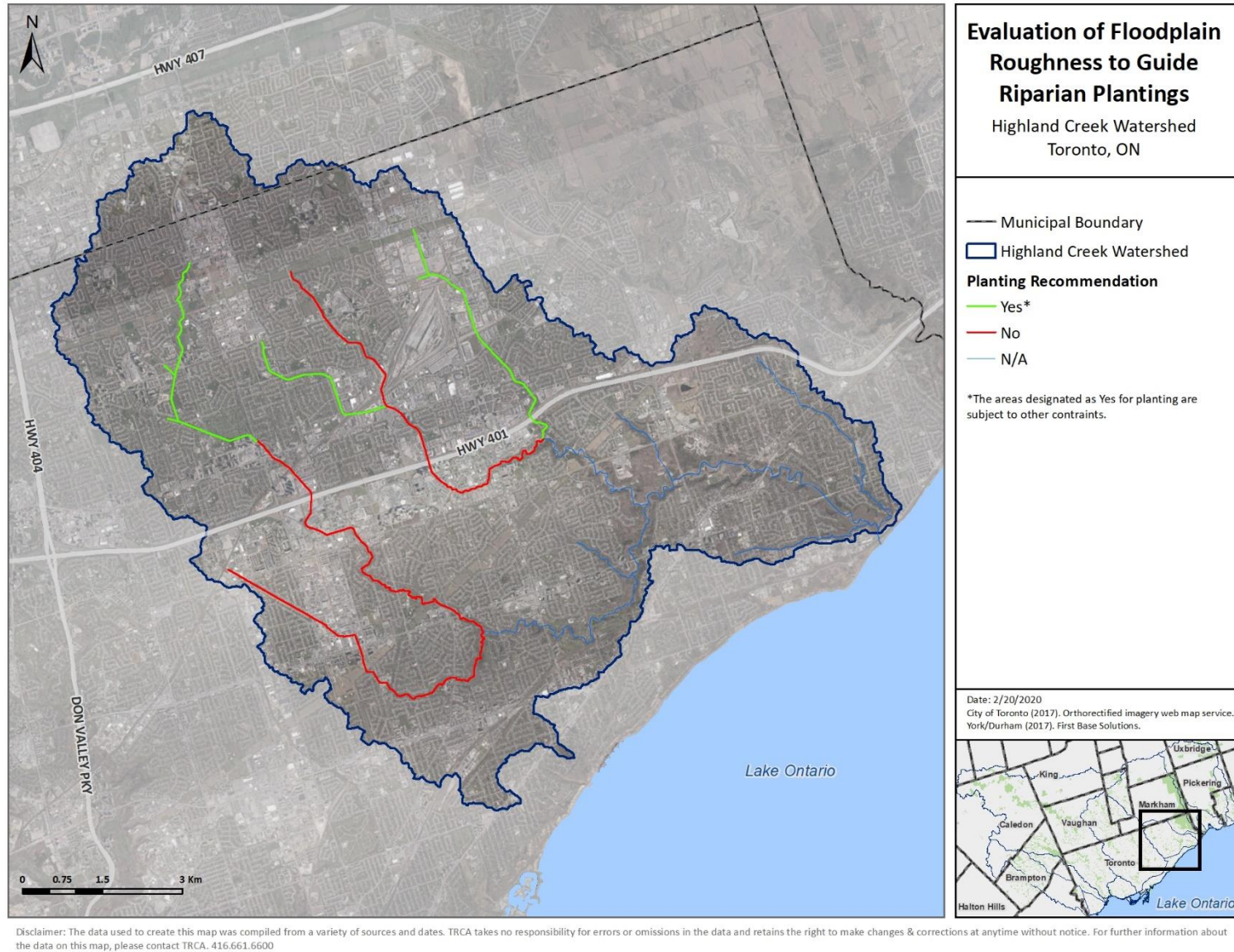
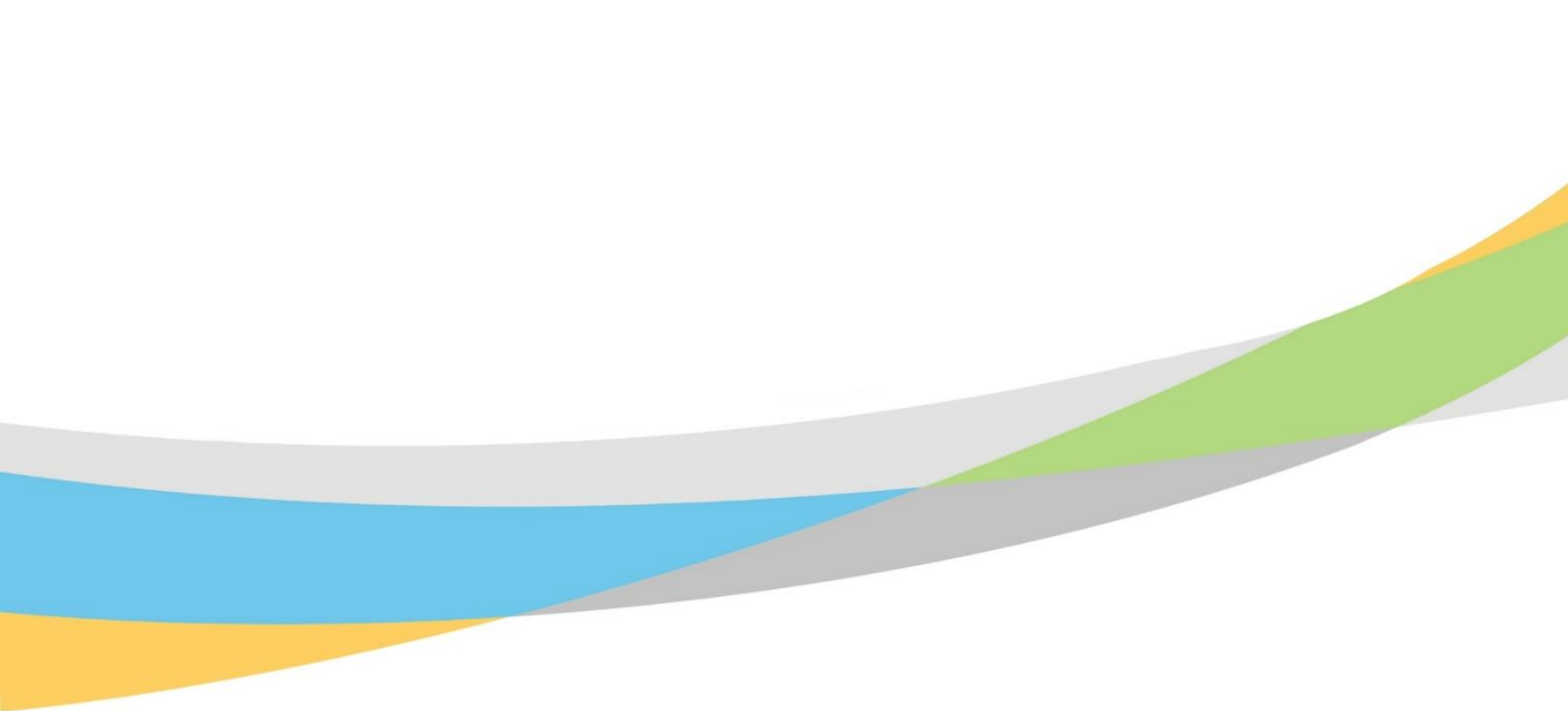


Figure 9 - Recommended Riparian Plantings



Section I – Items for Board of Directors Action

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Anil Wijesooriya, Director, Restoration and Infrastructure

RE: **ADVANCING CYCLING CONNECTIONS IN THE CITY OF TORONTO WARD 6**
Downsview Green Loop

KEY ISSUE

Staff report on feasibility of a four-metre wide multi-use trail along the east side of Black Creek between Downsview Avenue and Wilson Avenue.

RECOMMENDATION

THAT the report on the feasibility of constructing a four-metre wide multi-use trail along the east side of Black Creek between Downsview Avenue and Wilson Avenue be received;

THAT TRCA staff work with City of Toronto staff to evaluate the route of the Downsview Green Loop within the Jane Street and Keele Street Major City-wide Cycling Corridor Study, upon request from the City of Toronto;

AND FURTHER THAT TRCA, upon request from the City of Toronto, investigate how flood remediation measures in this area could enable further recreational uses, in addition to reducing risk to life and property.

BACKGROUND

At Board of Directors Meeting #4/20, held on May 22, 2020, Resolution #A75/20 was approved as follows:

THAT the Toronto and Region Conservation Authority staff advise the Board of Directors on the feasibility of constructing a four-metre-wide multi-use trail along the east side of Black Creek between Downsview Avenue and Wilson Avenue.

The proposed multi-use trail is between Downsview Avenue and Wilson Avenue, and is located within the Black Creek hydraulic floodway owned by Toronto and region Conservation Authority (TRCA) and managed by the City of Toronto. The land parcel falls inside TRCA's Jane-Wilson flood vulnerable cluster within the City of Toronto's Black Creek Special Policy Area (SPA). A flood vulnerable cluster is an area within the floodplain with a high concentration of buildings and roads that could be impacted by riverine flooding. A map identifying the property, TRCA Regulated Area and SPA is included as Attachment 2.

RATIONALE

TRCA staff investigated the issues and opportunities for trail development to provide advice on the feasibility of the proposed project. A map indicating the general study area and conceptual trail alignment in the Notice of Motion is included as Attachment 1.

The following is a brief overview of the issues and opportunities related to constructing a trail in the proposed parcel.

Flood Risk

- Issue: This section of the Black Creek is within the the Jane-Wilson flood vulnerable cluster. It is ranked as the second highest flood risk area in TRCA's jurisdiction because the dense urban development within the Black Creek floodplain and drainage area is particularly susceptible to flooding. This cluster is known to experience flash flooding during sudden, intense thunderstorms.
- Opportunity: TRCA staff would be supportive of investigating how flood remediation measures in this area could enable further recreational uses, in addition to reducing risk to life and property. While current flood depths and velocities present risks to personal safety, this can be revisited in the future as flood remediation options are evaluated.

Erosion Risk

- Issue: There are significant limitations due to spacing concerns, which increase the risk of any trail in the area being impacted by toe erosion and the resulting undermining of both the east and west banks. This is particularly important to consider if the concrete liner of the channel deteriorates in absence of regular maintenance and channel repair.

General Risk

- Issue: As a general principle, encouraging the public to interact or approach flood control infrastructure is discouraged by TRCA, as there is concern with the chance of drowning or injury due to a high flow or flood event in the area. The Black Creek Channel is a concrete-lined flood conveyance structure which TRCA considers a high hazard worksite due to its limited access, as well as its susceptibility to sudden increases in water volume and velocity.
- Opportunity: People are using an informal path in this parcel. A safe formalized trail would help address some of this concern. Features could include fencing, warning signs and gates to restrict access during flood and storm events.

Constructability

- Opportunity: A desktop review indicates that a trail in this parcel is generally feasible to implement. In-field confirmation of obstacles and barriers would be required before proceeding.

TRCA Trail Strategy

- Opportunity: The TRCA Trail Strategy for the Greater Toronto Region (2019) does not identify the proposed trail as part of its Greater Toronto Regional Trail Network; however, nearby Jane Street (north of Wilson Avenue) was adopted because it was identified in the City of Toronto's Cycling Network Plan (2016) as a Major Corridor Study Area that proposed bike lanes or cycle tracks between an area just south of Highway 401 and Steeles Avenue West. Jane Street was again identified in the 2019 Cycling Network Plan update for consideration as a Major City-wide Cycling Corridor Study, concurrent with Keele Street. City of Toronto staff confirmed that it is their intent is to review both parallel routes to determine which is the most viable. No study work has been initiated on either route as they are not in the short-term implementation program (2019-2022).

Future bike lanes or cycle tracks along Jane Street are proposed to be part of the larger Black Creek Trail system identified in the TRCA Trail Strategy which continues north from Wilson Avenue through several parklands along the Black Creek Ravine system. Black Creek Trail connects to several amenities and facilities such as the Finch Hydro

Item 8.11

Corridor Trail, TRCA's new head office location, York University and Black Creek Pioneer Village. The Trail Strategy further identified the need to continue the Black Creek Trail system north to the Vaughan Metropolitan Centre, providing additional connectivity to TRCA's Black Creek Pioneer Village North property, Highway 407 Subway Station, the southern section of the Vaughan Super Trail, and York Region's proposed South Greenway Corridor Trail. A map identifying existing and proposed trail connections associated with this area is included as Attachment 3.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 4 – Create complete communities that integrate nature and the built environment

FINANCIAL DETAILS

Financial details will be determined if a proposal for formal review is submitted to TRCA.

DETAILS OF WORK TO BE DONE

- Upon request from the City of Toronto, complete a formal review of a detailed proposal for the development of a multi-use trail in the proposed TRCA-owned parcel as part of the Downsview Green Loop.
- Upon request from the City of Toronto, TRCA will work with the City of Toronto to evaluate the route of the Downsview Green Loop within the Jane Street and Keele Street Major City-wide Cycling Corridor Study if options on TRCA-owned lands are being considered.
- Upon request from the City of Toronto, investigate how flood remediation measures in this area could enable further recreational uses and reduce risk to life and property.
- In support of TRCA's Trail Strategy, TRCA will continue to meet with the City of Toronto to discuss coordinate trail project implementation plans, seek opportunities for partnership, secure land and easements, and address trail ownership and management. Collaboration will ensure that trail-related activities are coordinated within TRCA and with our municipal partners and partner agencies, and allows TRCA and its trail partners to develop, prioritize, and manage collaborative trail projects. These efforts are supported through existing Service Level Agreements and Memorandums of Understanding that allow TRCA and its partners to deliver trail projects of mutual interest quickly and effectively. This coordination facilitates TRCA staff to provide technical advice and recommendations for proposed trail facilities to member municipalities and partner agencies prior to trail-related reports being brought to the Board for approval.

Report prepared by: Adam Dembe, extension 5939

Emails: adam.dembe@trca.ca

For Information contact: Ralph Toningner, extension 5366; Adam Dembe, extension 5939

Emails: ralph.toningner@trca.ca, adam.dembe@trca.ca

Date: August 21, 2020

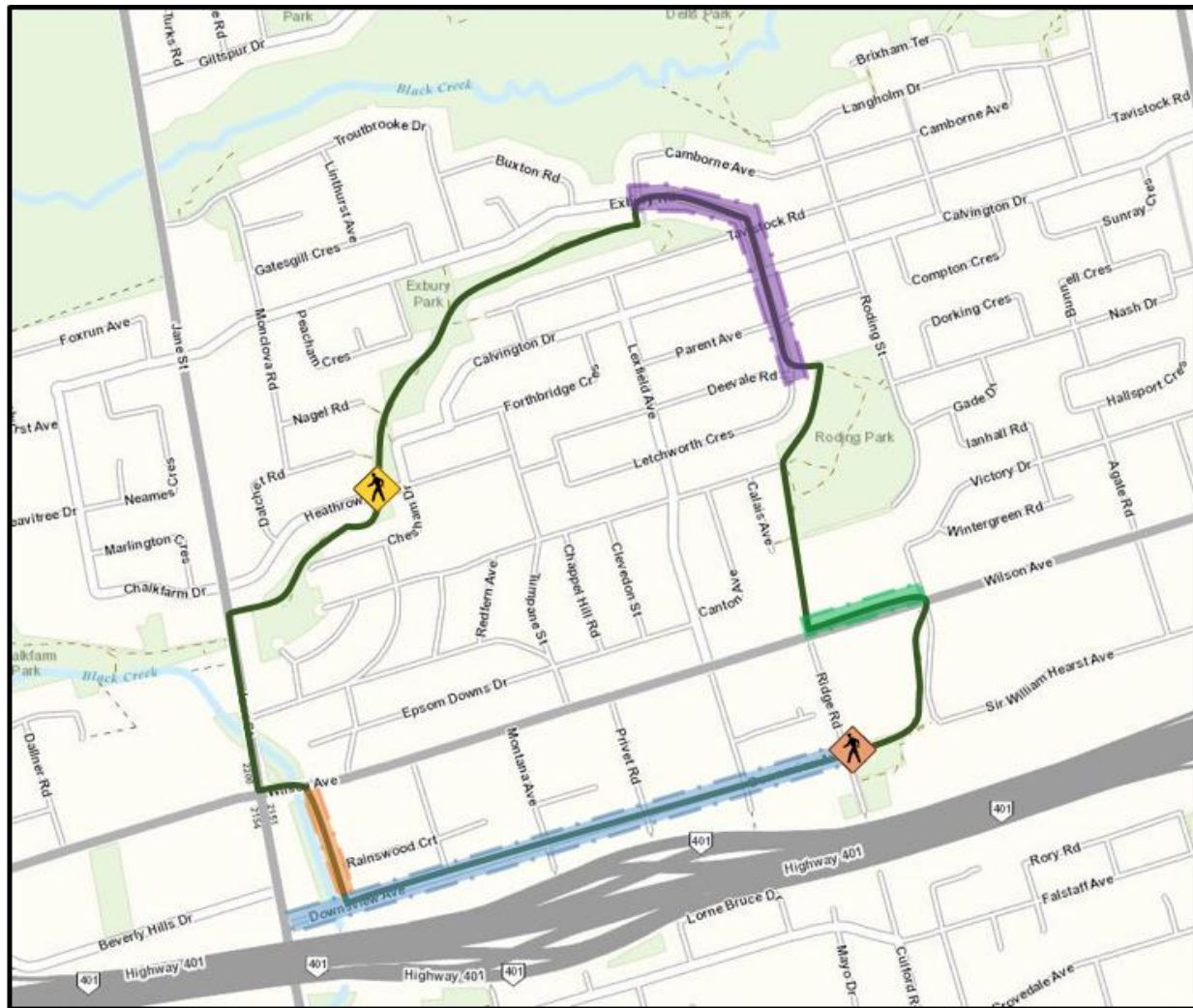
Attachments: 3






Attachment 1: Downsview Green Loop Proposal

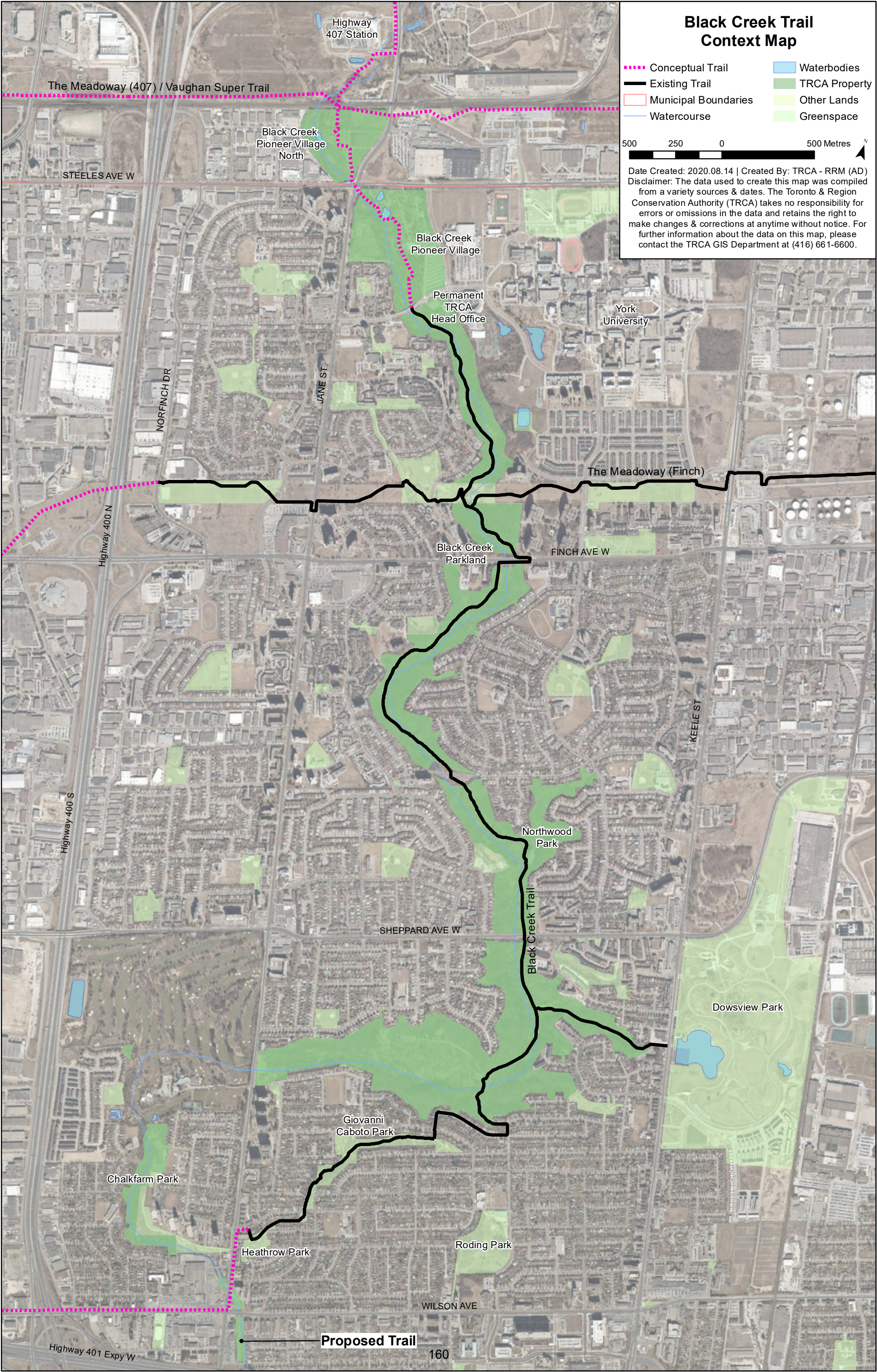
Attachment 2: Site Context

Attachment 3: Local and Regional Trail Connectivity

Attachment #1: Downsvew Green Loop Proposed Improvements



-  1. Downsview Ave. Bike Sharrows (~ 1,230 M)  4. Mid-block crosswalk (Heathrow Dr. @ Heathrow Park Trail)
 2. Exbury Rd. Bike Sharrows (~ 600 M)  5. Crosswalk (Downsview Ave. @ Ridge Park/Trail)
 3. Cycling boulevard trail (~ 235 M)
 B. TRCA Black Creek Multi-Use Trail (~ 250 M)  Downsview Green Loop



Black Creek Trail Context Map

- Conceptual Trail
- Existing Trail
- Municipal Boundaries
- Watercourse
- Waterbodies
- TRCA Property
- Other Lands
- Greenspace



Date Created: 2020.08.14 | Created By: TRCA - RRM (AD)
Disclaimer: The data used to create this map was compiled from a variety of sources & dates. The Toronto & Region Conservation Authority (TRCA) takes no responsibility for errors or omissions in the data and retains the right to make changes & corrections at anytime without notice. For further information about the data on this map, please contact the TRCA GIS Department at (416) 661-6600.

Proposed Trail

Section III – Items for the Information of the Board

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: John MacKenzie, Chief Executive Officer

RE: **UPDATE ON MUNICIPAL MEMORANDUMS OF UNDERSTANDING AND SERVICE LEVEL AGREEMENTS**

KEY ISSUE

Update on work underway to update and achieve Memorandums of Understanding (MOUs) and Service Level Agreements (SLAs) with partner municipalities in the context of the updated *Conservation Authorities Act* (CA Act) and relevant regulations.

RECOMMENDATION

WHEREAS Toronto and Region Conservation Authority (TRCA) RES.#A121/19, adopted at the June 21, 2019 Board of Directors meeting, directed staff to pursue and execute updated MOUs and SLAs with its partner municipalities in accordance with the amendments to the *Conservation Authorities Act* made by Bill 108 and designed to improve accountability and transparency around the work of conservation authorities funded by municipalities;

AND WHEREAS TRCA RES.#A237/19, adopted at the January 24, 2020 Board of Directors meeting, directed staff to continue to work with partner municipalities to execute updated MOUs and SLAs based on mutually agreed upon services and, additionally, to report back to the Board of Directors on the progress of these agreements once draft *Conservation Authorities Act* regulations are released;

AND WHEREAS TRCA RES.#A31/20 adopted at the April 24, 2020 Board of Directors meeting provides specific direction to staff when updating or developing *Planning Act* related Memorandums of Understanding and Service Level Agreements with partner municipalities;

AND WHEREAS the COVID-19 pandemic has delayed the expected release of the *Conservation Authorities Act* regulations;

IT IS RECOMMENDED THAT this progress report be received;

THAT staff continue to work with partner municipalities to execute updated MOUs and SLAs based on mutually agreed upon services;

THAT staff report back to the Board of Directors on the progress of these agreements once draft *Conservation Authorities Act* regulations are released;

AND FURTHER THAT the Clerk and Manager, Policy, so advise municipal partners, Conservation Ontario and the Conservation Authorities that share municipal jurisdictions with TRCA.

BACKGROUND

A review of the *Conservation Authorities Act* (CA Act) was initiated in 2015 by the Ministry of Natural Resources and Forestry (MNR). The objective of the review was to identify opportunities to improve the legislative, regulatory, and policy framework governing the creation, operation, and activities of conservation authorities. Following extensive consultation, the Government of Ontario introduced the *Building Better Communities and Conserving Watersheds Act, 2017* (Bill 139) which received Royal Assent on December 12, 2017. Bill 139 amendments to the CA Act that affected the mandate of conservation authorities included a new “purpose” section, minor adjustments to the “objects” and “power” sections, and new provisions addressing the following three categories of required and permitted programs and services:

1. *Mandatory programs and services* that are required by regulation.
2. *Municipal programs and services* that the authority agrees to provide on behalf of municipalities situated in whole or in part within its area of jurisdiction under a Memorandum of Understanding (MOU).
3. *Other programs and services* that the authority may determine are advisable to further its objects.

The CA Act was amended, again, on June 6, 2019 as part of Schedule 2 of the *More Homes, More Choice Act* (Bill 108). While Bill 108 is now law, many of the provisions of the amended CA Act are still subject to enabling regulations to be proclaimed by the Lieutenant Governor in Council (approved by Cabinet) or by the Minister. Proposed regulations to enact the new legislation include:

- Mandatory Program and Service Regulations – standards and requirements;
- Transition Regulation – Transition Plan, consultation, timeframe to achieve compliance;
- Governing appointment of operating expenses and capital costs; and
- Classes of programs and services for fees and prescribed amounts.

Bill 108 retains the three categories of programs and services added by Bill 139 and specifies four areas of *mandatory programs and services* that may be prescribed by regulation:

1. Programs and services related to the risk of natural hazards.
2. Programs and services related to the conservation and management of lands owned or controlled by the authority, including any interests in land registered on title.
3. Programs and services related to the authority’s duties, functions and responsibilities as a source protection authority under the *Clean Water Act, 2006*.
4. Programs and services related to the authority’s duties, functions and responsibilities under an Act prescribed by the regulations (e.g. the *Planning Act*).

Bill 108 made minor changes to the provisions governing *municipal programs and services*, (*i.e., non-mandatory*), that require an MOU or agreement be made available to the public, be reviewed at regular intervals, and that the programs and services an authority agrees to provide on behalf of a municipality be provided in accordance with the terms and conditions set out in the MOU or agreement. Bill 108 added criteria for *other programs and services*, (*i.e. non-mandatory*) that states that a conservation authority may provide, within its area of jurisdiction, such other programs and services it determines are advisable to further its objects. If municipal funding is involved, there must be an agreement in accordance with the regulations and with funding determined in accordance with the CA Act and associated regulations.

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In anticipation of the upcoming CA Act enabling regulations, and following TRCA Board direction, staff have begun meeting with our partner municipalities to discuss shared priorities and desired outcomes. This has led to agreement on the importance of developing new standardized agreements to ensure consistency, accountability, and transparency. Pursuing MOUs and SLAs with our partner municipalities will help us identify ongoing funding for TRCA's programs, projects and services for 2021 and beyond, while also supporting our municipalities in their needs, priorities and desired outcomes. Additionally, MOUs are good business practice and would allow a municipality to procure our services more easily through procurement policy exemptions.

To learn more about the amendments to the CA Act, please refer to TRCA's dedicated [CA Act Update page](#).

At [Board of Directors Meeting #11/19](#), held on January 24, 2020, Resolution #A237/19 regarding the "Update on Memorandums of Understanding and Service Level Agreements with Partner Municipalities" report was adopted as follows:

WHEREAS Toronto and Region Conservation Authority (TRCA) RES.#A121/19, adopted at the June 21, 2019 Board of Directors meeting, directed staff to pursue and execute updated Memorandums of Understanding (MOUs) and Service Level Agreements (SLAs) with its partner municipalities in accordance with the amendments to the Conservation Authorities Act made by Bill 108 and designed to improve accountability and transparency around the work of conservation authorities funded by municipalities;

AND WHEREAS the Conservation Authorities Act amendments prompt the need for agreements for non-mandatory programs and services to be negotiated with regional municipalities, City of Toronto and lower tier municipalities as part of the transition plan process following proclamation of the enabling regulations associated with the Bill 108 amendments to the Conservation Authorities Act; AND

WHEREAS TRCA delivers a significant amount of value-added services to its partner municipalities that will be further strengthened through SLAs, where formal agreements do not currently exist; AND

WHEREAS TRCA staff have held numerous meetings with municipal representatives in our jurisdiction since receiving Board of Directors direction on June 21, 2019;

THEREFORE, LET IT BE RESOLVED THAT staff continue to work with partner municipalities to execute updated MOUs and SLAs based on mutually agreed upon services;

THAT the Board of Directors representatives in lower tier municipalities request support from their municipal staff in ensuring that consideration is given for TRCA to be relieved from standard purchasing requirements based on their unique expertise and within the scope and mandate of the Conservation Authorities Act (e.g. flood and erosion management) in a manner similar to the City of Toronto and other municipalities in our jurisdiction;

THAT staff be directed when negotiating MOUs and SLAs that where there is any conflict between an upper and lower tier municipality for any services related to Planning

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Act matters, the municipality that is deemed the approval authority under the Planning Act shall prevail;

THAT staff report back to the Board of Directors on the progress of these agreements once draft Conservation Authorities Act regulations are released;

AND FURTHER THAT the Clerk and Manager, Policy, so advise municipal partners.

The topic of MOUs with municipalities for the purposes of review related to the *Planning Act* has also been raised both with partner municipalities and the Board of Directors. Most recently, at [Board of Directors meeting #3/20](#), held on April 24, 2020, Resolution #A31/20 regarding the 'Update on Planning Act Related Memorandums of Understanding and Service Level Agreements with Partner Municipalities' was adopted as follows:

WHEREAS through Bill 108, the More Homes, More Choices Act, the Planning Act was amended to streamline development approvals processes and facilitate faster decisions by reducing decision timelines for municipalities and the province;

THEREFORE, LET IT BE RESOLVED THAT given the reduced timelines for application review under Bill 108, Toronto and Region Conservation Authority (TRCA) staff be directed when negotiating or updating Memorandums of Understandings (MOUs) and Service Level Agreements (SLAs) dealing with Planning Act matters, that agreements include provisions to ensure TRCA can provide comments within the statutory timeframes;

THAT such provisions provide a mechanism to ensure official plan policies for complete applications are regularly reviewed to ensure TRCA's requirements are fully reflected; provide for strengthened coordination with TRCA in the municipality's pre-application process; and provide for coordinated representation of municipal and TRCA interests for Local Planning Appeal Tribunal (LPAT) appeals, where feasible;

THAT TRCA continues to work with BILD, consultants, development companies and municipal partners on updated TRCA guidelines, that help with the streamlining of applications;

THAT TRCA ensure that any fees for services provided to municipalities that are recouped from the taxpayers or service users, be collected in accordance with the Municipal Act as well as the Conservation Authorities Act and associated regulations;

AND FURTHER THAT the Clerk and Manager, Policy, so advise BILD, the Clerks, the Chief Planning Officials, the Chief Financial Officers, and Legal Counsel of our municipal partners.

Framework for Undertaking Agreements with Municipalities

The following agreements are proposed as the basic framework for non-mandatory *municipal programs and services* with our partner municipalities:

Memorandum of Understanding (MOU)

For the purposes of establishing principles for collaboration and partnership with municipalities, an MOU will be used to set out the relationship, roles and responsibilities when no funding is being exchanged. MOUs may provide for the possibility of future fee-for-service or other agreements to implement.

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Service Level Agreement (SLA)

The SLA is intended to provide the overarching framework for TRCA and the municipality to work together to deliver *municipal programs and services*. The SLA will address services that the municipality will provide explicit funding for and which are considered non-mandatory under the amended CA Act. The SLA will include a schedule that lists the type of services that the municipality may engage TRCA in providing. It is proposed that an SLA will be developed initially with Letter Agreements that encompass either existing or new projects/programs being subsequently developed.

Letter Agreements

A Letter Agreement will be prepared for each project, program, initiative or type of service that the municipality engages TRCA to deliver. A Letter Agreement will include, but not be limited to, project scope, deliverable and associated timelines, relevant key performance indicators, and funds to be provided in exchange for the services.

Individual Agreements for Complex Municipal Projects

Some projects that TRCA carries out for municipalities, such as significant construction projects, will require a full agreement that is separate from, and not based on, a Letter Agreement template.

RATIONALE

To date, the following work has been completed by TRCA staff to progress MOUs and SLAs with partner municipalities.

Discussions with Partner Municipalities

The reception of meetings with some of our partner municipalities has been overwhelmingly positive. Although some municipalities have communicated their desire to wait for the final CA Act regulations to be released before developing an MOU, these discussions have still confirmed the importance of TRCA as a resource and delivery agent of municipal programs and projects. The meetings have also sparked productive discussions related to mutual interests and cooperation on significant projects and future funding opportunities.

TRCA Senior Leadership and Government and Community Relations staff have met, or have upcoming meetings scheduled, with the following municipalities:

- The Regional Municipality of Durham
- City of Pickering
- Town of Ajax
- Township of Uxbridge (scheduled)
- City of Toronto
- City of Brampton
- City of Mississauga
- Town of Caledon
- City of Markham
- City of Vaughan
- Town of Whitchurch-Stouffville
- Township of King
- Town of Mono (scheduled)
- Township of Adjala-Tosorontio (scheduled)
- The Regional Municipality of Peel (to take place as part of budget meetings)

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- The Regional Municipality of York (to take place as part of budget meetings)

Development of Detailed List of Services

At these meetings, TRCA provided a list of potential programs and services that could be offered including, but not limited to:

- Development and Environmental Assessment planning and permitting
- Studies, assessments, and/or reviews
- Ecological restoration, planting and wildlife management
- Conservation land management and trails
- Environmental monitoring
- Erosion monitoring and management
- Property management
- Watershed planning
- Climate change and applied research
- Community/business/industry engagement, education and community learning
- Archaeology
- Conventional and urban agriculture
- Master and management planning
- GIS and mapping services

Based on discussions with municipal staff, TRCA staff continue to refine the list of services (Attachment 1) to ensure that municipalities are provided with a complete list of services that showcases the important work that TRCA can offer. Given that the CA Act enabling regulations have not yet been released, the list of TRCA services laid out in Attachment 1 are structured according to TRCA's current budget framework and encompasses the entirety of services offering by TRCA, rather than being divided into mandatory and non-mandatory services. Once the CA Act regulations are released, this list of services may be further refined and restructured.

It is also recognized that TRCA could benefit from services or supports offered by some of the municipalities within our jurisdiction, including increasing efficiencies and capacity. Such services could include items such as data sharing, land management, Indigenous engagement, translation services and others (Attachment 2) and can encompass both fee-based and in-kind services. It is further recognized both TRCA and partner municipalities can benefit from coordination of complementary policy and program initiatives. As such, it is contemplated that the MOUs and SLAs could also include municipal services that TRCA would benefit from obtaining, as well as lay out the mechanisms and scope for TRCA-municipality cooperation.

Scan of Municipal Procurement/Purchasing Policies/Bylaws

TRCA staff have completed a review of all partner municipality's procurement/purchasing policies and by-laws. This review has identified which municipalities exempt TRCA from procurement processes, which municipalities can currently sole source TRCA services under non-competitive or limited tendering processes, and which municipalities may need to amend their policies/by-laws to allow sole sourcing in the future. In addition to the review of procurement/purchasing policies and by-laws, a template Corporate Report (Attachment 3) has been drafted to assist municipalities in amending procurement/purchasing by-laws/policies, where required, to allow a municipality to procure TRCA services through procurement policy exemptions. These reports are being tailored for each municipality, in collaboration with municipal staff.

Draft MOU and SLA

To further assist partner municipalities during MOU/SLA development, TRCA staff have drafted a template MOU (Attachment 4) and SLA (Attachment 5). These templates have been provided to some partner municipalities for review and comment. Based on feedback and the specific needs/interest of individual municipalities, these templates will be amended and tailored as required.

Municipal Project Maps

Detailed Municipal Project Maps, and associated project briefs, have been developed and produced for each municipality TRCA staff have met with. These maps and briefs showcase a suite of priority projects undertaken by TRCA staff within the municipality, projects that TRCA has collaborated with the municipality on or present an opportunity to collaborate, and TRCA services and programs which municipalities have expressed interest in. These Project Maps are being utilized to help facilitate MOU discussion with partner municipalities.

MOU/SLA Project Dashboards

TRCA staff have created draft MOU/SLA Project Dashboards with the objective of providing a progress report on MOU/SLA development in a concise visual graphic. These project dashboards can be customized based on the jurisdiction of interest (i.e. Regional, jurisdiction-wide, single lower-tier municipality) and will succinctly provide MOU/SLA development updates. The MOU/SLA Project Dashboards will be populated with information over the coming months, except for detailed financial information which will come at later stages, as the development and execution of these agreements progress. See Attachment 6 for templates of a TRCA-wide and a Region-specific MOU/SLA Project Dashboard.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:
Strategy 7 – Build partnerships and new business models

FINANCIAL DETAILS

There is no immediate financial impact due to carrying out the recommendations above. The process of undertaking agreements with municipalities related to non-mandatory municipal programs and services provided by TRCA under the amended *Conservation Authorities Act*, as well as with other external organizations, is expected to have positive financial impacts for TRCA based on the early interest from most municipalities in providing funding and or jointly seeking funding for a selection of TRCA service areas that support areas of need for the municipalities in question and shared municipal and TRCA interests.

DETAILS OF WORK TO BE DONE

At this time, the timing of the release of enabling regulations by the Province is tentatively expected to be Q4 2020. Regardless of the timing of the release, it is expected that a transition period will be provided for entering MOUs that will be in line with the municipal budget cycle.

TRCA staff will:

- Communicate, once known, to TRCA Board of Directors, municipal partners and relevant stakeholders, information related to the draft enabling regulations;
- Continue to meet with municipal partners in order to initiate the development of MOUs based on municipal preferences and needs;
- Work with municipalities, where required, to address any potential procurement policy approvals or required by-law amendments to support updated MOUs and SLAs;

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- Reach out to neighbouring Conservation Authorities in order to coordinate MOU development;
- Present an overview of our proactive approach to addressing upcoming requirements to Conservation Ontario members, and,
- Update existing, and finalize new MOUs and SLAs, as appropriate.

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Date: August 4, 2020

Attachments: 6

Attachment 1: Detailed List of TRCA Programs and Services

Attachment 2: Sample of Municipal Services

Attachment 3: Template Corporate Report

Attachment 4: Template Memorandum of Understanding

Attachment 5: Template Service Level Agreement

Attachment 6: Sample MOU/SLA Project Dashboards

Toronto and Region Conservation Authority (TRCA) Service Areas and Services

Service Areas Included in this Agreement and
Possible Scope of Work that may be provided by TRCA for each Service Area

The TRCA services below are structured according to according to TRCA's current budget framework and encompasses the entirety of services offered by TRCA. Given that the Conservation Authorities Act enabling regulations have not been released at this time, the services below are not divided into mandatory and non-mandatory services. This list may be further refined and structured upon the release of Conservation Authorities Act regulations.

TRCA Service Areas

- Service Area 1 – Watershed Studies and Strategies
- Service Area 2 – Water Risk Management
- Service Area 3 – Regional Biodiversity
- Service Area 4 – Greenspace Securement and Management
- Service Area 5 – Tourism and Recreation
- Service Area 6 – Planning and Development Review
- Service Area 7 – Education and Outreach
- Service Area 8 – Sustainable Communities

TRCA Service Areas and associated services include the capacity for full project management. This includes:

- Full life cycle project management – planning, design and implementation.
- Permitting/approvals including Individual and Class Environmental Assessments as a lead or co-proponent.
- Planning Ecology liaison function between development approvals, and municipal and/or TRCA projects to ensure consistency and connectivity.
- Design, facilitate and lead mandated and non-mandated public consultation processes.
- Contract management for speciality technical services and detailed design.
- Conceptual/detailed designs.
- Volunteer and stewardship group coordination in support of planning, development and management initiatives.
- Watershed plan implementation.

In addition to overall project management, TRCA also offers services specific to construction related to the Service Areas below. These services include:

- Managing construction contracts.

- Construction site inspections and reporting.
- Detailed construction cost estimating.
- Constructability assessments.
- In-water or near-water construction including construction site dewatering and stream by-pass.
- Construction in environmentally sensitive areas.
- Managing construction contracts.
- Construction site inspections and reporting.
- Survey and Drafting:
 - Topographic surveying (Total Station/RTK GPS /RPAS-Photogrammetry) (Development of topographic mapping; Providing support for operational activities during all project phases including post-construction monitoring; Monitoring of Bluff Erosion, Waterfront Structures, Erosion Hazard Monitoring).
 - Hydrographic surveying (Produce bathymetric data/mapping; Providing support for operational activities during all project phases including post-construction monitoring).
 - Drafting CADD (Civil3D).

Scope of Work Available for each Service Area

Service Area 1 – Watershed Studies and Strategies

1.1 Watershed Planning and Reporting

TRCA conducts watershed and waterfront planning in collaboration with partner municipalities to develop comprehensive strategies that enable TRCA to fulfil its responsibilities for natural hazard and natural resource management under the Conservation Authorities Act and Planning Act, as well as to support partner municipalities in undertaking land use planning, by assessing risks, developing strategies, and identifying implementation priorities at a cumulative and comprehensive scale. TRCA's jurisdiction includes the Humber, Etobicoke, Mimico, Don, Highland, Rouge, Petticoat, Duffins, and Carruthers watersheds as well as 67 km of Lake Ontario shoreline. This area encompasses 3,495 km² of land and 3,654 km of river or stream winding through 20 municipal jurisdictions.

- Development of updated integrated watershed and subwatershed plans, studies, and strategies to inform municipal land use and infrastructure decisions.
- Coordination and tracking of watershed and subwatershed plan implementation.
- Watershed plan partner and stakeholder engagement.
- Integrative policy and technical expertise in informing Municipal Comprehensive Reviews and other municipal policy initiatives.
- Environmental data acquisition to support watershed and subwatershed plan development.
- Development and ongoing maintenance of a Watersheds and Ecosystems Reporting Web Application to communicate up-to-date watershed and waterfront conditions.
- Development of Watershed Report Cards in partnership with Conservation Ontario every 5 years.

1.2 Emerging and Integrative Climate Science

Climate Science responds to information needs and knowledge gaps identified by partner municipalities, other government agencies, and external stakeholders. This includes undertaking projects and programs that increase the resilience of TRCA watersheds, natural systems, and partner

communities to extreme weather and a changing climate. The scope of the work includes obtaining the best knowledge of current and future patterns of weather and climate, understanding potential impacts, emerging policies, innovative practice, and developing programs to respond and adapt.

- Expertise in evaluating and quantifying the ecosystem services provided by natural features and green infrastructure.
- Development of, and support for interpreting and applying, updated future climate change projections.
- Expertise in climate vulnerability and risk assessments and adaptation planning with linkages to watershed planning.

Service Area 2 – Water Risk Management

2.1 Water Resource Science

Water Resource Science is focused on the engineering and science of water resource management. Technical services provide an understanding of the current state of the watershed, inform growth management strategies for new communities, support the work of flood management, and promote the implementation of green infrastructure. TRCA maintains research, monitoring, and data analysis capabilities to meet internal and municipal partner data requirements in a manner that maintains intellectual property, data integrity, and cost-effectiveness. Proper water management practices are critical for the protection of life and property from flooding as well as the continued health of aquatic and terrestrial habitats.

Groundwater Strategies

- Identification of areas of potential groundwater concern.
- Provide expertise in groundwater management and protection.

Source Protection Strategies

- Amend CTC Source Protection Plan and TRSPA Assessment Report based on best available science.
- Development of annual workplans for approval by Ministry of Environment, Conservation, and Parks.
- Provide administrative, technical and planning support to the CTC Source Protection Committee.
- Support municipalities in the implementation of the CTC Source Protection Plan.
- Provide annual reporting to the Ministry of Environment, Conservation, and Parks.

Regional Monitoring – Water

- Characterization and tracking of water quality conditions including nutrients, metals and conventional water quality parameters.
- Annual analysis and reporting and the provision of data to support development and infrastructure planning and maintenance.
- Stormwater characterization and monitoring of SWM control ponds and structures (including LIDs).
- Insitu flow measurement and instrumentation.
- Thermal (stream temperature) monitoring of project sites, SWM facilities.
- Long-term erosion monitoring and characterization of fluvial geomorphological processes.

- Installation, monitoring and maintenance of TRCA gauging networks including stream flow, precipitation and climate stations to support:
 - Flood Forecasting and Warning Program.
 - Hydraulic and hydrologic models.
 - Floodplain mapping.
 - Development Review.
 - Infrastructure Design.
- Installation, monitoring and maintenance of TRCA's gauging network of real-time stream flow and rain gauges for:
 - Issuing flood warning messages.
 - Data acquisition for TRCA's flood warning website.
 - Operation of flood control dams.
 - Emergency management.
- Installation, monitoring and maintenance of storm water quality stations to support municipal and provincial programs to improve riverine and Lake Ontario.

Stormwater Management

- Stormwater Management Strategy and Design:
 - Provide site level peak flow assessment and stormwater mitigation strategies for publicly owned properties.
 - Provide designs to mitigate stormwater runoff to meet municipal and Conservation Authority criteria.
 - Review of stormwater management strategies and designs to provide input and guidance, as required.
- Infrastructure Design and Support:
 - Provide water resources engineering design of trail culverts and drainage requirements.
 - Provide water resources engineering design of berms and spillways in support of wetland creation.
 - Provide design of erosion protection for infrastructure, including outfall structures.
- Support Municipal Water Resource Management Objectives:
 - Provide Technical Advice as it pertains to Water Resources Engineering towards Master Plans and Secondary Plan requirements.
 - Provide Technical Advice for development SOPs for Low Impact Developments within municipally owned lands, including ROW.

Flood Plain Mapping

- Hydrologic/Hydraulic Analysis, including urban drainage systems.
- Hydrology modelling and associated stormwater management criteria development.
- Hydraulic modelling including two-dimensional modelling.
- Establishing the flooding hazard limit through floodplain mapping studies.
- Development of engineered floodplain map sheets.
- Utilizing hydrometrics data gathered through Regional Monitoring to develop updated floodplain mapping.

2.2 Flood Management

TRCA provides municipalities and citizens with comprehensive flood risk identification, warning, and mitigation services as dictated by the *Conservation Authorities Act* (1946). The Flood Management program is responsible for producing long term plans to minimize the loss of life and property due to

flooding. Management of flood risk is achieved through operation of a Flood Forecasting and Warning Centre; implementation of flood remediation projects; maintaining and operating flood control infrastructure; operation of specialized gauging networks; and data management.

Flood Forecasting and Warning

- Monitoring of weather conditions that could lead to flooding; providing a complement of staff who are on-call, as weather conditions dictate, 24/7/365.
- Issuance of Flood Forecasting and Warning messages to partners and the public.
- Communication of flood conditions to the public via media requests.
- Technical advisory to municipal partners during a flood emergency, support of municipal emergency operations centre activities during flood emergencies.

Flood Risk Management

- Flood Risk and Remediation Assessment:
 - Riverine and fluvial flood characterization studies and scenario analysis.
 - Expertise in assessing flood risk to structures, roads, infrastructure, and communities; flood risk assessment and ranking of priority areas.
 - Flood remediation feasibility studies.
 - Project management of flood remediation environmental assessments and project management for preliminary design of flood protection capital works.
 - Support of detailed design process for flood protection capital works.
- Flood Emergency Management:
 - Flood risk communication and public engagement initiatives.
 - Support the development and execution of Emergency Management and Civil Protection Act compliance exercises with a flood risk focus.
 - Flood emergency plan development and training; development of flood emergency management resources for municipal staff.
- Project Management:
 - Environmental compliance.
 - Permitting/approvals.
 - Geotechnical investigation/review as necessary to assess slope stability and risk to private/public assets.

Flood Infrastructure and Operations

- Operation of Flood Control infrastructure to minimize flood risks.
- Asset maintenance and management for flood control infrastructure.
- Dam Safety Reviews.
- Emergency Preparedness Plans for Flood Infrastructure.
- Stormwater pond assessments, bathymetric surveys, clean-outs, retrofits and maintenance plans.
- Watercourse infrastructure inventories and assessments.

2.3 Erosion Management

Erosion Management protects life and property against the hazards of erosion and slope instability. TRCA offers comprehensive and integrated erosion identification, assessment and remediation services to TRCA owned assets and municipal and provincial partners and private property owners. Erosion works are frequently bundled with habitat and/or public greenspace enhancements to improve aesthetic, environmental, and economic value.

Erosion Management Capital Works

- Planning and implementation of remedial erosion control projects to protect existing infrastructure or support new infrastructure development. This includes the following services:
 - Overall project management including liaising and obtaining agreements with private landowners.
 - Obtaining all necessary permits and approvals.
 - Complete all Environmental Assessment requirements including leading public meetings and drafting Project Files or Environmental Study Reports.
 - Environmental compliance.
 - Develop detailed designs to address hazards including retaining consultants or utilizing TRCA's drafting and design team.
 - Construction of erosion control structures (e.g. retaining walls, revetments, weirs/turning vanes).
 - Implementation of remedial erosion control works and administer contracts for specialized services.
 - Post-construction compliance monitoring and reporting.

Erosion Hazard Monitoring

- Establishing scalable long-term monitoring programs to assess risk from erosion or slope instability to property or infrastructure.
- Condition monitoring of existing erosion control structures.
- Geotechnical investigation/review as necessary to assess slope stability and risk to private/public assets.
- Monitoring of watercourse-based erosion or slope instability through the establishment of formal sites that includes sketches, photos, and observations.
- Sharing of monitoring data/reports through a web-based database (Stream, Erosion and Infrastructure Database) that can be customized to better integrate with existing systems.
- Prepare technical reports that summarize findings from field inspections to establish priorities for action and to inform capital plans.
- Depth of cover monitoring and topographic surveys to assess erosion risk to buried infrastructure.
- Remotely Piloted Aircraft System (RPAS) assessments of erosion hazards.

Service Area 3 – Regional Biodiversity

3.1 Ecosystem Management Research and Directions

Ecosystem management research and directions delivers initiatives to develop, communicate and regularly update jurisdiction-wide ecosystem management strategies, while responding to information needs and knowledge gaps identified internally or by partner municipalities. In addition to ensuring value creation and capture in partnership arrangements, TRCA's on demand internal expertise allows independent research in support of internal, municipal, provincial, and federal program and policy development. Internal capacity also ensures the early inclusion of integrated watershed management principles and systems thinking in knowledge generation, planning and policy development, and practical application.

Aquatic System Priority Planning

- Aquatic ecosystem characterization and scenario analysis under future land use and climate.
- Water Resource System planning and mapping.

- Strategic management prioritization of aquatic species and habitat:
 - Developing ranking system.
 - Identifying potential habitats.
- Aquatic habitat connectivity and barrier assessments and management.
- Stormwater management systems and natural aquatic systems integration guidance.

Terrestrial (and Integrated) Ecosystem Planning

- Terrestrial ecosystem characterization and scenario analysis under future land use and climate.
- Updated and integrated Natural Heritage System planning and mapping.
- Strategic and integrated Natural Heritage System (terrestrial and aquatic) implementation to support land use planning, EA planning, watershed planning, restoration planning, and municipal comprehensive review processes.
 - Ecological data analysis, modeling, and synthesis.
 - Identify appropriate site level management actions within the context of broader watershed and regional priorities.
 - Develop method and map specific components of Natural Heritage System that are not comprehensively identified at the regional scale (e.g. significant wildlife habitat).
- Habitat Connectivity and Wildlife Movement Data, Priorities and Guidance.
 - Strategic guidance at preliminary stages of EA planning.
 - Field data collection and analysis to inform EA processes.
 - Studying before and after construction impacts and mitigation efficacy.
 - Collective ecosystem benefit of the mitigation at watershed / regional level
- Research and communication of best management practices for natural system and ecosystem protection and restoration, natural system planning and other natural heritage and aquatic habitat initiatives in support of municipal plans and strategies.
- General support and guidance in the application of the latest science and practice of ecosystem management, climate change adaptation, green infrastructure, and integrated water management.
- Support in incorporating climate change and natural assets into asset management planning.
- Ecosystem service valuation methods and application.
- Facilitating research partnerships to help fill priority knowledge gaps towards achieving municipal objectives.
- Planning Ecology liaison function between TRCA monitoring, research and restoration planning and implementation efforts and municipal planning process and other programs.

Restoration Opportunities Bank

- Habitat offsetting carried out in anticipation of future impacts that is generally created by restoring a damaged stream or an associated wetland.
- Post-Construction Monitoring (usually 3 years) is required.
- Credits can be used to obtain Authorizations under the federal Fisheries Act.
- Set up a banking arrangement between the proponent and DFO:
 - Legal Agreement.
 - Service Area.
 - Credit Release Schedule.
 - Monitoring Protocols.
 - Design, permit and construct the project.
 - Post-construction monitoring.

- Reporting with credit ledger.

3.2 Biodiversity Monitoring

Biodiversity Monitoring assesses catalogues and reports on the condition and trends of terrestrial and aquatic biodiversity throughout TRCA jurisdiction. These data contribute to the understanding and conservation of flora and fauna species and communities, the success of restoration and management activities, as well as the understanding of invasive species prevalence and trends. Data analysis further serves to guide and support TRCA and partner municipality activities. As part of an integrated service delivery model, Biodiversity Monitoring enables TRCA to accelerate the adaptive management cycle and to address emerging opportunities and concerns more quickly, comprehensively, and cost effectively.

Regional Monitoring – Biodiversity

- Long term monitoring at strategic locations across the municipalities, watersheds, and TRCA jurisdiction to track, assess, and report on the changes in terrestrial and aquatic habitat and biodiversity (e.g. plants, animals, fish, benthic) over time at these specific geographic scales.
- Comprehensive analysis and synthesis of the changes within the context of land use and climate change to provide on-the-ground evidence on type and extent of impacts and guidance on mitigation and management actions.

Activity Based Monitoring - Aquatic and Terrestrial

- Characterize the biophysical attributes of the Lake Ontario waterfront and 9 watersheds including: Fish, Benthic invertebrates, Sediments, Water quality, habitat, Breeding birds, Amphibians, Vegetation (tree health, composition, structure, regeneration), and species at risk.
- Targeted monitoring to address specific questions or project concerns such as effectiveness of crossing structure design for wildlife movement, habitat use of specific species of concern, stormwater management pond efficacy to reduce thermal load on streams etc. to ensure future management actions are effective and efficient.

Terrestrial Inventory and Assessment

- Strategic increase in the coverage of fauna, flora, and vegetation inventory data across the region to inform land use and EA planning process and complement the long-term monitoring data.
- Terrestrial biological inventory and assessments conducted on a site by site basis that can consist of the following activities:
 - Mapping of the vegetation communities to vegetation type (Ecological Land Classification – ELC).
 - Mapping of flora and fauna species of conservation concern (and Species at Risk) along with species list for the area. Fauna species surveys include breeding birds and amphibians.
 - Bat acoustic monitoring.
- Wetland Evaluation as per the ON Wetland Evaluation System.
- These data are used to describe baseline conditions for an area and provide the following:
 - Relevant data to inform land management decisions related to land development, trail, alignments or restoration plans.
 - Identifies sensitive natural heritage system features.
 - Watershed planning and report cards.

3.3 Restoration and Regeneration

Restoration and Regeneration includes a variety of programs and projects that restore physical habitat and improve ecosystem health and habitat function. The Restoration and Regeneration program undertakes comprehensive and integrated environmental restoration services for TRCA owned assets, public sector partners and private clients. The program offers the ability of streamlined restoration planning, implementation and permitting services, making TRCA's offerings unique in delivering both economic and environmental value-added services.

Watershed Restoration

- Watershed restoration recommendations and implementation.
- Restoration of appropriate natural cover and essential wildlife habitats preferably guided by the priorities identified by watershed plans and other TRCA and municipal partner strategies (e.g. urban forest strategies, climate adaptation strategies, sustainability strategies). Restoration can include meadows in hydro corridors and other natural cover in other transient areas across urban-rural gradient.
- Hydrologic improvements.
- Design and construction of community gathering spaces such as fishing nodes and lookouts.

Shoreline Restoration

- Shoreline improvements to address erosion concerns, improve water quality and enhance fish and wildlife habitat.

Wetland Restoration

- Restoration of degraded wetlands, including marginal lands (e.g. agricultural lands) and wetland creation to improve water quality and quantity, mitigate downstream flooding (where feasible), enhance fish and wildlife habitat and create opportunities for nature appreciation.

Riparian and Flood Plain Restoration

- Restoration of degraded riparian habitat and flood plains to improve water quality and quantity, mitigate downstream flooding (where feasible), enhance fish and wildlife habitat and create opportunities for nature appreciation.

Natural Channel and Stream Restoration

- Stream restoration including natural channel design implementation in failing concrete lined channels and erosion mitigation.
- Pond decommissioning and site remediation.
- Development and implementation of a long term, multi-year restoration strategy:
 - Restoration Opportunity Planning.
 - Restoration Strategic Prioritization.
 - 5-year reach based strategic plans.
 - Natural channel design planning.
 - Watershed Planning.

Natural Channel Design – Monitoring and Evaluation

- Monitoring and evaluation of Natural Channel Design (NCD) projects for:
 - improving water management.
 - promoting sustainable communities.
 - protecting and regenerating natural habitats.

- Developing monitoring plans to ensure that priorities have been and will continue to be met.
- Collection of monitoring data before, during, and after restoration work to track project outcomes and inform future NCD projects.

Wildlife Habitat Management

- Identifying strategic habitat needs for various groups of TRCA's regional Species of Concern and Vegetation Communities of Concern at regional and site scale and providing guidance and decision support tools to inform management actions.
- Structural habitat implementation such as bird boxes, snake hibernacula, and turtle habitat.
- Wildlife and ecosystem management to reduce human-wildlife conflict (e.g. Canada Geese, beaver dams, meadow management, etc.).

Inland and Lakefill Soil Management

- Identifying strategic soil disposal opportunities that benefit and accelerate restoration projects while providing Municipal and Regional partners with viable excess soil re-use options for infrastructure projects.

Compensation Restoration

- Guide and assist municipalities in replacing natural features lost through the development and/or infrastructure planning process in accordance with TRCA's "*Guideline for Determining Ecosystem Compensation*" after the decision to compensate has been made.

3.4 Forest Management

Forest Management is related to the establishment and maintenance of healthy, vigorous and diverse forest cover and associated habitat. TRCA's expertise allows it to offer comprehensive and integrated forest management, reforestation and restoration services to municipal and regional partners and private property landowners. To ensure supply availability and cost effectiveness for the use of native species in TRCA ecosystem regeneration projects, Forest Management operates its own nursery. Locally collected seed is used to grow highly desirable hardy native plant materials well adapted to local conditions.

Forest Management Planning

- Development of Forest Management Plans.
- Development of urban forest studies, strategies, and arborist reports.
- Completing ongoing monitoring of forest health.

Forest Management Operations

- Stand tending/thinning.
- Tree planting services.
- Supply of nursery stock from TRCA's local tree and shrub nursery.
- Full-service tree and shrub plantings/site prep/mulching.

Managed Forest Tax Incentive Planning

- Creation of Managed Forest Plans to make landowners eligible for the provincial Managed Forest Tax Incentive Program.
- Provide consulting services to landowners about managing their forests for various objectives.

Invasive Species Management

- Mapping and assessment of priority invasive species and management locations.
- Development of invasive species management plans.

- Implementation of invasive species management plans.

Hazard Tree Management

- Triage-based hazard assessment and mitigation (and emergency storm response).

• Service Area 4 – Greenspace Securement and Management

4.1 Greenspace Securement

Greenspace Securement brings lands into public ownership or otherwise secures the assurance of their protection through private landowner agreements. Greenspace securement protects human life and property by securing lands subject to erosion or flooding hazards, protects the form and function of natural heritage lands by bringing them into public ownership and management, and increases local and regional recreational health benefits by allowing for public use and programming. TRCA's current landholdings contain approximately 7.3% of the total land base of TRCA's jurisdiction with more than 18,000 hectares.

Greenspace Planning

- Strategic planning to identify criteria and priorities for securement that support natural heritage, cultural heritage and public use objectives.
 - Prioritization assessments and mapping to guide acquisition to ensure natural heritage objectives are met.
- Strategic planning to maximize the benefits of a watershed approach to land acquisition, ownership and management as it pertains to flood control, tree planting, erosion control, recreation.
- Support and coordination for contiguous ownership across municipal boundaries to create increased resilience for climate change. Lands can be holistically planned and managed to protect from erosion from significant weather events, improving overall tree cover, increased groundwater absorption facilitating conservation land improvements (providing permeable surface areas), and improved water quality through wetlands and groundwater infiltration.

Greenspace Land Acquisition

- Watershed plan implementation.
- Coordination of easements/grants to support municipal infrastructure development.
- When opportunities present themselves or when requested to act on behalf of municipalities, TRCA can move rapidly to secure greenlands, hazard lands, and valley lands.

4.2 Greenspace Management

TRCA undertakes comprehensive land asset management services on TRCA managed greenspace to reduce risk to human and assets from natural or human hazards, eliminate encroachments, and, where appropriate, provide opportunities for safe and enjoyable recreation experiences to residents and visitors. Projects under the program include monitoring and management of TRCA properties to ensure that their natural and cultural heritage values are protected in perpetuity while providing a safe visitor experience for the public.

Resource Management Planning

- Land management and master planning, including current conditions, background report, land management zones, management recommendations, public use plans, asset management plans, and implementation plans, and associated stakeholder and public engagement.
- Property site securement and protection planning.

Inventory and Audit

- Inventory, assessment and monitoring of property boundaries to address site securement and protection, hazard management and on-going property maintenance requirements.
- Easement compliance monitoring.

Implementation

- Fence and gate installation and maintenance.
- Property signs.
- Volunteer and stewardship group coordination in support of development and management initiatives.

Hazard Management

- Noxious plants (e.g., Giant Hogweed) management to address public safety concerns.
- Secured greenlands to provide a buffer from streams sources (agricultural or industrial activities, filter runoff).
- Ability to exclude incompatible uses from wellhead areas and recharge zones, thereby protecting drinking water sources.

Archaeology

- Stage 1 to 4 archaeological investigations and reporting.
- Indigenous engagement and consultation.

Service Area 5 – Tourism and Recreation

5.1 Conservation Parks

Conservation Parks offer visitors throughout the Toronto region a place to engage in outdoor recreation in a natural setting. As one of the largest landowners in the Toronto region, TRCA manages ten conservation parks across nine watersheds. Proximity to the urban core makes conservation parks attractive to urban and suburban residents and visitors seeking natural spaces and recreation opportunities within the Greater Toronto Area (GTA). Through diverse program offerings, TRCA Conservation Parks emphasize and encourage the connection between health and wellbeing and nature-based recreation within our communities.

- Provide and maintain available green space for recreational use including all facility maintenance, cleaning, reservation services, staffing, and customer services.
- Patrol TRCA parks and properties and promote appropriate public usage. Conduct inspections and investigations relating to public safety and land use infractions and respond to stakeholder concerns.
- Outdoor aquatic facility, campground and golf course management, maintenance, services and staffing.
- Development and delivery of community programs and education exhibits/displays that empower a diverse range of participants, build leadership, and tell the story of the Toronto region.

5.2 Waterfront Parks

TRCA is a significant waterfront landholder with jurisdictional authority over a portion of the Lake Ontario shoreline. TRCA's jurisdiction on the waterfront stretches 67 kilometers from Mississauga to Ajax, not including the Central Waterfront. In combination with TRCA's standing expertise in park development, project management, erosion and landform works, integrated shoreline management, environmental assessment, public consultation and stakeholder engagement, TRCA provides uniquely

comprehensive, streamlined, and value added waterfront park development offerings that mitigate municipal partner risk and associated expense.

- Provide support in acquiring funding, planning, design and construction of erosion protection and state of good repair of the Lake Ontario waterfront.
- Provide Lake Ontario waterfront planning and development services.
- Provide an advisory role in development of master plans for Lake Ontario waterfront parks and support Master Plan implementation through design and construction services.
- Work with Toronto Park, Forestry and Recreation on ongoing operations and maintenance of waterfront parks as per the 1972 Waterfront Agreement and provide construction support as needed.
- Conduct ongoing public engagement and outreach for Lake Ontario waterfront projects through communication with elected officials, partners and stakeholders.
- Support programs and projects related to debris clean-ups and provide services for naturalization/restoration projects with partners and stakeholders across the Lake Ontario waterfront.
- Primary liaison for Toronto Harbour Remedial Action Plan (RAP) program.
- Provide support through the Environmental Assessment process on large Lake Ontario waterfront projects.

5.3 Trails

TRCA is a leader in the planning, implementation and management of trails and associated infrastructure that provide safe, enjoyable recreational trail experiences for area residents and visitors. This expertise is utilized in the development and management of trail infrastructure on both TRCA managed greenspace and through fee for service agreements with partner municipalities to directly benefit communities across each region. This cooperation facilitates an integrated approach to the development and implementation of the jurisdiction-wide trail network identified in the Trail Strategy for the Greater Toronto Region. The TRCA trails program includes site specific planning, development and trail management activities that support TRCA's aim to create complete communities that integrate nature and the built environment by providing nature-based recreation experiences for a growing population while protecting and restoring the form and function of existing ecological systems.

Trail Planning, Development and Management

- Strategic and site planning for development of new trail networks and operational improvements to existing networks, including associated stakeholder and public engagement.
- Trail inventory, assessment and monitoring, including accessibility assessments.
- Wayfinding and trailhead signs.
- Amenity development, including parking lots, resting areas, benches, kiosks, interpretive signs.
- Maintenance, including mowing, minor repairs, sign replacement.
- User monitoring, including trail counts and user surveys.

5.4 Events and Festivals

Events and festivals promote community involvement and recreation while generating diversified revenue that supports TRCA's financial sustainability. TRCA offers a variety of unique indoor and outdoor accessible community event spaces for a variety of public events and festivals. With expertise delivering festival and event programming, TRCA can host and promote large-scale events in a manner that maximizes revenue, engagement, enjoyment, learning, and customer satisfaction.

Events and Festivals

- Provide tourism destinations and attractions, engaging large numbers of residents and out of area visitors, through the planning, development and execution of small to large scale festivals and events at a variety of TRCA property assets across our jurisdiction.
- Work with third party partners to host small to large scale events, including weddings, on TRCA property.

Service Area 6 – Planning and Development Review

6.1 Policy Development and Review

This program implements TRCA's mandated planning and regulatory responsibilities, as per TRCA's role as a watershed and shoreline manager, regulator, commenting agency, service provider and landowner. TRCA's role includes the review of federal, provincial and municipal legislation and incorporates the science and mapping of the integrated watershed management perspective. Participation in provincial and municipal initiatives (such as the Oak Ridges Moraine Coalition, Source Protection Committee, and Conservation Ontario, and Conservation Ontario sub-committees) are also key activities of Policy Development and Review.

Policy Development and Review

- Coordination of multi-disciplinary reviews of federal, provincial, municipal and TRCA policy initiatives of interest to TRCA, including municipal comprehensive reviews, comprehensive zoning by-law reviews, tree by-laws, sustainability initiatives, climate change action plans, etc.
- Development of policy and guidance documents to ensure natural hazards, natural features, water resources and ecological functions and hydrological functions are managed, protected and/or restored through development and infrastructure planning and to help ensure planning reviews are efficient and standardized.
- Providing policy, planning, technical and ecological input into policy related documents, including Official Plans and Special Policy Area reviews in accordance with provincial procedures.
- Implementation support to Development Planning and Permits, Infrastructure Planning and Permits, Watershed Planning and Reporting, Enforcement and Compliance, Conservation Lands and Trails Planning, Property, Restoration and Infrastructure.
- Managing TRCA regulation mapping.
- Managing TRCA Solicitor/Realtor Inquiry Service.

6.2 Development Planning and Regulation Permitting

Development Planning and Regulation Permitting provides advice to approval authorities under the Planning Act as a service provider, provincially delegated reviewer for natural hazards, public commenting body, and resource management agency. In working with approval authorities, private and public proponents, TRCA helps to facilitate sustainable development and infrastructure and ensures that it is adequately set back and protected from natural hazards and environmentally sensitive areas.

Development Planning and Regulation Permitting

- Watershed plan implementation.
- Review of applications made under the Planning Act for consistency with provincial natural hazard, natural heritage and water policies and TRCA permitting authority.
- Official Plan support (policy development and associated hearings/mediation), MESP's, transportation/servicing master plans.
- Facilitation of natural heritage and natural hazard lands into public ownership.

- Other environmental planning services as requested by municipality.
- Provide value added service to the development process through hands on assistance with developers and consultants with meeting challenging design mitigation strategies.
- Provide regular training to development and consulting community to assist with meeting TRCA criteria.
- Conduct compliance audits of TRCA Planning and Development permit sites to ensure compliance with site plans, permit conditions, construction techniques and methodology, and environmental controls/ protections.
- Identify and address non-compliance issues and environmental concerns associated with approved development sites. Negotiate compliance and required permit amendments or revisions relating to TRCA regulatory jurisdiction, legislation, and policies.
- Address stakeholder concerns associated with unauthorized development activities within TRCA jurisdiction, and coordinate with partnering agencies and TRCA technical, planning, and senior staff to formulate solutions, and to develop compliance strategies.

6.3 Environmental Assessment Planning and Permitting

TRCA undertakes environmental assessments on behalf of municipal and agency partners. In addition, the Environmental Assessment Planning and Permitting section provides advice to approval authorities under the Environmental Assessment Act and associated legislations as a service provider, provincially delegated reviewer for natural hazards, public commenting body and resource management agency. These roles position TRCA to offer value-added environmental assessment consulting services that reduce proponent uncertainty and risk.

Environmental Assessment Planning and Permitting

- Watershed plan implementation.
- Provide value added service to municipal partners through hands-on assistance with meeting challenging design mitigation strategies.
- Provide regular training to development and consulting community to assist with meeting TRCA and applicable regulatory criteria.
- Provide technical and ecological input into Terms of Reference for municipally run projects in a timely manner.

Service Area 7 – Education and Outreach

7.1 School Programs

TRCA designs and delivers environmental education programs that complement provincial curriculum outcomes and objectives. This approach leverages TRCA's long-standing relationships with district school boards in the co-creation of programs tailored for classroom, community, and TRCA field trip locations. School Programs include formal and non-formal environmental education programs provided to students from pre-kindergarten to university level.

School Programs

- Development and delivery of curriculum linked education programs (day, overnight) that meet municipal/regional public education and public awareness goals and objectives such as waste, water conservation, wastewater management, composting, climate change.
- Activate school communities through the EcoSchools Canada platform to merge sustainability-minded facility operations and student learning with municipal goals and objectives around waste reduction, active transportation, energy and water conservation, and community involvement.

- Support large scale environmental education events by providing staffing, technical, educational, and volunteer management expertise and resources (e.g. York Children's Water Festival).

7.2 Family and Community Programs

Family and Community Programs utilize TRCA landholdings and infrastructure to offer affordable, educational, family-oriented programming. Family and Community Programs seek to enhance the richness and educational value of the visitor experience by delivering programs in unique natural and cultural settings. Programming is delivered through regularly scheduled activities, special events, attractions, and exhibits and programming.

Family and Community Programs

- Engagement of residents in the municipality or region in natural heritage, energy conservation, water conservation, outdoor recreation, and cultural heritage programs and workshops on topics such as native plants gardening, water conservation, energy conservation and renewable technologies.
- In collaboration with Region Social Services branch (early interventionists, physiotherapists and social workers), provide support to staff and clients by providing outdoor space, program development support and program delivery support at select conservation areas to meet client therapeutic outcomes.
- Engage with parents/guardians to promote and facilitate community learning and activation around Active Transportation.
- Provide training and development programming to mentor early- to mid-career stream staff in advancing their environmental sector employment goals (i.e. Young Conservation Professionals).
- Work with municipalities to animate and create engaging spaces for communities to recreate, gather, and realize entrepreneurial opportunities locally (i.e. Bolton Camp).

7.3 Newcomer Employment and Education

TRCA provides support services for new Canadians to settle socially, culturally, academically and economically into the Toronto region. To support employment and economic outcomes, TRCA utilizes in-house staff expertise to provide employment and training for new Canadians through bridge training activities that address current and future labour market shortages. TRCA also provides services to the employment sector that supports the successful integration and retention of new Canadians within the work force. Beyond the employment context, TRCA develops and delivers programming to expose newcomers to local environmental issues and topics.

Newcomer Employment and Education

- Engage newcomers through in-class environmental educational programs at English language learning centres, as well as through field trips and participation at cultural/faith events (Multicultural Connections Program).
- Develop and provide training, mentoring and employment coaching to youth and adult newcomers to connect them to environmental employment opportunities through the PAIE Program and the Newcomer Youth Green Economy Program.

Service Area 8 – Sustainable Communities

8.1 Living City Transition

The Living City Transition program supports innovation and improvement in existing TRCA community sustainability projects and builds alignment for action on broader sustainability issues within the region. TRCA delivers sustainability and resilience development programs that require significant public assets, diverse partnerships, and innovative non-profit funding models. TRCA leverages this unique combination of capacities, in conjunction with 50+ years of city-building and sustainable technology expertise, to create network-based sustainability initiatives.

Sustainable Neighbourhoods

- Lead neighbourhood screening process to map areas having multiple municipal priorities for urban renewal and climate action, and a need for integrated, collaborative projects.
- Develop and implement neighbourhood action plans for improved sustainability and resilience by building strong community support and implementation partnerships to advance projects in the private and public realms.
- Prepare neighbourhood scale climate vulnerability assessments, adaptation plans and resilience strategies by downscaling and informing municipality-wide data with local perceptions of risk, assets, needs and local knowledge.
- Design and deliver one-window home retrofit programs which help homeowners and municipalities address local priorities (e.g. flood risk reduction, stormwater management, tree planting, water and energy efficiency and renewables, rainwater supported urban agriculture, waste diversion etc.).
- Engage private property owners and tenants in design and delivery of revitalization projects for multi-unit residential, commercial and institutional properties.
- Inform integrated infrastructure renewal project designs and identify innovative funding partnerships that can deliver enhanced greening, climate action, active transportation and community amenities as part of road, parks or other renewal projects.
- Deliver programming that fosters community connections, emergency preparedness and capacity building for resilience.

Community Transformation

- Sustainability
 - Engaging municipal partners across the GTHA in sharing best practices and experiences in sustainability, including climate mitigation and adaptation.
 - Review and provide input to development and infrastructure planning and development on sustainability best practices.
 - Development of achievable sustainability targets and implementation scenarios to meet long term corporate goals and objectives.
 - Development of policies, standard operating procedures and guidelines for the day to day application of sustainability best practices by staff. Provide ongoing review and guidance to business units on application of sustainability best practices.
 - Custom reporting, including data collection and analysis, for corporate annual reports, GRI aligned reporting and division, facility and business unit-based sustainability performance tracking and reporting, and to guide ongoing practices.
 - Development and delivery of staff sustainability training programs for general onboarding and targeted programs. Integration of sustainability outcomes into staff accountability and job descriptions.
- Solid Waste Management

- Develop corporate solid waste strategies and facilities plans, including incorporation of leading-edge practices, to achieve waste diversion while supporting corporate goals for preserving natural resources and achieving regulatory compliance.
- Providing sustainability oversight to solid waste contracts and operational support for billing and service delivery. Coordination of hauler activities on site that support sustainable waste management.
- Annual auditing of waste streams to help sites and staff identify and improve waste collection and diversion opportunities and measure performance for recycling stream contamination and capture rates.
- Facility Energy and Water Management
 - Preparation of corporate and individual facility energy and water use management plans to achieve corporate goals.
 - ASHRAE Level 1 and 2 audits to identify implementation measures to meet corporate goals.
 - Ongoing tracking of energy and water performance to guide onsite management. Includes data collection and analysis, annual and ongoing performance tracking, and diagnostics to identify and address issues.
- Climate Change
 - Develop facility GHG reduction strategies and plans, climate mitigation and adaptation site action plans, and monitor ongoing performance.
 - Develop, analyze and report on carbon inventories, emission factors and carbon calculations at the corporate and project scales based on GHG Protocol standards for carbon accounting. Research and development of marginal emissions factors to provide enhanced business case analysis for energy efficiency projects.
 - Apply Low Carbon Resilience lens is to coordinate and co-evaluate adaptation and mitigation strategies in policy, planning and implementation processes to reduce both emissions and vulnerability.
- Sustainable Procurement
 - Research and development of sustainable procurement policies, standard operating procedures and guidelines designed to facilitate buyers to specify sustainable criteria within procurement process and value net benefits of sustainable purchases using total cost of ownership analysis.
 - Provide procurement review for sustainability issues. Includes expert insight for the procurement request process to ensure that purchasing process includes sustainability considerations that are grounded in feasible options that reflect best practices or best products and are reviewed accordingly in the bid evaluation of proposals.

Partners in Project Green

- Municipal Climate Innovation
 - Develop and implement neighbourhood scale and business zone engagement initiatives for municipalities, including associated workplans. Ensure that initiatives align with municipal Climate Change Action Plans and other relevant strategies.
- Energy Performance and Low Carbon Transport
 - Development of energy and low carbon strategies, such as zero-emissions vehicle strategies, alternative fuels and fuel efficiency strategies. Includes research, analysis, project management, vendor procurement, and stakeholder consultation.
 - Develop and lead Energy Leaders Consortium. Work with businesses and municipalities to share best practices and collective initiatives on energy management and conservation.

- Develop and lead Small-Medium Enterprise (SME) Energy Management Consortium. Work with SME's and municipalities to facilitate knowledge transfer on energy management best practices, and disburse funding provided by IESO.
- Water Stewardship
 - Develop and lead Municipal Water Efficiency Eco-Cluster. Establish partnerships between municipalities and businesses, exploring the nexus of water conservation and energy conservation, including case studies and summary report.
 - Support green infrastructure and low impact development, through research, report development, and connecting members with relevant TRCA services, vendors and information.
- Waste Management
 - Arrange Material Exchanges by “matchmaking” organizations that have large volumes of waste to other businesses or organizations that can use the materials, reducing waste to landfill and lowering costs for businesses within municipalities.
 - Conduct Recycling Collection Drives. In partnership with Diabetes Canada, participating businesses within GTA municipalities collect and divert textiles and e-waste to support municipal diversion and circular economy programming.
 - Develop and conduct Plastics Challenge Hackathons, which are multi-sector events to find innovative solutions to reduce plastic streams to municipality waterways.
- Communications, Engagement and Events
 - Offer Business Sustainability Education Webinar Series to promote sustainability and educate local businesses on best practices in the areas of energy efficiency, climate change mitigation/adaptation, water conservation and waste management.
 - Support municipal and corporate employee engagement on sustainability through the People Power Challenge, a turn-key 3-month campaign including educational events, resources, webinars workshops.

Urban Agriculture

- Planning, design and implementation of urban agriculture projects (I.e., urban farms, community gardens, local food procurement on TRCA or municipal lands which focus on local food production, community engagement and educational outreach
- Technical support pertaining to agri-environmental Best Management Projects (i.e., project planning, design, and implementation), and developing Environmental Farm Plans.
- Administration of agricultural leases for new and existing urban farm projects on TRCA lands
- Facilitation of partnerships for the purpose of developing new urban agriculture initiatives on TRCA or other public lands.
- Provide technical expertise on matter pertaining to urban agriculture (I.e., policy review, supporting municipal agriculture related advisory committees).
- Conduct feasibility studies for scoping out future opportunities and sites to support urban agriculture.
- Share/disseminate information locally and globally and engage diverse audience related to the project and /or program – conference presentations, public meetings, peer-review papers.

Sustainable Technology Evaluation Program

- Planning, design, implementation and maintenance inspections of low carbon, Green infrastructure and Low Impact Development technologies and approaches.
- Development of standard LID specifications to facilitate stormwater plan review and standard operating procedures to facilitate long term maintenance of practices.
- Green infrastructure retrofit priority mapping to identify key areas in the City where GI retrofits could be considered during road reconstruction and re-development projects.

- Share / disseminate information locally and globally and engage diverse audience related to the project and /or program – conference presentations, public meetings, peer- review papers.
- Provide training to municipal staff, consultants, developers, residents and stakeholders on low carbon technologies, stormwater management, green infrastructure, natural heritage and restoration related themes.
- Stormwater management plan implementation support through practice and site scale monitoring, data analyses and synthesis of regulatory compliance monitoring data collected at new and re-development sites.
- Pilot project and study design development and implementation to test and validate new low carbon, renewable energy and stormwater management approaches and practices.
- Pre-feasibility assessments of low carbon and green infrastructure approaches and practices.
- Provide technical support to municipalities in identifying options and implementing deep energy retrofits and green stormwater infrastructure within municipally owned buildings.
- Facilitate strategic partnerships with research, policy, and practice community to examine specific questions to support implementation of a plan / program.
- Provide field laboratories to test and evaluate new technologies and approaches related to green stormwater infrastructure and low carbon technologies.

Climate Science Consortium

- Expertise and support in understanding and addressing climate change implications to municipal and community programs and infrastructure including risk and vulnerability assessments and resilience planning. Support with incorporating green infrastructure and climate change considerations into municipal asset management planning.
- Partnership development with academic institutions to help facilitate research towards filling priority knowledge gaps for municipal partners.
- Provide support to municipalities in the incorporation of climate change into asset management planning.

Rural Clean Water Program

- Rural Clean Water Program offers grants and consultations to agricultural and rural landowners to assist them in managing the effect of their land management on water quality.

Green Infrastructure

- Provide support and guidance to municipalities in the incorporation of natural assets into asset management planning.
- Expertise and support in integrated water management including development of tools and mapping to quantify stormwater and other benefits of green infrastructure and prioritize implementation locations and designs.
- Expertise in ecosystem service valuation methods and general support in the application of the latest science and practice of green infrastructure into municipal strategies, plans, and actions.
- Research and application support.
- Facilitating research partnerships to fill priority knowledge gaps towards achieving municipal priorities.

8.2 Community Engagement

TRCA has both the strong reputation and expertise needed to collaborate with the community and stakeholders to deliver environmental stewardship and engagement programming. TRCA's community

engagement program activities employ unique and innovative collaboration models to engage residents, government, private sector and NGO's with the objective of achieving healthy ecosystems, community well-being and regional sustainability.

Citizen Based Regeneration

- Coordinate, organize and deliver community and corporate group native trees and shrubs plantings, pollinator plantings, and activities to build, monitor and maintain wildlife habitat structures.
- Coordinate, organize and deliver community and corporate group watershed wide clean-up activities to remove debris and garbage from watercourses and naturalized areas.
- Coordinate, organize and deliver community and corporate group activities to engage them in TRCA's Young Tree and Shrub Monitoring and Maintenance Program (YTMP) to maintain newly restored sites and collect long-term data on success of newly planted sites.
- Coordinate, organize and deliver community and corporate group activities to engage them in other meaningful citizen scientist programs such as road ecology monitoring or turtle nest protection programs.

Stewardship

- Develop and deliver programs that provide opportunities for residents to play an active role in the health and wellbeing of their natural environment.
- Coordinate and facilitate programs such as community tree plantings, habitat creation projects, citizen science workshops, clean-ups, nature walks, gardening workshops and stormwater and rainwater management programs that empower residents to live sustainably.
- Work with multiple partners, including municipalities, to coordinate and support community programming events to educate the public on water conservation, composting, gardening for native plants and supporting native wildlife.
- Providing support and/or assets to multiple organizations including libraries, museums, art centres, guides and scouts troops and community groups with the goal of supporting local environmental initiatives.
- Create opportunities and programming for youth to gain valuable experience within their communities as well as within the environmental sector (Conservation Youth Corps, Girls Can Too Program).

Watershed Engagement

- Develop and lead compelling experiences for various audiences within the watershed.
- Serve as stakeholder liaison for key projects, programs and initiatives.

Attachment 2 - Sample of Municipal Services and Supports

The items listed below are examples of the type of services and supports that may be offered by some municipalities within TRCA's jurisdiction and that TRCA may wish to obtain through the MOU and SLA process. While some of these services may be procured on a fee for service basis, many may be in-kind. This list of services and supports is for illustrative purposes and is not intended to be comprehensive at this point.

1. Communications and Outreach

- Support the promotion of TRCA activities, projects and updates which are of interest to municipal residents and stakeholders through special events, social media, municipal websites, newsletters, etc.
- Coordinate responses with TRCA any responses to elected officials and media which are of both municipal and TRCA interest.

2. Citizen Advisory Committees

- Provide a forum for TRCA to bring projects and initiatives for input and regular updates to relevant citizen advisory committees, i.e., environmental, sustainability, agriculture and agri-food, heritage, etc.

3. TRCA Regional Watershed Alliance

- Continue to support the work of TRCA's Regional Watershed Alliance (RWA) through regular participation of municipal staff and elected officials on the RWA.

4. Indigenous Engagement

- Provide expertise and advice to TRCA on matters related to Indigenous engagement.
- Where opportunities may exist, facilitate opportunities for relationship building between TRCA and Indigenous communities.

5. Knowledge, Information, Data and Resource Sharing

- Sharing of data sets and GIS layers
- Translation services for TRCA materials and communications
- Provide office hoteling options for TRCA staff who visit municipal offices frequently.
- Where opportunities exist, municipal staff to share knowledge to assist with the carrying out of TRCA projects and initiatives.

6. Staff Training and Development Opportunities

- Extend training or staff development opportunities offered to municipal staff (i.e., workshops, courses, webinars, etc.) to TRCA staff as well.

7. Operations and Maintenance Support

- Land management and maintenance of certain TRCA-owned properties, including TRCA properties adjacent to City/Town owned or managed properties (i.e., mowing of street boulevards).
- Assist with the enforcement of non-permitted uses on TRCA properties

Attachment 3 - Template Corporate Report for Council

TO: Mayor and Members of Council

REPORT FROM:

DATE:

TITLE/SUBJECT: Procurement of Toronto and Region Conservation Authority Programs and Services as part of the preparation of an updated Memorandum of Understanding and Service Level Agreements in support of shared objectives

OBJECTIVE/SUBJECT: To seek Council approval to amend by-law/policy (INSERT NAME/NUMBER OF BY-LAW/POLICY) to allow for sole/single sourcing of Toronto and Region Conservation Authority (TRCA) for municipally requested specialized environmental programs and services and further, to enter into an updated Memorandum of Understanding and Service Level Agreements with TRCA to advance our shared priorities.

RECOMMENDATIONS:

1. That Council approve an amendment to City/Town/Region of XXX by-law/policy (INSERT # AND NAME) to allow single/sole sourcing of TRCA/conservation authority programs and services and name TRCA/conservation authorities as an exempt organization(s) for procurement purposes for programs and services of municipal interest.
2. That Council approve City/Town/Region staff to enter into a Memorandum of Understanding (MOU) with TRCA/conservation authorities for municipally requested programs and services, in accordance with the Conservation Authorities Act.
3. That Council approve an amendment to the City/Town of XXX INSERT PROCUREMENT BY-LAW/POLICY to allow single/sole sourcing of TRCA programs and services and name TRCA as an exempt organization for procurement purposes for programs and services of municipal interest, including programs that exceed the \$XXX threshold which require Council approval.
4. That Council authorize the City/Town of XXX, or their designates, to negotiate and enter into a Memorandum of Understanding (MOU) and Service Level Agreement (SLA) with TRCA for the delivery of municipally requested and approved capital projects, operating programs, services, and partner funded projects that meet the following conditions:

- a. that the work to be performed by the TRCA on behalf of the **City/Town** relate to the types of projects, work and services set out in Attachment 1 of this report, unless otherwise approved by single sourcing or Council direction;
 - b. that the TRCA utilize an open, competitive bidding process consistent with the **City's/Town's** procurement policies and processes;
 - c. that the vendors hired by the TRCA comply with all relevant **City/Town** policies and guidelines;
 - d. that the TRCA shall undertake the work on a cost recovery basis provided however, that TRCA may charge a reasonable administration fee associated with project management, preparation of reports and permit applications, negotiation of easements, land acquisition, access agreements and similar types of activities subject to approval by the CEO and or CFOO of TRCA and **City Manager/CAO and or relevant Deputy City Manager** in the **City/Town of XXX**;
 - e. that the agreements be in a form and content satisfactory to the CEO and or CFOO of TRCA and **City Manager/CAO and or relevant Deputy City Manager in the City/Town of XXX.**
5. And that staff report back by Q1 2021 on efforts to achieve a comprehensive MOU and SLA between the **City/Town** and TRCA once additional details are known.

REPORT HIGHLIGHTS:

- The **City/Town of XXX** has a history of collaboration with Toronto and Region Conservation Authority (TRCA), which includes **INSERT RELEVANT PROJECT AND WORK**. For many years, TRCA has undertaken a variety of projects on behalf of the **City/Town**. TRCA owns **INSERT NUMBER OF ACRES** in the **City/Town of XXX**, including **INSERT RELEVANT SITES**.
- The **City/Town** and TRCA share responsibility for delivering services, and funding is provided from each respective budget as appropriate. Region of XXX Councillors including **INSERT MUNICIPAL ELECTED REPRESENTATIVES** serve on the TRCA Board of Directors to provide oversight and direction on the many programs services of common interest.
- The purpose of this report is to clarify the relationship between TRCA and the **City/Town** and to obtain authorization for the procurement of certain services by TRCA on behalf of the **City/Town** on a **sole/single** source basis and to enter into an updated MOU and SLAs to advance shared priorities including programs and projects.
- There is value to the **City/Town** in having TRCA provide services on behalf of the **City/Town** on projects that eliminate or reduce risk to life and property in a prompt, cost-effective and environmentally responsible manner. TRCA is able to provide cost-effective management of natural environment projects using their highly specialized expertise and ability to expedite required approvals, facilitate community involvement, meet tight timelines, and satisfy federal and provincial environmental standards particularly on TRCA land and in regulated areas such as valleylands and around watercourses and wetlands in the **City/Town of XXX** where TRCA approvals are required.
- It is also expected that Provincial changes to the Conservation Authorities Act (the Act) will further encourage and allow for conservation authorities to enter into agreements with municipalities within their jurisdictions, in respect to programs and services that the

authority will provide on behalf of the municipality. These initiatives are in addition to the mandatory programs and services that conservation authorities provide to their municipalities, which are required by regulation. Related regulations have not yet been made public, in order for conservation authorities and municipalities to assess what programs and services are required and which would require agreements.

- Due to the many areas of mutual interest including City/Town initiatives that cross over TRCA lands and within regulated areas, and TRCA's long term relationship with the City/Town and Region (IF RELEVANT) for monitoring and maintenance of infrastructure, City/Town of XXX staff wish to formalize the relationship between the City/Town and TRCA, as well as the services that may be procured from TRCA, by entering into an agreement with TRCA and amending City/Town of XXX INSERT PROCUREMENT POLICY/BY-LAW to allow for single/sole sourcing of TRCA services, in order to streamline the current procurement process for TRCA services, to document the services provided to the City/Town by TRCA, and satisfy the expected requirements to be laid out in the Conservation Authorities Act regulations that are expected to be released later this year.

BACKGROUND

The City/Town of XXX has a history of collaboration with TRCA. For many years, the TRCA has undertaken a variety of projects in partnership with, and on behalf of, the City/Town and which are of common interest to both organizations. A selection of projects undertaken in partnership with, or with the support of, TRCA include:

- INSERT PROJECTS

Various City/Town departments and divisions have worked with, and continue to work with, TRCA in accordance with their respective business areas. There is value to the City/Town in having TRCA provide services on behalf of the City/Town on projects that eliminate or reduce risk to life and property in a prompt, cost-effective and environmentally responsible manner. TRCA is able to provide cost-effective management of natural environment projects using their highly specialized expertise, and ability to expedite required approvals, facilitate community involvement, meet tight timelines, and satisfy federal and provincial environmental standards.

Furthermore, amendments made to the Conservation Authorities Act ("the Act") in 2018, which are intended to increase the transparency of the relationships between conservation authorities and municipalities to the public, and also to allow for conservation authorities to enter into agreements with municipalities within their jurisdictions in respect to programs and services that the authority will provide on behalf of the municipality. These initiatives are in addition to the mandatory programs and services that conservation authorities provide to their municipalities, which are required by regulation. Specifically, the following wording was added to the Act as part of the 2018 amendments:

Programs and services

21.1 (1) The following are the programs and services that an authority is required or permitted to provide within its area of jurisdiction:

1. Mandatory programs and services that are required by regulation.
2. Municipal programs and services that the authority agrees to provide on behalf of municipalities situated in whole or in part within its area of jurisdiction under a memorandum of understanding referred to in subsection (3).
3. Such other programs and services as the authority may determine are advisable to further its objects. 2017, c. 23, Sched. 4, s. 20 (1).

Mandatory Programs and Services

(2) Programs and services referred to in paragraph 1 of subsection (1) shall be provided in accordance with such standards and requirements as may be set out in the regulations. 2017, c. 23, Sched. 4, s. 20 (1).

Memorandum of Understanding with Municipalities

(3) An authority may enter into a memorandum of understanding with a municipality situated in whole or in part within its area of jurisdiction in respect of programs and services that the authority will provide on behalf of the municipality. 2017, c. 23, Sched. 4, s. 20 (1).

To date, no updated regulations have been made public to support the delineation between 'mandatory programs and services' and 'programs and services that the authority will provide on behalf of the municipality. However, it is anticipated that once the regulations are provided, the **City/Town** will be required to enter into an agreement in order to have TRCA provide municipally requested programs and services.

An amendment to the **City's/Town's** primary procurement mechanism, **INSERT POLICY/BY-LAW**, would further aid in streamlining the procurement process for municipal staff.

COMMENT/ DISCUSSION/ RATIONALE

Given the large number of projects and the benefits from working with the TRCA, staff recommend that TRCA be engaged to undertake certain projects as set out in this report rather than putting this work out through the competitive procurement process.

City/Town of XXX staff have identified several benefits to the **City/Town** as a whole to enter into an agreement with TRCA and to amend the **City/Town of XXX's INSERT POLICY/BY-LAW** to allow for **single/sole** sourcing TRCA services. These include:

- Where work is taking place in unique, complex and/or sensitive areas. This can include, but not be limited to, valley lands, areas with ecological sensitivities or with species at risk;
- Where work taking place on TRCA lands, including those under management agreement with the municipality or where a hazard is present on municipal lands but work must be

carried out on TRCA lands. In all cases where work is carried out on TRCA lands, TRCA must be involved;

- Where the City/Town and TRCA enter into a partnership together on a project or program. Frequently such partnerships are tied to a system of follow-up maintenance, monitoring, assessment and evaluation of practices utilized following implementation of the project. Such partnerships exceed the services and timelines of what a private contractor would undertake;
- Where it makes sense to manage both TRCA and municipal assets together in a more comprehensive manner;
- In some cases, where TRCA can contribute funds to a project that will provide for a larger net benefit upon completion;
- Where TRCA can leverage opportunities from other programming with municipal partners (e.g. Region of XXX, Infrastructure Ontario) to coordinate integrated and potentially larger scale solutions than might be otherwise possible;
- Where TRCA offers highly unique or specialized existing services or programs that align with municipal needs, such as managing specialized consultants that require first-hand knowledge and experience in the area of expertise, for example, geotechnical engineering.

Also, TRCA has moved forward in close cooperation with the City/Town of XXX to increase communications and coordination on development applications in the City/Town. Some major successes have included coordination to ensure timely review and approval of INSERT RELEVANT PROJECTS/DEVELOPMENTS. Staff from TRCA and the City/Town involved in the development review process have regular meetings to ensure timely review and issue management related to development files.

In an effort to streamline the procurement approval process for City/Town staff and to more effectively move forward projects of municipal importance, it is recommended that Council approve the City/Town entering into an agreement with TRCA to allow the provision of services outlined in Attachment 1 and in accordance with the conditions outlined in Recommendation 1 and that INSERT POLICY/BY-LAW be amended as needed to allow this agreement to be carried out and to allow single sourcing of TRCA for goods and services required by the City/Town.

Attachment 3 – Template Memorandum of Understanding

THIS MEMORANDUM OF AGREEMENT (“MOU”) is made as of the _____ day of _____, 2020 (the “**Effective Date**”).

BETWEEN:

“MUNICIPALITY”
(hereafter, “Municipality”)

AND:

TORONTO AND REGION CONSERVATION AUTHORITY
(hereinafter, “TRCA”)

WHEREAS TRCA is a conservation authority established under the *Conservation Authorities Act* (“Act”) and is governed by its participating municipalities in accordance with the Act;

AND WHEREAS Municipality is a lower-tier municipality in the Regional Municipality of _____, located wholly or partly within the area under the jurisdiction of TRCA;

AND WHEREAS TRCA provides services to and on behalf of Municipality through individual agreements in a variety of service areas;

AND WHEREAS recent amendments to the Act require conservation authorities to provide programs and services on behalf of municipalities under a memorandum of understanding or such other agreement as may be entered into with the municipality in respect of the programs and services;

AND WHEREAS the Act requires such memorandum of understanding or other agreement to be reviewed at regular intervals and to be made available to the public as may be determined in the memorandum or agreement;

AND WHEREAS TRCA and Municipality recognize the need for, and the benefits of, entering into Service Level Agreements to govern the delivery of programs and services by TRCA on behalf of Municipality, and to continue to work together to identify opportunities for further collaboration to the benefit of both parties and ensure efficiency, transparency and accountability in the use of public sector resources;

AND WHEREAS TRCA and Municipality intend to enter into a Service Level Agreement to govern the delivery of certain programs and services by TRCA on behalf of Municipality;

AND WHEREAS each of TRCA and Municipality are entering into this MOU to guide the development of the Service Level Agreement;

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and for other good and valuable consideration the sufficiency of which is hereby acknowledged by the parties, the parties hereto agree as follows:

1. This MOU shall commence on the Effective Date and shall continue for one (1) year (the “**Initial Term**”). Thereafter this MOU shall continue for additional one year periods (each a “**Renewal Term**”) unless either party provides written notice of termination to the other party at least thirty (30) days prior to the expiry of the Initial Term or Renewal Term, as the case may be.
2. The following principles shall guide the development of a Service Level Agreement between TRCA and **Municipality**:
 - a. TRCA and **Municipality** will meet regularly to review existing agreements and new areas of services, including partnership and event agreements, fee-for-service agreements, and data-sharing agreements, and identify programs and services to be provided under the Service Level Agreement, including program and service areas listed in Schedule “A”.
 - b. The Service Level Agreement will provide overarching terms and conditions for the delivery of municipal programs and services by TRCA.
 - c. The cost structure for services provided under the agreements shall reflect both direct cost and administration costs for providing the services.
 - d. Subject to complying with procurement and purchasing policies, **Municipality** will give due consideration to TRCA when procuring services which are a core competency of TRCA.
 - e. Programs and services under the Service Level Agreement will be implemented through individual Letter Agreements. Templates for each project/program/service Letter Agreement will be developed and attached as a separate schedule to the SLA.
3. The following principles shall guide the efforts of the parties to identify opportunities for further collaboration to the benefit of both parties and ensure efficiency, transparency and accountability in the use of public sector resources:
 - a. It is recognized that there are opportunities for collaboration between the parties outside of the Service Level Agreement, including in-kind services and assistance, coordination of complementary policy and program initiatives, organization of group purchasing/municipal vendor of records, as well as projects involving third parties.
 - b. In recognition that TRCA lands and facilities are often used for a service or function that may be provided by a municipality for the purposes of the municipality and for

public use, **Municipality** will work with TRCA to identify lands and facilities that qualify as municipal capital facilities for the purposes of providing tax exemptions for such lands and facilities, and enter into agreements with TRCA and any person, including another municipality, for the provision of municipal capital facilities.

- c. It is recognized that collaboration and sharing of geographic information system (GIS) data and other OpenData opportunities increase efficiencies and capacity, and the sharing of data is encouraged whenever reasonably possible.
4. This MOU shall be reviewed by the Parties prior to the expiry of the Initial Term and each Renewal Term. It is TRCA's responsibility to initiate the review with **Municipality** at least sixty (60) days prior to the expiry of the Initial Term or Renewal Term, as the case may be.
5. Each of TRCA and Municipality will strive to facilitate open and timely communication at all levels.
6. This MOU is not intended to be a legally binding agreement and is not intended to create any legally binding obligation between the parties.
7. This MOU shall be made available to the public on request.
8. This MOU may be executed in counterparts and when each party has executed a counterpart, each of such counterparts shall be deemed to be an original and all of such counterparts, when taken together, shall constitute one and the same agreement.

IN WITNESS WHEREOF, the parties have entered into this MOU as of the Effective Date.

**TORONTO AND REGION CONSERVATION
AUTHORITY**

Per: _____

Name:

Title:

Per: _____

Name:

Title:

MUNICIPALITY

Per: _____

Name:

Title:

Per: _____

Name:

Title:

**Schedule “A” to the MOU between
TRCA and Municipality**

DESCRIPTION OF AREAS FOR SERVICE AGREEMENTS

Schedule “A”

Service Areas Included in this Agreement &
Possible Scope of Work that may be Provided the TRCA for each Service Area

TRCA Service Areas

- Service Area 1 – Watershed Studies and Strategies
- Service Area 2 – Water Risk Management
- Service Area 3 – Regional Biodiversity
- Service Area 4 – Greenspace Securement and Management
- Service Area 5 – Tourism and Recreation
- Service Area 6 – Planning and Development Review
- Service Area 7 – Education and Outreach
- Service Area 8 – Sustainable Communities

Scope of Work Available for each Service Area

- Service Area 1 – Watershed Studies and Strategies
Watershed Plans and Strategies
Report Cards
Emerging and Integrative Climate Science

- Service Area 2 – Water Risk Management
Groundwater Strategies
Source Protection Strategies
Regional Monitoring – Water
Hydrology
Flood Plain Mapping
Flood Forecasting and Warning
Flood Risk Management
Flood Infrastructure and Operations
Erosion Management Capital Works
Hazard Monitoring

- Service Area 3 – Regional Biodiversity

Aquatic System Priority Planning
Terrestrial (and Integrated) Ecosystem Planning
Nature Channel Design
Restorations Opportunities Bank
Regional Monitoring – Biodiversity
Activity Based Monitoring
Terrestrial Inventory and Assessment
Watershed Restoration
Shoreline Restoration
Wetlands Restoration
Riparian and Flood Plain Restoration
Natural Channel and Stream Restoration
Wildlife Habitat Management
Inland and Lakefill Soil Management
Compensation Restoration
Forest Management Planning
Forest Management Operations
Managed Forest Tax Incentive Planning
Invasive Species Management
Hazard Tree Management

- Service Area 4 – Greenspace Securement and Management

Greenspace Planning
Greenspace Land Acquisition
Resource Management Planning
Inventory and Audit
Implementation
Hazard Management
Archaeology
Property Taxes and Insurance

- Service Area 5 – Tourism and Recreation

Conservation Parks
Waterfront Parks
Trail Planning, Development and Management
Events and Festivals

- Service Area 6 – Planning and Development Review

Policy Development and Review
Development Planning and Regulation Permitting
Environmental Assessment Planning and permitting

- Service Area 7 – Education and Outreach

School Programs
Family and Community Programs

Newcomer Employment and Education

- Service Area 8 – Sustainable Communities
- Living City Transition Program
Sustainable Neighbourhoods
Community Transformation
Partners in Project Green
Urban Agriculture
Sustainable Technology Evaluation Program
Climate Consortium
Green Infrastructure Ontario
Community Engagement
Citizen Based Regeneration
Stewardship
Watershed Engagement

Attachment 5 – Template Service Level Agreement

THIS SERVICE LEVEL AGREEMENT made the day of , 20__.

B E T W E E N:

REGION/CITY/TOWN/TOWNSHIP OF _____

(“Municipality”)

OF THE FIRST PART

- and -

TORONTO AND REGION CONSERVATION AUTHORITY

(“TRCA”)

OF THE SECOND PART

RECITALS

WHEREAS TRCA is a conservation authority established under the Conservation Authorities Act (“Act”) and is governed by its partner municipalities in accordance with the Act;

AND WHEREAS a Partner Municipality is located wholly or in part within the area under the jurisdiction of TRCA;

AND WHEREAS the Act permits TRCA to provide non-mandatory programs and services on behalf of a Municipality under a memorandum of understanding or such other agreement as may be entered into with the Municipality;

AND WHEREAS a Municipality is requesting TRCA to deliver programs and services on behalf of the Municipality, within TRCA’s areas of expertise and jurisdiction, that fall within the Service Areas attached hereto as **Schedule “A”**;

AND WHEREAS the Council of the Municipality has authorized the Municipality to enter into this service level agreement with TRCA for the delivery of municipal programs and services;

AND WHEREAS the Municipality and TRCA wish to enter into this Agreement to document the terms and conditions for the municipal programs and services to be performed by the TRCA on behalf of the Municipality;

AND WHEREAS where it is mutually desirable to further specify the details of programs or services, such details shall be set out in separate Letter Agreements to be signed by authorized staff of each Party, from time to time;

NOW THEREFORE the parties hereto agree and covenant with one another as follows:

PART I – INTERPRETATION

Definitions

1. For the purposes of this Agreement, including the preceding recitals:

- a) **“Agreement”** means this Service Level Agreement, including the Schedules attached hereto;
- b) **“Completion Date”**, in relation to a time-limited Program or Service, such as a Construction Project, shall mean the date it is completed, as agreed to by the parties and set out in the applicable Letter Agreement;
- c) **“Construction Project”** means any program or services involving construction or restoration works;
- d) **“Consulting and Design Project”** means any program or services involving construction or restoration works;
- e) **“Contractor”** means any contractor or consultant retained by the TRCA in relation to any specific Program or Service, and includes professional consultant, including any architect, engineers, landscape consultant, project or construction manager, and any other consultants or entities retained by TRCA;
- f) **“Force Majeure”** has the meaning set out in section 12 of this Agreement;
- g) **“Letter Agreement”** and **“Memorandum of Understanding”** means a separate agreement to be entered into by the TRCA and the Municipality in relation to certain Programs and Services setting out further details and specific requirements, including roles and responsibilities, workplans, payment terms and timelines for deliverables;
- h) **“Programs and Services”** means work within a Service Area to be provided by the TRCA on behalf of the Municipality, and **“Program”** and **“Service”** has a corresponding meaning;
- i) **“Responsible Municipal Official”** means the Municipality’s Senior Manager or Manager responsible for a particular Project, and includes his or her designate or successor;
- j) **“Service Area”** means any Program or Service area identified in Schedule “A”;

2. (1) In this Agreement:

- a) grammatical variations of any terms defined herein have similar meanings to such defined terms;
- b) words in the singular include the plural and vice-versa; and
- c) the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation of this Agreement, or be used to explain or clarify the clauses or paragraphs below which they appear.

3. The attached Schedules form part of this Agreement.

PART II – GENERAL TERMS

Term of Agreement

4. (1) The term of this Agreement will be for a period of four (4) years commencing on the date the Agreement is made (“**Initial Term**”).

(2) The parties may extend this Agreement for additional four (4) year terms (“**Extension Term**”), provided the Agreement is reviewed prior to any extension of the Agreement.

Review of Agreement at Regular Intervals

5. (1) This Agreement shall be reviewed by the Parties on an annual basis.

(2) It shall be TRCA’s responsibility to initiate the annual review with the Municipality.

Agreement Available to the Public

6. This Agreement shall be made available to the public on request.

Communications Protocol

7. As applicable, the Parties shall establish a communications protocol in respect of the programs and services governed by this Agreement.

Service Delivery Standards

8. Each Letter Agreement and Memorandum of Understanding will set out service delivery standards that TRCA is required to meet.

Municipality Responsibility to Consult on Budget Changes

9. The Municipality shall consult with TRCA 180 days, or as soon as reasonably possible, in advance of a proposed change to approved budgets related to this Agreement.

Records

10. (1) The TRCA shall prepare and maintain proper and accurate books and records respecting Programs and Services provided under this Agreement and any Letter Agreement.

(2) In order to provide data for the calculation of fees on a time basis (where applicable), the TRCA shall keep a detailed record of the (where applicable) time spent by and the salaries paid to its staff working on the Programs and Services.

(3) The Municipality at its own cost may audit all financial and related records associated with the terms of this Agreement and the Letter Agreement including timesheets, reimbursable out of pocket expenses, materials, goods, and equipment claimed by the TRCA. The TRCA shall at all times during the term of this Agreement and any Letter Agreement, and for a period of seven (7) years following completion or termination, keep and maintain records of the Programs and Services performed. The TRCA shall at its

own expense make such records available for inspection and audit by the Municipality at all reasonable times.

Release and Indemnity

11. (1) The TRCA hereby releases and shall indemnify, defend and hold harmless the Municipality, its agents, officers, employees, contractors and elected and appointed officials of, from and against all losses, costs, liens, proceedings, actions, suits, claims and demands whatsoever in any way arising out of the failure of the TRCA to fulfill its obligations under this Agreement or a Letter Agreement, however, the TRCA's obligation to indemnify, defend and hold harmless the Municipality shall not extend to the Municipality's negligence, or that of any of its employees, servants, agents or persons for whom it is responsible.

Insurance

12. (1) As required by the Municipality, acting reasonably, the TRCA shall obtain, maintain and provide to the Municipality, Certificates of Insurance of the following insurance policies issued by an insurance company licensed to write in the Province of Ontario, and shall ensure that the following insurance policies are maintained and kept in force at all times during the currency hereof, unless otherwise set out in the Letter Agreement:

(a) Commercial General Liability Insurance as follows:

(i) is in the amount of not less than Five Million Dollars (\$5,000,000.00) per occurrence;

(ii) adds the Municipality, its boards, agencies and commissions and subsidiary operations, as applicable, as additional insured(s) but only with respect to liability arising out of the operations of the TRCA;

(iii) has provisions for cross-liability and severability of interests, blanket form contractual liability, owners' and contractors' protective liability, broad form property damage, products and completed operations, non-owned automobile liability and any other provision relevant as detailed in the Letter Agreement or this Agreement, and if applicable, coverage for blasting, shoring, pile driving and collapse;

(b) Standard Automobile Liability Insurance for all owned or leased/licensed vehicles used in connection with the Project, in the amount of not less than Two Million Dollars (\$2,000,000.00) per occurrence;

(c) Professional liability (errors & omissions) insurance in the amount of One Million Dollars (\$1,000,000.00) and/or cause the Contractor in relation to any services, where such Contractor is under a professional obligation to maintain the same, and with proof of such insurance to be provided to the Municipality no later than the execution of this agreement with the vendor. Notwithstanding anything to the contrary contained in the Letter Agreement, the policy will be kept in full force and effect for a period of time ending no sooner than two (2) years after the termination or expiry of the Letter Agreement or completion of the work, as the case may be; and

(d) Pollution liability insurance with a limit of two million (\$2,000,000) for sudden and accidental and gradual pollution claim incidents associated with the Project.

(2) All policies of insurance required to be provided pursuant to this section shall contain or be subject to the following terms and conditions:

(a) each Certificate shall contain provision requiring the insurers to notify the Municipality in writing at least thirty (30) days before any cancellation of the insurance required under this clause;

(b) the parties agree that insurance policies may be subject to deductible amounts, which deductible amounts shall be borne by the TRCA;

(c) before the expiry of the policies of insurance, original signed certificates evidencing renewal will be provided to the Municipality without notice or demand.

Notice

13. Any notice in respect of this Agreement shall be in writing and shall be sufficiently given or made if made in writing and either delivered in person during normal business hours of the recipient on a business day to the party for whom it is intended to the address as set out below, or sent by registered mail or by email addressed to such party as follows:

(1) in the case of Municipality, to:

Attention:

(2) in the case of the TRCA, to:

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

Attention: John MacKenzie, Chief Executive Officer

Email. John.MacKenzie@trca.ca

or to such other addresses as the parties may from time to time notify in writing, and any notice so made or given shall be deemed to have been duly and properly made or given and received on the day on which it shall have been so delivered or, if mailed, then, in the absence of any interruption of postal service affecting the delivery or handling thereof, on the third business day after the date of mailing.

Force Majeure

14. (1) Neither party shall be in default with respect to the performance or non-performance of the terms of the Letter Agreement or this Agreement resulting directly or indirectly from causes beyond its reasonable control (other than for financial inability) including, without limitation, any delay caused by strike, lock-out, inability to procure material, restrictive laws or governmental regulations or other cause beyond the reasonable control of such party and not caused by the act or omission of such party and the Completion Date shall be extended by any such period of delay.

(2) The TRCA acknowledges and agrees that it shall not receive any compensation whatsoever in the event that a strike, lock-out or other labour disruption prevents, delays or otherwise interferes with the TRCA's ability to deliver the Programs and Services, and the Municipality shall not be liable for any loss whatsoever suffered as a result thereof.

Governing Law

15. This Agreement and any Letter Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein, and shall be treated in all respects as an Ontario contract.

Approvals in Writing

16. Any approval or consent required of the Municipality under a Letter Agreement may be given by the Responsible Municipal Official or any person specifically authorized by them in writing to do so.

No Agency

17. Nothing herein contained shall make, or be construed to make the Municipality or the TRCA a partner of one another nor shall this Agreement or a Letter Agreement be construed to create a partnership, joint venture or employment relationship between any of the parties hereto or referred to herein.

Invalidity of any Provision

18. If any provision of this Agreement or any Letter Agreement is invalid, unenforceable or unlawful, such provision shall be deemed to be deleted from this Agreement and all other provisions of this Agreement shall remain in full force and effect and shall be binding in all respects between the parties hereto.

Dispute Resolution

19. In the event any dispute that arises in respect of the implementation of this Agreement, the Parties will endeavour to resolve the matter through negotiation without the use of formal mediation or adjudication.

Further Assurances

20. The Parties agree to execute and deliver to each other such further written documents and assurances from time to time as may be reasonably necessary to give full effect to the provisions of this Agreement.

Entire Agreement

21. This Agreement embodies and constitutes the sole and entire Agreement between the Parties. This Agreement cannot be altered, amended, changed, modified or abandoned, in whole or in part, except by written agreement executed by the parties, and no subsequent oral agreement shall have any validity whatsoever.

Acknowledgement

22. Each party hereto acknowledges that it and its legal counsel have reviewed and participated in settling the terms and this Agreement.

Binding Agreement

22. This Agreement shall enure to the benefit and be binding upon the parties hereto and their respective heirs, executors, representatives and successors permitted hereunder.

« SIGNATURE LINES ON NEXT PAGE »

Draft for comment

IN WITNESS WHEREOF the Municipality and the TRCA have signed this Agreement.

MUNICIPALITY

Name
Position

Name
Position

I / We have authority to bind the Municipality.

TORONTO AND REGION CONSERVATION AUTHORITY

John MacKenzie
Chief Executive Officer

I have authority to bind the TRCA.

LIST OF SCHEDULES

Schedule “A”

TRCA Service Areas

Schedule “B”

Specific Programs and Services to be Provided by TRCA &
Approved Scope of Work and Budget

Schedule “C”

Additional Terms of Agreement for Construction Projects
Form of Letter Agreement for Construction Projects

Schedule “D”

Additional Terms of Agreement for Construction Consulting and Design Projects
Form of Letter Agreement for Consulting and Design Projects

Schedule “E”

Additional Terms of Agreement for Environmental Assessment Review Services
Form of Letter Agreement for Environmental Assessment Review Services

Schedule “F”

Additional Terms of Agreement for Development and Engineering Services
Form of Letter Agreement for Development and Engineering Services

Schedule “A”

TRCA Service Areas

- Service Area 1 – Watershed Studies and Strategies
- Service Area 2 – Water Risk Management
- Service Area 3 – Regional Biodiversity
- Service Area 4 – Greenspace Securement and Management
- Service Area 5 – Tourism and Recreation
- Service Area 6 – Planning and Development Review
- Service Area 7 – Education and Outreach
- Service Area 8 – Sustainable Communities

Scope of Work Available for each Service Area

- Service Area 1 – Watershed Studies and Strategies
 - Watershed Plans and Strategies
 - Report Cards
 - Emerging and Integrative Climate Science
- Service Area 2 – Water Risk Management
 - Groundwater Strategies
 - Source Protection Strategies
 - Regional Monitoring – Water
 - Hydrology
 - Flood Plain Mapping
 - Flood Forecasting and Warning
 - Flood Risk Management
 - Flood Infrastructure and Operations
 - Erosion Management Capital Works
 - Hazard Monitoring
- Service Area 3 – Regional Biodiversity

Aquatic System Priority Planning

Terrestrial (and Integrated) Ecosystem Planning

Nature Channel Design

Restorations Opportunities Bank

Regional Monitoring – Biodiversity

Activity Based Monitoring

Terrestrial Inventory and Assessment

Watershed Restoration

Shoreline Restoration

Wetlands Restoration

Riparian and Flood Plain Restoration

Natural Channel and Stream Restoration

Wildlife Habitat Management

Inland and Lakefill Soil Management

Compensation Restoration

Forest Management Planning

Forest Management Operations

Managed Forest Tax Incentive Planning

Invasive Species Management

Hazard Tree Management

- Service Area 4 – Greenspace Securement and Management

Greenspace Planning

Greenspace Land Acquisition

Resource Management Planning

Inventory and Audit

Implementation

Hazard Management

Archaeology

Property Taxes and Insurance

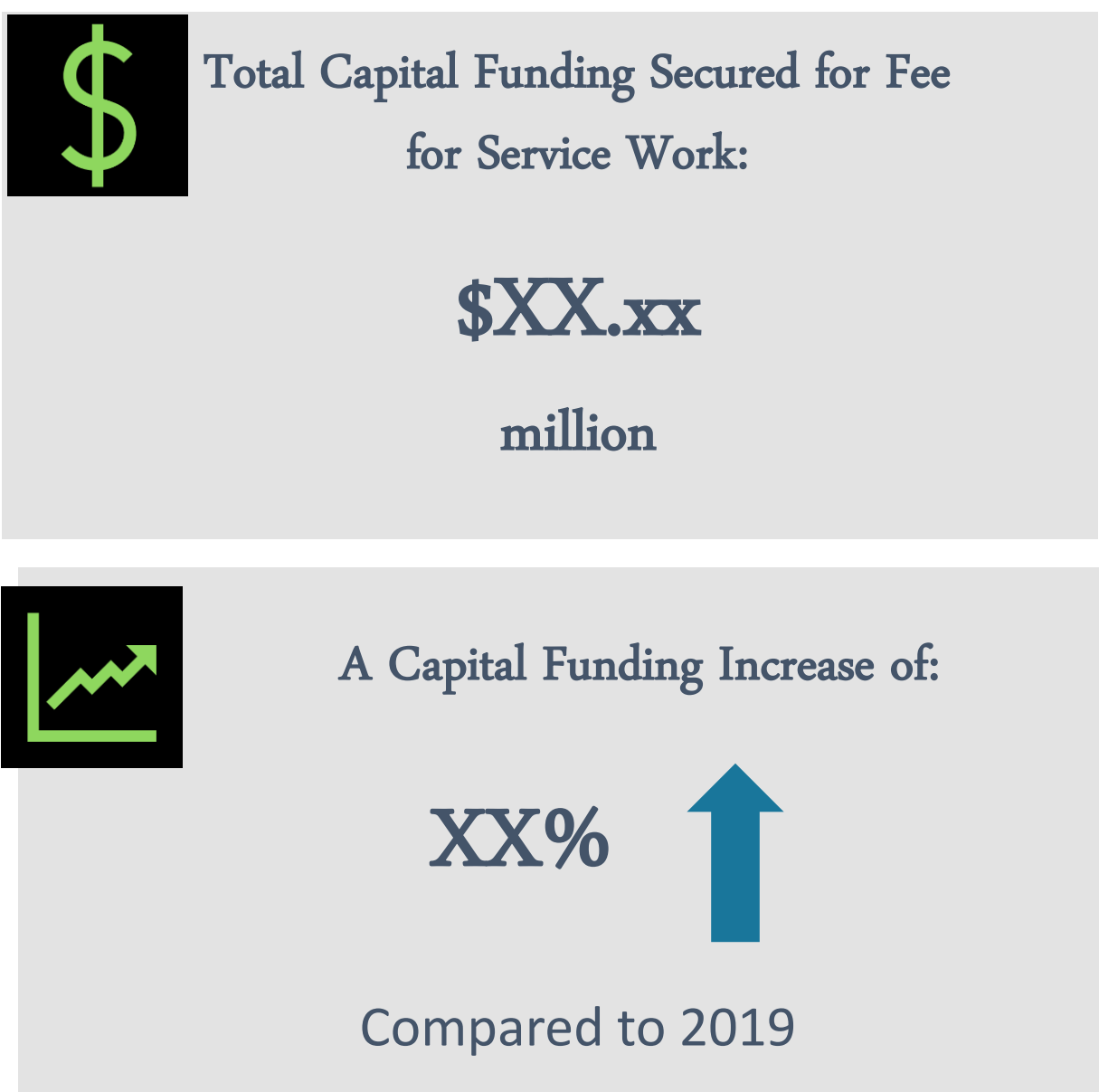
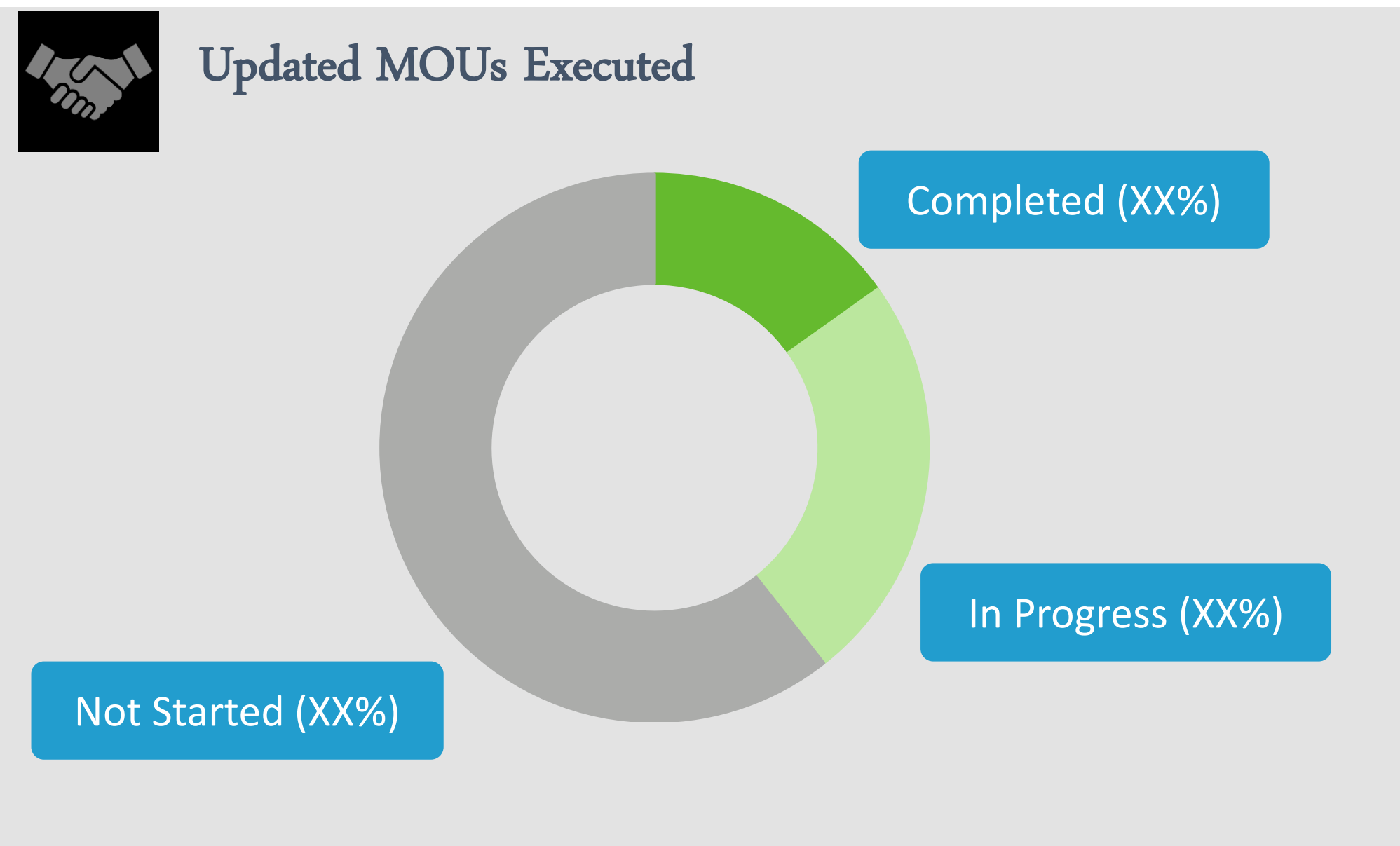
- Service Area 5 – Tourism and Recreation
 - Conservation Parks
 - Waterfront Parks
 - Trail Planning, Development and Management
 - Events and Festivals


- Service Area 6 – Planning and Development Review
 - Policy Development and Review
 - Development Planning and Regulation Permitting
 - Environmental Assessment Planning and permitting

- Service Area 7 – Education and Outreach
 - School Programs
 - Family and Community Programs
 - Newcomer Employment and Education

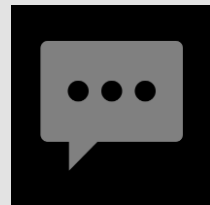
- Service Area 8 – Sustainable Communities
 - Living City Transition Program
 - Sustainable Neighbourhoods
 - Community Transformation
 - Partners in Project Green
 - Urban Agriculture
 - Sustainable Technology Evaluation Program
 - Climate Consortium
 - Green Infrastructure Ontario
 - Community Engagement
 - Citizen Based Regeneration
 - Stewardship
 - Watershed Engagement

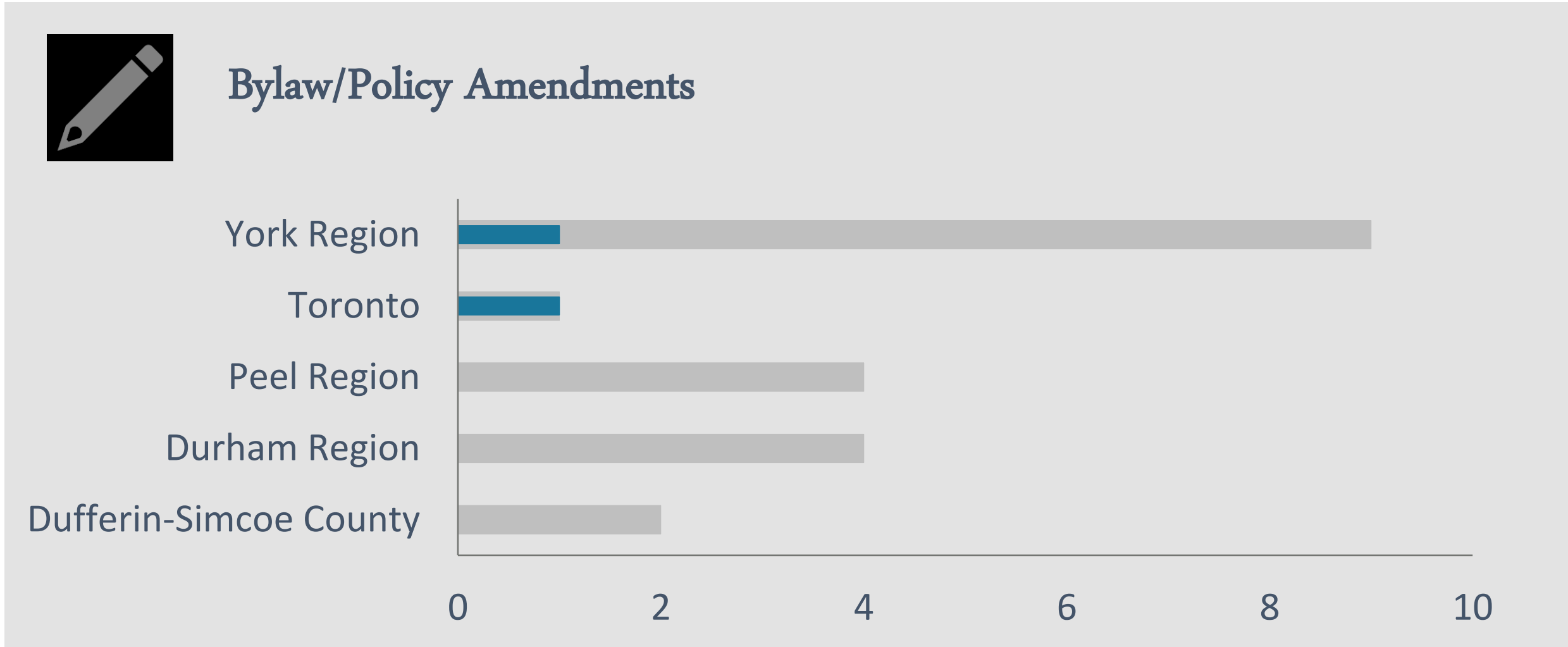
Attachment 6 - Updated MOUs/SLAs with Partner Municipalities Dashboard



 Next Steps

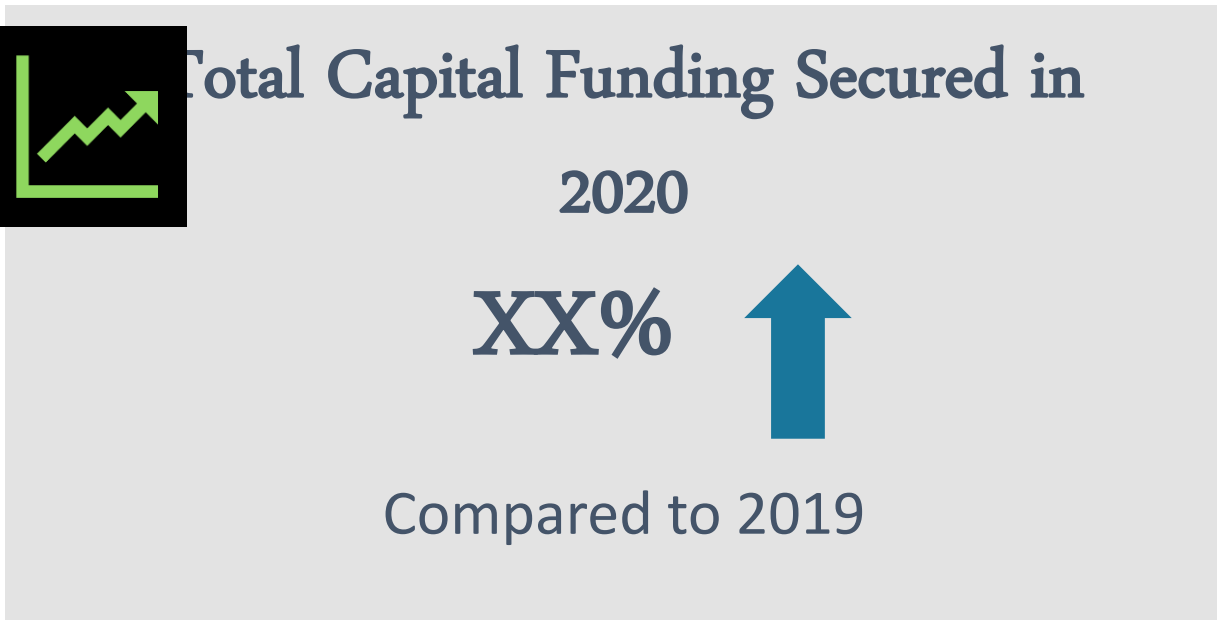
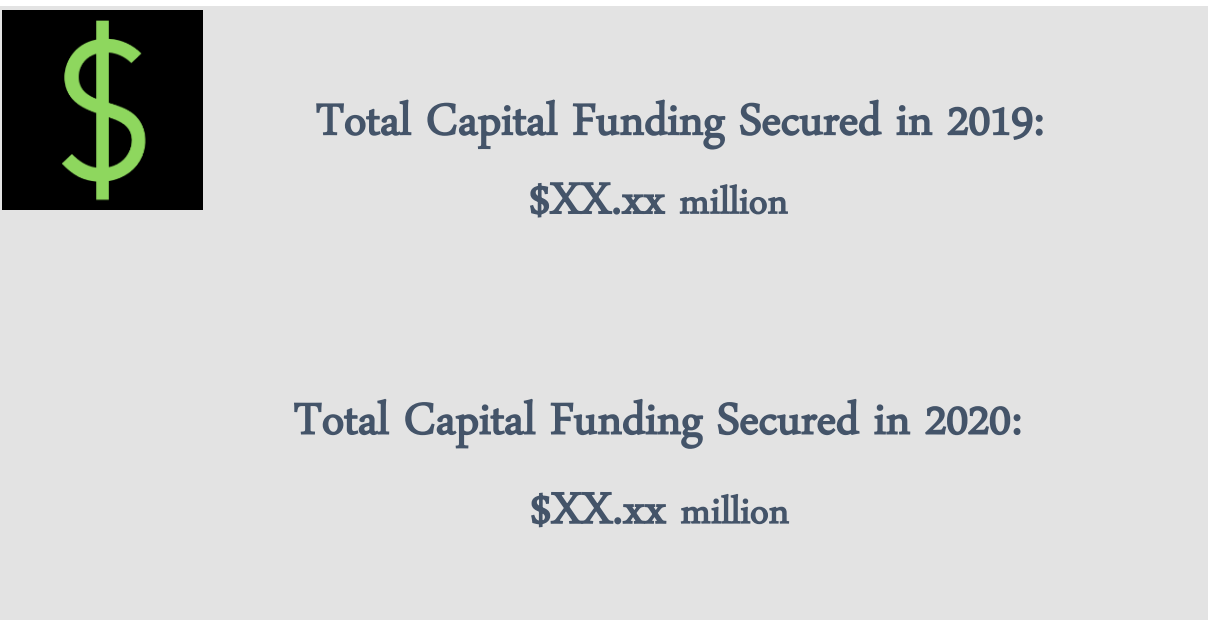
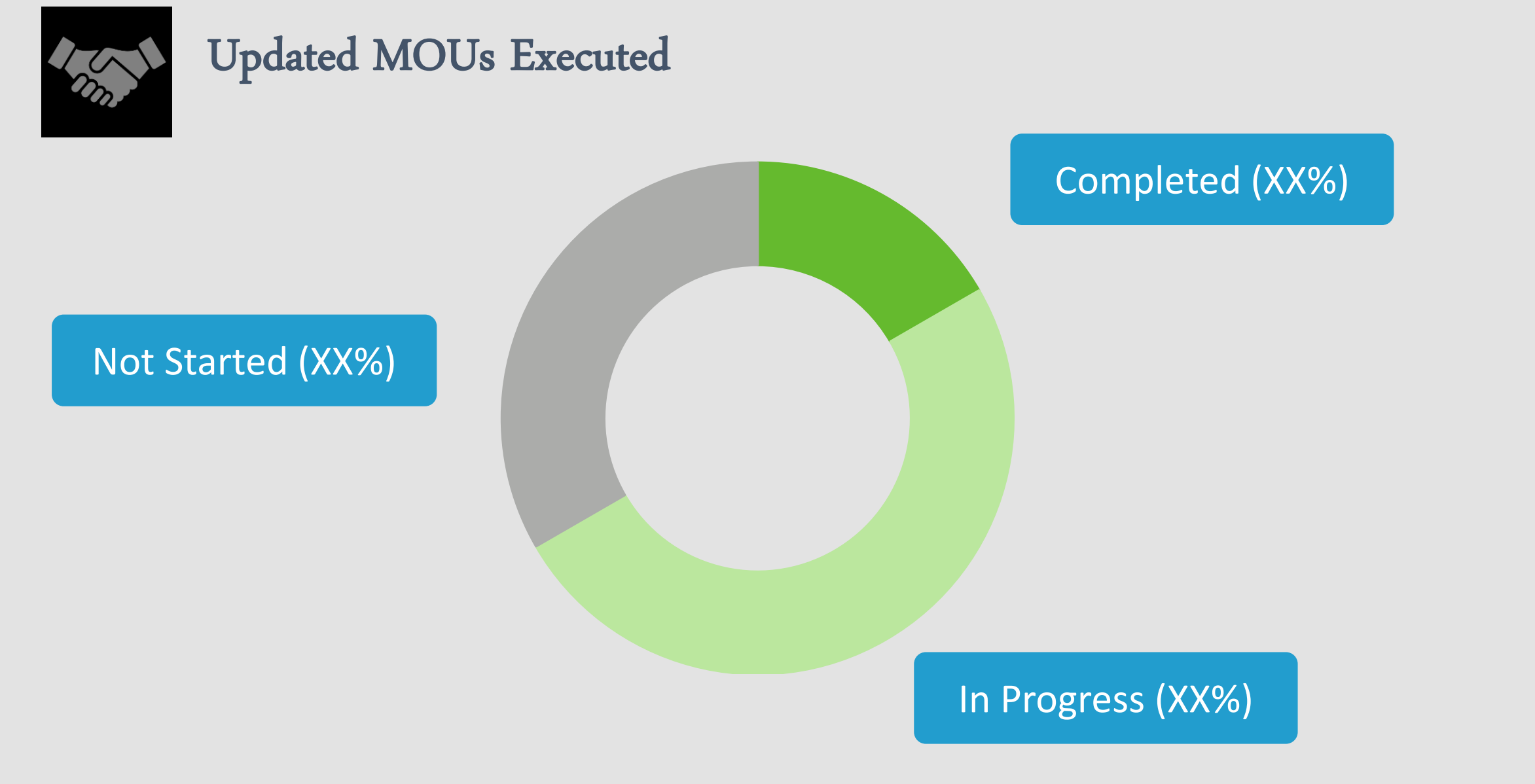
Task	Timing
Continue meetings/discussion with partner municipalities to determine MOU/SLA scope and details	Q2 – Q4 2020
Prepare draft reports and draft MOU’s for partner review and Council consideration	Q2 2020 – Q1 2021
Updates to TRCA Board of Directors, MECP, and municipal Councils on status of TRCA and partner MOUs/SLAs	Q2 2020 – Q2 2021


-  Project Updates
- Update on Memorandums of Understanding and Service Level Agreements with Partner Municipalities report presented at TRCA Executive Committee Meeting #11/19
 - Update on Planning Act Related Memorandums of Understanding and Service Level Agreements with Partner Municipalities report presented at TRCA Board of Directors Meeting #3/20
 - Meetings occurred with municipal partners from Q1-Q2 2020.
 - Detailed scan of partner municipality single/sole-source bylaw/policy completed March 2020.




The *Conservation Authorities Act* was amended on June 6, 2019 as part of Schedule 2 of Bill 108, which was entitled the “More Homes, More Choice Act”. It is anticipated that partner municipalities will be required to enter in to a separate MOU with TRCA to obtain certain types of services currently provided. While Bill 108 is now law, the final regulations have not been issued by MECP at this time.



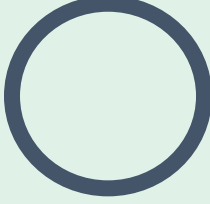
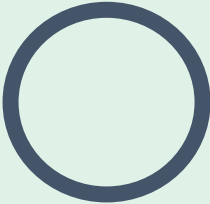


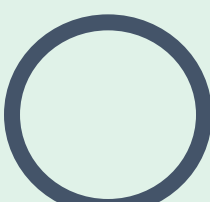
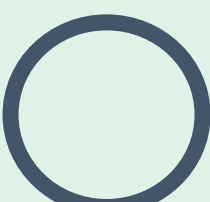
Updated MOUs/SLAs with Partner Municipalities Dashboard - Durham



 *Total Number of MOUs and SLAs in Place*

Municipality	2019	2020
Pickering	x	y
Ajax	x	y
Uxbridge	x	y
Durham Region	x	y

 Submitted for Municipal Review

	Pickering	Ajax	Uxbridge	Durham Region
Draft Updated MOU				
Draft Council Report Template				

-  Fee for Service Work
- Examples of fee for service work for partners in Durham include:
- Carruthers Creek Watershed Plan
 - Paradise Park Wetland Restoration
 - Seaton Lands Restoration and Invasive Species Strategy
 - Seaton Development Watershed Monitoring Program
 - Pickering-Ajax Dyke Rehabilitation Environmental Assessment

Section III – Items for the Information of the Board

TO: Chair and Members of the Board of Directors
Meeting 6/20, Friday, September 25, 2020

FROM: Laurie Nelson, Director, Policy Planning
Sameer Dhalla, Director, Development and Engineering Services

RE: **GTA WEST TRANSPORTATION CORRIDOR UPDATE AND SUBMISSION TO THE ENIRONMENAL REGISTRY OF ONTARIO (ERO #019-1882)**

KEY ISSUE

An update on the Ministry of Transportation's (MTO) preferred route announcement for the Greater Toronto Area (GTA) West Transportation Corridor and Toronto and Region Conservation Authority's (TRCA) submission to the Environmental Registry of Ontario (ERO #019-1882) on a proposed regulation by the Ministry of Environment, Conservation and Parks (MECP) to update and streamline the existing environmental assessment process for this project and discussion on planned next steps to resolve TRCA issues and concerns involving MTO.

RECOMMENDATION

WHEREAS on July 8, 2020, a proposal by the Ministry of Environment, Conservation and Parks (MECP) for a proposed regulation to update and streamline the existing environmental assessment process for the Ministry of Transportation's (MTO) Greater Toronto Area (GTA) West Transportation Corridor was posted on the Environmental Registry of Ontario (ERO #019-1882) for a commenting period ending August 22, 2020;

AND WHEREAS on August 7, 2020, MTO released a Bulletin announcing the Preferred Route and 2020 Focused Analysis Area (FAA) for the GTA West Transportation Corridor Route Planning and Environmental Assessment Study (GTA West);

IT IS RECOMMENDED THAT this staff report on Toronto and Region Conservation Authority's (TRCA) submission to ERO #019-1882 dated August 21, 2020 and overview of the preferred route and FAA for the GTA West Transportation Corridor and planned next steps involving MTO be received.

BACKGROUND

TRCA has been actively engaged in the GTA West Transportation Corridor planning and environmental assessment review process since its inception, including regular reporting to TRCA's Board of Directors in 2011 (Stage 1 of the EA) and in 2015 and 2016 (Stage 2 of the EA). On October 21, 2016, in coordination with Conservation Halton and Credit Valley Conservation, TRCA presented recommendations to the GTA West Advisory Panel. On October 28, 2016, through resolution #A171/16, as amended, TRCA's Board of Directors recommended that the EA be completed and that the Advisory Panel consider numerous sustainability, natural heritage and compensation considerations. Most recently, a [comprehensive staff report](#) was brought to the Board of Directors, Meeting #11/19 on January 24, 2020, highlighting TRCA's concerns, along with 32 recommendations regarding the technically preferred route for the GTA West Transportation corridor being developed in Stage 2 of the environmental assessment study process. A copy of this Board report and the adopted amended resolution #A233/19, per Attachment 1, forms part of TRCA's submission to the ERO

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as further described below. Representatives of MTO and the project consulting team gave a [presentation](#) on the GTA West Corridor Route Planning and EA Study – Stage 2 to the Board of Directors at this meeting.

Subsequent meetings were held with MTO, their consultants and other provincial and federal agencies to further discuss the broader study corridor and more specifically, Segment 7 (Highway 427 interchange) and Segment 8 (east of Highway 427 interchange to east of Kipling Avenue in the City of Vaughan). A copy of TRCA's detailed comment letter on the Segments 7 and 8 alternatives dated July 3, 2020 is included in Attachment 1.

ENVIRONMENTAL REGISTRY OF ONTARIO POSTING (ERO #019-1882)

On July 8, 2020, as part of the government's commitment to modernize the environmental assessment program, the Ministry of Environment, Conservation and Parks (MECP) posted a [proposal on the ERO](#) to update the existing environmental assessment process for the GTA West Transportation Corridor with a regulation that would create a new streamlined process for assessing potential impacts of the project, as well as consulting on it. A proposed draft regulation was not included as part of this ERO posting; rather the posting generally described the requirements of the various stages of the process, (e.g., preliminary/detail design and consultation, after detailed design, early works, etc.), that are proposed to be included in the regulation (refer to Table 1 in Attachment 1). No timelines associated with the various stages have been proposed, other than to note in the posting that the preliminary design is to be completed by 2022, instead of 2023 or beyond. The ERO posting further stated that modifying the EA process would lead to more efficient design and construction phases and provide flexibility for the delivery model selected in the future.

RATIONALE

Critical Role of Conservation Authority Watershed-Based Review

Given that TRCA is a commenting body under both the planning and EA processes and an advisor to our municipal partners on their Master Plans, TRCA reviews several types of public infrastructure proposals from both public and private proponents. This is important for consideration of the cumulative impacts that come from multiple infrastructure projects being proposed in TRCA watersheds combined with numerous private development proposals under the *Planning Act*.

Through Service Level Agreements (SLAs) with municipalities, and other public infrastructure providers (e.g., Metrolinx, Enbridge Gas Distribution), TRCA provides technical advice during the completion of various EAs, as well as at later stages of detailed design and construction under our regulatory role. Where a Crown agency is exempt from the regulatory requirements of the *Conservation Authorities Act* (CA Act), TRCA has service agreements in place with select agencies to offer review and comment on a voluntary basis (Voluntary Project Review (VPR)); uptake on voluntary review highlights the need for provincial infrastructure to be protected from natural hazards of flooding and erosion. Strongly linked to this is the need to manage natural resources, critical for resiliency of natural systems and infrastructure due to the impacts of urbanization and the compounding effects of climate change.

As MTO is exempt from the regulatory requirements of the CA Act, TRCA has significant concerns on whether mechanisms will be in place for the protection of life and property through our provincially delegated role to address flooding and erosion hazards or the management of natural resources at the detailed design stage of the GTA West, which fails to fulfill the objects of the EA Act. The mandate of conservation authorities (CAs) strongly aligns with provincial objectives for resilient public infrastructure and meeting the intent of the EA Act to provide for the protection, conservation and wise management of Ontario's environment. Accordingly,

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TRCA's Board of Directors have recommended that MTO commit to receiving VPR signoff at the design stage as it relates to TRCA's regulatory and policy interest, as well as provincially delegated responsibilities.

TRCA has further recommended to MECP in response to the ERO posting, as detailed in Table 1 in Attachment 1 to this report, that the proposed regulation provide certainty that the interests of TRCA will be addressed by MTO. Additionally, the regulation should clearly set out the consultation process with CAs, how CA interests will be addressed and a transparent process to resolve issues. It was also recommended that through the proposed regulation MTO be required to develop an SLA with TRCA and that TRCA's VPR process be required through the detailed design stage.

Coordination with the Northwest GTA Transmission Corridor Identification Study

TRCA recently provided comments to the Ministry of Energy, Northern Development and Mines (ENDM) in response to Environmental Registry posting (ERO#019-1503) on the proposal to identify and protect a corridor of land for future electricity infrastructure in the Greater Toronto Area (GTA), in support of future growth in Halton, Peel and York regions. Attachment 1 includes a copy of TRCA's submission to the ERO dated June 8, 2020. The currently proposed narrowed area of interest for the transmission corridor largely corresponds to the MTO's 2019 Focused Area Analysis for the GTA West (EA). To assess the potential for cumulative impacts, these two studies should be coordinated or ideally as one initiative, like the Province's Parkway Belt West Plan initiative in the 1970s.

TRCA's Board of Directors, through amended resolution #A233/19, recommended that MTO and the Ministry of Energy, Northern Development and Mines/Independent Electricity Systems Operator confirm efforts to coordinate their independent studies and ensure negative impacts are fully assessed and minimized wherever practicable. It was reiterated in TRCA's ERO submission that in addition to co-locating the transmission corridor with the GTA West Transportation Corridor, that the planning processes for these two major projects be coordinated in order to optimize opportunities to avoid, minimize, mitigate and compensate for environmental impacts.

Coordination with Planning Act processes in the Area of the Proposed Regulation

It was noted that some of the areas within the preferred alignment appear to impact previously approved secondary plans (e.g., North Kleinburg Secondary Plan in Vaughan) and areas of Bolton in Caledon where environmental work and studies is underway or where Local Planning and Appeals Tribunal (LPAT appeals or other issues remain outstanding. TRCA recommended additional consultation with our partner municipalities within the area of the proposed regulation to avoid such conflicts.

Submission to ERO #019-1882

The construction of the GTA West Transportation Corridor will have significant environmental and long-term impacts to the integrity of Humber River and Etobicoke Creek watersheds within TRCA's jurisdiction, as documented through the extensive engagement of TRCA staff and Board of Directors in the EA review process. To date, TRCA's legislated, provincially delegated, regulatory, landowner and service provider interests have not been addressed to the satisfaction of TRCA staff. In order to support the government's proposal to update the existing environmental assessment process for the GTA West Transportation Corridor with a regulation to create a new streamlined process for assessing potential impacts of the project, as well as consulting on it, and continue to ensure the protection of people and property from natural hazards and the conservation of natural resources, TRCA's submission to the ERO

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recommended the following, as per Attachment 1:

- 1) That the regulation requires the Ministry of Transportation (MTO) to address the recommendations on the GTA West Transportation Corridor adopted by the Board of Directors at Meeting #11/19 on January 24, 2020, by amended resolution #A233/19.
- 2) That the regulation requires MTO to address TRCA's comments on the route options within Segments 7 and 8 of the GTA West Transportation Corridor Route Planning provided in correspondence dated July 3, 2020.
- 3) That the regulation requires MTO to commit to develop a service level agreement with TRCA and a requirement for TRCA's Voluntary Project Review process to be followed through the detailed design stage.
- 4) That MTO, the Ministry of Energy, Northern Development and Mines/Independent Electricity Systems Operator be required to confirm efforts to coordinate their independent studies (GTA West and Northwest GTA Transmission Corridor Identification Study) and ensure negative impacts are fully assessed and minimized wherever practicable.
- 5) Further to Recommendation 4, that TRCA's recommendations to the Ministry of Energy, Northern Development and Mines in response to ERO #019-1503, dated June 8, 2020 be considered in the proposed regulation.
- 6) That the detailed comments and recommendations provided in Table 1 in Attachment 1 be considered in the development of the proposed regulation, (e.g., requirements during preliminary/detail design and consultation, after detailed design, early works, future delivery model, etc.).

PREFERRED GTA WEST ROUTE AND 2020 Focused Analysis Area

On August 7, 2020, MTO released a [Bulletin](#) announcing the Preferred Route and 2020 Focused Analysis Area (FAA) for the GTA West Transportation Corridor Route Planning and Environmental Assessment Study (GTA West). The Bulletin included mapping showing the recently released Preferred Route for the GTA West corridor, associated proposed interchange locations and changes from the previously released Technically Preferred Route.

Within TRCA's jurisdiction shifts in alignment from the previously released Technically Preferred Route include:

- A shift of the Highway 410 extension to the west between Mayfield Road and Old School Road to mitigate impacts to the Mayfield West Secondary Plan area.
- Moving the previously proposed Coleraine Drive interchange to Humber Station Road including a shift in the highway alignment to the south due to an approved development currently under construction.
- Shifting the highway alignment between the Highway 427 interchange and the Highway 27 interchange to the north to avoid future development lands and existing residential communities.

As part of the Bulletin, MTO also released a refined [2020 Focused Analysis Area](#) (FAA) map which identifies adjustments to the FAA boundary, based on the revised Preferred Route. The FAA is a zone that surrounds the Preferred Route and defines which properties continue to be within MTO's area of interest as the study progresses. These properties may be directly

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impacted by the future transportation corridor, ancillary uses or if refinements are made to the route during the preliminary design stage.

Based on the Bulletin, it is anticipated that MTO will be working on the preliminary design over the next two years. Work will involve field investigations on lands potentially impacted by the [Preferred Route and Interchange Locations](#) to document environmental and engineering conditions which will feed into the development of a preliminary design. A Public Information Centre is anticipated in the Fall/Winter of 2021 where the preliminary design will be presented, including property impacts and mitigation measures. However, next steps in this process now remain unclear given the ERO #019-1882.

Consultation with MTO

Following the announcement of the Preferred Route and refined FAA in August 2020, MTO representatives confirmed that responses to TRCA's Board report of January 24, 2020 and comments provided on the Section 7 and 8 alternatives dated July 3, 2020 will be forthcoming in September 2020. As such, a report will be provided to update TRCA's Board once TRCA staff have received and reviewed the MTO responses. MTO's project team have also indicated that they will be available later this year to present an update to the Board of Directors, including next steps. At the time of writing this report, TRCA staff have not yet received the responses from MTO.

Further to past Board reports and the TRCA response to the GTA West ERO posting, in order to ensure TRCA interests are met, it is recommended that MTO engage with TRCA through a Service Level Agreement (SLA) that follows the Voluntary Review Process (VPR) at the design stage, similar to the agreement between Metrolinx and TRCA.

Overview of TRCA Key Areas of Interest

TRCA's key areas of interest with the preferred route generally remain the same as previous reports and correspondence, and as outlined Attachment 1 to this report. It is expected that the forthcoming responses from MTO will address many of these high-level concerns including, but not limited to:

- avoiding and minimizing impacts to the natural heritage system (NHS,) including the fragmentation of lands, wetlands, watercourses, headwater drainage features, valleylands and woodlands;
- maintaining wildlife connectivity;
- fully quantifying and committing to appropriate restoration and compensation measures to mitigate and off-set impacts as a result of the new corridor;
- impacts to TRCA owned lands; and
- ensuring that TRCA regulatory and policy interests, as well as our responsibilities to represent the provincial interest on natural hazards (flooding, erosion), are addressed through the EA (or parallel process) and through a VPR process at the design stage.

Previous reports and correspondence also identified several key locations within our jurisdiction where significant impacts to the natural environment and TRCA owned lands are anticipated such as within the Nashville Conservation Reserve and at the Highway 410 and Highway 427 extensions for example. As with the above, our areas of concern remain consistent with previous reviews.

Given the magnitude of anticipated impacts within the Humber River and Etobicoke Creek watersheds, mitigation, restoration and compensation measures will be imperative moving

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forward, as well as incorporating innovative design into this future corridor. Issues around impacts to TRCA-owned lands will also need to be addressed in future MTO discussions.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 4 – Create complete communities that integrate nature and the built environment

Strategy 7 – Build partnerships and new business models

Strategy 8 – Gather and share the best sustainability knowledge

Strategy 12 – Facilitate a region-wide approach to sustainability

FINANCIAL DETAILS

Staff are engaged in the policy analysis work per the normal course of duty, with funding support provided by TRCA's participating municipalities to account 120-12. No additional funding is proposed to support the policy analysis work associated with the preparation of the comments for the ERO submission.

It is recommended that MTO be required to develop a Service Level Agreement (SLA) with TRCA, involve TRCA in the preparation of conditions and that Project Co. be required to follow the TRCA VPR process. Should the Province pursue approvals through the TRCA VPR, fees for these services will be charged based on service delivery requirements that are consistent with TRCA's Fee Schedule. Additional negotiations regarding monetary requirements for tree compensation or commitments to conservation enhancement strategies and compensation for natural features (forests, wetlands, watercourses and headwater drainage features) will also require formal agreements. Acquisition of TRCA-owned property will require negotiation of land-based monetary compensation and TRCA Board approval will be required for the sale/disposition of TRCA lands to MTO to implement the project.

DETAILS OF WORK TO BE DONE

- TRCA staff will continue to monitor the Environmental Registry of Ontario for a decision related to ERO #019-1882, as well as any other legislative, regulatory or policy initiatives related to the GTA West Transportation Corridor and keep TRCA's Board of Directors informed.
- TRCA staff will continue to work with MTO staff through the Regulatory Agency Advisory Group and separate working groups.
- TRCA staff and MTO staff will report back to the TRCA Board of Directors once responses to previous Board reports and correspondence have been submitted by MTO for review.
- It is our understanding that MTO will present to the TRCA Board of Directors later this year, as per TRCA's request.

Report prepared by: Sharon Lingertat, extension 5717 and Laurie Nelson, extension 5281

Emails: sharon.lingertat@trca.ca; laurie.nelson@trca.ca

For Information contact: Sharon Lingertat, extension 5717 or Beth Williston, extension 5217

Email: sharon.lingertat@trca.ca; beth.williston@trca.ca

Date: September 14, 2020

Attachments: 1

Attachment 1: TRCA's Submission to MECP on ERO #019-1882, dated August 21, 2020.



August 21, 2020

BY E-MAIL ONLY (EAmmodernization.MECP@ontario.ca)

Ms. Antonia Testa
Ministry of Environment, Conservation and Parks
Environmental Assessment Branch
135 St. Clair Ave., W.
Toronto, ON M4V 1P5

Dear Ms. Antonia Testa:

Re: Proposed regulation for a streamlined environmental assessment process for the Ministry of Transportation's Greater Toronto Area West Transportation Corridor project (ERO #019-1882)

Thank you for the opportunity to comment on the Ministry of Environment, Conservation and Parks' (MECP) Environmental Registry (ERO) posting on a proposed regulation to update the existing environmental assessment process for the Ministry of Transportation's Greater Toronto Area (GTA) West Transportation Corridor.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities. TRCA is:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, and as stated in the *Made-In-Ontario Environment Plan*, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. TRCA provides technical support to its municipal partners, as a Source Protection Authority and through Memorandums of Understanding and Service Level Agreements in implementing the natural heritage, natural hazard and water resource policies of municipal and provincial plans.

Government Proposal

As part of the government's commitment to modernize the environmental assessment program, MECP is proposing a regulation to update the existing environmental assessment process for the Ministry of Transportation's (MTO) GTA West Transportation Corridor. The proposed regulation would create a new streamlined process for assessing potential impacts of the project, as well as consulting on it.

The Terms of Reference for MTO's GTA West Corridor environmental assessment was approved on March 4, 2008. Stage 1 of the GTA West environmental assessment study (Systems Planning) recommended a Transportation Development Strategy (TDS), which was completed in November 2012. This strategy identified the need for more road capacity beyond optimizing the existing transportation network, widening existing highways, and the transit expansion projects identified by Metrolinx.

Stage 2 of the GTA West environmental assessment study (Route Planning and Preliminary Design) is currently underway. Building on recommendations from Stage 1, the GTA West environmental assessment will identify the route, determine interchange locations and complete the preliminary design for a new transportation corridor within the Route Planning Study Area. We note that on August 7, 2020, the [Preferred Route](#) and 2020 Focused Analysis Area for the GTA West Transportation Corridor Route Planning and Environmental Assessment Study was announced.

The ERO posting indicates that the streamlined environmental assessment (EA) process would shorten the project schedule by completing the preliminary design study in 2022 instead of 2023 or beyond. Further it states that modifying the EA process would lead to more efficient design and construction phases and provide flexibility for the delivery model selected in the future.

General Comments

Within TRCA's jurisdiction, the Study Corridor for the GTA West extends from Highway 400 in the City of Vaughan, west through the Town of Caledon and City of Brampton to approximately Heritage Road, crossing the Humber River and Etobicoke Creek watersheds. The technically preferred route crosses multiple TRCA-owned properties; multiple significant natural heritage features, including valley and stream corridors, headwater streams, forests, wetlands and will impact core features, habitats, species and wildlife connectivity; could create or exacerbate flood and erosion hazards; will increase chloride contamination in natural features; and reduce the ability of our natural areas to be resilient to the impacts of climate change.

TRCA has been actively engaged in the GTA West review process since its inception, including regular reporting to TRCA's Board of Directors in 2011 (Stage 1 of the EA) and in 2015 and 2016 (Stage 2 of the EA). On October 21, 2016, in coordination with Conservation Halton and Credit Valley Conservation, TRCA presented recommendations to the GTA West Advisory Panel. On October 28, 2016, through resolution #A171/16, as amended, TRCA's Board of Directors recommended that the EA be completed and that the Advisory Panel consider numerous sustainability, natural heritage and compensation considerations. Most recently, a [comprehensive staff report](#), (with links to previous reports noted), was brought to the Board of Directors, Meeting #11/19 on January 24, 2020, highlighting TRCA's concerns, along with 32 recommendations regarding the technically preferred route for the GTA West Transportation corridor being developed in Stage 2 of the environmental assessment study process. A copy of this Board report and the adopted amended resolution #A233/19 has been enclosed as part of this submission (Attachment 1). Representatives of MTO and the project consulting team gave a [presentation](#) on the GTA West Corridor Route Planning and EA Study – Stage 2 to the Board of Directors at this meeting.

Subsequent meetings were held with MTO, their consultants and other provincial and federal agencies to further discuss the broader study corridor and more specifically, Segment 7 (Highway 427 interchange) and Segment 8 (east of Highway 427 interchange to east of Kipling Avenue in the City of Vaughan). A copy of TRCA's detailed comment letter on the Segments 7 and 8 alternatives dated July 3, 2020 is enclosed as part of this submission (Attachment 2).

MTO has been requested by the Board of Directors to provide written responses to all TRCA letter comments and Board recommendations, and to present to the Board at later stages of the study. Our comments to date on this project have not been addressed nor have we received a formal response to any of our comments.

However, the GTA West Project Team advised TRCA staff on August 20, 2020 that they will be responding to TRCA's January Board Report resolution and TRCA comments on Sections 7 and 8 alternatives in September. TRCA staff will be updating the Board of Directors in September on the recently announced preferred GTA West route. Based on an initial, high level review of the preferred route, TRCA's previous comments and recommendations remain relevant to inform this ERO posting.

Critical Role of Conservation Authority Watershed-Based Review

Given that TRCA is a commenting body under both the planning and EA processes and an advisor to our municipal partners on their Master Plans, TRCA reviews several types of public infrastructure proposals from both public and private proponents. This is important for consideration of the cumulative impacts that come from multiple infrastructure projects being proposed in TRCA watersheds combined with numerous private development proposals under the *Planning Act*.

Through service level agreements with municipalities, and other public infrastructure providers (e.g., Metrolinx, Enbridge Gas Distribution), TRCA provides technical advice during the completion of various EAs, as well as at later stages of detailed design and construction under our regulatory role. Where a Crown agency is exempt from the regulatory requirements of the CA Act, TRCA has service agreements in place with select agencies to offer review and comment on a voluntary basis (Voluntary Project Review (VPR); uptake on voluntary review highlights the need for provincial infrastructure to be protected from natural hazards of flooding and erosion. Strongly linked to this is the need to manage natural resources, critical for resiliency of natural systems and infrastructure due to the impacts of urbanization and the compounding effects of climate change.

As MTO is exempt from the regulatory requirements of the CA Act, TRCA has significant concerns there is no mechanism in place for the protection of life and property or the management of natural resources at the detailed design stage of the GTA West, which fails to fulfill the objects of the EA Act. The mandate of CAs strongly aligns with provincial objectives for resilient public infrastructure and meeting the intent of the EA Act to provide for the protection, conservation and wise management of Ontario's environment. Accordingly, TRCA's Board of Directors have recommended that MTO commit to receiving VPR signoff at the design stage as it relates to TRCA's regulatory and policy interest, as well as provincially delegated responsibilities

Coordination with the Northwest GTA Transmission Corridor Identification Study

TRCA recently provided comments to the Ministry of Energy, Northern Development and Mines' (ENDM) in response to Environmental Registry posting (ERO#019-1503) on the proposal to identify and protect a corridor of land for future electricity infrastructure in the Greater Toronto Area (GTA), in support of future growth in Halton, Peel and York regions. A copy of TRCA's submission to the ERO dated June 8, 2020 has been enclosed as part of this submission (Attachment 3). The currently proposed narrowed area of interest for the transmission corridor largely corresponds to the Ministry of Transportation's (MTO) 2019 Focused Area Analysis for the GTA West (EA). To assess the potential for cumulative impacts, these two studies should be coordinated or ideally as one initiative, like the Province's Parkway Belt West Plan initiative in the 1970s.

TRCA's Board of Directors, through amended resolution #A233/19, recommended that the Ministry of Transportation and the Ministry of Energy, Northern Development and Mines/Independent Electricity Systems Operator confirm efforts to coordinate their independent studies and ensure negative impacts are fully assessed and minimized wherever practicable. It was reiterated in TRCA's ERO submission that in addition to co-locating the transmission corridor with the GTA West Transportation Corridor, that the planning processes for these two major projects be coordinated in order to optimize opportunities to avoid, minimize, mitigate and compensate for environmental impacts.

Coordination with Planning Act processes in the Area of the Proposed Regulation

We note that some of the areas within the preferred alignment appear to impact previously approved secondary plans (e.g., North Kleinburg Secondary Plan in Vaughan) and areas of Bolton in Caledon where environmental work and studies is underway or where LPAT appeals or other issues remain outstanding. We recommend additional consultation with our partner municipalities within the area of the proposed regulation to avoid such conflicts.

Proposed Regulation – TRCA Recommendations

A proposed draft regulation has not been included as part of this ERO posting; rather the posting generally describes the requirements of the various stages of the process, (e.g., preliminary/detail design and consultation, after detailed design, early works, etc.), that are proposed to be included in the regulation (refer to Table 1 below). No timelines associated with the various stages have been proposed, other than to note in the posting that the preliminary design is to be completed by 2022.

The construction of the GTA West Transportation Corridor will have significant environmental and long-term impacts to the integrity of Humber River and Etobicoke Creek watersheds within TRCA's jurisdiction, as documented through the extensive engagement of TRCA staff and Board of Directors in the EA review process. To date, TRCA's legislated, provincially delegated, regulatory, landowner and service provider interests have not been addressed. In order to support the government's proposal to update the existing environmental assessment process for the GTA West Transportation Corridor with a regulation to create a new streamlined process for assessing potential impacts of the project, as well as consulting on it, and continue to ensure the protection of people and property from natural hazards and the conservation of natural resources, TRCA recommends the following:

- 1) That the regulation requires the Ministry of Transportation (MTO) to address the recommendations on the GTA West Transportation Corridor adopted by the Board of Directors at Meeting #11/19 on January 24, 2020, by amended resolution #A233/19, as per Attachment 1 of this submission.
- 2) That the regulation requires MTO to address TRCA's comments on the route options within Segments 7 and 8 of the GTA West Transportation Corridor Route Planning provided in correspondence dated July 3, 2020, as per Attachment 2 of this submission.
- 3) That the regulation requires MTO to commit to TRCA's Voluntary Project Review process, as per Attachment 1.
- 4) That MTO, the Ministry of Energy, Northern Development and Mines/Independent Electricity Systems Operator be required to confirm efforts to coordinate their independent studies (GTA West and Northwest GTA Transmission Corridor Identification Study) and ensure negative impacts are fully assessed and minimized wherever practicable, per Attachment 1.
- 5) Further to Recommendation 4, that TRCA's recommendations to the Ministry of Energy, Northern Development and Mines in response to ERO#019-1503, dated June 8, 2020 as per Attachment 3 to this submission be considered in the proposed regulation.
- 6) That the comments and recommendations provided in Table 1 be considered in the development of the proposed regulation.

Further to the above, we offer the following additional comments organized by the various stages and requirements to be included in the proposed regulation as described in the ERO posting. **Bolded text** indicates TRCA's main suggestions and recommendations for the Ministry's consideration.

Table 1: TRCA Comments on ERO #019-1882

Proposal	Comments
<p>In consultation with the Ministry of Transportation, we are proposing a regulation to modify the existing environmental assessment process for the GTA West Transportation Corridor project. The proposed regulation would create a new streamlined process for assessing potential environmental impacts as well as consulting on it.</p>	<p>As noted in the ERO posting, a Terms of Reference was prepared and approved by the Minister in 2008 as part of the GTA West Individual Environmental Assessment (EA). Individual EAs are to be completed for large-scale, complex projects which have the potential for significant environmental effects. It is our understanding that the Individual EA (IEA) process will be replaced by the proposed regulation, however, in the absence of a draft regulation, the details regarding process, deliverables, how/when this process will address stakeholder issues, etc. and how the work previously completed on this EA will be incorporated into the new process. The proposed regulation should set out a clear and transparent process, particularly related to next steps, how issues will be resolved, and timing.</p> <p>An explanatory flow chart would be helpful in future communications.</p>
<p>The proposed regulation for a streamlined environmental assessment process for the Ministry of Transportation's GTA West Transportation Corridor project builds on our vision for a modern environmental assessment program. It does this by eliminating duplication with other planning and approvals processes and as a result, shortening timelines for building important infrastructure for Ontario communities.</p>	<p>Please confirm what duplication is being eliminated as MTO is now in Stage 2 of their EA process (final stage). The next stage should be to evaluate the alternative methods and designs in order to determine the preferred. This stage is imperative as it is through these studies that siting is confirmed, crossing sizes and structures are determined. Without the context of a draft regulation, it is unclear if this stage will be eliminated or it is this stage that is seen as duplication.</p> <p>Once the EA has been completed and approved with or without conditions by the Minister of Environment, Parks and Conservation, the project would then move to detailed design at which time further refinement of the preferred alternative design including the engineered design of the proposed highway would take place.</p> <p>As a streamlining measure, TRCA recommends that a protocol be developed for harmonizing federal approvals and any other provincial approvals early in the process to avoid delays prior to detailed design.</p>
<p>Shortened timelines would speed up completion of the preliminary design phase of the project, providing earlier confirmation of the transportation corridor to local communities, municipalities, and Indigenous communities. More broadly, this could</p>	<p>What are the shortened timelines? With the existing EA process, there are flowcharts and defined processes. A clear graphic showing the proposed process, deliverables, including timelines is recommended.</p>

Proposal	Comments
allow construction to start earlier, which would ease congestion in the study area more quickly from its intersection with Highway 400 west to its intersection with Highway 401/407 ETR.	
Modifying the existing environmental assessment process for the GTA West Transportation Corridor project would lead to more efficient design and construction phases and provide flexibility for the delivery model selected in the future.	While we understand that the EA process for the GTA West Transportation Corridor project is lengthy, this project will have significant, unavoidable and permanent impacts to the existing natural heritage system and the Humber River and Etobicoke Creek watersheds and could exacerbate risks to natural hazards, and negatively impact drainage patterns, wildlife habitat and the surrounding landscape. It is unclear how the proposed modifications to the process will lead to more efficient design and construction phases.
The preliminary/detail design and consultation	Comments
<p>Under the proposed regulation, the Ministry of Transportation would still be required to complete preliminary/detail design and consultation as a requirement of conditions outlined in the regulation. This would include</p> <ul style="list-style-type: none"> • completing field investigations and collecting technical information that would be documented in the reports noted below • continuing public and stakeholder consultation consistent with previous commitments • continuing consultation with Indigenous communities <p>Specifically, this streamlined process would require the Ministry of Transportation to prepare an Environmental Conditions report. This report would be documentation of all work completed from the start of the project up until the completion of the preliminary design phase. The report would help expedite timelines and provide certainty in the process, which in turn</p>	<p>Design Completion:</p> <p>Field investigations and technical information at this stage should be comprehensive to ensure the Environmental Conditions report is complete and the preliminary design is based on appropriate information. Specific design nuances, impacts, and construction methodologies are not required at this time. However, enough information needs to be collected and determined to ensure the preliminary design is feasible, based on actual existing conditions and manages all natural features and hazards within the alignment.</p> <p>The proposed Environmental Conditions report appears to be similar to the current IEA report as it will document previous work up to preliminary design. Will any steps be eliminated in the proposed process? What status will a published Environmental Conditions report have? Will MECP approve it and at what point would the public or interested stakeholders be allowed to comment?</p> <p><u>Selection of the Future Delivery Model</u></p> <p>Through the current IEA process, the Minister typically issues Conditions of Approval and as such, Ministerial directives ensure that certain requirements at the design stage are met by MTO. The process being described in the ERO posting seems to be moving towards a self-regulating process. It is recommended that the provisions in the proposed regulation provide certainty that the interests of TRCA will be addressed by MTO. Additionally, the regulation should require a transparent process to resolve issues.</p>

Proposal	Comments
<p>would support selection of the future delivery model.</p> <p>The Ministry of Transportation would also be required to:</p> <ul style="list-style-type: none"> • complete and publish a draft Environmental Conditions report which identifies the study area and a preliminary design for the project, existing environmental conditions in the area, a plan to deal with any known environmental impacts identified at this stage, and a consultation record • notify and consult with government agencies, stakeholders, the public, and Indigenous communities about the Environmental Conditions report • publish a final Environmental Conditions Report that includes a record of the consultation and a description of if and how the preliminary design was changed as a result of that consultation <p>The Ministry of Transportation would also be required to develop an issues resolution process that replaces the public objections process.</p>	<p>Conservation Authorities (CAs) have a delegated responsibility to represent the provincial interest on natural hazards. The proposed regulation should clearly set out the consultation process with CAs and how CA interests will be addressed. TRCA's comments to date on this project have not been addressed but we are looking forward to seeing them addressed by MTO as soon as possible.</p> <p>It is TRCA's experience with other MTO projects that the MTO detailed design process could be significantly improved to better protect the natural environment. Unfortunately, on other MTO projects we have observed that the implementation of environmental controls has been weaker than controls and mitigation measures imposed or found with typical municipal or private developments. The Project Specific Output Specification (PSOS) agreements that are used by the province to engage future design-build consortiums (ProjectCo.) allow for design and construction practices to go forward without substantive or meaningful engagement with CAs. As such, there is a high risk that the first principle of the environmental assessment, to protect the environment, may not be achieved as TRCA's regulatory interests of natural hazard and natural heritage management may not be addressed in the PSOS.</p> <p>To this end, TRCA has engaged with Crown Agencies, such as Metrolinx, and worked through a voluntary project review (VPR) process to ensure TRCA's regulatory interests are addressed at the detailed design stage. With Metrolinx, TRCA has an established service level agreement whereby we are contracted to provide regulatory type reviews in accordance with our regulatory, natural heritage and natural hazard mandate, policies and programs. To a very limited extent, TRCA has provided this service on a fee for service basis to MTO on other projects. TRCA has also been involved in framing and contributing to the PSOS on a confidential basis on other AFP projects. It is recommended that through the regulation and similar agreements we have with Metrolinx, Waterfront Toronto, Infrastructure Ontario, etc., that MTO be required to develop a Service Level Agreement (SLA) with TRCA and that through the PSOS Agreement, ProjectCo. involve TRCA in the preparation of conditions and in commercially confidential meetings related to those conditions and that ProjectCo. be required to follow the TRCA Voluntary Project Review (VPR) process.</p>

After detail design	Comments
<p>Once the detail design is complete, the Ministry of Transportation would be required to:</p> <ul style="list-style-type: none"> • complete and publish a draft Environmental Impact Assessment report which will include the elements of the final Environmental Conditions report (including any changes) based on detail design and works that have not proceeded through the early works process (described below), along with impact assessment and a proposed plan to deal with any environmental impacts • notify and consult with government agencies, stakeholders, the public, and Indigenous communities about the draft Environmental Impact Assessment report • publish the final Environmental Impact Assessment report which will include a record of the consultation, and a description of if and how the Environmental Impact Assessment was changed as a result of that consultation • document any changes made to the project, for example as a result of public and Indigenous consultation, after the Environmental Impact Assessment report has been completed • notify government agencies, stakeholders, the public, and Indigenous communities of any significant changes and provide an opportunity to review those changes • address any outstanding concerns through an issue's resolution 	<p>Will publication of the final Environmental Impact Assessment report allow for further consultation on items that are not considered significant changes? Again, definition and examples of what significant changes include should be provided. It must be clearly identified to what level the design will be completed prior to publishing the Statement of Completion (60%, 90%, 100%). A very clear, defined and robust review process should be established that clearly identifies levels of public and government agency consultation. Commitment to considering the results of the environmental impact report and to mitigating impacts must be made.</p> <p>The impact assessment report must include opportunities and requirements for mitigation and compensation where avoidance is not possible. Vegetation losses compensated for at a 1:1 compensation ratio, as MTO typical practice, is considered insufficient. The TRCA or Metrolinx compensation guidelines should be reviewed by MTO and a similar guideline established and followed for this project in the EA documentation and the PSOS requirements.</p> <p>It is imperative that impacts to TRCA owned lands be minimized. Compensation at market value according to TRCA's accepted practice for valuation of these lands should be considered in the conditions statement, as well as in the costing of the design solution with the goal of minimizing such impacts recognized as imperative. The conditions statement should also include a review of opportunities for public realm benefits (trail connections, trailheads, etc.) and a commitment to include as possible, integrated opportunities in the project design.</p>

<p>process administered by the Ministry of Transportation</p> <ul style="list-style-type: none"> publish a Statement of Completion noting their intent to proceed with the project 	
Early works	Comments
<p>Certain parts of the GTA West Transportation Corridor project are expected to be ready for construction earlier than other parts of the highway.</p> <p>To provide flexibility, the proposed regulation would permit early works to proceed to construction before the completion of the draft Environmental Impact Assessment Report, subject to:</p> <ul style="list-style-type: none"> Ministry of Transportation fulfilling the duty to consult if there is a potential for adverse impacts on Aboriginal and treaty rights requirements for consultation identification of impacts and mitigation measures issues resolution <p>Preliminary early works activities could include:</p> <ul style="list-style-type: none"> new bridge construction bridge replacement or expansion transitway station construction utility relocation <p>The Ministry of Transportation will be able to complete an Early Works report for public comment and consultation with Indigenous communities at any point prior to completion of the draft Environmental Impact Assessment report.</p> <p>The process for public and Indigenous community consultation, posting of reports, and issues resolution would be</p>	<p>Early works, including bridge works, drive many impacts on the natural environment. It is not appropriate to allow construction to proceed prior to the completion of the Environmental Impact Assessment Report. This, in effect, would render the EIAR ineffective as it would not have the opportunity to identify and avoid impacts. Early works should only be allowed to proceed once the general feasibility of the works is demonstrated. Specific impacts do not need to be defined at this stage. However, the decisions made that drive the major impacts associated with these works should go through a rigorous EA process. This will ensure decisions are based on comprehensive information, resulting in avoidance of impacts to the natural environment to the extent feasible and appropriate avoidance and management of natural hazards.</p> <p>Early works have the potential to cause significant environmental damage if not designed to ensure appropriate sizing, spans, pier locations, wildlife crossings, stormwater management, staging, storage and access routes, etc. MTO needs to clarify how designs will proceed when the environmental investigations, assessments and mitigation/compensation requirements have yet to be determined.</p> <p>Much of these early works will impact lands owned or regulated by TRCA, significant natural heritage features, and are of significant concern from a natural hazard perspective particularly as it relates to flooding and erosion. Specifically, the proposed list of preliminary early works activities are projects that could have significant environmental impacts, as well as risks to natural hazards such as flooding and erosion. The construction of new bridges for instance could have a detrimental impact to existing active uses and large dynamic valley systems. For example, as a landowner, reviewer and stakeholder at the Nashville Conservation Reserve, the bridge crossing of the Humber River valley, if designed with a less than optimal span could result in detrimental impacts to the NHS, exacerbate erosion issues, impact flood plain and also impact active uses within the area.</p> <p>Other examples include the proposed crossings at Robinson Creek near the Highway 427 interchange as well as crossings near the Highway 410 interchange where provincially significant wetlands and woodlands will be impacted. Moving forward with any of these and other crossings will completely decimate watercourses and wetlands</p>

the same as for the Environmental Impact Assessment report.	<p>within our highly urbanizing area, potentially impact hydraulics and flood elevations within surrounding areas of the proposed highway and further restrict wildlife movement/corridors.</p> <p>Transitway station construction is also a major undertaking which could have serious impacts to the system. Projects that may result in large scale impacts on the natural system and surrounding area should not be fast-tracked through the process and should be carefully studied to ensure impacts are avoided and minimized.</p> <p>It is recommended that the scope of early works be limited to typical low risk activities such as land assembly, staging, stockpiling, in lower risk areas of the project or those projects that would result in smaller, less intrusive impacts.</p> <p>Should the scope of early works remain as proposed, it is requested that a 30% detailed design be required and reviewed by TRCA and other relevant government agencies and stakeholders to confirm potential impacts, feasibility and mitigation measures prior to the approval of the early works.</p>
Other considerations	Comments
<p>The new environmental assessment streamlined process would also require:</p> <ul style="list-style-type: none"> an addendum process for both the Early Works Report and Environmental Impact Assessment Report to deal with any changes to the project that were not included in the original reports: <ul style="list-style-type: none"> minor changes can proceed without further consultation significant changes will require a report with opportunity for the public and Indigenous communities to provide input and submit comments the process will allow for documenting, publishing, and evaluating the need for an addendum, as well as documenting the 	<p>Please clearly define what “minor” changes are versus “significant” changes means.</p> <p>In the 407 projects, many of the agreed to bridge and culvert sizes were modified. CAs were provided with DCRs (design construction reports) that outlined what the changes were to be. While TRCA could provide comments, there was no stipulation that comments were to be addressed. Flood modeling, erosion control and stream design were completed but not to CA standards. Mitigation was 1:1 vegetation removal (trees) only and did not address habitat form and function loss, etc. GTA West planning, design and construction should be much improved based on lessons learned from the 407 Extension to avoid these issues and reduce the potential for negative impacts.</p> <p>Public and government review processes must include a mechanism for both for review and changes.</p>

<p>changes that would be available for public review</p> <ul style="list-style-type: none"> • publishing of addendum reports based on reporting requirements for the Early Works report and Environmental Impact Assessment report • an issues resolution process administered by the Ministry of Transportation to address any outstanding concerns during the consultation periods • continued Indigenous consultation throughout each of the phases outlined above, including the submission of an Indigenous Consultation Plan to the Ministry of the Environment, Conservation and Parks at the start of the process <p>This streamlined environmental assessment process would shorten the project schedule by completing the preliminary design study in 2022 instead of 2023 or beyond. It would also remove duplication between <i>Environmental Assessment Act</i> requirements and other specific legislation, as well as the Ministry of Transportation standards and practices, while maintaining environmental considerations.</p> <p>The proposed regulation would save time by allowing the Ministry of Transportation to apply for, and obtain permits and approvals required for construction. These approvals would be subject to consultation or other requirements associated with those processes, and to meeting the requirements set out in the regulation.</p>	
Regulatory impact statement	Comments
<p>The objective of the proposed regulation is to support the maintenance and implementation of critical roadway infrastructure in Ontario and ensure that:</p>	<p>We would also request that another objective of this regulation be to work with government agencies and municipalities within the study area to “protect the environment”. We believe it would be opportune for MTO, like Metrolinx and Waterfront Toronto, to</p>

<ul style="list-style-type: none"> • appropriate consultation occurs • the protection of the environment remains a priority <p>There are no direct compliance costs or new administrative burdens associated with the proposed regulation, as there will be a streamlined process to address the requirements of the <i>Environmental Assessment Act</i>. There are also other applicable provincial and federal approvals and permits that would still be required.</p> <p>The proposed regulation will eliminate duplication, allowing us to shorten timelines, reduce delays, and focus the province's resources on projects that matter most to Ontario communities.</p>	<p>partner with TRCA to help protect the natural environment in the study area.</p>
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Thank you once again for the opportunity to provide comments on the regulation for a streamlined environmental assessment process for the Ministry of Transportation's Greater Toronto Area West Transportation Corridor project. We would respectfully request the opportunity to meet with relevant provincial staff to discuss the comments and recommendations of our submission further and ensure that TRCA's interests are incorporated into the proposed regulation. Please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc. (Pl) MCIP, RPP
Chief Executive Officer

BY E-MAIL

cc: Honourable Jeff Yurek, Minister of the Environment, Conservation and Parks
Honourable John Yakabuski, Minister of Natural Resources and Forestry
Honourable Steve Clark, Minister of Municipal Affairs and Housing
Honourable Greg Rickford, Minister of Energy, Northern Development and Mines
Regional Chair and Members of Council of the Regional Municipality of York
Regional Chair and Members of Council of the Regional Municipality of Peel
Mayor and Members of Council, Town of Caledon
Mayor and Members of Council, King Township
Mayor and Members of Council, City of Vaughan

TRCA: Laurie Nelson, Director, Policy Planning and Regulation
Sameer Dhalla, Director, Development and Engineering Services
Beth Williston, Associate Director, Infrastructure Planning and Permits

Attachment 1 – MTO January 24, 2020 TRCA Board Report and Resolution
Attachment 2 – GTA West – Segments 7 and 8 – TRCA Comments – July 3, 2020
Attachment 3 – Letter – Ministry of Energy, Northern Development and Mines, ERO#019-1503

February 20, 2019

Sent via email

SEE DISTRIBUTION LIST

RE: GTA West Transportation Corridor Individual Environmental Assessment

Toronto and Region Conservation Authority (TRCA) Board of Directors, at its meeting #11/19, held on January 24, 2020, adopted amended resolution #A233/19 as follows:

WHEREAS on June 19, 2019 the Minister of Transportation resumed the GTA West Transportation Corridor Route Planning and Environmental Assessment Study (GTA West) and subsequently updated their comprehensive evaluation, identified MTO's technically preferred route, and sought public input;

WHEREAS in June 2019 the Ministry of Energy, Northern Development and Mines and the Independent Electricity System Operator initiated the Northwest GTA Transmission Corridor Identification Study to identify a transmission corridor in order to protect for future transmission infrastructure required to support increasing electricity demand;

WHEREAS the GTA West technically preferred route within TRCA's jurisdiction crosses multiple TRCA-owned properties, multiple significant natural heritage features, including valley and stream corridors, headwater streams, forests, wetlands, and will impact core features, habitats, species and wildlife connectivity; could create or exacerbate flood and erosion hazards; will increase chloride contamination in natural features; and reduces the ability of our natural areas to be resilient to the impacts of climate change;

WHEREAS on October 28, 2016 the TRCA Board of Directors in its Resolution #A171/16, as amended, recommended that the environmental assessment (EA) be completed and that the Advisory Panel take into account numerous sustainability, natural heritage and compensation considerations (see link to previous TRCA reports as provided in the body of this report);

WHEREAS TRCA has not yet been provided with detailed technical information that supports the Province's technically preferred route, or has not yet been engaged in any detailed technical discussions regarding the technically preferred route;

AND WHEREAS following provincial confirmation of the final preferred route, we are informed that MTO will develop preliminary design alternatives, seek public input prior to finalizing the preferred alternative for the highway design, and will then seek approval of the EA from the Minister of the Environment, Conservation and Parks;

THEREFORE, LET IT BE RESOLVED THAT TRCA staff continue to work with MTO staff and municipal partners through the Regulatory Agency Advisory Group, through the Greenbelt Transportation Advisory Group, and through an established working group with TRCA, other affected conservation authorities, municipalities and provincial and federal ministries, to address concerns related to potential alignment changes to the technically preferred route to accommodate development and community interests, as well as concerns related to the preferred design alternatives, including concerns

related but not limited to: watercourse and wildlife crossings and trail connections, flood and erosion control, stormwater management, vegetation removals, natural heritage restoration and compensation, land acquisition and archaeology, and climate resiliency;

THAT the 32 Recommendations contained within this report and in Attachment 4 to this report be approved for review by MTO;

THAT recommendation 28 contained within this report and in Attachment 4 to this report be revised to read as follows: MTO recognize trail networks in the preliminary design alternative and ensure connectivity, parking, and access is maintained through efforts including but not limited to the design and construction of planned trail networks in the Focused Analysis Area of the Corridor including segments of the TRCA Regional Trail Strategy for the Greater Toronto Region, the Vaughan Super Trail, and trail networks identified in the Region of Peel's Active Together Master Plan and regional and local Official Plans;

THAT MTO be requested to provide written responses to all TRCA letter comments and Board recommendations; hard copies of all technical studies in support of the technically preferred route and any proposed modifications for review and comment; hard copies of technical studies in support of preliminary and preferred design alternatives for review and comment; and hard copies of the draft EA and associated appendices for review and comment, in accordance with TRCA service delivery standards;

THAT MTO be requested to present to the TRCA Board of Directors at later stages of the study after detailed information requested by TRCA and its municipal partners has been shared and reviewed by TRCA and municipal staff;

THAT the Ministry of Transportation; Ministry of the Environment, Conservation and Parks; Ministry of Natural Resources and Forestry, Ministry of Energy, Northern Development and Mines, the Independent Electricity System Operator; Regional Municipalities of Peel and York; Town of Caledon, City of Brampton and City of Vaughan; Credit Valley Conservation and Halton Conservation; as well as Members of Provincial Parliament, representing electoral districts within the project area, be circulated a copy of this staff report;

AND FURTHER THAT TRCA staff report back to the Board of Directors and seek further direction once the preliminary design alternatives and technical appendices are provided to staff for review and comment.

Here is a [link to the minutes](#) for your information and any action deemed necessary, containing the report as approved by the Board of Directors. The report is further attached to this letter. Of particular interest to you may be thirty-two (32) recommendations provided by TRCA to the Ministry of Transportation. If you have any questions or require additional information, please contact Sharon Lingertat at 416-661-6600 ext. 5717, sharon.lingertat@trca.ca or Beth Williston at 416-661-6600 ext. 5217, beth.williston@trca.ca.

Sincerely,

<Original signed by>

Aiisa Mahrova
Clerk and Manager, Policy

c: John MacKenzie, Chief Executive Officer, TRCA
Sameer Dhalla, Director, Development and Engineering Services, TRCA
Beth Williston, Associate Director, Infrastructure Planning and Permits, TRCA
Sharon Lingertat, Senior Planner, Infrastructure Planning and Permits, TRCA

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Christopher Raynor, Regional Clerk, Regional Municipality of York
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Hon. Greg Rickford, Minister, Energy, Northern Development and Mines
Gurratan Singh, MPP, Brampton East
Hassaan Basit, Chief Administrative Officer, Conservation Halton
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Nina Tangri, MPP, Mississauga-Streetsville
Parm Gill, MPP, Milton
Peter Fay, City Clerk, City of Brampton
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Hon. Stephen Lecce, Minister, Education, MPP, King-Vaughan
Hon. Sylvia Jones, Solicitor General, MPP Dufferin-Caledon
Hon. Ted Arnott, Speaker MPP, Wellington-Halton Hills
Todd Coles, City Clerk, City of Vaughan

RES.#A233/19 -

GTA WEST TRANSPORTATION CORRIDOR INDIVIDUAL ENVIRONMENTAL ASSESSMENT

To highlight TRCA concerns and recommendations regarding the Ministry of Transportation (MTO) technically preferred route for the Greater Toronto Area (GTA) West Transportation Corridor being developed in Stage 2 of the environmental assessment study process.

Moved by: Linda Jackson
Seconded by: Michael Palleschi

WHEREAS on June 19, 2019 the Minister of Transportation resumed the GTA West Transportation Corridor Route Planning and Environmental Assessment Study (GTA West) and subsequently updated their comprehensive evaluation, identified MTO's technically preferred route, and sought public input;

WHEREAS in June 2019 the Ministry of Energy, Northern Development and Mines and the Independent Electricity System Operator initiated the Northwest GTA Transmission Corridor Identification Study to identify a transmission corridor in order to protect for future transmission infrastructure required to support increasing electricity demand;

WHEREAS the GTA West technically preferred route within TRCA's jurisdiction crosses multiple TRCA-owned properties, multiple significant natural heritage features, including valley and stream corridors, headwater streams, forests, wetlands, and will impact core features, habitats, species and wildlife connectivity; could create or exacerbate flood and erosion hazards; will increase chloride contamination in natural features; and reduces the ability of our natural areas to be resilient to the impacts of climate change;

WHEREAS on October 28, 2016 the TRCA Board of Directors in its Resolution #A171/16, as amended, recommended that the environmental assessment (EA) be completed and that the Advisory Panel take into account numerous sustainability, natural heritage and compensation considerations (see link to previous TRCA reports as provided in the body of this report);

WHEREAS TRCA has not yet been provided with detailed technical information that supports the Province's technically preferred route, or has not yet been engaged in any detailed technical discussions regarding the technically preferred route;

AND WHEREAS following provincial confirmation of the final preferred route, we are informed that MTO will develop preliminary design alternatives, seek public input prior to finalizing the preferred alternative for the highway design, and will then seek approval of the EA from the Minister of the Environment, Conservation and Parks;

THEREFORE, LET IT BE RESOLVED THAT TRCA staff continue to work with MTO staff and municipal partners through the Regulatory Agency Advisory Group, through the Greenbelt Transportation Advisory Group, and through an established working group with TRCA, other affected conservation authorities, municipalities and provincial and federal ministries, to address concerns related to potential alignment changes to the technically preferred route to accommodate development and community interests, as well as concerns related to the preferred design alternatives, including concerns related but not limited to: watercourse and wildlife crossings and trail connections, flood and

erosion control, stormwater management, vegetation removals, natural heritage restoration and compensation, land acquisition and archaeology, and climate resiliency;

THAT the 32 Recommendations contained within this report and in Attachment 4 to this report be approved for review by MTO;

THAT MTO be requested to provide written responses to all TRCA letter comments and Board recommendations; hard copies of all technical studies in support of the technically preferred route and any proposed modifications for review and comment; hard copies of technical studies in support of preliminary and preferred design alternatives for review and comment; and hard copies of the draft EA and associated appendices for review and comment, in accordance with TRCA service delivery standards;

THAT the Ministry of Transportation; Ministry of the Environment, Conservation and Parks; Ministry of Natural Resources and Forestry, Ministry of Energy, Northern Development and Mines, the Independent Electricity System Operator; Regional Municipalities of Peel and York; Town of Caledon, City of Brampton and City of Vaughan; Credit Valley Conservation and Halton Conservation, be circulated a copy of this staff report;

AND FURTHER THAT TRCA staff report back to the Board of Directors and seek further direction once the preliminary design alternatives and technical appendices are provided to staff for review and comment.

RES.#A234/19 - AMENDMENT TO THE MAIN MOTION

Moved by: Rowena Santos
Seconded by: Michael Palleschi

THAT the following be inserted after the eighth paragraph of the main motion:

THAT recommendation 28 contained within this report and Attachment 4 be revised to read as follows: MTO recognize trail networks in the preliminary design alternative and ensure connectivity, parking, and access is maintained through efforts including but not limited to the design and construction of planned trail networks in the Focused Analysis Area of the Corridor including segments of the TRCA Regional Trail Strategy for the Greater Toronto Region, the Vaughan Super Trail, and trail networks identified in the Region of Peel's Active Together Master Plan and regional and local Official Plans.

THAT the following be inserted after the ninth paragraph of the main motion:

THAT MTO be requested to present to the TRCA Board of Directors at later stages of the study after detailed information requested by TRCA and its municipal partners has been shared and reviewed by TRCA and municipal staff

THE AMENDMENT WAS

CARRIED

RES.#A235/19 - **AMENDMENT TO THE MAIN MOTION**

Moved by: Michael Palleschi
Seconded by: Dipika Damerla

THAT tenth paragraph of the main motion be replaced with following:

THAT the Ministry of Transportation; Ministry of the Environment, Conservation and Parks; Ministry of Natural Resources and Forestry, Ministry of Energy, Northern Development and Mines, the Independent Electricity System Operator; Regional Municipalities of Peel and York; Town of Caledon, City of Brampton and City of Vaughan; Credit Valley Conservation and Halton Conservation; as well as Members of Provincial Parliament, representing electoral districts within the project area, be circulated a copy of this staff report;

THE AMENDMENT WAS

CARRIED

THE RESULTANT MOTION READS AS FOLLOWS:

WHEREAS on June 19, 2019 the Minister of Transportation resumed the GTA West Transportation Corridor Route Planning and Environmental Assessment Study (GTA West) and subsequently updated their comprehensive evaluation, identified MTO's technically preferred route, and sought public input;

WHEREAS in June 2019 the Ministry of Energy, Northern Development and Mines and the Independent Electricity System Operator initiated the Northwest GTA Transmission Corridor Identification Study to identify a transmission corridor in order to protect for future transmission infrastructure required to support increasing electricity demand;

WHEREAS the GTA West technically preferred route within TRCA's jurisdiction crosses multiple TRCA-owned properties, multiple significant natural heritage features, including valley and stream corridors, headwater streams, forests, wetlands, and will impact core features, habitats, species and wildlife connectivity; could create or exacerbate flood and erosion hazards; will increase chloride contamination in natural features; and reduces the ability of our natural areas to be resilient to the impacts of climate change;

WHEREAS on October 28, 2016 the TRCA Board of Directors in its Resolution #A171/16, as amended, recommended that the environmental assessment (EA) be completed and that the Advisory Panel take into account numerous sustainability, natural heritage and compensation considerations (see link to previous TRCA reports as provided in the body of this report);

WHEREAS TRCA has not yet been provided with detailed technical information that supports the Province's technically preferred route, or has not yet been engaged in any detailed technical discussions regarding the technically preferred route;

AND WHEREAS following provincial confirmation of the final preferred route, we are informed that MTO will develop preliminary design alternatives, seek public input prior to finalizing the preferred alternative for the highway design, and will then seek approval of the EA from the Minister of the Environment, Conservation and Parks;

THEREFORE, LET IT BE RESOLVED THAT TRCA staff continue to work with MTO staff and municipal partners through the Regulatory Agency Advisory Group, through the Greenbelt Transportation Advisory Group, and through an established working group with TRCA, other affected conservation authorities, municipalities and provincial and federal ministries, to address concerns related to potential alignment changes to the technically preferred route to accommodate development and community interests, as well as concerns related to the preferred design alternatives, including concerns related but not limited to: watercourse and wildlife crossings and trail connections, flood and erosion control, stormwater management, vegetation removals, natural heritage restoration and compensation, land acquisition and archaeology, and climate resiliency;

THAT the 32 Recommendations contained within this report and in Attachment 4 to this report be approved for review by MTO;

THAT recommendation 28 contained within this report and in Attachment 4 to this report be revised to read as follows: *MTO recognize trail networks in the preliminary design alternative and ensure connectivity, parking, and access is maintained through efforts including but not limited to the design and construction of planned trail networks in the Focused Analysis Area of the Corridor including segments of the TRCA Regional Trail Strategy for the Greater Toronto Region, the Vaughan Super Trail, and trail networks identified in the Region of Peel's Active Together Master Plan and regional and local Official Plans.*

THAT MTO be requested to provide written responses to all TRCA letter comments and Board recommendations; hard copies of all technical studies in support of the technically preferred route and any proposed modifications for review and comment; hard copies of technical studies in support of preliminary and preferred design alternatives for review and comment; and hard copies of the draft EA and associated appendices for review and comment, in accordance with TRCA service delivery standards;

THAT MTO be requested to present to the TRCA Board of Directors at later stages of the study after detailed information requested by TRCA and its municipal partners has been shared and reviewed by TRCA and municipal staff

THAT the Ministry of Transportation; Ministry of the Environment, Conservation and Parks; Ministry of Natural Resources and Forestry, Ministry of Energy, Northern Development and Mines, the Independent Electricity System Operator; Regional Municipalities of Peel and York; Town of Caledon, City of Brampton and City of Vaughan; Credit Valley Conservation and Halton Conservation; as well as Members of Provincial Parliament, representing electoral districts within the project area, be circulated a copy of this staff report;

AND FURTHER THAT TRCA staff report back to the Board of Directors and seek further direction once the preliminary design alternatives and technical appendices are provided to staff for review and comment.

CARRIED

BACKGROUND

In January 2007, the Ministry of Transportation (MTO) announced the commencement of the Individual Environmental Assessment (EA) Study for the GTA West Corridor. The purpose of the study is to examine long-term transportation problems and opportunities, while considering

alternatives to provide better linkages to Urban Growth Centres. The Terms of Reference was approved by the Ontario Minister of the Environment on March 4, 2008.

STAGE 1 OF THE INDIVIDUAL EA STUDY

Stage 1 of the EA process evaluated various transportation modes and their ability to address future transportation demands to the year 2031, an almost 25-year horizon from when the project was initiated. While there have been significant delays in the planning timeline for this project, the transportation demand study was not updated to extend this planning horizon. The Stage 1 Study concluded with a recommended solution of a multimodal Transportation Development Strategy to optimize the existing highway network, provide transit and rail improvements such as widening existing highways, and to construct a new transportation corridor, the GTA West Highway.

The Stage 1 Study identified the Preliminary Route Planning Study Corridor for the GTA West Highway as extending from Highway 400 in the east and terminating at the Highway 401/407 interchange to the west. Within TRCA's jurisdiction, the Study Corridor extends from Highway 400 in the City of Vaughan, west through the Town of Caledon and City of Brampton to approximately Heritage Road, crossing the Humber River and Etobicoke Creek watersheds. Preliminary analysis indicated that the new highway would consist of an alignment with a right-of-way width of 110 m for the highway, plus a 60 m right-of-way for the adjacent transitway including transit stations (Figure 1). This would consist of six lanes (three in each direction) between Highway 400 and the Highway 427 extension, and four lanes (two in each direction) between Highway 427 and the connection at Highway 401/407. A report that provided an update on the EA work completed to that date was brought to the TRCA Authority Board on June 24, 2011 ([Meeting #6/11, RES #A122/11](#), p.297). As a great deal of time has passed, TRCA is concerned that additional growth beyond 2031 projections could result in the need for highway expansions that will additionally impact the natural heritage system and TRCA-owned lands in the future. TRCA in discussion with some of our municipal partners want to ensure that the planning horizon to the year 2031 remains an appropriate planning horizon for the EA study. As a result, TRCA staff propose the following recommendations.

Recommendation:

1. **MTO be requested to confirm whether the transportation demand study completed to the year 2031 remains an appropriate planning horizon.**

STAGE 2 OF THE INDIVIDUAL EA STUDY

The Stage 2 Study of the EA commenced in early 2014 and built upon the recommendations from the Stage 1 Study. In 2015, MTO provided long and short lists of route alternatives. MTO presented an update to the TRCA Authority Board on April 24, 2015 and TRCA staff brought forward a report to the same meeting with an update on the Stage 2 work ([Meeting #4/15, RES #A64/15](#), p.148).

Suspension of the Study

In December 2015, MTO suspended work on the EA in order to ensure the project aligned with changes in government policy and emerging technologies. An advisory panel of industry experts was formed and tasked with conducting a strategic assessment of the alternatives to meet future transportation demand, and other transportation infrastructure needs for passenger and goods movement in the GTA West Corridor. On October 21, 2016, TRCA recommendations were presented to the panel, in coordination with Conservation Halton and Credit Valley Conservation. On October 28, 2016, TRCA staff presented to the Authority Board and brought

forward a report on the Recommendations to the GTA West Advisory Panel (Meeting #8/16, RES #A171/16, p.534).

In February 2018, after reviewing advice from the Panel, MTO announced they would not proceed with the new highway in the GTA West Corridor. However, to ensure demands for a growing region were met, MTO and the Independent Electricity System Operator (IESO), with support from the Ministry of Energy, jointly initiated the Northwest GTA Corridor Identification Study to identify a smaller corridor to be protected for future infrastructure needs including utilities, transportation and transit.

Resumption of the Study

In June 2019, MTO announced resumption of the GTA West Transportation Corridor Study and that it would no longer be participating in the Northwest GTA Corridor Identification Study. In turn, the Ministry of Energy, Northern Development and Mines (ENDM), and the IESO announced that they were initiating the Northwest GTA Transmission Corridor Identification Study, separate from MTO's GTA West Transportation Corridor Route Planning and Environmental Assessment Study.

Northwest GTA Transmission Corridor Identification Study

Currently, to support growing electricity demand in the western GTA and protect for future transmission infrastructure, the ENDM and IESO are leading the Northwest GTA Corridor Identification Study (Figure 2). In February 2020, TRCA staff participated in the first meeting of the Central/GTA Regional Electricity Network. Going forward, TRCA staff will seek to confirm if and how this study is being coordinated with the GTA West Highway that is being planned along a similar path. To assess the potential for cumulative impacts, staff recommend the studies consider each other's findings and be coordinated to the extent possible or as one initiative, similar to the Parkway Belt West Plan initiative in the 1970's.

Recommendation:

- 2. MTO and ENDM/IESO confirm efforts to coordinate their independent studies and ensure negative impacts are fully assessed and minimized wherever practicable.**

Technically Preferred Route

Following MTO's resumption of the GTA West Corridor study, a second round of Public Information Centres (PIC) was held in September and October 2019 at which time MTO presented the technically preferred route (Figure 3) based on high-level evaluations of the short-listed alignment alternatives. To date, TRCA has not received the required detailed technical reports to support these evaluations. The Town of Caledon, the City of Vaughan and the Regional Municipality of York have all provided a response through their councils, requesting future work and route modifications related to interchanges, development areas and community interests, prior to confirming the preferred route.

Preliminary Design Alternatives

In November 2019, TRCA staff attended a joint Municipal and Regulatory Agency Advisory Group meeting, as well as the Greenbelt Transportation Advisory Group meeting where it was identified that MTO plans to confirm the preferred route and "focused analysis area" in Spring 2020. Following this, MTO will commence development of the preliminary design alternatives, including field investigations and consultation with property owners impacted by the preferred route. A separate meeting is scheduled in January 2020 with TRCA, MTO and their consultants to provide a study update, review 2020 fieldwork plans and gather information on habitat mapping and Species at Risk.

Final Environmental Assessment

In late 2022, MTO plans to submit the final EA to the Minister of the Environment, Conservation and Parks for review. The Minister is responsible for making a decision on the EA based on the recommendations of Ministry of the Environment, Conservation and Parks (MECP) staff. If the approval is granted, it is typical that such approvals are made with conditions.

DETAILED DESIGN AND VOLUNTARY PROJECT REVIEW

If approved, the next stage in the project is to commence detailed design, whereby MTO is obligated to satisfy all Ministerial conditions, as well as to obtain all permits and approvals. As a Crown agency, MTO is exempt from obtaining a permit pursuant to TRCA's section 28 regulation under the *Conservation Authorities Act*. In such circumstances, TRCA offers proponents the option of submitting a Voluntary Project Review (VPR) application.

The VPR is submitted at the design stage and allows staff to complete a comprehensive review and provide an opinion as to whether the interests, objectives, and tests of TRCA's Ontario Regulation 166/06 will be satisfied. Fees are charged as per the TRCA Fee Schedule and the standard TRCA review process is followed. Once TRCA comments are satisfied, a VPR letter is issued confirming that our interests have been met.

Unless required to consult with TRCA as a Condition of Approval by MECP, MTO is under no obligation to seek further input at the detailed design stage. While the VPR process is used by other Crown agencies, such as Metrolinx, to date, it has not been pursued by MTO in other projects.

Recommendation:

- 3. MTO commit to receiving VPR signoff at the design stage as it relates to TRCA's regulatory and policy interests, as well as provincially delegated responsibilities.**
- 4. MTO and MECP work with TRCA to draft Conditions of Approval that reflect TRCA interests and concerns, and that these conditions be forwarded to the Minister for review and consideration at the appropriate time in the EA process.**

ANALYSIS

TRCA is a commenting agency under the *Environmental Assessment Act* and reviews and comments on EA's where the proposed project has the potential to affect our areas of interest, or our delegated responsibility of representing the provincial interest on natural hazards as identified under Section 3.1 of the Provincial Policy Statement 2014. TRCA staff reviewed mapping, as well as the draft Evaluation of the Short List of Route Alternatives (Draft, September 2019) for segments 3 to 9, located within TRCA's jurisdiction, which included the technically preferred route. This information was available on the [MTO website](#).

The following analysis focuses on specific areas of concern and key staff recommendations based on a high-level evaluation of the technically preferred alignment using only available TRCA mapping and data, as the MTO's detailed studies that support their technically preferred route were not provided. The following analysis should not be used in place of a comprehensive study and evaluation to be completed by MTO. It should be noted that staff concerns remain consistent with those provided in past reports and comment letters.

WATER MANAGEMENT

Flood Hazards and Stormwater Management

MTO's evaluation matrix identifies the introduction of approximately 397 hectares (ha) of impervious surface within TRCA's jurisdiction as a result of the new proposed highway, in addition to approximately 85 new watercourse crossings within the Etobicoke Creek and Humber River Watersheds for the technically preferred route. It is imperative that the preferred route not alter the natural hydrological and hydraulic regimes within each of the watersheds or increase the flood hazard at the proposed crossing locations. This is of particular importance to established and planned communities surrounding a new highway that may be at risk of flooding due to changes to water conveyance or flow regimes from the highway's impact to watercourses and wetlands. TRCA's 2015 Crossings Guideline for Valley and Stream Corridors document outlines the requirements for designing new or replacement crossing structures to prevent flood and erosion hazard impacts.

TRCA's 2012 Stormwater Management Criteria document lays out TRCA's stormwater management criteria for work within the TRCA jurisdiction, consistent with provincial and municipal requirements. The Humber River Hydrology and Etobicoke Creek Hydrology models were updated after 2012. It is important to note that the Humber River Hydrology Update only considered urban expansion as identified in the municipal Official Plans that were approved at the time and did not consider the land use change proposed by the GTA West Corridor project. Water quality, quantity, erosion and water balance controls will all need to be met. The Humber River Watershed Plan dictates that a Regional control assessment will be required for any urban expansion beyond approved Official Plans that were included in the recent Humber River Hydrology update.

Additional property needed to address and meet stormwater management criteria for the new highway as well as the future transitway, stations and any other associated hardened surfaces, should be identified in the EA. This identification of required land for green infrastructure will ensure the most effective level of stormwater treatment is achieved, prior to release to the Natural Heritage System (NHS). TRCA recommends if the EA is approved, and the project moves to detailed design, MTO acquire updated modeling from TRCA and come to TRCA for model verification through the VPR process. Historically, MTO has not requested TRCA verify these models, nor have they requested a VPR at the design stage. If the GTA West Highway is approved, in order to engage TRCA at the detailed design stage the Minister would need to make specific conditions as part of the approval process. Through such a process, TRCA would then be able to comment on changes to the drainage/flow regimes, be involved with mitigation to flood plain impacts, and ensure we receive accurate updated information and data that would inform decisions in municipal and development review applications.

Recommendations:

- 5. MTO consider the TRCA 2015 Crossings Guideline for Valley and Stream Corridors in designing new crossing structures in order to prevent flood and erosion hazard impacts.**
- 6. MTO clearly show on a figure in the EA, each watercourse and headwater drainage feature crossing, together with a corresponding table that shows proposed sizing at each crossing location that considers wildlife passage, fluvial geomorphic, and flood conveyance requirements, and any associated modeling, where necessary. Proposed crossing sizes presented in the EA should clearly reflect the sizing that will move forward to the design and construction stages.**
- 7. MTO undertake a comprehensive stormwater management strategy at the EA stage based on TRCA's 2012 Stormwater Management Criteria document that demonstrates**

how provincial and TRCA criteria for water quality, quantity, erosion and water balance will be met.

8. MTO contact TRCA for updated modeling and stormwater requirements at the detailed design stage and then update the modeling, based on the proposed highway design, according to TRCA standards.

Source Water Protection

The *Clean Water Act*, 2006 ensures communities protect their drinking water supplies through prevention by developing collaborative, watershed-based source protection plans that are locally driven and based on science. Within the Regional Municipality of Peel, the proposed alignments transect Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas as identified in the [Credit Valley - Toronto and Region - Central Lake Ontario Source Protection Plan](#) (CTC SPP). Within the Regional Municipality of York, the proposed alignments transect Highly Vulnerable Aquifers, Significant Groundwater Recharge Areas and a Wellhead Protection Area for quality and quantity (WHPA-Q). All alignments will have some level of impact to these resources. Further analysis will need to take place within the EA to determine the level of impact through consultation with each municipality.

Recommendations:

9. MTO consult with each municipality transected by the preferred route and design to confirm conformity with the CTC SPP.
10. MTO conform with Policy SAL-6 in the CTC SPP, in particular clause (d) which encourages the consideration of information in the Toronto and Region Assessment Report for the siting and prioritization of future assessments related to road salt application.
11. MTO work with the Ministry of the Environment, Conservation and Parks to ensure the implementation of Policy SAL-11 in the CTC SPP.

NATURAL HERITAGE SYSTEM

The GTA West Corridor project will have extensive and widespread impacts on the NHS, including significant loss in the number, form and function of natural features and species. There will be significant fragmentation of valleylands, conservation lands, and the few remaining natural corridors within TRCA's jurisdiction. To minimize these impacts a very thorough ecological study of the area must be completed, the results of which must direct the siting, design, and construction of the highway, including ecosystem compensation measures to help replace impacted natural features and function.

Wildlife Connectivity, Flora, Fauna and the Natural Heritage System

To highlight the extent of the anticipated major ecological impacts, TRCA staff completed a rapid assessment. A detailed ecological study by MTO is required to confirm impacts and identify mitigation, restoration and compensation requirements. The key findings include:

- Over 1000 ha of land identified as important for local wildlife movement, some of which is also important at a regional scale, will either be removed or intersected by the proposed highway. Of note is the section located to the east of Bramalea Road, through an area classified as important for regional wildlife movement.
- Approximately 85 watercourses will be impacted. Of these crossings, TRCA ranks 10 as "high priority" locations ecologically, as they are in deep valleys with relatively high quality existing or potential habitat, high regional connectivity, or high local connectivity. Of the remaining crossings, 58 are ranked as "medium priority" locations located in shallow valleys that have high quality existing or potential habitat, high regional connectivity, or high local connectivity.

- Over 110 occurrences (representing 10 different species) of federal and/or provincial Species at Risk have been found in the study area: These species are found in a variety of habitat types including meadow (e.g., Bobolink), forest (e.g., Eastern Wood-Pewee, Butternut), wetland (e.g., Snapping Turtle, Western Chorus Frog) and within specific watercourses.
- 35 different fauna species of local concern (with approximately 240 separate occurrences) have been found inhabiting the proposed study area.
- 74 different flora species of local concern (with approximately 275 separate occurrences) have been found inhabiting the proposed study area.
- Approximately 220 wetlands covering 130 ha, will be impacted.
- Approximately 680 ha of habitat representing 224 separate habitat patches (forest, wetland, meadows) will be directly removed or indirectly impacted. This includes 240 ha (representing 40 separate habitat patches) of high-quality habitat (based on TRCAs landscape analysis model assessing size, shape and surrounding land use) and over 300 ha (representing 206 separate habitat patches) of habitat deemed highly vulnerable to impacts of climate change.

An example of a high priority wildlife crossing location is the eastern end of segment 8-3 located north of Kirby Road between Kipling Avenue and Pine Valley Drive where there is a high probability of forest to forest wildlife movements. Crossing structures should not only accommodate wildlife movements between wetlands and valley systems for example, but also be considered for areas that are not along stream corridors.

Recommendations:

- 12. MTO complete seasonally appropriate field surveys along the preferred route to identify where and when wildlife passages are required and will be most effective, based on the type of species and migration patterns, to facilitate safe wildlife movement under or over the highway.**
- 13. MTO design habitat connectivity and wildlife passages for provincial and regional species of concern, including installing appropriate wildlife passages, fencing structures, and extensive habitat restoration.**
- 14. MTO consider the TRCA 2015 Crossings Guideline for Valley and Stream Corridors to inform the design of new crossing structures for wildlife movement and habitat connectivity.**

Core Features

MTO's Comparative Evaluation of Net Effects and Ranking of alternatives does not appear to consider the significance, sensitivities, or quality of all the natural heritage features within the alternative routes, which significantly diminishes the weighting of individual natural features. All natural heritage features should be evaluated using these criteria so that the review of alternatives considers natural heritage features equally and ensures overall impacts for each evaluation criterion is weighted appropriately.

- Some unevaluated wetlands may in fact be Provincially Significant Wetlands (PSW) but may not have been classified as such in the table. Once they have been evaluated, the significance of each natural feature can better inform the Route Evaluation.
- Woodlands should be assessed using standardized criteria for significance in such a way that they are compared on equal footing. Many of the unevaluated woodlands may in fact prove to be significant, particularly the larger features connected to valleys.
- There are several locations where natural features have not been identified. For example, there are extensive riverine wetlands located adjacent to Airport Road where segments 6-

1 and 6-2 are located. The proposed intersection 6-1 will remove a large proportion of these wetlands.

Once all natural heritage features have been assessed in terms of their significance, sensitivities and/or quality, they should be categorized such that the significant, most sensitive and highest quality features are considered "Core Features". These features are the core elements of the NHS, including ecologically significant groundwater recharge areas, should be protected and enhanced because they provide critical ecosystem functions.

While municipal Official Plans identify both natural heritage systems and many significant natural features, not all the features have been assessed. The GTA West study should reference these planning documents to assess the features that have not yet been evaluated. Once a comprehensive evaluation has been completed, slight shifts in alignment, such as shifting segment 4-1 to the north to avoid cutting through the "potentially significant woodlands" associated with watercourses, among others, should be considered. In addition, MTO's technically preferred route section 7-3 will connect the new highway to Highway 427. This route runs parallel to and on top of long reaches of permanent watercourse (approximately 2.1 km within the Robinson Creek Natural Heritage System), which will result in permanent impacts to the form and function of the NHS. Fragmentation of the valley corridor is anticipated as well as wetland removals including a mature deciduous swamp. As with the other highway segments, options to adjust the Highway 427 extension and interchange should be analyzed to first avoid impacts to sensitive habitat and minimize impacts to the NHS. MTO should respect the work done under the completed Highway 427 EA and detailed design processes to protect these features. If the EA is approved and a commitment to follow the TRCA VPR process is made, MTO would be committed to acquire updated data from TRCA and to ensuring TRCA standards are applied.

Recommendations:

- 15. MTO complete a comprehensive evaluation for the technically preferred alternative of the proposed highway, associated interchanges and future transit right-of-way and stations and use the information to consider hybrid alignments (shifts) that will avoid and minimize impacts to the natural heritage system, including watercourses and core features.**
- 16. MTO commit to mitigation measures at the EA stage, such as edge management plans and measures to ensure that the function of ecologically significant groundwater recharge areas are maintained, and then develop these measures further at the detailed design stage.**
- 17. MTO work with TRCA to develop and implement an environmental monitoring plan in the EA stage, and use the plan to inform the planning and design of wildlife crossing locations, as well as to address issues related to species sensitivities, such as noise, light, pollutants, invasive species, habitat and groundwater changes.**

Restoration and Compensation

MTO has examined a range of alignment alternatives and due to the magnitude of the proposed work, impacts to the NHS including habitat connections are unavoidable in some locations. Given the complexity of this work and the unavoidable impacts to significant and sensitive areas throughout the TRCA jurisdiction, it will be imperative that losses to core features and their functions, as well as losses to lands required for connectivity and buffers be restored. The loss of restorable lands as a result of the new highway and associated transitway should also be considered and compensated for, to the extent possible, with the intent to preserve and improve the ecological integrity of the area.

Recommendations:

- 18. MTO work with TRCA to determine an appropriate restoration and compensation plan in the EA that ensures a net benefit, depending on the ecological communities impacted, to ensure fragmentation is minimized, connections between sensitive ecological features remain open allowing for wildlife movement, and to ensure the NHS is protected and enhanced.**
- 19. MTO work with TRCA to identify locations in which restoration activities can take place either using the TRCA 2018 Guide for Determining Ecosystem Compensation or developing a compensation strategy similar to that adopted by Metrolinx for their expansion projects and applying an approximate value to future restoration and compensation efforts.**

Salt Application, Noise and Light Impacts

Salt application and salt spray as well as increased noise and light impacts should be considered when choosing the preferred route and preliminary design. Currently, the proposed corridor crosses numerous cold and cool water streams that provide habitat to sensitive aquatic species. These species cannot tolerate urban influences of salt and other pollutants that would enter the habitat via runoff. Stormwater management has not yet been proven as an effective mitigation tool for salt management. Natural heritage features are affected by salt spray, which can have profound effects on terrestrial systems and can penetrate to large forest blocks causing tree and shrub losses far removed from the road right-of-way. Conifer species are particularly prone to dieback due to salt spray. In terms of invasive species, such as phragmites, these often take root in rights-of-way and can cause long, linear disturbances to the NHS. Noise and light pollution can also cause adverse effects to forest and wetland species and must be considered in alternative selection, detailed design options and long-term maintenance.

Recommendation:

- 20. MTO consider in the EA the potential long-term impacts of salt loading to surface and groundwater features, salt spray to terrestrial habitats, the spread of invasive species along transportation corridors, and fragmentation of habitats and migration corridors.**

CLIMATE CHANGE

The MECP requires that all projects going through the EA process, including Individual EAs, consider impacts to and opportunities for climate change mitigation and adaptation, and consider the vulnerability of projects to climate change. The 2014 Provincial Policy Statement also requires that infrastructure projects consider impacts from climate change.

Impacts to Natural Features and Wildlife

The proposed routes cut through natural features and areas that are deemed to be highly vulnerable to climate change, which may exacerbate the impacts to these features (for example drying effects on vegetation and changes to hydrology). The proposed route also cuts through habitat patches used by sensitive species including terrestrial and aquatic Species at Risk Ontario (SARO) which are considered highly vulnerable to the impacts of climate change. Furthermore, habitat connectivity is becoming increasingly important, especially from a climate change perspective, where the loss of habitat will result in further isolation of species and limit species' movements.

Stormwater Management

Stormwater management strategies and crossing structures will need to demonstrate resilience to the effects of climate change. One methodology to evaluate impacts is to test the strategy against the rainfall estimates provided on the MTO Intensity Duration Frequency (IDF) Curve

website for the 2080s time period, as defined in the 2015 Ministry of Natural Resources and Forestry (MNRF) document "Climate Change Projections for Ontario: An updated synthesis for policymakers and planners".

Green Infrastructure

In addition to the recommendations in this report, the EA should also include encouraging green infrastructure and strengthening stormwater management requirements; requiring consideration of energy conservation and efficiency, reduced greenhouse gas emissions and climate change adaptation (e.g. tree cover). Furthermore, the climate change section should also include information related to vehicular emissions and prescribed construction technologies and consider the potential impacts of climate change that may increase the risk associated with natural hazards (for example flooding due to severe weather).

Recommendations:

- 21. MTO evaluate climate change risks and impacts based on the transition of natural heritage lands to paved surfaces, together with the removal of trees and wetlands be included in the EA document to ensure impacts are minimized and clearly explained.**
- 22. MTO's stormwater management strategy and crossings be confirmed against the impacts of a changing climate.**
- 23. MTO investigate and incorporate green infrastructure into the design.**

TRCA-OWNED LANDS

Conservation Lands

TRCA lands will be impacted in multiple locations throughout this study corridor as a new highway will result in fragmentation as well as partial and complete losses to the land base. Impacts of the alternative options on TRCA-owned lands range from approximately 8 to 78 ha, depending on the various combinations of alternatives. While some highway segments will have either no impact or a nominal impact to TRCA-owned lands, of notable concern are the sections of the technically preferred route within the Highway 410 area and through the TRCA Nashville Conservation Reserve (NCR).

Recommendations:

- 24. MTO closely coordinate with TRCA throughout the planning and design stages to further review options to avoid and mitigate impacts to TRCA-owned lands.**
- 25. MTO and TRCA enter into negotiations regarding land base compensation once the preferred route has been finalized and MTO include future TRCA land acquisition costs within its costing analysis.**

Highway 410 Extension

Impacts based on the various alternatives for this segment of highway range from having no impact to significant impacts, such as with the technically preferred route. The routes that use the existing Highway 410 alignment have a similar overall impact (1.9 to 2.5 ha) to TRCA properties. The most significant impact is MTO technically preferred route 5-10 which involves construction of a new north-south connection and interchange which will impact two TRCA parcels affecting most of a parcel north of Mayfield Road and east of Heart Lake Road. According to the MTO Evaluation Table, the proposed Highway 410 interchange and extension will also result in the removal of 6.81 ha of wetland, 11.71 ha of potentially significant woodland, and will require 10 potential watercourse crossings.

TRCA and municipal staff have worked to protect many of these features through the Mayfield

West Master Environmental Servicing Plan (MESP) and draft plan review processes. While the technically preferred route appears to avoid the TRCA-owned central woodlot, a new interchange and extension will result in the removal of at least two PSW's, TRCA-owned lands, woodlots and the stream corridors that connect them as part of the Heart Lake Wetland Complex. The Heart Lake Wetland Complex has already been subject to significant impacts as a result of the Highway 410 extension, which has altered drainage patterns and permanently changed the hydrology of some of the wetlands. Impacts to features along those routes will need to be reviewed once further detail is provided.

Recommendation:

- 26. MTO work closely with TRCA, the City of Brampton, Town of Caledon and Regional Municipality of Peel and reconsider the interchange that would allow for the extension at Highway 410 to use existing Highway 10 infrastructure.**

Nashville Conservation Reserve

The NCR is TRCA-owned land which extends from King Road south to Kleinberg and serves as an integral part of the TRCA's NHS. The NCR supports a wide variety of wildlife, conveys the federally designated Humber River (Canadian Heritage River), is an important migratory corridor, provides important recreational and natural resource for users and TRCA has identified future plans for this important greenspace in the Nashville Conservation Reserve Management Plan (2015).

MTO's technically preferred route section 8-3 through the southern section of the NCR, will fragment these lands resulting in impacts to almost 8 ha (based on TRCA data), approximately 58 ha of woodland and vegetation, approximately 10.3 ha of wetland habitat (based on the MTO evaluation table), and will pass through conservation lands at the narrowest portion of the tract. This route represents one of the alternatives with the smallest area of impact to TRCA-owned lands within the NCR.

In comparison, although alignment 8-1 through the northern section of the NCR, as recommended by the City of Vaughan in a letter to the Regional Municipality of York, dated November 25, 2019, would result in the most significant impact to TRCA-owned lands. This route could be selected but only if appropriate measures were applied to minimize negative impacts and achieve ecological and other benefits outside of this impacted area. This alignment would see approximately 55 ha of land impacted together with the removal of approximately 87.8 ha of forest, meadow and treed swamp and 11.7 ha of wetland (based on the MTO evaluation table). It should be noted that the Regional Municipality of York in their Council report of January 16, 2020, requested MTO to review alignments in the North Kleinburg-Nashville Secondary Plan Area and to reduce impacts to existing and approved community areas. It is recommended that TRCA, Vaughan, York and MTO staff continue to work together to find a solution to these concerns.

Recommendations:

- 27. MTO work with TRCA, the City of Vaughan and Regional Municipality of York to determine an alignment that will minimize and/or mitigate impacts through the NCR.**
- 28. MTO recognize trail networks in the preliminary design alternative and ensure connectivity, parking, and access is maintained through efforts including but not limited to the design and construction of planned trail networks in the Focused Analysis Area of the Corridor including segments of the TRCA Regional Trail Strategy for the Greater Toronto Region, the Vaughan Super Trail, and trail networks identified**

in the Region of Peel's Active Together Master Plan and regional and local Official Plans.

- 29. MTO ensure signage identifying the NCR and the Humber River's Canadian Heritage River System status be included in an area along the highway within the boundary of the NCR and in the vicinity of the Humber River.**

Archaeology

Once a preferred route has been chosen and development limits identified, TRCA archaeologists will need to complete archaeological investigations for any work on TRCA lands as per TRCA policy and at costs to be borne by MTO. Based on a review of TRCA information for the area, there is high potential for both Indigenous and Euro-Canadian archaeological sites and artifacts specifically in the NCR, and potentially in other TRCA-owned lands. Should sites or artifacts be encountered, further work will be needed to ensure the sites or artifacts are recognized and preserved in accordance with the objectives of the Etobicoke Creek and Humber River Watershed plans, the Humber River Canadian Heritage Rivers System designation, and the affected Indigenous communities. It should be noted that through the EA process, MTO is required to consult with Indigenous peoples and consider and incorporate the findings of those investigations.

Recommendation:

- 30. MTO closely coordinate with TRCA archaeology staff to complete investigations as per TRCA and provincial policy on TRCA-owned lands once a preferred route has been identified.**

LAND USE

Greenbelt Plan Area

MTO's technically preferred route appears to minimize impacts to the Protected Countryside designated area within the Greenbelt Plan.

Development

For several years, TRCA has worked closely with municipalities on development applications within the focused corridor width that was identified by MTO and the IESO in February 2018. We note that many of the municipal Secondary Plans, Block Plans and Official Plan Amendments in support of future development were approved based on the reduced Focused Analysis Area.

Through the planning process, TRCA has worked with the development industry and municipal staff to protect significant features and, through these municipal planning processes convey lands into public ownership. Significant time, effort and cost have been invested by TRCA and other parties to coordinate the approvals in conjunction with the reduced Focused Analysis Area Corridor Protection Area.

The GTA West Technically Preferred Route crosses future block plan areas, such as Block 62 West in the City of Vaughan, where preliminary work started several years ago, including staking of natural features. Other locations along the route are subject to Ontario Municipal Board (OMB) decisions or current Local Planning Appeal Tribunal (LPAT) hearings, set for 2020. In Block 66 West within the City of Vaughan, the technically preferred route could also potentially impact a site in which the valleylands were to be restored and dedicated to TRCA.

Recommendation:

- 31. MTO be requested to work with TRCA, municipalities, landowners and developers, and community and environmental organizations recognizing the shared concerns with particular alignments and interchanges, lands to be conveyed to TRCA through the development process, as well as TRCA and partner efforts in protecting natural features through the municipal planning process to establish a routing which respects the various concerns.**

Terminus Points at Highway 410, Highway 427 and Highway 400

The proposed highway includes several key connections to existing major highways 410, 427 and 400. It is unclear at this time whether extensions of these highway networks will be required in the future and how those extensions will impact features beyond areas examined through this study.

Recommendation:

- 32. MTO include projections for possible future extensions in the EA to ensure proposed terminus points at each of these locations to avoid or minimize impacts to TRCA properties, conservation lands and the NHS to the north and east.**

RELATIONSHIP TO BUILDING THE LIVING CITY, THE TRCA 2013-2022 STRATEGIC PLAN

This report supports the following set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 4 – Create complete communities that integrate nature and the built environment

Strategy 7 – Build partnerships and new business models

Strategy 8 – Gather and share the best sustainability knowledge

Strategy 12 – Facilitate a region-wide approach to sustainability

FINANCIAL DETAILS

- Should the province pursue approvals through the TRCA VPR process, fees for these services will be charged based on service delivery requirements that are consistent with the TRCA Fee Schedule. If the VPR process is not followed, TRCA will charge fees for all updated data and mapping.
- Monetary requirements for natural heritage compensation will be negotiated.
- Acquisition of TRCA-owned property will require negotiation of land-based monetary compensation.

DETAILS OF WORK TO BE DONE

- TRCA staff will continue to work with MTO staff through the Regulatory Agency Advisory Group, the Greenbelt Transportation Advisory Group and separate working groups.
- TRCA staff will report back to the TRCA Board of Directors once the preliminary design alternatives and technical appendices are provided to TRCA staff for review and comment and provide an update as to how TRCA recommendations have been addressed.
- Should the project be approved with a condition that requires the TRCA VPR process be implemented, TRCA staff will work with MTO through the detailed design and construction stages to ensure TRCAs regulatory, restoration and compensation concerns and objectives are addressed.

Report prepared by: Sharon Lingertat, extension 5717

Emails: sharon.lingertat@trca.ca

For Information contact: Beth Williston, extension 5217 or Sharon Lingertat, extension 5717

Emails: beth.williston@trca.ca, sharon.lingertat@trca.ca

Date: January 20, 2020

Attachments: 4

Attachment 1: Cross Section

Attachment 2: Focused Analysis Area

Attachment 3: Technically Preferred Route Roll Plan

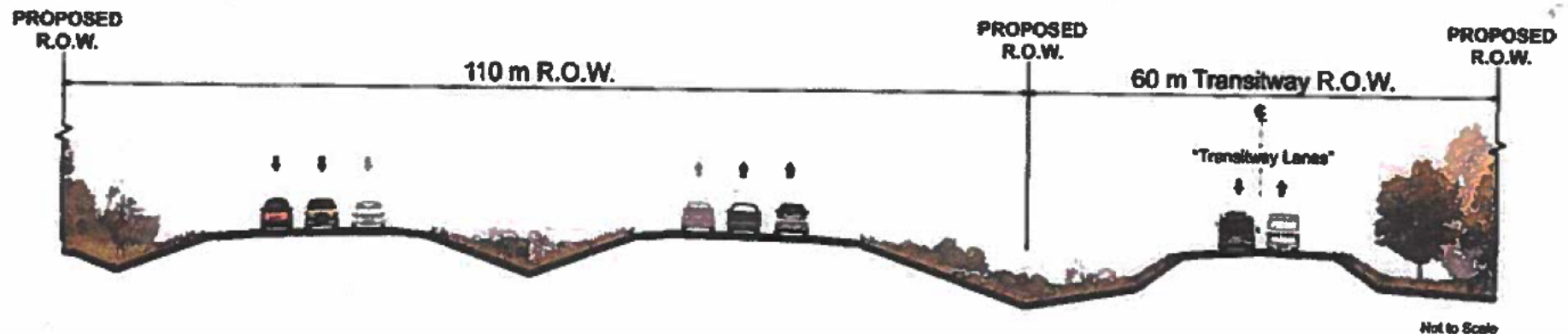
Attachment 4: Summary of Recommendations

Attachment 1: Proposed Cross Section

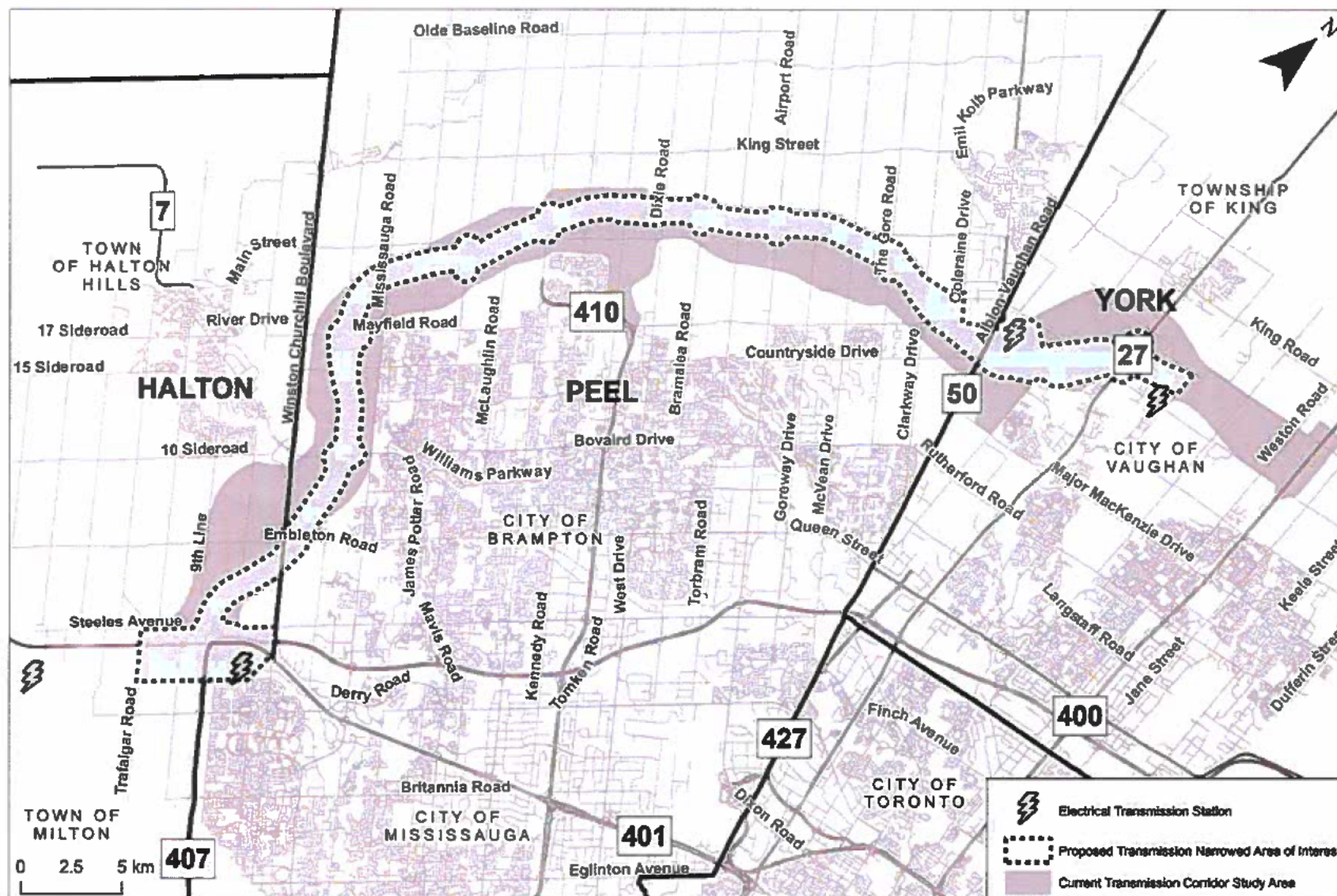


THE NEW MULTIMODAL CORRIDOR

- The multimodal transportation corridor will initially be designed as a 4- to 6-lane highway with a separate adjacent transitway
- The total proposed right-of-way (ROW) will be 170m



Map: Current Transmission Corridor Study Area and Proposed Transmission Narrowed Area of Interest



Summary of Recommendations

1. MTO be requested to confirm whether the transportation demand study completed to the year 2031 remains an appropriate planning horizon.
2. MTO and ENDM/IESO confirm efforts to coordinate their independent studies and ensure negative impacts are fully assessed and minimized wherever practicable.
3. MTO commit to receiving VPR signoff at the design stage as it relates to TRCA's regulatory and policy interests, as well as provincially delegated responsibilities.
4. MTO and MECP work with TRCA to draft Conditions of Approval that reflect TRCA interests and concerns, and that these conditions be forwarded to the Minister for review and consideration at the appropriate time in the EA process.
5. MTO consider the TRCA 2015 Crossings Guideline for Valley and Stream Corridors in designing new crossing structures in order to prevent flood and erosion hazard impacts.
6. MTO clearly show on a figure in the EA, each watercourse and headwater drainage feature crossing, together with a corresponding table that shows proposed sizing at each crossing location that considers wildlife passage, fluvial geomorphic, and flood conveyance requirements, and any associated modeling, where necessary. Proposed crossing sizes presented in the EA should clearly reflect the sizing that will move forward to the design and construction stages.
7. MTO undertake a comprehensive stormwater management strategy at the EA stage based on TRCA's 2012 Stormwater Management Criteria document that demonstrates how provincial and TRCA criteria for water quality, quantity, erosion and water balance will be met.
8. MTO contact TRCA for updated modeling and stormwater requirements at the detailed design stage and then update the modeling, based on the proposed highway design, according to TRCA standards.
9. MTO consult with each municipality transected by the preferred route and design to confirm conformity with the CTC SPP.
10. MTO conform with Policy SAL-6 in the CTC SPP, in particular clause (d) which encourages the consideration of information in the Toronto and Region Assessment Report for the siting and prioritization of future assessments related to road salt application.
11. MTO work with the Ministry of the Environment, Conservation and Parks to ensure the implementation of Policy SAL-11 in the CTC SPP.

12. MTO complete seasonally appropriate field surveys along the preferred route to identify where and when wildlife passages are required and will be most effective, based on the type of species and migration patterns, to facilitate safe wildlife movement under or over the highway.
13. MTO design habitat connectivity and wildlife passages for provincial and regional species of concern, including installing appropriate wildlife passages, fencing structures, and extensive habitat restoration.
14. MTO consider the TRCA 2015 Crossings Guideline for Valley and Stream Corridors to inform the design of new crossing structures for wildlife movement and habitat connectivity.
15. MTO complete a comprehensive evaluation for the technically preferred alternative of the proposed highway, associated interchanges and future transit right-of-way and stations and use the information to consider hybrid alignments (shifts) that will avoid and minimize impacts to the natural heritage system, including watercourses and core features.
16. MTO commit to mitigation measures at the EA stage, such as edge management plans and measures to ensure that the function of ecologically significant groundwater recharge areas are maintained, and then develop these measures further at the detailed design stage.
17. MTO work with TRCA to develop and implement an environmental monitoring plan in the EA stage, and use the plan to inform the planning and design of wildlife crossing locations, as well as to address issues related to species sensitivities, such as noise, light, pollutants, invasive species, habitat and groundwater changes.
18. MTO work with TRCA to determine an appropriate restoration and compensation plan in the EA that ensures a net benefit, depending on the ecological communities impacted, to ensure fragmentation is minimized, connections between sensitive ecological features remain open allowing for wildlife movement, and to ensure the NHS is protected and enhanced.
19. MTO work with TRCA to identify locations in which restoration activities can take place either using the TRCA 2018 Guide for Determining Ecosystem Compensation or developing a compensation strategy similar to that adopted by Metrolinx for their expansion projects and applying an approximate value to future restoration and compensation efforts.
20. MTO consider in the EA the potential long-term impacts of salt loading to surface and groundwater features, salt spray to terrestrial habitats, the spread of invasive species along transportation corridors, and fragmentation of habitats and migration corridors.
21. MTO evaluate climate change risks and impacts based on the transition of natural heritage lands to paved surfaces, together with the removal of trees and wetlands be included in the EA document to ensure impacts are minimized and clearly explained.
22. MTO's stormwater management strategy and crossings be confirmed against the impacts of a changing climate.
23. MTO investigate and incorporate green infrastructure into the design.

24. MTO closely coordinate with TRCA throughout the planning and design stages to further review options to avoid and mitigate impacts to TRCA-owned lands.
25. MTO and TRCA enter into negotiations regarding land base compensation once the preferred route has been finalized and MTO include future TRCA land acquisition costs within its costing analysis.
26. MTO work closely with TRCA, the City of Brampton, Town of Caledon and Regional Municipality of Peel and reconsider the interchange that would allow for the extension at Highway 410 to use existing Highway 10 infrastructure.
27. MTO work with TRCA, the City of Vaughan and Regional Municipality of York to determine an alignment that will minimize and/or mitigate impacts through the NCR.
28. MTO recognize trail networks in the preliminary design alternative and ensure connectivity, parking, and access is maintained through efforts including but not limited to the design and construction of planned trail networks in the Focused Analysis Area of the Corridor including segments of the TRCA Regional Trail Strategy for the Greater Toronto Region, the Vaughan Super Trail, and trail networks identified in the Region of Peel's Active Together Master Plan and regional and local Official Plans.
29. MTO ensure signage identifying the NCR and the Humber River's Canadian Heritage River System status be included in an area along the highway within the boundary of the NCR and in the vicinity of the Humber River.
30. MTO closely coordinate with TRCA archaeology staff to complete investigations as per TRCA and provincial policy on TRCA-owned lands once a preferred route has been identified.
31. MTO be requested to work with TRCA, municipalities, landowners and developers, and community and environmental organizations recognizing the shared concerns with particular alignments and interchanges, lands to be conveyed to TRCA through the development process, as well as TRCA and partner efforts in protecting natural features through the planning process to establish a routing which respects the various concerns.
32. MTO include projections for possible future extensions in the EA to ensure proposed terminus points at each of these locations to avoid or minimize impacts to TRCA properties, conservation lands and the NHS to the north and east.

July 3, 2020

CFN 62018

BY E-MAIL ONLY (Lukasz.Grobel@ontario.ca)

Lukasz Grobel
Senior Project Engineer
Ministry of Transportation
159 Sir William Hearst Avenue
Building D, 4th Floor
Toronto, ON M3M 0B7

Dear Mr. Grobel,

**Re: GTA West Transportation Corridor Route Planning and Environmental Assessment Study
Segments 7 and 8 (Approximately Highway 427 Interchange to East of Kipling Avenue)
Humber River Watershed
City of Vaughan; Regional Municipality of York**

Thank you for the opportunity to comment on the Ministry of Transportation's (MTO) revised route options within Segments 7 and 8 of the proposed Greater Toronto Area (GTA) West Transportation Corridor Route Planning and Environmental Assessment (EA) Study (GTA West). The Toronto and Region Conservation Authority (TRCA) is a key participant in the EA process within its watershed-based jurisdiction, as a public commenting body, resource management agency, service provider and landowner under the *Environmental Assessment Act*. Conservation Authorities also have a delegated responsibility of representing the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement (PPS).

PROJECT OVERVIEW

A report was prepared for the TRCA Board of Directors (Board) Meeting #11/19 on January 24, 2020, highlighting staff's concerns and recommendations based on available materials associated with MTO's GTA West study. Subsequent meetings were held with MTO, their consultants and other provincial and federal agencies on January 30, 2020 to further discuss the broader study corridor. A second meeting was held via conference call on May 21, 2020 to discuss Segment 7 generally located at the Highway 427 interchange, and Segment 8 located east of the Highway 427 interchange to east of Kipling Avenue in the City of Vaughan.

It is our understanding that in an effort to balance competing interests within Segment 8, that MTO is re-examining this segment of highway which has resulted in two new route alignments (S8-4 and S8-5) through the Nashville Conservation Reserve (NCR) and over the Humber River. Routes S8-4 and S8-5 are located just north of S8-3 which was previously shown as MTO's Technically Preferred Route. Segment 7 is also under review as the preferred alignment within Segment 8 will impact the Segment 7 connection to the Highway 427 interchange. We also understand that MTO is planning to publicly release the final Technically Preferred Route in the near future for the entire corridor, with a 'bubble' around Segments 7 and 8 noting that work is on-going at those locations.

PROJECT REVIEW – SEGMENTS 7 AND 8

MTO, through AECOM, has requested our comments on Segments 7 and 8, as well as feedback on potential mitigation measures within those segments. As such, TRCA staff received shapefiles, mainline profiles for S8-3, S8-4 and S8-5, a Section 7-8 figure, a copy of the Section 8 Agency Meeting presentation, Sections 7 and 8 mapping alternatives and Comparative Evaluation tables for Segments 7 and 8, on June 4, 2020.

Our review is based on a high-level evaluation of the three route alternatives using available TRCA mapping, TRCA data and the MTO supporting evaluation table, similar to our review of the broader study area which informed the January 24, 2020 Board report. A summary of our findings is provided below. Detailed comments are available in Appendix A of this letter.

Flood Plain, Valley and Watercourse Crossings

- All of the north-south routes within Segment 7, north of Major Mackenzie Drive, run parallel to and over long reaches of permanent watercourse, including approximately 2.1 km of Robinson Creek. Routes S7-13 and S7-14 offer a marginally better crossing location of the Humber River immediately east of the freeway-to-freeway interchange at Highway 427 because they are located upstream of the confluence. However, both options are located on meander bends associated with the watercourse, so the benefit is minor. Route S7-3 has the smallest impervious area footprint which will provide the least impact of the three options from a runoff quality/quantity perspective and to the downstream riverine system.
- Route S8-4 will impact approximately 500 m of the Humber River because this route is located overtop of a large section of meandering stream and large flood plain. The Humber River crossing location of Route S8-5 is only slightly better; however, this alignment is located in the largest flood plain and will result in the largest crossing of the valley system. Route S8-3 appears to result in the fewest impacts to the watercourse crossings and valley system by crossing at the narrowest and straightest point of the Humber River. Finally, S8-3 has the smallest impervious area footprint which will provide the least impact of the three options from a runoff quality/quantity perspective and to the downstream riverine system.

Natural Heritage System (NHS)

- According to TRCA data, all three proposed routes have substantial ecological impacts, however Routes S8-4 and S8-5 appear to cover a larger road effect zone, and impact a greater area of natural cover including meadow and wetland habitat, and high-quality habitat patches. However, Routes S8-4 and S8-5 do have a slightly reduced impact on forest habitat when compared to S8-3. Routes S8-4 and S8-5 appear to impact a higher number of flora and fauna Species of Concern, and a higher number of Species at Risk.
- Route S8-3 has relatively lower overall impacts as it appears to cross the fewest number of watercourses, impact the smallest amount of natural cover directly and indirectly, impacts almost the same amount of forest habitat as other options, impacts a smaller amount of meadow and wetland habitat, and a smaller amount of high quality habitat patches. Route S8-3 also impacts the fewest TRCA regional flora and fauna Species of Concern and appears to impact the lowest number of Species at Risk.
- Regarding habitat connectivity and wildlife movement, all three proposed routes cut across areas which are important for regional connectivity. In terms of local connectivity between forests patches, Route S8-3 has the lowest amount of priority area impacted (440 ha) compared to S8-4 (461 ha) and S8-5 (452 ha). In terms of connectivity between forest and wetland patches, Route S8-4 seems to have the lowest amount of area impacted (137 ha) compared to S8-3 (153 ha) and S8-5 (139).
- Natural heritage impacts resulting from noise and night-time light pollution will be substantial for all three routes. However, given that Route S8-3 has a smaller road effect zone, smaller area of natural cover impacted, and fewer species of concern, it may have a smaller impact relative to the other two. However, it is critical to note that in addition to the area impacted, the changes in spectral composition, as well as duration and spatial pattern of lighting for instance, also effect the overall impacts.

TRCA Owned Land

- Routes S8-4 and S8-5 will both fragment a portion of the Nashville Conservation Reserve (NCR), leaving two smaller parcels and separating the parcels south of the corridor from the remainder of the conservation reserve. Both bisect an 81 ha parcel of land and smaller parcels associated with each respective alignment leaving smaller land holdings orphaned. Route S8-4 also has the potential to impact access to a rental residence located just north of the proposed alignment and parcels impacted by this route are also subject to an easement for a pipeline. Fragmentation of conservation lands for both of these options also has the potential to negatively impact tax exemptions.

- Route S8-3 will impact approximately 5 ha of the NCR. Of the options presented, this route crosses at the narrowest point of TRCA-owned lands in the area and will result in the least amount of fragmentation on the current landholdings for the NCR. However, this route has the potential to impact future potential conservation land connectivity.

Restoration and Active Uses Within the Nashville Conservation Reserve

- Routes S8-4 and S8-5 have greater impacts to restored areas within the NCR and will impact a larger conservation land base. These segments will also impact larger portions of the Humber Valley Heritage Trail system and affect previously funded and completed restoration projects.
- Segment S8-3 appears to have the least impact to the existing NHS, a moderate impact to interior forest, and no impact to completed restoration activities within the NCR. Although this alignment has the highest protection value (natural features in this area are in good condition and have a high level of ecological integrity), this is outweighed by the smaller total impact area of S8-3 versus the other routes. This alignment also appears to have the least impact on the existing and proposed trail network and, according to the MTO table, impacts to active uses can be mitigated with this alignment.

Overall, results indicate that all route options of the proposed highway will have substantial impacts on the NHS, valley systems and TRCA owned lands. This analysis showcases the relative extent of impacts associated with each option and suggests that **Route S7-3/S8-3 appears to have the fewest number of impacts from our perspective and is preferred.**

MITIGATION MEASURES

Notwithstanding the above, TRCA staff are cognizant of the fact that Route S7-3/S8-3 is in conflict with development plans for Block 62. As such, it is recommended that MTO advance the studies for these segments such that a true cost comparison is completed and factored into the preferred solution including, but not limited to, those associated with:

- Bridge sizes required to span significant valley systems and which take into consideration erosion scars, natural channel migration, habitat connectivity and wildlife movement needs, active toe erosion, undercutting, long-term stable top of bank, avoid cuts into vegetated slopes and accommodates existing active uses (trails, parking lots).
- Crossings of smaller watercourses and wetlands that address not only hydraulics and crossings of flood plains, but also channel movement, water balance and habitat connectivity requirements to ensure appropriate spans are constructed. This will avoid the need to harden natural features, allow for wildlife movement and ensure continued habitat connectivity.
- Restoration and compensation funds associated with losses to restorable habitat, land-based compensation and losses to previously funded/completed restoration projects.
- Land acquisition and associated archaeological investigation costs.
- Monitoring, design, construction and maintenance of wildlife crossings.
- Coordinating construction access points within the valley where existing or planned trails are proposed, and removal of construction access roads and re-establishment of disturbed slopes within valleys where active uses are not anticipated.
- Minimizing the area impacted by a new highway and avoiding significant natural features (retaining walls where appropriate).
- Modifying alignments to avoid permanent impacts to entire watercourse systems, such as Robinson Creek.

Regardless of the chosen alignment, significant mitigation and compensation efforts must be committed to in the EA and carried forward to the design and construction stages. A clear costing of the anticipated work to implement these types of mitigation measures should also be identified in the EA. A detailed list of suggested mitigation measures is provided in Appendix A.

NEXT STEPS

It is our understanding that MTO will be releasing the preferred alignment within the near future. Please note that TRCA staff has been directed to report back to the Board once the preferred route has been released and a response to our previous comments and recommendations has been provided.

Should you have any questions, would like to setup a meeting or require any additional information please contact me at extension 5717 or at sharon.lingertat@trca.ca. We look forward to further involvement as this study progresses.

Regards,

<Original signed by>

Sharon Lingertat, B.Sc. (Hons), MCIP, RPP
Senior Planner, Infrastructure Planning and Permits
Development and Engineering Services

Attached: Appendix A – TRCA Comments and Proponent Responses
Summary of Recommendations (from TRCA January 24, 2020 Board report)

BY E-MAIL

cc: MTO: Chris Barber, Senior Environmental Planner, Environmental Planning (Transportation)
Fahmi Choudhury, Senior Project Engineer, Route Planning and Transit Initiatives
MNR: Maria Jawaid, District Planner, Aurora District
MECP: Paul Heeney, Manager, Permissions and Compliance
OMAFRA: Anneleis Eckert, Rural Planner, Central-West Ontario, Land Use Policy and Stewardship
AECOM: Britta Patkowski, Ontario Department Manager, Planning and Permitting
WSP: Sandy Nairn, National Manager, Environmental Planning
TRCA: John MacKenzie, Chief Executive Officer
Beth Williston, Associate Director, Infrastructure Planning and Permits
Adam Miller, Senior Manager, Development Planning and Permits

APPENDIX A: TRCA COMMENTS AND PROPONENT RESPONSES

#	TRCA COMMENTS – SEGMENTS 7 AND 8 (July 3, 2020)	MTO/CONSULTANT RESPONSE (INSERT DATE)
Flood Plain, Valley and Location of Watercourse Crossings		
1	<p>All Segment 7 Routes Located Just North of Major MacKenzie Drive West</p> <p>a) All north-south alignments run parallel to and over long reaches of permanent watercourse, including approximately 2.1 km of Robinson Creek. Infrastructure that runs parallel to existing features (watercourses, valley systems) should be avoided. It is recommended that this interchange, particularly the north-south connection, be shifted to avoid permanent losses to entire sections of watercourse</p> <p>Routes S7-3/S8-3:</p> <p>b) Section 7-3: Starting from the southern terminus moving northwesterly, north of Major Mackenzie Drive, west of Huntington Road, the route follows branches of Robinson Creek for approximately 200 m and will require realignment of the tributaries. The flood plain is broad through this area and re-grading is anticipated. Near the intersection of Albion-Vaughan Road and Nashville Road, several crossings will be impacted through the freeway-to-freeway interchange. Moving easterly away from the interchange, the first crossing will be challenging as the crossing is located overtop of a confluence with large meanders. Total proposed impervious area: 60ha</p> <p>c) Section S8-3: This crossing of the Humber River, south of Kirby Road, east of Huntington Road, appears to be located in a narrower portion of valley, within a relatively straight section and over approximately 140 to 150 m top-width of flood plain. Engineered flood plain mapping is available at this location. Moving easterly, minor channel crossings appear to be somewhat perpendicular to crossings of the Humber River. The Highway 27 interchange is located over two confluences, over a short reach in the immediate area of the interchange. All reaches have either Engineered or estimated floodplain. East of Highway 27, the route runs parallel to a watercourse with estimated flood plain mapping, where most likely a long reach of the watercourse will require realignment. Moving easterly, a crossing of the Humber River east of Highway 27 is located in a narrow valley section with some meander associated with the watercourse. Moving easterly to the terminus, several minor drainage crossings are required. Total proposed impervious area: 46 ha.</p> <p>Routes S7-13/S8-4:</p> <p>d) Section S7-13: Comments related to the south portion of the freeway are the same as Section S7-3 above. Moving easterly from the freeway-to-freeway interchange, the first crossing west of Huntington Road is moderately better than S7-3, given that it is upstream of the confluence. However, the location of the highway is overtop of sharp meanders requiring either very large spans or channel realignments. Moving easterly, the route follows smaller features. Total proposed impervious area: 68 ha.</p> <p>e) Section S8-4: The first crossing east of Section 7, east of the Huntington Road and Kirby Road intersection is located over a wider section of flood plain, large meanders, will cover a large portion of the Humber River and valley and cross approximately 300 m top-width of flood plain. Grading impacts could threaten approximately 450 m of channel running parallel to route to the south and over 100 m of channel north of the roadway. Grading impacts to the valley could also be very significant. Moving easterly, there are similar issues at the Highway 27 interchange as noted for S8-3. Total proposed impervious area: 52 ha.</p> <p>Route S7-14/S8-5:</p> <p>f) Section S7-14: Comments related to the south portion of the freeway are the same as Section S7-3 above. Moving easterly from the freeway-to-freeway interchange, the first crossing east of Huntington Road will face similar challenges as S7-13. Differences are seen in S8-5 as noted below. Total proposed impervious area: 64 ha.</p> <p>g) Section S8-5: The first crossing east of Section 7, east of the Huntington Road and Kirby Road intersection is located over the widest section of flood plain for any of the proposed options (approximately 350 to 500 m top-width of flood plain), resulting in the need for either a very large span or significant impacts to</p>	

#	TRCA COMMENTS – SEGMENTS 7 AND 8 (July 3, 2020)	MTO/CONSULTANT RESPONSE (INSERT DATE)
	<p>the valley and flood plain. Similar to S8-4, the grading requirements for the roadway could threaten several sections of watercourse and impact a large area of flood plain and valley. Moving easterly, the route will experience the same issues at Highway 27 as previous routes. Total proposed impervious area: 50 ha.</p> <p>Sectional comparison</p> <ul style="list-style-type: none"> h) Section 7: All of the north-south Segment 7 alignments run parallel to and over long reaches of permanent watercourse, including approximately 2.1 km of Robinson Creek. Infrastructure that runs parallel to existing features (watercourses, valley systems) should be avoided. It is recommended that this interchange, particularly the north-south connections, be shifted to avoid permanent losses to entire sections of watercourse. i) For the Section 7 options, Routes S7-13 and S7-14 offer a marginally better crossing location of the tributaries immediately east of the freeway-to-freeway interchange by being located upstream of the confluence. However, both options are located on meander bends in the watercourse, so the benefit is minor. As Section S7-3 has the smallest impervious area footprint, this will provide the least impact of the three options from a runoff quality and quantity perspective and to the downstream riverine system. j) Section 8: For the Section 8 options, Route S8-3 provides the least impact to the watercourse crossings and valley impacts by crossing at the narrowest and straightest point. From a water recourse engineering perspective, S8-4 is least preferred, given the approximate 500 m of watercourse impacted by the highway location and large flood plain with meanders. S8-5 is only slightly better even though it is located in the largest flood plain and across the largest valley crossing. Finally, as Section S8-3 has the smallest impervious area footprint, this will provide the least impact of the three options from a runoff quality and quantity perspective and to the downstream riverine system. <p>Overall Preference: S7-3/S8-3: Given the information above, the marginal benefits provided east of the freeway-to-freeway interchange in Sections S7-13 and S7-14 are far outweighed by the Sections S8-4 and S8-5 impacts to the valley lands, required watercourse realignment impacts, water quality and runoff quantity impacts.</p>	
Natural Heritage System		
2	<p>This analysis is based on available TRCA data which has been collected at the watershed and regional scale. Some of the data on species points is older than 10 years and may not fully represent existing conditions. However, additional species level data is being collected by TRCA in 2020 and will be available for future work.</p> <p>Stream Crossings:</p> <ul style="list-style-type: none"> a) TRCA data shows that Route S8-3 appears to impact the fewest number of watercourses (although the MTO evaluation chart shows a similar number of watercourse crossings for routes S8-3 and S8-5). It is suggested that further analysis be completed, and that the EA clearly identify in a table and on mapping all watercourse crossings that will be impacted, including headwater drainage features. <p>Flora and Fauna:</p> <ul style="list-style-type: none"> b) Route S8-3 appears to impact the smallest amount of natural cover directly and indirectly (273 ha) compared to route 8-4 (320 ha) and 8-5 (308 ha). However, this includes impacts to about 150 ha of forest (versus 149 ha for S8-4 and 149 ha for S8-5), 83 ha of meadow (versus 126 ha for S8-4 and 118 ha for S8-5), 30 ha of wetlands (versus 33 ha for S8-4 and 31 ha for S8-5) and about 160 ha of high-quality habitat patches (versus 190 ha for S8-4 and 185 ha for S8-5). 	

#	TRCA COMMENTS – SEGMENTS 7 AND 8 (July 3, 2020)	MTO/CONSULTANT RESPONSE (INSERT DATE)
	<p>c) Route S8-3 appears to impact the fewest TRCA regional fauna Species of Concern (L1-L3) (123 observations including 26 different species) compared to S8-4 (172 observations including 32 different species) and S8-5 (155 observations including 29 different species). Likewise, flora Species of Concern impacted in the study area were also lowest for S8-3 (146 observations) versus 147 for both S8-4 and S8-5.</p> <p>d) Route S8-3 has the lowest number of climate vulnerable native vegetation, wetlands, and habitat patches in the study area compared to the other two options suggesting that this route may have lower levels of impact in terms of exacerbating climate change impacts on ecosystem in the study area.</p> <p>Habitat Connectivity:</p> <p>e) All three proposed routes intersect an area of the TRCA jurisdiction identified as important for regional connectivity of habitat and wildlife movement thereby compromising the long-term ecological health of the habitat patches and wildlife. However, in terms of local connectivity between forests patches route S8-3 has the lowest amount of priority area impacted (440 ha) compared to S8-4 (461 ha) and S8-5 (452 ha).</p> <p>f) In terms of connectivity between forest and wetland patches Route S8-4 seems to have lowest amount of area impacted (137 ha) compared to S8-3 (153 ha) and S8-5 (139).</p> <p>Species at Risk:</p> <p>g) Route S8-3 has the lowest number of Species at Risk within the study area (24 SAR data points including 4 different species) compared to S8-4 (51 SAR data points; 6 species) and S8-5 (45 SAR data points; 5 species).</p> <p>h) All the proposed routes cross Redside Dace habitat, a provincially/federally listed species-at-risk, in the Humber River twice. Redside Dace populations and habitat are found within the area of the proposed routes. Detailed, on-the-ground, habitat assessments are recommended to identify refined Redside Dace habitat. In addition, Rapids Clubtail, a provincially listed species-at-risk, populations and habitat are also found within the area of all route options. The exact location of the species within the river could not be determined. For this species, the furthest downstream route (route S8-3) is suggested to minimize water quality impacts.</p> <p>Overall Preference: S8-3: Route S8-3 has a lower overall impact (according to TRCA data) as it appears to cross the fewest number of watercourses, appears to impact the smallest amount of natural cover directly and indirectly, impacts almost the same amount of forest habitat as other options, impacts a smaller amount of meadow and wetland habitat and a smaller amount of high quality habitat patches. S8-3 also impacts the fewest TRCA regional flora and fauna Species of Concern and appears to impact the lowest number of Species at Risk. Connectivity between forest to forest and forest to wetland will be important for all 3 routes.</p>	
TRCA Owned Lands		
3	<p>Alternative S8-3 (Estimated 5 ha impacted) – Nashville Conservation Reserve:</p> <p>a) This route affects the corners of two parcels where the southeast corner of one parcel touches the northwest corner of the other. This will impact approximately 5 ha of the NCR. Of the options presented, this route crosses at the narrowest point of TRCA-owned lands in the area and represents the least fragmentation impact on the current landholdings for the NCR. However, this route has the potential to impact future potential conservation land connectivity.</p> <p>Alternative Route S7-13/S8-4 (Estimated 34 ha impacted) - Nashville Conservation Reserve:</p> <p>b) Segment S8-4 fragments a portion of the conservation reserve, leaving two smaller parcels and separating the parcels south of the corridor from the remainder of the conservation reserve. It bisects a large parcel (81 ha) in the NCR, impacting 32 ha. The remaining northern parcel would be approximately</p>	

#	TRCA COMMENTS – SEGMENTS 7 AND 8 (July 3, 2020)	MTO/CONSULTANT RESPONSE (INSERT DATE)
	<p>32 ha, and the remaining southern parcel would be 17 ha. In addition, this route crosses the corners of two parcels where Kirby Road and Huntington Road connect, impacting an additional 1.5 ha of the NCR.</p> <ul style="list-style-type: none"> c) Fragmentation of this land has the potential to negatively impact tax exemptions. d) A rental residence is located just north of the proposed alignment and this route has the potential to impact access to the residence. e) The parcels impacted by this route are subject to an easement for a pipeline. <p>Alternative Route S7-14/S8-5 (Estimated 35 ha impacted) - Nashville Conservation Reserve:</p> <ul style="list-style-type: none"> f) Like S8-4, S8-5 bisects parcels in the Nashville Resource Management area. This route is slightly south of S8-4 and, although it leaves more of the 81-ha parcel intact, it impacts smaller parcels further south. Route S8-5 affects 22 ha of the 81-ha parcel and leaves 55 ha intact and 4 ha on the southeast corner orphaned. In addition, a 3.7 ha TRCA-owned parcel just south is impacted, affecting 2.4 ha and leaving an orphaned 1.3 ha. South of the unopened portion of Kirby Road, 11 ha of a 32 ha parcel is impacted by this route, removing the western third of this parcel and leaving 0.5 ha on the northwest corner orphaned. g) Fragmentation of this land has the potential to negatively impact tax exemptions. <p>Segments S8-3, S8-4 and S8-5 – Kirby Lands:</p> <ul style="list-style-type: none"> h) All three of the proposed routes have the same impact to the Kirby lands. i) Access to a TRCA-owned parcel at the south side of the future interchange at Kirby Road and Highway 27 has the potential to be impacted. j) A TRCA-owned parcel north of Kirby Road and West of Kipling Avenue (north of Orico Court) will be impacted along the northern boundary of Concession 8. The transportation corridor through this area could also impact conservation land connectivity opportunities if not mitigated. <p>Overall Preference: S8-3: From a property ownership perspective, Route S8-3 is the preferred option because it has the least impact on the lands that currently make up the NCR; however, this route does have the potential to impact future land acquisitions along the Humber River that surround the NCR, which are essential to the overall ecological health and integrity of the Humber River watershed. For this reason, it is requested that future connectivity of conservation lands be taken into consideration when planning this route.</p>	
4	The MTO Comparative Evaluation table does not appear to consider impacts to TRCA owned lands. While other land holdings such as residential and commercial have been identified, conservation lands should also be considered within the matrix. Please update.	
Restoration and Active Uses Within the Nashville Conservation Reserve		
5	<p>Alternative S8-3:</p> <ul style="list-style-type: none"> a) This alignment appears to have the least impact to the existing NHS, moderate impacts to interior forest, and no impact to previous restoration activities. b) TRCA is actively planning and building an active transportation trail along the Kirby Road allowance with the goal of connecting Highway 27 to Huntington Road. In addition, the end of Kirby Road currently operates as a parking area and secondary trail entrance to the NCR. The trail is identified in the NCR Management Plan, Vaughan's Pedestrian and Bicycle Master Plan and York Region's Pedestrian and Cycling Master Plan. Staff are concerned that an important east-west active-transportation trail along Kirby Road will be blocked during construction and could permanently be closed as a result of the highway project. However, as noted in the MTO evaluation table (2.2.5) Route S8-3 will impact only a small portion of the Humber Valley Heritage Trail and impacts can be mitigated. 	

#	TRCA COMMENTS – SEGMENTS 7 AND 8 (July 3, 2020)	MTO/CONSULTANT RESPONSE (INSERT DATE)
	<p>Alternative S8-4:</p> <ul style="list-style-type: none"> c) This alignment has the most impact to interior forest and NHS and will impact 12.8 ha of completed restoration. d) As noted in the MTO evaluation table (2.2.5) this route will cross the west trailhead access and a northerly portion of the Humber Valley Heritage Trail and may reduce the natural heritage/urban wilderness values associated with the trail. <p>Alternative S8-5:</p> <ul style="list-style-type: none"> e) This alignment has the least impact to interior forest and second lowest impact to the existing NHS. It also has the highest impact to completed restoration activities within the NCR (18.54 ha completed restoration). f) As noted in the evaluation table (2.2.5) this route will cross the central portion of the Humber Valley Heritage Trail and may reduce the natural heritage/urban wilderness values of that portion of the trail. <p>General Restoration Comment:</p> <ul style="list-style-type: none"> g) It should also be noted that many of the completed restoration projects, including trail construction within the NCR, were funded through compensation agreements with external partners associated with the pipeline construction and through Memorandums of Understanding as negotiated through development agreements. This includes millions of dollars in funding to TRCA for enhancement, restoration, planting and rehabilitation projects within this area. <p>Overall Preference: S8-3: This alignment appears to have the least impact to the existing NHS, a moderate impact to interior forest, and no impact to previous restoration activities within the NCR. Route S8-3 also has the highest protection value meaning that natural features in this area are in good condition and have a high level of ecological integrity. This however is outweighed by the smaller total impact area versus the other routes. This alignment also seems to have the least impact to the trail network, and it is our understanding that potential impacts can be mitigated within this alignment</p>	
Geotechnical General Comments		
6	<ul style="list-style-type: none"> a) A number of significant watercourses and valleys run along the proposed routes. Crossings with wide spans will be required through significant valleys. Additionally, in many locations, watercourses appear to meander towards the toe of the valley walls, where the risk of toe erosion and undercutting exist which can result in future slope hazards. Abutments and piers cannot be left vulnerable to erosion hazards and slope instability. Additionally, crossing locations should be selected such that the risk of watercourse meandering is reduced. b) At the crossings (particularly the main Humber River), please have a geotechnical engineer conduct a slope stability review to select a crossing point with the least chance of future slope hazards. The ideal location for the crossing is where the slope is 2H:1V to 3H:1V (based on the general area geology and where the watercourse is located 15 m away from the toe of slope). This analysis should be conducted to inform the selection of the crossing location within the corridor at a preliminary stage. Once the approximate crossing location is determined, the stability assessment will need to be refined by further field investigations and detailed assessments at the later stages of the design. c) The proposed crossings for various options are very wide. Piers will need to be built in the valley, and access to the construction area can be challenging resulting in alterations to the entire valley to facilitate the temporary construction access, pads and other provisions for the construction of a crossing. Restoration of the valley could also be problematic post-construction. These challenges should be considered within the constructability criteria to evaluate various options. It is unknown if such constraints have been considered for the location of the crossings. Please clarify. It is also strongly recommended that 	

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	<p>a geotechnical engineer demonstrate on a site plan, including longitudinal profile and cross-sections, how such constraints have been taken into account to select the preferred option. Input from a construction engineer is also recommended to inform the decision.</p> <p>d) Depending on the condition of the crossing area, some channel works may be needed. This should be identified at this stage, as the need for the channel work to provide toe erosion protection for future crossings may result in significant alterations to the slope, which will be a constraint in the selection of the preferred option. It is unknown based on the submitted materials if this criterion has been considered for these options.</p>	
7	<p>TRCA staff previously noted concerns regarding cross-section S8-5 which shows a proposed cut in profile from Huntington Road east towards the Humber River valley as the cross-section for S8-4 seems to preserve the slope and does not require a cut into the valley. It is recommended that proposed designs avoid impacts to vegetated slopes to the extent possible to avoid slope failure and preserve the existing NHS.</p>	
Potential Mitigation Measures		
8	<p>The following are potential mitigation measures that TRCA staff are recommending based on our experience with these types of projects within or near large valley systems and sensitive habitats. Please note that this list is not all-inclusive as additional mitigation measures will be required for other segments of highway. This list may also change based on the final preferred route.</p> <p>Valley and Streams:</p> <p>a) It will be imperative that the preferred route not alter the natural hydrological and hydraulic regimes within each of the watersheds or increase risks to flood and erosion hazards at any of the crossing locations. It is recommended that structures be provided that:</p> <ul style="list-style-type: none"> • Span significant valley systems taking into consideration erosion scars which may be present, natural channel migration, active toe erosion, undercutting and other slope hazards. • Avoid the need for fill within the flood plain. • Provide required access for active uses (trails, parking lots, etc.) where needed. • Consider provincially listed aquatic species at risk. • Avoid impacts to vegetated slopes (designed such that footings and approaches are setback from slopes to avoid the need for cuts, disturbance to valley slopes and the need to harden naturalized areas, including channels). • Avoid losses to stream length as a result of enclosures or realignments. • Consider TRCA's 2015 Crossings Guideline for Valley and Stream Corridors to ensure crossings are designed to prevent further risks associated with flood and erosion hazards, and ensure natural heritage and ecological impacts are addressed at the crossings. <p>b) Technical justification (including but not limited to geomorphology, erosion analysis, hydraulic modeling, vegetation impacts, wildlife movement, eco-passages, corridor connectivity, groundwater impacts, geotechnical) should be provided within the EA to justify sizing of all new culverts and bridges. Crossings will need to be designed based on field survey data, evaluated based on a comprehensive list of criterion (including but not limited to the locations of watercourses and topography) and will need to maintain wildlife connections through the NHS. It is anticipated that crossings will be recommended within the EA that not only provide dual functions to convey flows and allow for wildlife passage, but will also identify areas where wildlife passage alone may be required in key migration areas. The EA should also identify preliminary costing for all structures, and acknowledge that budget estimates developed from the EA will be very preliminary, potentially subject to significant change and that further detail regarding migration hot spots, watercourse crossings and accommodation for wetlands is required.</p>	

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	<p>c) Access roads into valleys to construct piers for example should choose the least intrusive path and avoid impacts to well vegetated slopes which often result in future erosion issues. All accesses should be removed and restored once construction is completed. Valley access points should also be coordinated with the existing and planned trail network. Costs involved with construction access routes and valley restoration should be included.</p> <p>Connectivity and Impacts to the NHS</p> <p>d) It will be important to design habitat connectivity and wildlife passages for provincially listed and TRCA's regional species of concern, including installing appropriate wildlife passages, fencing and on-going maintenance. Several crossings locations were identified that intersect priority areas for habitat connectivity within TRCA's jurisdiction. These crossing locations should be identified at the early planning and design stages to identify wildlife crossing requirements and to allow for incorporation of species sensitivities such as noise and light pollutants, invasive species, habitat and groundwater changes. It is also anticipated that those key migration areas will be identified, though field monitoring for instance, to inform appropriate wildlife crossing locations.</p> <p>e) Minimizing the amount of area affected by the road is critical to natural heritage form and functions. Several sensitive habitats and species will be impacted within the road effect zone, unless appropriate mitigation and/or ecological compensation measures are put in place. It is recommended that impacts as a result of grading for instance are minimized, particularly in sensitive habitats (suggest the use of walls where appropriate).</p> <p>f) Feature based water balance will be required where wetlands for instance are impacted as a result of hydrological connections due to highway construction. Equalization culverts should also be considered where the highway may fragment a feature.</p> <p>g) Comprehensive erosion and sediment control plans will be required, including phasing of ESC's and implementing a multi-barrier approach as outlined in our Erosion and Sediment Control Guideline for Urban Construction</p> <p>h) Shifting highway alignments to avoid permanent impacts to entire watercourse systems, such as Robinson Creek.</p> <p>i) Piers should not be located within watercourses or wetlands.</p> <p>j) Consideration will need to be given to minimizing/mitigating ecological impacts associated with noise and lighting. This is particularly relevant in areas where the road crosses the NHS or is adjacent to natural features and/or the NHS. Please consider design elements such as strategic placement away from natural features, reduced intensity near natural features and ensuring that lighting for instance is directed away from natural features where possible.</p> <p>Restoration and Compensation</p> <p>k) Compensation in addition to restoration efforts should be committed to within the EA to ensure the long-term health of the NHS and watershed. Ideally compensation efforts for loss of natural features should be directed to another site within the same watershed to balance the losses. Alternately, cash-in-lieu for natural feature losses can be identified using TRCA's Guideline for Determining Ecosystem Compensation (June 2018) and an agreement arranged with TRCA restoration staff to implement restoration within TRCA's jurisdiction. These costs should be factored into the evaluation table.</p> <p>l) Should a route other than S8-3 be chosen, previously funded restoration efforts within the NCR will be lost. As such it is expected that those losses will be directly compensated to TRCA. These costs should also be factored into the evaluation table.</p> <p>m) The EA should commit to edge management plantings.</p> <p>n) Should a proposed alignment impact existing trail networks, future designs for a crossing of the Humber River through the NCR will need to include provisions for multi-use recreational trail connectivity, parking and maintenance vehicles. Active uses may also need to be accommodated within flatter sections of the future highway. Design considerations should be noted in the EA.</p>	

#	TRCA COMMENTS – SEGMENTS 7 AND 8 (July 3, 2020)	MTO/CONSULTANT RESPONSE (INSERT DATE)
	<p>TRCA Owned Property</p> <ul style="list-style-type: none"> o) There is the potential that access to a TRCA-owned parcel on the south side of the future interchange at Kirby Road and Highway 27, as well as access to a rental residence could be negatively impacted. It is requested that access to properties be taken into consideration when planning the route and that a strategy be proposed to mitigate those impacts. p) For all routes, it is requested that connectivity of conservation lands, both for existing conservation land holdings and for future connectivity opportunities, be considered and that the cumulative benefit of conservation land contiguity be taken into consideration. q) Negotiations will need to take place regarding land base compensation once a preferred route has been finalized. Future land acquisition costs should be included in the costing analysis. <p>A copy of the 32 recommendations identified in the January 24, 2020 Board report is also included as an attachment for your reference as additional mitigation measures were noted in that report for other various segments which could also apply to Segments 7 and 8.</p>	

June 8, 2020

BY EMAIL ONLY (kirby.dier@ontario.ca)

Ms. Kirby Dier
Network and Microgrid Policy
Ministry of Energy, Northern Development and Mines
77 Grenville St, 6th Floor
Toronto, ON M7A 2C1

Dear Ms. Dier:

Re: Proposal to identify and protect a corridor of land for future electricity infrastructure in the Greater Toronto Area (ERO #019-1503)

Thank you for the opportunity to comment on the Ministry of Energy, Northern Development and Mines' (ENDM) Environmental Registry (ERO) posting on the proposal to identify and protect a corridor of land for future electricity infrastructure in the Greater Toronto Area (GTA), in support of future growth in Halton, Peel and York regions.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources.

Government Proposal

The Independent Electricity Systems Operator (IESO), Ontario's electricity planner, has identified a long-term need for electricity transmission infrastructure in Halton, Peel and York regions, but the technical scope of transmission infrastructure required, and the timing of its need may not be certain for many years. In June 2019, ENDM and the IESO initiated the Northwest GTA Transmission Corridor Identification Study (the study) to identify an appropriate corridor of land for use by future linear transmission infrastructure when the need arises. TRCA understands that the government is currently seeking feedback on the proposed narrowed study area, shown in the Proposed Transmission Narrowed Area of Interest figure included in the ERO posting, as well as input on the guiding principles the government will consider in conducting the study. The outcome of the study will be a recommendation on land to be preserved for future transmission infrastructure and protected from development for other purposes.

ENDM has noted that any future electricity transmission development in the study area would be subject to *Environmental Assessment Act* requirements and other applicable regulatory approvals, including through the Ontario Energy Board.

General Comments

TRCA understands that the currently proposed narrowed area of interest for the transmission corridor largely corresponds to the Ministry of Transportation's (MTO) 2019 Focused Area Analysis for the GTA West Highway Environmental Assessment (EA). TRCA is a commenting agency involved in the review of the GTA West Highway EA. At this time, TRCA understands that the exact alignment of the highway has not been confirmed, nor is it clear where the electricity transmission corridor will be located relative to the highway (north of or south of the highway). Via a presentation to TRCA's Board of Directors on January 24, 2020, and through multi-agency working groups for the EA, MTO indicated that they anticipated sharing the preferred multimodal transportation corridor route publicly before the end of Spring 2020, with the exception of Sections 7 and 8 where further work is required to confirm the route in those areas.

A resolution from TRCA's Board of Directors meeting of January 24, 2020, was that MTO and ENDM/IESO confirm efforts to coordinate their independent studies and ensure negative impacts are fully assessed and minimized wherever practicable. Staff's report and recommendations to the Board recognized the substantial environmental impact the infrastructure projects can have, often crossing or running parallel to natural systems, requiring vast areas of natural feature removals, major grade and drainage alterations, and installation of hardened surfaces or underground components affecting groundwater and surface water receptors, e.g., watercourses, wetlands, woodlands.

The transmission corridor study area traverses TRCA's jurisdiction through the Etobicoke Creek, Mimico Creek and Humber River watersheds, including several hectares of TRCA-owned lands known as the Nashville Conservation Reserve. TRCA concerns are related to how the two infrastructure corridors would affect:

- flood and erosion hazards;
- watercourse and wildlife crossings;
- stormwater management;
- natural feature removals and corresponding ecosystem compensation;
- land use and/or acquisition of TRCA-owned lands as it may affect natural heritage and archaeological resources and recreation master planning, including trails and trail connections, and ultimately,
- climate resilience.

The Provincial Policy Statement's section 1.6 requires infrastructure and public service facilities to be provided in an efficient manner that prepares for the impacts of a changing climate while accommodating projected needs. It is TRCA's assertion that the transmission corridor study's attention to many of the above noted concerns will help demonstrate how such preparation can be addressed.

Detailed comments

TRCA's comments are organized according to the five guiding study principles and the questions posed in the ERO posting. We understand that provincial legislation, policies and technical planning documents have informed the principles and that "balance among the principles will be required in implementing the study."

Principle 1: Co-locate with other linear infrastructure

Corridor routing should maximize the use of existing linear infrastructure corridors wherever feasible (e.g., GTA West Transportation Corridor, 400 series highways, other infrastructure corridors).

TRCA understands ENDM is recognizing the opportunity to co-locate a transmission corridor with the Ministry of Transportation's (MTO) proposed GTA West Transportation Corridor, and so are proposing to align the timing of the study with milestones related to MTO's Environmental Assessment. TRCA supports the co-location of linear infrastructure in accordance with the Provincial Policy Statement (PPS), the Growth Plan and the TRCA's own policy document, The Living City Policies. By avoiding fragmenting large swaths of land in multiple locations, co-location of linear infrastructure can help minimize impacts to natural hazards, natural features and water resources.

Also aligned with provincial policies, is The Living City Policies' recommendation for coordinated processes (e.g., *Planning Act* and *Environmental Assessment Act*) to facilitate strategic infrastructure placement and design that avoids cumulative impacts and seeks opportunities for improvements to natural systems. In addition, the Growth Plan and the recently updated PPS both contain policies for greater integration of infrastructure planning with development planning with an aim to limiting land consumption and resource use.

While we understand that the transmission study is independent of the GTA West Highway Environmental Assessment, these studies should be coordinated to optimize opportunities for avoiding or reducing risk associated with natural hazards, for minimizing, mitigating and compensating for impacts to the natural heritage system, and for seeking opportunities for remediation and restoration enhancements.

Principle 2: Plan for the most cost-effective outcome

Corridor routing should protect least cost routing where feasible, which could include identifying the shortest geographic route and reducing crossings of other infrastructure such as highways, railways, pipelines and other transmission lines.

TRCA staff are supportive of corridor route planning that minimizes costs, contingent on all of the study principles being weighted fairly so that major environmental impacts will not be accepted in favour of least-cost alignments. We note that the principle's examples of identifying the shortest geographic route and reducing crossings of other infrastructure may be ambitious given the need for connections at specific locations and that realignments may be required to avoid existing infrastructure.

TRCA recognizes the need to minimize costs in the siting and alignment of the transmission corridor, but the assessment should also take a long-term view regarding the later stages of planning, design and construction of the electricity infrastructure. A short, direct route alignment may result in having to cross through difficult to construct areas due to natural hazards or groundwater conditions. The long-term costs of maintenance or repair from damage due to erosion or groundwater issues, for example, need to be considered, as well as the potential for exacerbation of these issues due to the surrounding urbanizing landscape and climate change. In this regard, other least-cost routing measures, which would also align with Principle 3, would be to minimize the number of crossings of valley and stream corridors.

Unavoidable impacts to the natural heritage system and the need for ecosystem compensation should also be factored into costing analyses. TRCA will recommend ecosystem compensation for loss of natural features at the EA stage of the project and at detailed design under TRCA's permitting process. This is especially important to assess early in the process, since infrastructure maintenance requirements may limit opportunities for placement of restoration plantings within the infrastructure footprint. Similarly, restoration locations outside the transmission corridor may be limited due to the GTA West Highway footprint and development pressures in proximity to the proposed study area. Comprehensive, upfront planning for the corridor will help streamline the approach to finalizing compensation at later planning stages and provide an estimate of the associated cost to better inform the preferred alignment.

Further, given that several hectares of TRCA-owned property will be traversed by the transmission corridor, TRCA Property staff request that future TRCA land acquisition costs be included within the costing analysis of

the study and, once the design has been finalized, that negotiations be undertaken regarding land base compensation for any lands impacted.

A comprehensive analysis that considers all of the study principles equally, and the impacts of a changing climate, should determine the most cost-effective outcome in the short and long term.

In order to plan for the most effective outcome, TRCA recommends that the criteria for selecting a recommended transmission corridor include factors in addition to cost, and that these criteria be evaluated and weighted such that the process to determine the preferred route alternative is clear and transparent.

Principle 3: Minimize impacts to natural heritage, agricultural and hydrological features consistent with provincial policies

Minimize corridor impacts on the natural heritage system, agricultural lands and hydrologic features consistent with provincial policies and plans (e.g., Provincial Policy Statement, Growth Plan, Greenbelt Plan).

TRCA supports this principle as The Living City Policies align with provincial and municipal policies for protection of natural heritage and water resources systems as well as agricultural lands. In order to meet this principle, the study criteria should include evaluation of impacts to watercourses, wetlands, and valley and stream corridors. TRCA recommends that this principle also incorporate the provincial requirements of reducing the risks associated with natural hazards of flooding and erosion. The PPS directs that infrastructure should be strategically located to support the effective and efficient delivery of services, and to ensure the protection of public health and safety in accordance with the natural hazard policies in Section 3.0. As well, the Growth Plan states that infrastructure must be adapted to be more resilient.

Siting of infrastructure during the next planning phases will be important to achieving resilience and to avoiding and minimizing impacts to natural heritage, and to avoiding and mitigating risks associated with natural hazards. Construction technologies for installing underground infrastructure to avoid natural feature removals may be preferred to above-ground, although studies need to determine which options will best minimize impacts. It is TRCA's understanding that an EA will be completed to further assess the preferred alignment as determined by the corridor study, followed by design and permitting. We look forward to further involvement as the analysis supporting the various alignments within the recommended corridor takes place.

Should the transmission corridor study reveal limited opportunities for restoration plantings within the corridor due to maintenance access needed for infrastructure components, there may still be opportunity for meadow habitat restoration. TRCA's [Meadoway](#) project is a unique approach to integrating and naturalizing linear public open space into urban landscapes. The existing infrastructure corridor spanning TRCA watersheds is undergoing enhanced naturalization with meadow habitat and trail construction, subject to restrictions on uses within the corridor. It is recommended that future transmission corridor design alternatives for the current transmission study consider opportunities to enhance biodiversity in this way, thereby meeting shared public agency objectives and provincial policies for active transportation and climate resilience.

Principle 4: Minimize impacts on built up areas

Corridor routing should minimize impacts on existing municipal plans in the study area, including impacts on existing built up areas, cultural heritage, planned developments and airports.

TRCA staff have worked closely with municipalities and the development industry to plan for the development, redevelopment and intensification of the areas in proximity to the corridor while protecting and enhancing the natural heritage system and avoiding and mitigating the risk associated with flood and erosion hazards. Natural heritage lands, including hazardous lands, have been conveyed into public ownership through municipal planning processes. TRCA supports the principle that impacts to municipal plans and built up areas be

minimized, especially given the significant efforts invested in negotiating for the protection, management and public conveyance of natural system lands.

Principle 5: Provide flexibility for the future

- *Corridor routing should take a long-term view and should not preclude reasonably anticipated future infrastructure requirements.*
- *Corridor routing should allow for connections to existing electrical infrastructure.*
- *Corridor routing should not preclude specific technology types, which will be determined by a future transmitter (i.e., overhead lattice, overhead monopole, underground).*
- *Corridor routing should preserve sufficient flexibility for future environmental study.*

TRCA agrees and supports the statements regarding flexibility for the future as listed in this principle. Indeed, as indicated in our comments above, TRCA recommends that routing should take a long-term view in order to consider future costs and to prepare for the impacts of a changing climate.

We recommend that in terms of future infrastructure requirements that recreational / trail considerations should also be considered. The Parkway Belt West Plan included conceptual trail alignments for a similar scale hydro transmission and utility corridor. You may wish to reference the September 2019 [TRCA Trail Strategy](#) in your study and the future EA and design work should be viewed as an opportunity to implement TRCA Trail Strategy through an approach similar to TRCA's work with Hydro One and the City of Toronto with the Meadoway on the Gatineau corridor in Toronto.

With regard to specific technology types, TRCA appreciates this flexibility given that a future transmitter's ability to choose between above ground versus below ground infrastructure or a mix of both is important for exercising the best option for minimizing, mitigating and compensating for environmental impacts.

Also noted above, we understand that an EA will be completed at a later stage to further narrow the transmission route within the broader protected corridor. TRCA appreciates that there will be some level of flexibility within the corridor to adjust the location of the transmission infrastructure, once data become available to further inform exact alignments.

Question 1: Are you aware of potential barriers or issues that may be associated with the proposed narrowed area of interest?

In January 2020, TRCA staff reviewed the potential impact of the various proposed MTO transportation alignments for the GTA West Highway on TRCA-owned property. At that time, the potential impact to TRCA-owned property from the transportation corridor ranged from 8 to 73 hectares (ha), depending on the route. In TRCA's report of January 24, 2020 entitled "GTA West Transportation Corridor Individual Environmental Assessment," submitted to MTO, TRCA identified several areas of concern including possible impacts to TRCA-owned lands.

The 2019 Focused Analysis Area for the GTA West Highway Environmental Assessment and the Proposed Transmission Narrowed Area of Interest represent a broader area of study than the specific transportation routes evaluated in January 2020. The total potentially affected TRCA-owned land in the Proposed Transmission Narrowed Area of Interest is approximately 130 hectares.

The majority of the potentially impacted TRCA lands are in the Nashville Conservation Reserve (NCR) in Vaughan. The NCR is a 900+ hectare TRCA property that supports a variety of wildlife, provides significant deer wintering yards and is an important migratory corridor. It is a diverse site containing many different habitat types such as forests, wetlands, meadows, former agricultural fields and small tributaries that feed into the main branch of the upper Humber River. Phase 2 of the Nashville Multi-Use Trail Project, undertaken by TRCA in partnership with York Region and the City of Vaughan, is currently ongoing and will build a 400-metre

section of compacted granular trail to improve trail quality, accessibility and inter-regional trail connections in the vicinity of the GTA West Highway preferred technical route. The NCR's large size and current and future ecological value make it an integral part of our city-region's natural heritage system.

TRCA appreciates that a protected corridor for electrical transmission is required to accommodate projected energy needs for rapidly growing communities. Rather than being a barrier, the protected ecosystems and nature-based recreation opportunities currently being enhanced and established in the NCR also represent an important public service that should be able to persist in tandem with the highway and the transmission corridor. Therefore, TRCA recommends that the transmission study direct the future transmitter to mitigate the impacts that construction and installation will have on the NCR, and where this is not possible, to integrate natural system and trail connectivity into the different infrastructure components to maintain connectivity for both wildlife and public use.

Question 2: Are there other principles we should consider in conducting the study?

As mentioned in the comments on Principle 2, TRCA recommends that avoiding or reducing the risk associated with natural hazards of flooding and erosion also be included as a guiding principle of the study. TRCA is an agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the PPS. Consideration of natural hazards should be incorporated as early as possible in the infrastructure planning process of the transmission corridor location and is an appropriate consideration to include in the study as it relates to climate resiliency. In TRCA's experience, placement of hydroelectric corridors adjacent to and crossing valley systems results in increased erosion risk, as regular maintenance within the corridor often creates a need for access routes through sensitive areas, over watercourses, down valley slopes and through wetlands. It will be essential once this project moves into the EA phase, that the type of infrastructure technology and location for a route to be identified and recommended that avoids sensitive and hazardous areas to the extent possible.

TRCA Property staff request that there be coordination with TRCA throughout the transmission corridor planning and design process to further review and provide input on options to avoid and mitigate impacts to TRCA-owned lands, and to determine an alignment that will minimize and/or mitigate impacts through the Nashville Conservation Reserve.

Question 3: Do you have any other outstanding questions or concerns?

Based on the review of information on the transmission corridor and the GTA West Highway provided to date, TRCA staff raised several issues that have yet to be addressed. Many of these issues are also relevant to both projects, such as:

- What will be the cumulative impacts of two infrastructure corridors on the surrounding NHS?
- Will there be further updates provided by ENDM regarding background information to inform a preferred corridor?
- How and where will this be documented? Will this be documented through the IESO's Integrated Regional Resource Plan update or through another process?
- The geographic scale of the protected transmission corridor is not clear. TRCA requests that ENDM clarify the proposed protected corridor width in order to inform further TRCA feedback.
- The potential orientation of the transmission corridor relative to the GTA West Highway project is not clear (i.e., will the transmission corridor alignment be located to the north or south of the highway?) TRCA requests clarification on this matter, noting that significant potential impacts to sensitive lands, including TRCA-owned lands, may occur depending on the selected approach.

In addition to providing responses to the above questions, TRCA also requests ENDM to consider a number of recommendations as described below.

TRCA Recommendations

In order to support the government's proposal to identify a corridor for electricity transmission in support of regional growth in Halton, Peel and York regions, and continue to ensure the protection of people and property from natural hazards and the conservation of natural resources, TRCA recommends the following:

- 1) That in the interest of conforming to the Provincial Policy Statement, which requires infrastructure and public service facilities to be provided in an efficient manner that prepares for the impacts of a changing climate while accommodating projected needs, the transmission corridor study address TRCA comments regarding:
 - flood and erosion hazards;
 - watercourse and wildlife crossings;
 - stormwater management;
 - natural feature removals and corresponding ecosystem compensation;
 - land use and/or acquisition of TRCA-owned conservation lands;
 - climate resilience.
- 2) That in addition to co-locating the transmission corridor with the GTA West Transportation Corridor, that the planning processes for these two major projects be coordinated in order to optimize opportunities to avoid, minimize, mitigate and compensate for environmental impacts.
- 3) Regarding projected costs:
 - a. That the study principles be fairly weighted so that major environmental impacts will not be accepted in favour of least-cost alignments.
 - b. In order to plan for the most effective outcome, that the criteria for selecting a recommended transmission corridor include factors in addition to cost, (e.g., all study principles and the impacts of a changing climate), and that these criteria be evaluated and weighted such that the process to determine the preferred route alternative is clear and transparent.
 - c. To streamline the approach to finalizing required compensation at later planning stages and inform cost estimates, that requirements for ecosystem compensation (to compensate for unavoidable impacts to the natural heritage system) and associated costs be considered in the study.
 - d. That future TRCA land acquisition costs be included within the costing analysis of the study and, once the design has been finalized, that negotiations be undertaken with TRCA Property staff regarding land base compensation for any lands impacted.
- 4) That the transmission corridor study criteria include evaluation of impacts to watercourses, wetlands, and valley and stream corridors.
- 5) That the provincial requirements of reducing the risks associated with natural hazards, be added to Principle 3 on provincial policies.
- 6) That future transmission corridor design alternatives consider opportunities to enhance biodiversity, incorporate active uses and fully maximize restoration opportunities within the corridor, subject to restrictions on uses within the corridor, using [The Meadoway](#) project as a model.

- 7) That the environmental impacts of above- versus below-ground technologies be considered in future decisions on technology and alignment alternatives, noting TRCA's preference for the option that will minimize environmental impacts.
- 8) That the transmission study direct the future transmitter to mitigate the impacts that construction and installation will have on the Nashville Conservation Reserve, and where this is not possible, to integrate natural system and trail connectivity into the different infrastructure components to maintain connectivity for both wildlife and public use.
- 9) That there be coordination with TRCA throughout the transmission corridor planning and design process to further review and provide input on alignment options to avoid, minimize and mitigate impacts to TRCA-owned lands, including the Nashville Conservation Reserve.

Thank you once again for the opportunity to provide comments on the proposal to identify and protect a corridor of land for future electricity infrastructure in the GTA. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc. (PI) MCIP, RPP
Chief Executive Officer

BY-E-MAIL

Cc: Lukasz Grobel, Project Manager, Ministry of Transportation

TRCA: Laurie Nelson, Director, Policy Planning
Sameer Dhalla, Director, Development and Engineering Services
Moranne McDonnell, Director, Restoration and Infrastructure
Beth Williston, Associate Director, Infrastructure Planning and Permits
Daniel Byskal, Associate Director, Property and Risk Management

Section III – Items for the Information of the Board

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Laurie Nelson, Director, Policy Planning

RE: **SUMMARY OF 2020 TRCA POLICY CONSULTATION SUBMISSIONS ON RECENT PROVINCIAL POLICY INITIATIVES**

KEY ISSUE

Summary of Toronto and Region Conservation Authority (TRCA) policy consultation submissions on provincial legislative, regulatory and policy initiatives relevant to TRCA interests from April to September 2020, for the information of TRCA Board of Directors.

RECOMMENDATION

WHEREAS to date in 2020, the Province of Ontario has posted several legislative, regulatory and policy initiatives on the Environmental Registry of Ontario (ERO) relevant to Toronto and Region Conservation Authority's (TRCA) interests;

WHEREAS TRCA staff have submitted several letter responses to the provincial government and are in the process of responding to other government proposals not yet due;

THEREFORE, LET IT BE RESOLVED THAT TRCA staff report on a summary of completed TRCA policy submissions and TRCA work-in-progress submissions from April to September 2020, be received;

AND FURTHER THAT the Clerk and Manager, Policy, so advise municipal partners and Conservation Ontario.

BACKGROUND

Since January 1, 2020, the Province of Ontario released for consultation a number of legislative, policy, and regulatory proposals of interest to TRCA, the majority of which were posted on the Environmental Registry of Ontario (ERO). The Planning Policy and Regulation business unit within the TRCA Policy Planning division is primarily responsible for leading internal reviews of government proposals on a range of matters relevant to TRCA interests. Staff provided a [Summary of 2020 TRCA Policy Consultation Submissions and Recent Provincial Policy Initiatives](#), and letter submissions to the ERO for the period of January to April 2020, to the Board of Directors at Meeting#3/20, held on April 24, 2020.

Provincial initiatives and consultations have continued to be busy throughout the spring and summer months, despite the COVID-19 pandemic. TRCA staff have maintained business continuity in providing submissions that integrate the expertise and multi-disciplinary perspectives of TRCA's teams; informed by the successes and challenges staff experience in their day-to-day work with municipalities, proponents and other stakeholders; and emphasize shared provincial, municipal and TRCA objectives and priorities. Examples of ERO postings have included proposed Amendments to A Place To Grow: Growth Plan for the Greater Golden Horseshoe and associated Land Needs Assessment Methodology, modernizing the Environmental Assessment process, and the Greater Toronto Area West Transportation Corridor Environmental Assessment (EA) process. All TRCA provincial policy submissions are

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vetted through senior staff, approved and signed by the Chief Executive Officer, or designate, prior to submission to ensure alignment with corporate strategic priorities and objectives.

RATIONALE

The outcomes of provincial government initiatives can have implications on TRCA's day-to-day work in multiple roles as a resource management agency, a regulator, a public commenting body with delegated authority to represent the provincial interest for natural hazards, and landowner, in a region experiencing significant growth and associated land use and environmental challenges. Therefore, it is important for TRCA to provide input on government proposals in order to encourage provincial initiatives to align with and support TRCA objectives and interests.

Staff at the Ministry of Environment, Conservation and Parks, Ministry of Natural Resources and Forestry (MNRF), Ministry of Municipal Affairs and Housing and other provincial agencies sometimes reach out to TRCA for information and advice, in recognition of TRCA's expertise in watershed science and depth of on-the-ground experience in development and infrastructure planning and detailed design. For example, Patricia Koval, member of Ontario's Advisory Panel on Climate Change, (and Chair of Toronto and Region Conservation Foundation's Board of Directors), requested a letter of TRCA staff's recommendations on how MNRF's Protecting People and Property: Ontario's Flooding Strategy released on March 9, 2020 could be strengthened or improved upon with more detail. The recommendations in this letter, (Attachment 13 and further described below), draw upon TRCA's previous correspondence to the Special Advisor on Flooding following our meeting and tour with the Advisor in September 2019.

Summary of Responses – April to September

Due to the volume and limited timeline of consultations established through the ERO process, (generally 30 to 45 days), only TRCA submissions on major initiatives are individually reported to the Board of Directors or Executive Committee, e.g., GTA West Transportation Corridor, amendments or regulations under the *Conservation Authorities Act* (not yet released by the Province).

For the Board's information, in Table 1 below is a list of provincial policy consultations for which TRCA completed and submitted responses from April 20th to September 2020, with links to the ERO proposals. Recognizing that Board Members may have an interest in TRCA's submissions that are not brought to the Board, TRCA letter responses to the ERO postings are contained as the attachments to this report.

Table 1, TRCA Policy Consultation Submissions to the ERO April – September 2020

ERO Posting	Proposal Summary	Submission Date
1. Proposed regulatory matters pertaining to community benefits authority under the Planning Act, the Development Charges Act, and the Building Code Act (ERO #19-1406) Link: https://ero.ontario.ca/notice/019-1406	The Ministry of Municipal Affairs and Housing (MMAH) proposes Regulatory Matters Pertaining to Community Benefits Authority Under the <i>Planning Act</i> , the <i>Development Charges Act</i> , and the <i>Building Code Act</i>	April 20, 2020 Refer to Attachment 1

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ERO Posting	Proposal Summary	Submission Date
2. Early Access to Land for Environmental Studies on Transmission Projects (ERO #019-1371) Link: https://ero.ontario.ca/notice/019-1371	The Ministry of Energy, Northern Development and Mines (ENDM) is proposing to give the Ontario Energy Board the authority to grant, under specific circumstances, earlier access to land to electricity transmission project proponents for the purpose of conducting preliminary environmental studies prior to applying for Leave to Construct.	April 30, 2020 Refer to Attachment 2
3. Proposed amendments to Ontario Regulation 244/97 and the Aggregate Resources of Ontario Provincial Standards under the Aggregate Resources Act (ERO #019-1303) Link: https://ero.ontario.ca/notice/019-1303	The Ministry of Natural Resources and Forestry (MNRF) is proposing changes to O. Reg. 244/97 and the Aggregate Resources of Ontario Provincial Standards under the <i>Aggregate Resources Act</i> .	May 15, 2020 Refer to Attachment 3
4. New Statement of Environmental Values for Ministry of Infrastructure (ERO #019-1536) Link: https://ero.ontario.ca/notice/019-1536	The Ministry of Infrastructure (MOI) is proposing a new Statement of Environmental Values (SEV) in order to reflect the changes in its structure and mandate, as well as to acknowledge the priority of addressing climate change.	May 25, 2020 Refer to Attachment 4
5. Proposal to identify and protect a corridor of land for future electricity infrastructure in the Greater Toronto Area (ERO #019-1503) Link: https://ero.ontario.ca/notice/019-1503	The Ministry of Energy, Northern Development and Mines (ENDM) is proposing to identify and preserve a corridor of land in the Northwest Greater Toronto Area (GTA) for future electricity transmission infrastructure so we can support growth in Halton, Peel and York regions. ENDM is seeking feedback on a proposed narrowed study area, as well as input on the guiding principles we will consider in conducting the study.	June 8, 2020 Refer to Attachment 5
6. Metrolinx: Permit for activities that will result in a significant social or economic benefit to Ontario (ERO #019-1682) Link: https://ero.ontario.ca/notice/019-1682	The Ministry of the Environment, Conservation and Parks (MECP) is seeking public input on a proposal for three permits under the <i>Endangered Species Act</i> (ESA) in relation to three priority transit projects that will improve public transit in the Greater Toronto Area. The proposed permits have the potential to impact species at risk and consider options to avoid and minimize impacts on the species.	June 24, 2020 Refer to Attachment 6
7. Developing government response statements for nine	The Ministry of the Environment, Conservation and Parks (MECP) is	June 28, 2020

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ERO Posting	Proposal Summary	Submission Date
<p>species at risk under the Endangered Species Act, 2007 (ERO #019-1749) Link: https://ero.ontario.ca/notice/019-1749</p>	<p>proposing government response statements that outline actions the government is taking and supports to protect and recover nine species at risk in Ontario: Blanding's Turtle, Eastern Whip-poor-will, Little Brown Myotis, Northern Bobwhite, Northern Myotis, Spiny Softshell, Spotted Turtle, Tri-colored Bat and White Wood Aster.</p>	<p>Refer to Attachment 7</p>
<p>8. Proposed Amendment 1 to A Place to Grow: Growth Plan for the Greater Golden Horseshoe (ERO #019-1680) Link: https://ero.ontario.ca/notice/019-1680 With related posting: Proposed Land Needs Assessment Methodology for A Place to Grow: Growth Plan for the Greater Golden Horseshoe (ERO #019-1679) Link: https://ero.ontario.ca/notice/019-1679</p>	<p>The Ministry of Municipal Affairs and Housing (MMAH) is consulting on a proposed amendment to A Place to Grow: Growth Plan for the Greater Golden Horseshoe. This update includes changes to the population and employment forecasts, the horizon year for planning, and other policies to increase housing supply, create jobs, attract business investment and better align with infrastructure. The Ministry of Municipal Affairs and Housing (MMAH) is consulting on a new Land Needs Assessment Methodology for the Greater Golden Horseshoe which supports the implementation of A Place to Grow: Growth Plan for the Greater Golden Horseshoe. This posting presents the outcome-based Methodology that, if approved, would replace the existing Methodology.</p>	<p>July 31, 2020 Refer to Attachment 8</p>
<p>9. Updating Ontario's Water Quantity Management Framework (ERO #019-1340) Link: https://ero.ontario.ca/notice/019-1340</p>	<p>The Ministry of the Environment, Conservation and Parks (MECP) is proposing regulatory changes for managing water takings to protect the long-term sustainability of surface water and groundwater and to ensure these important resources are responsibly managed and safeguarded now and for future generations.</p>	<p>July 31, 2020 Refer to Attachment 9</p>
<p>10. Environmental assessment modernization: amendment proposals for Class Environmental Assessments (ERO #019-1712) Link: https://ero.ontario.ca/notice/019-1712</p>	<p>The Ministry of the Environment, Conservation and Parks (MECP) is modernizing the environmental assessment program by working with proponents of Class Environmental Assessments (Class EA) to propose changes that would ensure strong environmental oversight, while aligning assessment requirements with environmental impact, reducing duplication and increasing efficiency of the Class EA process.</p>	<p>August 21, 2020 Refer to Attachment 10</p>

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ERO Posting	Proposal Summary	Submission Date
11. Proposed regulation for a streamlined environmental assessment process for the Ministry of Transportation's Greater Toronto Area West Transportation Corridor project (ERO #019-1882) Link: https://ero.ontario.ca/notice/019-1882	The Ministry of the Environment, Conservation and Parks (MECP) is proposing a regulation to update the existing environmental assessment process for the Ministry of Transportation's Greater Toronto Area (GTA) West Transportation Corridor. The regulation would create a new streamlined process for assessing potential environmental impacts of the project, as well as consulting on it.	August 21, 2020 Separate Report to the Board, September 25, 2020
12. Proposal to exempt various Ministry of Transportation projects from the requirements of the Environmental Assessment Act (ERO #019-1883) Link: https://ero.ontario.ca/notice/019-1883	The Ministry of the Environment, Conservation and Parks (MECP) is proposing a regulation to exempt select Ministry of Transportation projects from the requirements of the <i>Environmental Assessment Act</i> , subject to conditions for environmental protection: the Bradford Bypass and several Ministry of Transportation Provincial Transportation Facilities class environmental assessments (Class EA) projects.	August 22, 2020 Refer to Attachment 11
13. Proposed changes to environmental approvals for municipal sewage collection works (ERO #019-1080) Link: https://ero.ontario.ca/notice/019-1080	The Ministry of the Environment, Conservation and Parks (MECP) is proposing to modernize Ontario's environmental approval process for low-risk municipal sewage works by implementing a Consolidated Linear Infrastructure Permissions Approach. The proposed approach will consolidate and update the approvals process for these types of works and incorporates measures that will enhance environmental protection.	September 4, 2020 Refer to Attachment 12
14. Proposed amendments to the Director's Technical Rules made under section 107 of the Clean Water Act, 2006 (ERO #019-2219) Link: https://ero.ontario.ca/notice/019-2219	The Ministry of the Environment, Conservation and Parks (MECP) is proposing updates to the technical rules for assessing source water protection vulnerability and risk under the <i>Clean Water Act</i> to ensure that the quality of Ontario's drinking water continues to be protected and that source protection efforts are supported by current science.	November 9, 2020 Attachment not available (draft letter in progress)

Also provided for the information of the Board, are the following summaries of select ERO and non-ERO provincial policy initiatives and submissions related to TRCA interests.

TRCA Recommendations to Ontario's Advisory Panel on Climate Change

TRCA staff met with Patricia Koval, member and Lynette Mader, Vice Chair of Ontario's Advisory Panel on Climate Change in March 2020 to share our knowledge and expertise in supporting the creation of sustainable and resilient communities, infrastructure, and development within TRCA's jurisdiction. Subsequently, Patricia Koval requested a letter from TRCA outlining our recommendations on MNRF's [Protecting People and Property: Ontario's Flooding Strategy](#) could be strengthened or improved upon with more details. While it is recognized that the Strategy is meant to be a high-level document, TRCA's review of the document highlighted several areas of improvement, including:

- Further details in a workplan, including timelines, to provide certainty on the delivery of priorities and actions;
- Establishing Working Groups – policy, planning and regulatory working group integrated with the technical group;
- Highlighting the value of watershed planning and conserving natural resources to managing flood resiliency;
- Funding to support implementation;
- Priority on updating provincial technical guidelines, to reflect current technology and approaches, particularly within the urban context, so as not to be a barrier for innovative solutions; and
- Priority and recommendations related to the *Conservation Authorities Act* and associated regulations.

TRCA's detailed comments and submission of May 27, 2020 can be found in Attachment 13; the recommendations draw upon TRCA's previous correspondence to the Special Advisor on Flooding in 2019. It should be noted that recently TRCA staff have been selected to be a member of the Flood Mapping Technical Team, which is one of the working groups identified in the Strategy.

Bill 197 – COVID-19 Economic Recovery Act

On July 21, 2020, the Ontario Government passed Bill 197 – *COVID-19 Economic Recovery Act*, which amended a number of Acts including the *Planning Act*, *Development Charges Act*, *Environmental Assessment Act*, *Drainage Act*, *Ministry of Municipal Affairs and Housing Act*, *Public Transportation and Highway Improvement Act*, and the *Transit-Oriented Communities Act*. Leading up to this Omnibus Bill, TRCA provided comments on proposed amendments to various Acts as noted in Table 1 and per the attached submissions.

Notable changes to the *Planning Act* coming out of Bill 197 included the following regarding Minister's Zoning Orders (MZOs):

- Currently, under section 47 of the *Planning Act*, the Minister may make orders exercising zoning powers. The Schedule amends section 47 of the Act to give the Minister enhanced order-making powers relating to specified land, including powers in relation to site plan control and inclusionary zoning. Among other things, this provides the Minister with the ability to require the inclusion of affordable housing units in the development or redevelopment of specified lands, buildings or structures. "Specified land" is defined as land other than land in the Greenbelt Area within the meaning of the *Greenbelt Act*, 2005.
- Also, among other things, a Minister's order may require that the owner of the specified land enter into an agreement with the relevant municipality respecting specified matters related to development on the land and conditions required for the approval of plans and drawings in a site plan control area. The amendments provide that the Minister may give direction to the parties concerning the agreement. An

agreement is of no effect to the extent that it does not comply with the Minister's direction, whether the Minister's direction is given before or after the agreement has been entered into.

Minister's Zoning Orders (MZO) and Growth Plan Amendment 1 (2020)

TRCA submitted a response to ERO postings on the 2020 Proposed Amendment 1 to A Place To Grow: Growth Plan for the Greater Golden Horseshoe (the Plan) and the associated proposed Land Needs Assessment Methodology (LNA methodology); see summary below as well as Attachment 8). Through our comments, staff expressed concern that the proposed ability for a municipality to exceed the revised population and employment forecasts might encourage larger scale and more frequent requests for Settlement Area Boundary Expansions (SABEs) in advance of the completion of comprehensive studies (e.g., watershed and sub-watershed studies) that help determine natural heritage, infrastructure and water management constraints and opportunities. In our jurisdiction we noted and recommended a policy to stave off requests, e.g., the recent Dorsay request for Minister's Zoning Orders (MZO) outside of the Municipal Comprehensive Review (MCR) process. Further, we commented that with the proposed ability to exceed population targets, combined with previously approved Plan amendments of reduced density targets, the Growth Plan amendment appeared inconsistent with the intent of the Plan to avoid unmanaged growth, promote intensification and limit land and resource use. Both SABEs and MZOs can occur outside of the MCR process, causing potential disruptions in the orderly management of land. With the proposed amendments, the comprehensive studies that normally occur within an MCR would be circumvented by development and servicing schemes and proposals that may not take into consideration the larger context of the watersheds and systems affected by them. TRCA is currently working with several of its municipal partners to provide support on the integrated growth management they are undertaking through their MCRs.

ERO Postings 019-1679 and 019-1680 Growth Plan for the Greater Golden Horseshoe Amendment and Revised Land Needs Assessment Methodology

TRCA comments on Growth Plan Amendment 2020 and the revised Land Needs Assessment included an acknowledgement that stimulating growth in the GGH as part of the economic recovery from the COVID-19 crisis is critical. The comments emphasized, however, that this should not come at the expense of undermining the fundamental principles of the Growth Plan for "protecting what is valuable." TRCA recommended that strong direction is needed for municipalities to be able to determine that their growth forecasts and land needs can be accommodated while protecting water resources, natural heritage and managing impacts from natural hazards. TRCA comments reasoned that in order to implement provincial policies for "preparing for the impacts of a changing climate," the protection of these valuable natural resources within and outside the Protected Countryside of the Greenbelt must be maintained. One of the main recommendations on the proposed Land Needs Assessment was the that the new methodology include specific reference to Growth Plan policies requiring environmental land "take outs" from land needs calculations. A full description of the Growth Plan Amendment and Revised Land Needs ERO proposals and TRCA's submission with recommendations are contained in Attachment 8.

Decision - Growth Plan Amendment and Revised Land Needs Assessment Methodology

Approximately four weeks after the ERO commenting period closed, on August 28, 2020, the Ministry of Municipal Affairs and Housing (MMAH) released the amended Growth Plan and final revised Land Needs Assessment Methodology, which came into effect immediately. The final documents largely aligned with what was proposed.

The Ministry received close to 7,000 submissions on the two ERO postings. They reported that there was support for updating the growth forecasts, extending the Plan horizon to 2051, and

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harmonizing the Plan with the PPS, 2020, but that municipalities had mixed reaction to using interim forecasts and forecasts as minimums. There were concerns with allowing employment land conversions in major transit station areas and with allowing new mineral aggregate operations, wayside pits and quarries within habitats of endangered and threatened species in the Natural Heritage System for the Growth Plan. There was only some support for the greater flexibility for planning around major transit station areas with respect to provincially significant employment zones.

Indigenous communities, agricultural and environmental sectors, and some in the municipal sector, were concerned that some of the policy changes would increase urban sprawl and result in the loss of agriculturally and environmentally significant lands. They also expressed significant concern that the policy amendment related to mineral aggregate resources would negatively impact species at risk and the biodiversity of the region. Indigenous communities also expressed strong opposition to the proposed mineral aggregates policy change as well as concerns with how some of the policy changes such as updated forecasts could impact Aboriginal and treaty rights.

As a result of the feedback received, the final amendment removed the proposed permission for mineral aggregate operations, wayside pits and quarries within Endangered Species habitat of the Growth Plan natural heritage system, however, the proposed policy for municipalities to develop higher forecasts through their municipal comprehensive review was retained.

With respect to the final revised Lands Needs Methodology released by the Province, TRCA's recommendation to explicitly exclude natural heritage system lands and lands subject to natural hazards from the developable area, in accordance with Growth Plan policy 2.2.7.3, was incorporated into the Community Area Land Needs calculation directions.

ERO Posting 019-1712 - Proposed Environmental Assessment Act (EAA) Amendments in the COVID 19- Economic Recovery Act

Related to the *Environmental Assessment Act* amendments through the *COVID-19 Economic Recovery Act* and the *More Homes, More Choice Act*, 2019, MECP posted a series of proposals to the ERO for modernizing Ontario's environmental assessment program. TRCA responded to those postings related to our roles as a reviewer of EAs as well as a proponent or co-proponent for flood and erosion control Class EAs and Municipal Class EAs.

MECP's stated intent for modernizing the environmental assessment program is to ensure strong environmental oversight, while aligning assessment requirements with environmental impact, reducing duplication and increasing efficiency of the Class EA process. The proposed amendments to Class EAs are meant to inform the development of streamlined regulations with clear expectations regarding consultation and defined timelines.

TRCA previously commented on the government's 2019 Discussion Paper on the EA process in our response to ERO 013-5101, on May 24, 2019. In that response, we indicated our support for streamlining the EA process and noted our expertise and experience to partner with stakeholders and to assist the government and contribute to realizing efficiencies, especially where multiple approval processes apply. We highlighted the need for maintaining within any proposed amendments or process changes the principle of ensuring a robust assessment of environmental, social and economic considerations and public consultation processes, appropriately scoped for project scale and location.

For the July 2020 proposed amendments to eight Class EAs, there were several of interest to TRCA: the Class EA for Minor Transmission Facilities (Hydro One), the Municipal Class Environmental Assessment (Municipal Engineers Association), the Remedial flood and erosion

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control projects (Conservation Ontario), and the Provincial Transportation Facilities (Ministry of Transportation). Some of the proposed changes included:

- changing requirements for some projects, including reducing requirements for certain projects, or exempting projects altogether;
- establishing or updating screening processes to determine the appropriate categorization for a project;
- updating the Class EAs to ensure consistency with the *Environmental Assessment Act* as a result of the passage of the *More Homes, More Choice Act*, 2019; and
- administrative changes to correct errors; update references to legislation and regulations; clarify the existing text; and update references to bodies, offices, persons, places, names, titles, locations, websites, and addresses.

TRCA comments, (Refer to Attachment 10) emphasized that undertakings now determined to be exempt from the Class EA process subject to new screening criteria within Class EA documents, and as permitted through the amendments to the EA Act, may still be subject to regulations under section 28 of the *Conservation Authorities Act*. For example, projects meeting the definition of development under the CA Act being undertaken within TRCA's jurisdiction, would still require permission under Ontario Regulation 166/06. To ensure that low-risk projects are not unduly delayed, TRCA has expedited review processes in place such as "Routine Infrastructure Works", "Emergency Infrastructure Works" and staff delegated permits or clearances. These are employed to consistently streamline review and approval through both the regulatory permitting process as well as the voluntary review process for Crown public infrastructure providers.

Therefore, we recommended that documents released under the Class EA initiative also emphasize the need to consider CA Act permits and requirements at the earliest possible stages of the planning and design process to ensure an integrated approach. In this way, permitting and technical information requirements to support all required approvals under all Acts would be scoped into supporting studies for projects as early as possible to help streamline project reviews.

As a member of the Conservation Ontario working group, TRCA is very pleased with the changes to the Class EA for Remedial flood and erosion control projects. The amendments to align this Class EA more closely with other approved Class EAs for similar types of work, and to clarify wording and expectations as it relates to the maintenance of existing flood and erosion control infrastructure, are very positive. These changes will allow critical maintenance projects that have historically had limited public interest to be streamlined.

The mandate of CAs strongly aligns with provincial objectives for resilient public infrastructure and, if highlighted in the amended Class EA documents, could better enable CAs to assist in meeting the intent of the EA Act to provide for the protection, conservation and wise management of Ontario's environment. Similarly, strengthening CA regulatory requirements to include Crown undertakings, would further assist in meeting the intent of the Act.

TRCA commented positively on the proposed amendments to the Municipal Class EA for Climate Change considerations, stating that our experience is that some proponents remain resistant to recognizing the impacts of climate change, including expected increases in more extreme weather events, and the subsequent impacts on infrastructure, particularly in flood or erosion prone areas. Detailed comments on many of the proposed amendments offered additions and revisions to highlight the valuable watershed-based programs and services of conservation authorities critical to safe and resilient public infrastructure planning.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan: This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 4 – Create complete communities that integrate nature and the built environment

Strategy 8 – Gather and share the best sustainability knowledge

Strategy 12 – Facilitate a region-wide approach to sustainability

FINANCIAL DETAILS

Staff are engaged in this policy analysis work per the normal course of duty, with funding support provided by TRCA's participating municipalities to account 120-12. No additional funding is proposed to support the policy analysis work associated with the preparation of these comments.

DETAILS OF WORK TO BE DONE

TRCA staff will continue to monitor the Environmental Registry of Ontario and the Province of Ontario News' Website to ensure TRCA is aware of, and where appropriate participates and comments on, legislative, regulatory, policy and guidance initiatives affecting TRCA interests. In particular, staff are waiting for the Province to launch consultation on the draft regulations under the amended *Conservation Authorities Act* and potentially further amendments to the Act.

Staff will keep the Board of Directors informed of TRCA submissions at regular intervals and will monitor the outcomes of future decision notices, and report on the implications of legislative, regulatory and policy initiatives as appropriate. Staff will also update TRCA policies and procedures as required and facilitate training to reflect legislative and policy changes affecting TRCA.

Report prepared by: Mary-Ann Burns, extension 5763; Jessica Murray, Extension 6437

Emails: maryann.burns@trca.ca; jessica.murray@trca.ca

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Emails: maryann.burns@trca.ca; laurie.nelson@trca.ca

Date: September 15, 2020

Attachments: 13

Attachment 1: TRCA Submission to ERO#019-1406

Attachment 2: TRCA Submission to ERO#019-1371

Attachment 3: TRCA Submission to ERO#019-1303

Attachment 4: TRCA Submission to ERO#019-1536

Attachment 5: TRCA Submission to ERO#019-1503

Attachment 6: TRCA Submission to ERO#019-1682

Attachment 7: TRCA Submission to ERO#019-1749

Attachment 8: TRCA Submission to ERO#019-1679 & #019-1680

Attachment 9: TRCA Submission to ERO#019-1340

Attachment 10: TRCA Submission to ERO#019-1712

Attachment 11: TRCA Submission to ERO#019-1883

Attachment 12: TRCA Submission to ERO#019-1080

Attachment 13: TRCA Letter to Ontario's Advisory Panel on Climate Change



April 20, 2020

BY EMAIL ONLY (john.ballantine@ontario.ca)

John Ballantine
Municipal Finance Policy Branch
Ministry of Municipal Affairs and Housing
777 Bay Street, 13th Floor
Toronto, Ontario M7A 2J3

Dear Mr. Ballantine:

Re: Proposed regulatory matters pertaining to community benefits authority under the Planning Act, the Development Charges Act, and the Building Code Act (ERO #019-1406)

Thank you for the opportunity to comment on the Ministry of Municipal Affairs and Housing's Environmental Registry (ERO) posting on the proposed regulatory matters pertaining to community benefits authority under the *Planning Act*, the *Development Charges Act*, and the *Building Code Act*.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources.

Government Proposal Background

TRCA understands the government's current regulatory proposal follows an earlier 2019 solicitation for public feedback on proposed components of a new community benefits charge authority. The first consultation was in June 2019 ("Proposed new regulation pertaining to the community benefits authority under the *Planning Act*", ERO #019-0183).

Government Proposal

The current proposal outlines additional matters for public input to inform the further development of the community benefits charge authority and regulation under the *Planning Act*. The changes made by the *More Homes, More Choice Act, 2019* will mean that municipalities will have two primary

funding streams to pay for the increased need for services due to new development. It should be noted that the community benefits charge authority has not yet been proclaimed and is not in effect at this time.

The first, development charges, are a mechanism for municipalities to pay for the capital costs of infrastructure associated with new development. The government is also seeking feedback in this proposal on changes to the types of services that could be funded through development charges, and the proposal is to include certain community services such as public libraries, parks development (other than acquiring land for parks) and recreational facilities.

The second, new community benefits charge, would complement development charges by giving municipalities the flexibility to fund growth-related capital infrastructure costs of other community services, for example, acquiring land for parks, supporting affordable housing or building child care facilities needed due to growth.

A municipality could establish their own community benefits charge by-law to collect funds for the community services. For parkland acquisition, the municipality may either establish a by-law or, if no by-law is established, use the dedication rate stipulated in the *Planning Act*. Specifically related to parkland acquisition, if both a developer and municipality agree, a developer could provide land for parks (rather than a payment). The agreed-upon value attributed to the in-kind parkland contribution would be applied toward the community benefits charge payable.

To implement the new community benefits charge authority, the Province is seeking feedback on the following regulatory matters under the *Planning Act*, the *Development Charges Act* and the *Building Code Act*.

- The required content of a community benefits charge strategy, which must be prepared prior to a municipality passing a community benefits charge by-law and identify the items a municipality intends to fund through community benefits charges;
- The services eligible to be funded through development charges, including:
 - Public libraries, including library materials for circulation, reference or information purposes
 - Long-term care
 - Parks development, such as playgrounds, splash pads, equipment and other park amenities (but not the acquisition of land for parks)
 - Public health
 - Recreation, such as community recreation centres and arenas;
- The percentage of land value for determining a maximum community benefits charge;
- The timeline to transition to the new community benefits charge regime, proposed to be one year after the date the proposed community benefits charge regulation comes into effect;
- Notice requirements for community benefits charge by-laws;
- The minimum interest rate for community benefits charge refunds where a by-law has been successfully appealed; and

- Amendments to the list of applicable law under the Building Code to ensure payment of community benefits charges prior to the issuance of building permits.

General Comments

TRCA offers comments specific to the aspect of the government's proposal to identify facilities, services and matters to be funded under community benefits charges prescribed through regulation under the *Planning Act*, and to prescribe through regulation additional services to be funded under the *Development Charges Act*.

Harmonizing Terminology

Metrolinx, municipalities and other infrastructure providers, with which TRCA works in its roles as technical advisor and regulator, have established specialized terminology for types of community benefits. For instance, the terms "community benefits" and "public realm benefits" are commonly used together, with the following definitions:

- **Community benefits:** Project based benefits that provide measurable economic benefits to the local community.
- **Public realm benefits:** Provision of support for local opportunities for social and environmental improvements.

It may permit for an easier transition for local public agencies and stakeholders if the Province were to use these terms and their definitions as above in its regulation. This can be done through amending the proposed regulation to include community and public realm benefits, a requirement to develop community and public realm benefits strategies prior to enacting a related by-law, etc.

Public realm benefits for environmental improvements are of particular interest to TRCA given our mandate to conserve natural resources and ensure the protection of people and property from the risk of natural hazards. In the context of infrastructure projects carried out by Metrolinx and others, social improvements associated with public realm benefits may include provision of services to conservation areas (such as extending a water main into a conservation area), trails, interpretive signage and others. Environmental improvements might be ecological restoration and wildlife crossings for road and rail infrastructure.

Reducing Risk in Redevelopment Scenarios

Currently, the *Development Charges Act* allows municipalities to apply Area-Specific Development Charges for flood remediation purposes, (e.g., Vaughan's Black Creek Renewal and Urban Revitalization project). TRCA suggests that the same type of risk reduction work be included as an option under community benefits charges. This would enable conservation authorities and municipalities to fund projects that would remediate and mitigate existing urban centres situated within historic flood and erosion prone areas (including those near transit), ensuring public safety from natural hazard risks, as part of comprehensive redevelopment and community revitalization.

Trails

In TRCA's experience trail funding is routinely not accounted for during the land use planning review and approvals process, yet trails offer a vital connection to nature in the city and can contribute to active, healthy lifestyles. Funds used to maintain and expand trails in TRCA's jurisdiction serve to provide active transportation access to greenspace, conservation areas, neighbourhoods, employment lands, transit and mobility hubs. As an important public service, trails should be added to the list of services for which development and community benefit charges may be imposed. Incorporating mechanisms for trail funding into early stages of development planning will enable more opportunities for trail creation and the associated benefits that accrue to communities.

TRCA's Trail Strategy for the Greater Toronto Region (Trail Strategy) sets out the direction for TRCA to work with its partners towards achieving the vision of "a complete regional trail network in greenspace and along the Lake Ontario shoreline that connects our growing communities to nature, to culture, and to each other, contributing to active living and enhancing our conservation legacy." The Trail Strategy serves as a framework to protect potential trail alignments for a network from the Oak Ridges Moraine, through the valleys of the nine watersheds within TRCA's jurisdiction and along the Lake Ontario shoreline. The complete Greater Toronto Region Trail Network includes 520 km of existing trails, along with 480 km of proposed trails as outlined in the Trail Strategy. Further supporting these regional trail alignments, are the local trails which provide connections between the network and the communities they benefit. To assist and support our municipal partners, TRCA's Trail Strategy could inform the development of a municipal community benefits charge strategy, which is required prior to the passing of the associated by-law.

Parkland vs. Natural Areas

As a resource management agency, TRCA believes it will be important for the proposed regulation to differentiate between parkland (which may be acquired through community benefits charges or developed/enhanced through development charges) and natural features, natural hazards and their associated buffers. Therefore, the regulations should ensure that parks acquired or enhanced through community benefits charges and development charges, respectively, avoid natural features, natural hazards and their associated buffers.

Land Dedication

TRCA also requests that the Province clearly communicate to municipalities that the provisions of community benefits by-laws should not negate the ability for conservation authorities and municipalities to acquire natural features, natural hazards and their associated buffers through mechanisms apart from the community benefits charges. Currently, CAs and municipalities may acquire these areas through planning review processes. Limiting the ability of CAs and municipalities to exercise existing land acquisition options due to the imposition of a community benefits by-law may have a detrimental impact on initiatives to streamline development.

TRCA Recommendations

In order to support municipalities in ensuring adequate provision of community facilities and services related to growth, and to continue to ensure the protection of people and property from natural hazards and the conservation of natural resources, TRCA recommends the following:

- 1) That the Province adopt language in its regulation consistent with the language commonly used by Metrolinx and other infrastructure providers, namely, community benefits and public realm benefits using the definitions provided in this letter.
- 2) That the Province include in the proposed regulation charge provisions for both community benefits and public realm benefits.
- 3) That new or updated natural hazard remediation and mitigation, (e.g. flood protection infrastructure and erosion hazard mitigation), be added to the list of services for which community benefits charges may be imposed.
- 4) That the proposed regulation clearly differentiates between parkland (which may be acquired through community benefits charges or developed/enhanced through development charges) and natural features, natural hazards and their associated buffers.

- 5) That the Province ensure it is clearly communicated that community benefits by-laws be written and applied such that CAs and municipalities may continue to acquire natural features, natural hazards and their associated buffers through mechanisms other than the community benefits charges.
- 6) That trails be added to the list of services for which development and community benefit charges may be imposed.

Thank you once again for the opportunity to provide comments on the proposed regulatory matters pertaining to community benefits authority under the *Planning Act*, the *Development Charges Act*, and the *Building Code Act*. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(PI) MCIP, RPP
Chief Executive Officer

BY E-MAIL

cc:

TRCA: Laurie Nelson, Director, Policy Planning
Sameer Dhalla, Director, Development and Engineering Services
Moranne McDonnell, Director, Restoration and Infrastructure



April 30, 2020

BY EMAIL ONLY (christopher.goode@ontario.ca)

Christopher Goode
Energy Networks and Indigenous Policy Branch
77 Grenville Street, 6th Floor
Toronto, Ontario M7A 2C1

Dear Mr. Goode:

**Re: Early Access to Land for Environmental Studies on Transmission Projects
(ERO #019-1371)**

Thank you for the opportunity to comment on the Ministry of Energy, Northern Development and Mines' (ENDM) Environmental Registry (ERO) posting on the proposal to give the Ontario Energy Board the authority to grant, under specific circumstances, earlier access to land to electricity transmission project proponents for the purpose of conducting preliminary environmental studies prior to applying for Leave to Construct.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources.

Government Proposal

The Ontario Energy Board (OEB), as the provincial regulator for electricity, evaluates applications from electricity transmission project proponents. Before applying for Leave to Construct, proponents of electricity transmission projects must complete project development and Environmental Assessment (EA) work in order to identify a preferred project route. The completion of environmental and other studies (for example, archaeological or wildlife and habitat studies) to support EA work requires proponents to have access to land within their study area. Currently, electricity transmission project proponents may apply to the OEB for access to land after applying for a Leave to Construct.

We understand the government's current proposal would create a mechanism allowing the OEB to grant earlier access to land to proponents for the purpose of conducting environmental studies. If approved, the mechanism is anticipated to:

- Allow proponents to apply to the OEB for earlier access to land; and
- Set out requirements proponents must meet when applying for early access to land.

Furthermore, it is intended that the OEB's process for considering applications for early access to land will allow for input from affected landowners and that the OEB can attach conditions to a grant of access with which the proponent must comply.

General Comments

Access to land for the purpose of conducting environmental studies is critical to sound decision making in the infrastructure planning process. TRCA staff are supportive of gathering and using as much background information as early as possible to inform the Environmental Assessment (EA) process or other studies related to electricity transmission corridor siting and design. This information is particularly important to inform decisions of preferred route/alignment alternatives and avoidance, mitigation and/or compensation measures for natural heritage systems and for managing natural hazards.

Types of studies

In TRCA's experience as a reviewer of EAs for infrastructure within TRCA regulated areas, project submissions' focus is on surface features (wetlands, woodlands, watercourses). While avoidance of these areas is important, geotechnical and hydrogeological studies may also be needed to assess potential impacts. Flooding, streambank erosion, streambed downcutting and drawdown from dewatering are some of the potential risks associated with installation of infrastructure affecting natural features. The likelihood of these risks being present along an alignment and the magnitude of the risks both need to be assessed through environmental studies, scoped for project scale and site sensitivities.

Timing of studies

While it is true that the results of these studies drive a mitigation plan that is implemented at the detailed design stage, it is important for studies to be undertaken at the EA stage or even prior to the EA, when potential project route alternatives are still being identified. Early environmental study is needed to determine construction feasibility, a mitigation plan, and long-term maintenance and monitoring requirements that consider the surface and underground conditions of a site, and the construction's effects on the features' and their functions' long-term survivability. As well, early in the process is when opportunities are greater for balancing stakeholder interests and to determine the appropriate mitigation measures to avoid impacts to both the infrastructure and the environment.

There have been instances in the past where during detailed design there were issues, (e.g., sinkholes), requiring last minute changes in alignments as the proper studies were not done early on. Such changes end up being costly to the proponent and to the environment due to limited timelines after Leave to Construct is granted.

Further, the timing and duration of access granted should account for the temporal, seasonal and weather-dependent nature of habitat functions. Conditions for granting early access should ensure that possible long-term, multi-year monitoring requirements are considered by the proponent in their study design, and access timelines should reflect those requirements. For example, wetland hydrology monitoring required for seasonally-based wetland water balance requires multiple site visits at different points during the year.

Agency pre-consultation and coordination for access

Conditions for early access should provide opportunities for other public agency staff to also be given early access to lands to complete necessary investigations, as needed. In current practice, TRCA field staff request permission annually to enter private lands to complete terrestrial biological inventories across TRCA's jurisdiction. The Northwest GTA Transmission Corridor Study is an example where correspondence was sent earlier this year by TRCA field staff requesting permission to enter private lands while at the same time Ministry of Transportation consultants requested similar permissions to enter lands for investigations within the same general area. While we understand that the government's current proposal regarding early access is a broad request not tied to one specific project, it is recommended that permissions and conditions for access be coordinated among all agencies to avoid duplication of effort and delay.

Provincial direction for agency coordination will also support opportunities for pre-consultation among public agencies and proponents, thereby enhancing certainty of upfront requirements among all stakeholders. As a regulator under Section 28 of the *Conservation Authorities Act*, TRCA would advise proponents of environmental study requirements in support on a permit application for works within TRCA regulated areas. Agency coordination and pre-consultation would also achieve the intended outcome of this proposal to increase the quality of the environmental information and create a more streamlined, efficient EA process.

Parameters for granting earlier access to land

The posting is not clear as to the effect that granting early access to land will have on the property access requirements of other public agency landowners. As a major landowner in the Greater Toronto Area, we anticipate that environmental studies will occur on TRCA property in multiple locations based on currently proposed electricity transmission projects. TRCA requests confirmation from ENDM that proponents will continue to require permission to enter (PTE) from TRCA should they need to access to TRCA property for any sort of investigation related to electricity transmission corridor project planning. In accordance with TRCA requirements, prior to accessing TRCA-owned lands, proponents must obtain the necessary approvals including the following:

- provide details such as timing, scope of work, and restoration plans, if applicable. This allows TRCA to review the full scope of the proposal;
- meet TRCA study requirements for any works that may disturb or alter the property, (e.g., archeology investigations, stabilization and/or restoration);
- provide advance notice to TRCA with respect to the proposed date of entry;
- secure appropriate insurance, naming TRCA as an additional insured, and indemnification to protect TRCA, and that the proponent be required to provide supporting documentation to that effect;
- indemnity for liability or damage to property and for business interruption; and
- secure statutory allocation of liability on the part of the entrant when they enter private property under a contemplated right of entry provision.

TRCA Recommendations

In order to support the government's proposal to grant earlier access to land to electricity transmission corridor project proponents for the purpose of conducting environmental studies, and inform Environmental Assessments and other planning processes, and continue to ensure the protection of people and property from natural hazards and the conservation of natural resources, TRCA recommends to ENDM:

- 1) That permission for earlier access to lands also be granted to and coordinated among all public agencies to avoid duplication of effort and delays. This would allow agency staff to undertake and complete any necessary field investigations.
- 2) That proponents be required to coordinate pre-consultation with conservation authorities and other agencies to confirm review requirements (i.e., the type, scale and scope of environmental studies, landowner permissions, etc.) for complete applications. As a regulator under Section 28 of the *Conservation Authorities Act*, TRCA would advise proponents of environmental study requirements in support on a permit application for works within TRCA regulated areas.
- 3) That as a condition of granting permission for access, the environmental studies be completed at an early planning stage, prior to EAs, to inform the identification of preferred route/alignment alternatives.
- 4) That the process to grant access recognize the temporal, seasonal, and weather-dependent nature of certain environmental studies, that multiple site visits may be required, and that certain studies require long-term, multi-year monitoring protocols. Application review should confirm whether these requirements are incorporated into proponents' study designs, and timing and duration of access granted should reflect those requirements.
- 5) That proponents obtain permission to enter from TRCA should they require access to TRCA-owned property for any sort of investigation related to electricity transmission corridor project planning. Furthermore, that proponents satisfy all necessary TRCA requirements, studies and approvals for such permission prior to accessing TRCA-owned land. This would include but not be limited to securing appropriate insurance, naming TRCA as an additional insured, and indemnification to protect TRCA; indemnity for liability or damage to property and for business interruption; and secure statutory allocation of liability on the part of the entrant when they enter private property under a contemplated right of entry provision.

Thank you once again for the opportunity to provide comments on the Early Access to Land for Environmental Studies on Transmission Projects proposal. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(PI) MCIP, RPP
Chief Executive Officer

BY E-MAIL

cc:

TRCA: Laurie Nelson, Director, Policy Planning
Sameer Dhalla, Director, Development and Engineering Services
Moranne McDonnell, Director, Restoration and Infrastructure



May 15, 2020

BY E-MAIL ONLY (darlene.dove@ontario.ca)

Ms. Darlene Dove
Resource Development Coordinator
Ministry of Natural Resources and Forestry
Natural Resources Conservation Policy Branch - Resource Development Section
300 Water Street
2nd Floor, South Tower
Peterborough, ON K9J 3C7

Dear Ms. Dove:

Re: Proposed amendments to Ontario Regulation 244/97 and the Aggregate Resources of Ontario Provincial Standards under the Aggregate Resources Act (ERO #019-1303)

Thank you for the opportunity to comment on the Ministry of Natural Resources and Forestry's (MNRF) Environmental Registry (ERO) posting on the proposed amendments to Ontario Regulation 244/97 and the Aggregate Resources of Ontario Provincial Standards under the *Aggregate Resources Act*.

The Toronto and Region Conservation Authority's (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under Section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, and as stated in the *Made-In-Ontario Environment Plan*, CAs work in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. As the Source Protection Authority for the Credit Valley-Toronto and Region-Central Lake Ontario Source Protection Region, TRCA staff work to ensure protection of existing and future municipal drinking water sources.

Government Proposal

We understand the government's current proposal builds on amendments made in December 2019 to the *Aggregate Resources Act* (ARA) as part of Bill 132, the *Better for People, Smarter for Business*

Act. This includes proposed changes to Ontario Regulation (O. Reg.) 244/97 made under the *Aggregate Resources Act*, and changes to the Aggregate Resources of Ontario: Provincial Standards, Version 1.0 (Provincial Standards). The Provincial Standards set out the application process for proposed pits and quarries under the ARA. The standards also identify the criteria for licence, permit and wayside permit applications.

The changes being proposed are intended to modernize the way aggregate resources are managed and to promote economic growth within the aggregate industry while also protecting the environment and addressing community impacts. We also understand that, in addition to the currently proposed regulatory changes, MNRF will be developing guidance materials to better communicate best practices for preparing applications under the ARA.

General Comments

TRCA previously submitted comments to MNRF in 2019 on the proposed amendments to the *Aggregate Resources Act* (ERO #019-0556). TRCA staff have reviewed the currently proposed changes as outlined in the Discussion Paper, “Proposals to amend O.Reg. 244/97 and the Aggregate Resources of Ontario Provincial Standards under the Aggregate Resources Act” (February 2020). We are pleased that the proposal recognizes that, while Ontario requires a continued supply of aggregate resources, it is equally important to recognize and manage the impact excavation operations can have on the natural environment and on the communities that surround them. Further, we support the intent of the proposed changes to clarify requirements for applicants, permit or licence holders and agencies involved in the review of applications made under the *Aggregate Resources Act*.

TRCA staff are aware of Conservation Ontario’s submission on the proposal, dated May 12, 2020, and support their comments. While some of TRCA’s comments overlap with Conservation Ontario’s many are in addition and are organized around sections in the Discussion Paper.

Water Report Requirements Subsection 1.1.1, Water Report, of the Discussion Paper, proposes to better clarify how the water table is determined, who is qualified to prepare a water report and enhance the information required as part the report. The requirements should be specific to assessing impacts to the different components of the water resource system to improve consistency with the Provincial Policy Statement and provincial plans for protecting water quality and quantity and the requirements of source protection plans under the *Clean Water Act*. For example, the current proposal would ensure the water report determines the significance and potential of impacts and feasibility of mitigation for impacts to water. TRCA staff assert that the water report should require not only an assessment of the feasibility of mitigation, but require avoidance of impacts where possible, or mitigation where avoidance is not possible. As well, the applicant should be required to specify all activities identified as Prescribed Drinking Water Threats in Ontario Regulation 287/07 under the *Clean Water Act* which are likely to occur at the extraction site. This information will be critical to evaluating whether the activity would result in a significant drinking water threat to a drinking water source.

Maximum Predicted Water Table

The proposed changes for applications outlined in section 1.1 would require the water table to be established using the maximum predicted elevation of the water table. The water table (to be referenced as the “maximum predicted water table”) would be assessed by monitoring the groundwater table at the site for a minimum of one year to account for seasonal variations and influences due to precipitation. TRCA staff recommend increasing the minimum number of required groundwater monitoring years to account for annual as well as seasonal fluctuations in ground water conditions.

TRCA's Wetland Water Balance and Wetland Risk Assessment technical guidance documents could be useful to help characterize impacts to sensitive groundwater dependent features. We encourage their inclusion in the Recommended References sections of the revised Provincial Standards.

Natural Hazards

The current proposed contents of a water report do not address areas of natural hazards. TRCA staff assert that the water report should require studies be conducted by a professional water resources engineer confirming the proposed works align with the natural hazard policies outlined in Section 3.1 of PPS, 2020, including being generally directed to areas outside of hazardous lands associated with shorelines and watercourses, and new hazards are not created and existing hazards are not aggravated.

Natural Environment Reports - Subsection 1.1.3 Natural Environment Report reinforces that all pit and quarry applications are required to include a natural environment report, as outlined in the Provincial Standards. The report is required to identify natural heritage features on or within proximity to the proposed pit or quarry. TRCA is supportive of the proposed update to requirements for natural environment reports, as the existing requirements are outdated and inconsistent with current Provincial Plans and the PPS, 2020. TRCA staff recommend that definitions of features be updated to align with provincial plans and the PPS. We also recommend that all wetlands be included as natural heritage features to be identified in natural environment reports, instead of limiting the requirement to identify only provincially significant wetlands. Unevaluated or locally significant wetlands may constitute sensitive groundwater features that should be included in the natural environment report to more accurately assess the potential impacts of proposed works on natural heritage features.

Notification and Consultation Requirements – In section 1.3 of the Discussion Paper, it is proposed that the list of agencies that are circulated new applications would be updated to reflect current government organization and responsibilities, and that “agencies would not be asked to review aspects of applications that are beyond their mandate.” The Paper uses the example of conservation authorities, saying that applicants would determine whether the proposed site is within a regulated area, and if it is, whether the application has the potential to impact the control of flooding, erosion or other natural hazards. TRCA appreciates that conservation authorities have been referenced as an example in the Discussion Paper. However, we recommend that the other roles of CAs as previously identified in our introductory comments be referenced, given the exemption of CA permits for ARA operations.

Further, in order to provide clarity to both applicants and review agencies, the ARA Provincial Standards should include reference to the various roles of other ministries, municipalities and CAs in the review process relative to the ARA and its regulations, standards and policies. We appreciate the statement in this section that the Ministry will continue to explore with other ministries and municipal partners as to how applications can be reviewed to reduce review duplication and improve efficiency but as key partners that can help streamline reviews, conservation authorities should be a part of these discussions.

Excavations Exempt from Licences - Section 2.1 proposes parameters under which excavations on private land by a person or farm operations would be exempted in regulation, not requiring a licence from MNRF.

Circumstances Allowing Licence Exemption

In TRCA's previous submission on the proposed changes to the ARA in 2019, we specified that it

needs to be clarified if this proposal is geared to a short term, small area and small amount of extraction, such as a wayside pit for a local project. We also stated that MNRF should ensure the criteria to be met are consulted on before allowing work without a licence. Clear definitions and a distinction between “routine activity” and “low-risk activity” are needed. Further, we commented there should be a clear process for regulating the number and instances of such activities. There is a potential for cumulative impact where multiple low risk takings occur near one another, to other takings, or to environmental receptors. Lastly, we stated that TRCA’s contracts for flood and erosion control construction projects require successful proponents to provide proof of licence from quarries they intend to acquire aggregate from to ensure sourcing of stone from responsible, law-abiding pits and quarries. TRCA recommends this be a requirement under ARA regulations to ensure all proponents are held to a common standard.

Several of these themes were addressed in the proposed approach. The short term, limited number of instances, and limited area criteria are all addressed, to a degree. TRCA staff remain concerned that there is a risk the proposed blanket approach to allowing extraction without technical review by relevant stakeholders, including CAs, will result in unintended impacts to the environment. To enhance the proposed approach and help ensure watercourse, wetland and source protection in cases where no licence for the excavation must be obtained, we strongly recommend adding the following bold text to the first item listed under, “While undertaking the excavation, the individual or farm business would be required to ensure that sediment from the excavation is prevented from entering any water body, **watercourse or wetland.**”

For the same reason, TRCA staff recommend addition of the following item to the list of criteria where excavation cannot occur: “The excavation does not occur within **30 metres of a watercourse or wetland.**” In addition, TRCA staff suggest adding WHPA-C and WHPA-Q to the list of prohibited areas as follows (bold text), in order to ensure proper technical review of proposed works and that potential impacts to municipal source water are avoided: “The excavation does not occur within a category A. B, **C or Q** wellhead protection area under the *Clean Water Act.*”

The proposal states that, while undertaking the excavation, the individual or farm business would be required to ensure that, within one year of the final year of excavation, the excavation area is rehabilitated to its former land use or rehabilitated by sloping all faces to a minimum of 3:1 and vegetated to prevent erosion. In order to prevent potential erosion and sedimentation issues, TRCA recommends including that erosion and sediment control best practices should be adhered to during operations, rehabilitated areas be vegetated within a certain amount of time following sloping of faces, and that invasive or non-native vegetation species not be planted or seeded.

Operating Requirements for All Sites

Dust

Subsection 3.1.2 Dust proposes dust mitigation requirements for licenses and permits to prevent dust from leaving excavation sites. TRCA notes that dust suppressants are often chloride based. The application of these chemicals would result in chloride leaching into the ground, recharging water supply aquifers, and increasing chloride levels in private and municipal supply wells. Where dust suppression is required at aggregate sites located within vulnerable areas under the *Clean Water Act*, chloride-based dust suppressants should be prohibited to avoid potential source water impacts.

Recycling

Subsection 3.1.4 Recycling proposes certain operating requirements associated with aggregate recycling within pits and quarries, including that recyclable asphalt may not be stored within 30 metres of a water body or within 2 metres of the established groundwater table.

TRCA staff are concerned these thresholds may still pose a concern especially in a vulnerable area under the *Clean Water Act*, or within 120 metres of a wetland and watercourse. TRCA recommends prohibiting placing recyclable asphalt within vulnerable areas and increasing setbacks for water bodies. It should also be clarified that the term “water body” includes wetlands and watercourses.

Annual Compliance Reporting - Subsection 3.2.2 Rehabilitation Reporting proposes to require operators to report additional information on progressive and final rehabilitation activities. We understand MNRF’s objective is to provide further transparency on how sites are advancing towards full rehabilitation and encourage operators to better reflect their ongoing efforts. TRCA’s previous submission on the ARA included support for enhanced reporting and noted that TRCA has staff expertise in restoration ecology to provide technical advice on rehabilitation projects.

This section also states the Ministry is working on additional guidance for operators and municipalities, such as best management practices for rehabilitation. TRCA encourages this approach and offers our staff’s ecological restoration expertise to assist in the development of technical guidance resources.

Site Plan Amendment Process

Circulation of Proposed Amendments

Section 3.3 Site Plan Amendments, subsection 3.3.1 Site Plan Amendment Process states that circulation of the proposed amendment(s) to municipalities, other agencies and interested parties for comment may be required. As stated in our comments on section 1.3 for notification and consultation, the roles of CAs, municipalities and other public agencies in this review should be clarified.

Natural Heritage Features

Subsection 3.3.1 seeks to improve consistency of information being submitted to request a site plan amendment. TRCA recommends that natural heritage features proposed for removal be quantified in the submission. This will enable MNRF to accurately assess the implications of the proposed amendment on the natural heritage system.

Qualified Person Requirements

The same subsection states that, for more significant amendments that require new technical drawings or extensive changes to the site plan notes, new amended pages would be required, and for changes to technical drawings in a site plan for a Class A licence, the new pages may need to be prepared by a qualified person. TRCA requests clarification on circumstances that require a qualified person for a Class A licence in order to improve predictability of the amendment process and consistency across amendment applications.

Drinking Water Vulnerable Areas

Subsection 3.3.4 Self-Filing of Plan Amendments proposes requirements with which operators must comply to be eligible for amendment self-filing. This proposal does not directly address a concern TRCA included in our earlier submission on the ARA regarding self-filing for pits and quarries located within drinking water vulnerable areas. In addition to MNRF’s proposed requirements, TRCA requests a requirement that operators must identify, if applicable, any amendments made in order to achieve conformity with local source protection plans. Operators can be directed to the MECP Source Protection Information Atlas to identify drinking water vulnerable areas within their site and applicable source protection policies.

Self-Filing

Additionally, TRCA staff identified several criteria of concern related to proposed activities eligible for self-filing. There is potential for petroleum oils and lubricants released from portable processing

equipment to cause impacts to surface water and groundwater if located near water resources. Similarly, portable concrete and asphalt plants pose potential risks to surface and groundwater due to the nature of the materials they use. For example, cement has a high pH and spills may impact the pH of surface and groundwater. Asphalt plants involve tar, a hydrocarbon material, which likewise poses an environmental risk to surface and ground water should leakage or spills occur. Portable processing equipment and portable concrete and asphalt plants should therefore have an added criterion that the equipment will not be located within a minimum distance of surface water or a within a minimum depth to ground water. TRCA requests MNRF determine appropriate depth to groundwater depending on the characteristics of the soil or aggregate forming the barrier between the equipment and the groundwater table, as there are considerable differences in groundwater flow velocities depending on the material.

Cumulative Effects

TRCA commented in our previous submission to the Province on the ARA, that the application process should be enhanced to require below water table extraction works expansions and new proposals to be supported by a cumulative impact assessment. Such an assessment would include identification of existing takings in a pre-determined radius upgradient of the site (of the water taking), and an assessment of whether the proposed taking might have the potential to exacerbate any existing situation, or to impact environmental receptors and other takers downgradient of the site. Cumulative effects assessments would be of particular importance in areas where there is a concentration of existing licenses or new applications for extractions below the water table or in drinking water vulnerable areas under the *Clean Water Act*.

TRCA Recommendations

In order to further the conservation, restoration and management of natural resources within our watersheds, and to ensure protection of existing and future municipal drinking water sources, TRCA recommends the following:

1. That water reports include studies conducted by a professional water resources engineer confirming the proposed works align with the natural hazard policies outlined in Section 3.1 of the Provincial Policy Statement, including being generally directed to areas outside of hazardous lands associated with shorelines and watercourses, and that new hazards are not created and existing hazards are not aggravated.
2. That water reports for applications above and below the water table require the following:
 - a. Consider local source protection plans and policies, as proposed, including an assessment of potential impacts to drinking water sources for below water aggregate extraction and measures to prevent or mitigate those impacts (and that the Ministry clarify how the applicant is required to work with stakeholders to complete this section of the water report).
 - b. Determine whether proposed works are located in WHPA-C and WHPA-Q, in addition to WHPA-A and WHPA-B.
 - c. Assess impacts to water resource systems including significant groundwater recharge areas, highly vulnerable aquifers, and wellhead protection areas-A, -B, -C, and -Q.
 - d. Specify all activities identified as Prescribed Drinking Water Threats in Ontario Regulation 287/07 under the *Clean Water Act* which are likely to occur at the extraction site.
 - e. Identify the presence of an aquitard to a municipal drinking water supply that is located on or near the proposed extraction site and, if an aquitard is present, provide a detailed

assessment on how the proposed works will avoid or mitigate any impacts to the aquitard.

3. That the minimum number of required groundwater monitoring years to establish the water table be increased to account for annual, as well as seasonal fluctuations, in groundwater conditions.
4. That the Natural Environment Report definitions of features be updated for consistency with the Provincial Policy Statement and provincial plans, and that all wetlands be included as natural heritage features.
5. That the roles of review agencies in application review, including CA roles, be clarified and that CAs be identified as partner agencies to assist in coordinating and streamlining reviews, where applicable.
6. That the proposed approach to allowing extraction without technical review by relevant stakeholders, including CAs, be enhanced to require excavation operators to ensure that:
 - a. sediment from excavation is prevented from entering any water body, watercourse or wetland;
 - b. excavation does not occur within 30 metres of a watercourse or wetland;
 - c. excavation does not occur within a category A, B, C or Q wellhead protection areas under the *Clean Water Act*;
 - d. rehabilitated areas be vegetated within a certain amount of time following sloping of faces, and that invasive vegetation species shall not be planted or seeded; and
 - e. the potential for cumulative impacts is addressed and avoided or mitigated.
7. That the placement of recyclable asphalt be prohibited within vulnerable areas under the *Clean Water Act* and that setbacks to water bodies be increased, including wetlands and watercourses.
8. That TRCA be engaged to provide ecological restoration expertise in the Ministry's initiative to develop technical guidance for operators and municipalities on best management practices for rehabilitation.
9. That a cumulative impact assessment be required for below water table extraction works expansions and new proposals.

Thank you once again for the opportunity to provide feedback on the proposed amendments to Ontario Regulation 244/97 and the Aggregate Resources of Ontario Provincial Standards under the *Aggregate Resources Act*. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.661.6600 Ext. 5281 or at laurie.nelson@trca.ca.

Sincerely,

<Original signed by>

Laurie Nelson, MCIP, RPP
Director, Policy Planning

BY E-MAIL

CC:

TRCA: John MacKenzie, Chief Executive Officer
Sameer Dhalla, Director, Development and Engineering Services
Moranne McDonnell, Director, Restoration and Infrastructure



May 25, 2020

BY EMAIL ONLY (Alessya.d'anna@ontario.ca)

Alessya D'Anna
Policy Advisor
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Toronto, Ontario M7A 2J3

Dear Ms. D'Anna:

Re: New Statement of Environmental Values for Ministry of Infrastructure (ERO #019-1536)

Thank you for the opportunity to comment on the Ministry of Infrastructure Environmental Registry (ERO) posting on the proposed New Statement of Environmental Values (SEV). We understand the Ministry of Infrastructure's proposed changes are intended to introduce an updated SEV to reflect changes in both structure and mandate, as well as to acknowledge the priority of addressing climate change.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources.

TRCA has a keen interest in the Ministry of Infrastructure proposed SEV, as a reviewer of infrastructure undertakings under the *Environmental Assessment Act*, the Class EA process, and as a regulator under the *Conservation Authorities Act*. As a major landowner, TRCA is also the proponent or co-proponent of environmental assessments (EA), both Individual EAs and many others that fall under a provincial Class EA process. The latter are predominantly Conservation Authority Class EAs (remedial flood and erosion control) and Municipal Class EAs (infrastructure).

Government Proposal

The ERO posting notes that The Environmental Bill of Rights, 1993 (EBR) requires that each ministry prescribed under the act develop and publish an SEV specific to the work of that ministry. An SEV is a ministry's statement of environmental principles and a guidance document directing the minister and ministry staff as they make decisions regarding policies, acts, regulations and instruments that might affect the environment. The Ministry of Infrastructure is proposing an SEV to:

- Meet the requirement that ministries subject to the EBR prepare an SEV;
- Reflect changes in the ministry structure and mandate;
- Affirm the important role of Indigenous peoples' participation in ministry decision-making;
- Acknowledge the priority of addressing a changing climate;
- Reflect the government's "A Made in Ontario Environment Plan"; and
- Ensure that the language used in the SEV is consistent with the language used in the EBR.

General comments

We would like to complement the Ministry of Infrastructure for incorporating consideration for climate change into the SEV. This is an important step given the potential impact of climate change on the future sustainability of our communities. In order to ensure that the SEV is comprehensive, the consideration of climate change should be included as part of a wholistic approach to sustainability that addresses climate, environment, social and economic aspects. A singular focus on climate can have a significant impact on other important aspects of sustainability. For example, infrastructure undertakings can have a substantial environmental impact, often crossing or running parallel to natural systems, requiring vast areas of natural feature removals, major grade and drainage alterations, and installation of hardened surfaces or underground components affecting groundwater and surface water receptors, e.g., watercourses, wetlands, woodlands.

Given the potential for impacts, TRCA is concerned that the SEV as proposed does not present a strong enough commitment to the requirements of the EBR for ensuring consideration of the environment in decisions. As stated in the introduction to the SEV, the purposes of the EBR include the protection and conservation of natural resources, however, the body of the proposed SEV does not address how natural resources will be protected or conserved in the course of the Ministry's mandate to invest in infrastructure. While there is some mention of conserving natural resources in the SEV, it is limited to in-office internal operations of waste management and energy use.

To better serve the purposes of protecting and conserving natural resources, the SEV would benefit from reference to upfront direction (within the Ministry Mandate, Vision and Business section) for infrastructure from Provincial Plans and the Provincial Policy Statement (PPS) that align with the purposes of the EBR. This would improve consistency and coordination of land use planning and infrastructure that falls under an environmental assessment process. For example, the 2019 Growth Plan for the Greater Golden Horseshoe and the recently updated Provincial Policy Statement both contain policies for greater integration of infrastructure planning with development planning with an aim to limiting land consumption and resource use. The proposed SEV could include better recognition of Growth Plan requirements such as:

- An intensification first approach to development and city-building, which focuses on making better use of existing infrastructure and public service facilities, and less on continuously expanding the urban area;
- The promotion of the co-location of linear infrastructure, where appropriate;
- Co-ordinated Infrastructure planning, land use planning, and infrastructure investment;
- Communities and infrastructure must be adapted to be more resilient, greenhouse gas emissions across all sectors of the economy need to be reduced, and valuable water resources and natural areas need to be protected.

And PPS requirements such as:

- Promoting the integration of land use planning, growth management, transit-supportive development, intensification and infrastructure planning to achieve cost-effective development patterns, optimization of transit investments, and standards to minimize land consumption and servicing costs;
- Managing and/or promoting growth and development that is integrated with infrastructure planning;

- Promoting green infrastructure to complement infrastructure;
- Wherever possible and practical, approvals under the Planning Act and other legislation or regulations should be integrated provided the intent and requirements of both processes are met.
- Consideration to significant resources in section 2, Wise Use and Management of Resources;
- Infrastructure and public service facilities should be strategically located to support the effective and efficient delivery of emergency management services, and to ensure the protection of public health and safety in accordance with the policies in Section 3.0: Protecting Public Health and Safety.

Therefore, TRCA recommends that the SEV's Ministry Mandate, Vision and Business section incorporate the above directions from Provincial Plans and the Provincial Policy Statement.

Detailed comments

For the Ministry's consideration, TRCA staff offer the following detailed comments specific to some of the sections of the proposed SEV.

Proposed Statement of Environmental Values (SEV)	TRCA comments
<p>2. MINISTRY VISION, MANDATE AND BUSINESS</p> <p>The role of the Ministry of Infrastructure is to make smart, targeted infrastructure investments to make our roads safer, commutes easier and communities healthier – protecting what matters most to people for future generations. The Ministry is committed to building better infrastructure for the people, making smarter infrastructure investments for the province, municipalities, Indigenous communities, the broader public sector and non-profit organizations across Ontario, creating jobs and growing our economy. Modernizing public infrastructure is the key to strengthening our economy and ensuring that every region across the province can grow and prosper.</p> <p>Our priorities in fulfilling the Ministry's mandate include:</p> <ul style="list-style-type: none"> • Leading the province's infrastructure plan to deliver effective and resilient infrastructure, while protecting the things that matter most to people. • Implementing the Infrastructure for Jobs and Prosperity Act, 2015. • Supporting the expansion of broadband and cellular connectivity across the province by implementing the province's five-year Broadband and Cellular Action Plan. • Working with the Federal Government to deliver the Investing in Canada Infrastructure 	<p>- The first bullet point in this section, "Leading the province's infrastructure plan to deliver effective and resilient infrastructure, while protecting the things that matter most to people," is an important statement in the SEV as it ties to the Ontario <i>Environmental Assessment Act</i> and PPS requirements for incorporating climate change into decision making. TRCA works closely with provincial partners through the environmental assessment and planning processes, as well as through detailed design to provide technical input for achieving resilience. In TRCA's experience, avoidance or mitigation of flood and erosion hazards, protecting and restoring natural heritage systems and water resources, and incorporating green infrastructure all contribute towards resilience and sustainability in infrastructure planning and design.</p> <p>The MOI's Long Term Infrastructure Plan and the implementation of the <i>Infrastructure for Jobs and Prosperity Act</i>, including the regulation for municipal asset management planning (which includes green infrastructure within the definition of assets) are briefly mentioned in</p>

<p>Program (ICIP), which will leverage \$11.8 billion in federal funding for investments in public transit, green infrastructure, infrastructure for community, culture, and recreation and infrastructure in rural and northern communities.</p> <ul style="list-style-type: none"> • Promoting the effective management of public infrastructure by: <ul style="list-style-type: none"> - Working with partner ministries to ensure decisions concerning provincial assets are integrated, timely and based on the best available evidence, including data analytics. - Implementing the requirements of O. Reg. 588/17, Asset Management Planning for Municipal Infrastructure. This includes providing municipalities with guidance as well as tools and supports to help them manage their assets in a more standardized and consistent manner. - The regulation requires Ontario municipalities to consider opportunities to undertake adaptation and mitigation measures to address the impacts of climate change on infrastructure. • Developing policies and initiatives by working with Infrastructure Ontario to enhance infrastructure delivery including through public-private partnerships (P3) and other programs. <p>The Ministry of Infrastructure will promote an innovative, competitive economy supported by modern infrastructure and maintain oversight of Infrastructure Ontario, in a manner that is environmentally sustainable and supports the Province’s commitment to climate change mitigation and adaptation.</p> <p>Specific details on the Ministry of Infrastructure’s activities and goals can be found on the Ministry website: https://www.ontario.ca/page/ministry-infrastructure</p>	<p>this section. These initiatives are significant opportunities for incorporating the protection, conservation and restoration of natural resources into MOI decision making, as per EBR requirements. Accordingly, TRCA recommends that implementation of the Long-Term Infrastructure Plan and the municipal asset management regulation figure more prominently and be expanded upon throughout the SEV.</p> <p>TRCA recommends modifying the text as follows: “The regulation requires Ontario municipalities to consider opportunities to build resilient infrastructure, as well as to undertake adaptation and mitigation measures to address the impacts of climate change on infrastructure.”</p> <p>TRCA recommends adding the word “resilience” to the paragraph in this section, as follows: “The Ministry of Infrastructure will promote an innovative, competitive economy supported by modern infrastructure and maintain oversight of Infrastructure Ontario, in a manner that is environmentally sustainable and supports the Province’s commitment to climate change resilience, mitigation and adaptation.”</p>
<p>4. INTEGRATION WITH OTHER CONSIDERATIONS</p> <p>The Ministry will take into account social, economic and other considerations and integrate these with the purposes of the EBR when making decisions that might significantly affect the environment. To assist the government in considering the environmental impact of infrastructure decisions, the Ministry of Infrastructure developed a Life-Cycle Assessment</p>	<p>- With regard to, “will take into account social, economic and other considerations” versus environmental impact, TRCA recommends that further clarification is needed on weighing other interests against environmental requirements and on what environmental impacts are unacceptable.</p>

<p>(LCA) Resource Guide. This Guide provides an overview of LCA and describes how ministries could use the information from the assessment to make climate-informed decisions about a project.</p> <p>LCA is a tool that measures the environmental impacts of an infrastructure investment over its full lifecycle, from production of building materials, through the construction and operations, to the decommissioning of the asset. Using LCA can help identify ways to minimize environmental impacts while balancing costs. For example, LCA can be used to identify cost-effective design and materials choices that reduce greenhouse gas emissions.</p> <p>The government is committed to reducing Ontario's GHG emissions by 30% below 2005 levels by 2030. To support this commitment, the plan proposes to have tools to help decision makers understand the climate impacts of government activities. LCA is an example of a tool that ministries could use to make choices that result in emissions reductions.</p>	<ul style="list-style-type: none"> - As well, the statement in this section “when making decisions that might significantly affect the environment” assumes there will be significant environmental impacts rather than avoiding, mitigating or compensating for any impacts. TRCA recommends that the statement be modified to make clear that the first choice is to avoid, then mitigate, and as a last resort compensate. - The example provided of the Life-Cycle Assessment (LCA) Resource Guide is focused on GHG emissions benefits but does not speak to the EBR goal of protection, conservation and restoration of the natural environment. TRCA recommends that the SEV include statements that describe how the Ministry will take into account the goal of protection, conservation and restoration of the natural environment. - The statement in this section that the LCA describes how ministries “could” use the information implies that the need to consider climate change and ecological impacts is optional. TRCA recommends that the language be strengthened to be more direct that decisions about a project <i>shall</i> be climate-informed. <p>With regard to the paragraph that begins, “LCA is a tool that measures the environmental impacts....” TRCA recommends adding text (see bold) as follows: “....can be used to identify cost-effective design and materials choices that lead to more sustainable choices, including to reduce greenhouse gas emissions and improve energy efficiency.” Further, TRCA recommends that adding another paragraph in which the SEV requires all procurements of products and services incorporate consideration for (or be consistent with) provincial climate goals, objectives and targets. As the document speaks to the integration into P3 agreements, this becomes imperative in the setting of industry standards that are associated with the building of provincial infrastructure. It supports programs that are in place, such as the Ministry of Transportation’s sustainability</p>
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	strategy, <i>Sustainability inSight</i> (2011) and the companion Sustainability Implementation Plan that provides direction to both highway and Metrolinx projects, as well as providing guidance to other provincial infrastructure builders.
<p>6. CONSULTATION</p> <p>The Ministry of Infrastructure believes that public consultation is vital to sound environmental decision-making. The Ministry will endeavour to provide opportunities for appropriate consultations, including with municipalities/municipal organizations, affected industries, and technical and environmental experts, when making decisions that might significantly affect the environment.</p>	<p>- TRCA recommends that in addition to municipalities, examples of other key public agencies be included for consultation on the environmental impacts of an infrastructure project, such as conservation authorities.</p>
<p>7. CLIMATE CHANGE</p> <p>The ministry will work to advance the province's core climate change priorities, as outlined in the Environment Plan by:</p> <ul style="list-style-type: none"> • Ensuring policies and programs consider the impacts of a changing climate and promote opportunities to build resilience; • Build partnerships across government, the broader public sector and with our external stakeholders to consider climate change mitigation and resilience as part of the government decision-making process. <p>The Ministry has demonstrated its commitment to these objectives through its work on ICIP (Investing in Canada Infrastructure Program) and the municipal asset management planning regulation.</p> <ul style="list-style-type: none"> • Funding under the Green stream of ICIP is being leveraged to support climate change mitigation projects, including public transit projects that reduce greenhouse gas emissions. • The regulation, which applies to all 444 Ontario municipalities, requires municipalities to consider opportunities to undertake adaptation and mitigation measures to address the impacts of climate change on infrastructure. 	<p>-TRCA recommends that after the first two important bullet points, to add a point regarding the link between resilience and the natural environment, including natural hazard management, water resource and natural heritage conservation, and the protection of drinking water sources. Further, to maintain the resiliency of our watersheds, there should be direction that, especially within the context of the potential impacts of infrastructure, restoration and compensation be implemented when natural heritage protection is not possible.</p> <p>-TRCA recommends revising the first bullet as follows: "Ensuring policies and programs consider the impacts of a changing climate and promote implement opportunities to build resilience"; and revising the second bullet to: "Build partnerships across government, the broader public sector and with our external stakeholders to consider incorporate climate change mitigation and resilience into as part of the government decision-making process."</p>

	Finally, in addition to supporting climate change mitigation projects, the funding referred to in this section should also be supporting climate change adaptation projects.
<p>9. GREENING OF INTERNAL OPERATIONS AND ENERGY CONSERVATION</p> <p>The Ministry of Infrastructure believes in the wise use and conservation of natural resources and is committed to reducing its environmental footprint by greening its internal operations, for example through in-office recycling programs, as well as waste reduction and energy conservation practices such as minimizing paper use and using energy savings options for idle office equipment.</p> <p>The Ministry will also continue to work with other partner ministries, stakeholders and suppliers in support of Government of Ontario initiatives to reduce emissions, conserve energy and water, and to wisely use our air and land resources in order to generate environmental, health and economic benefits for present and future generations.</p>	<p>-As mentioned in TRCA’s general comments above, the first paragraph in this section focuses on examples of in-office waste management and energy use. TRCA recommends using the sustainability framework of, climate, environment, social and economic impacts in “greening” its operations. In this regard, there could be other examples provided of how MOI implements the SEV in their internal operations such as, working remotely, flexible work schedules, and the use of digital technologies.</p>

Thank you once again for the opportunity to provide comments on the New Statement of Environmental Values for the Ministry of Infrastructure. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.661.6600, Ext. 5281 or at laurie.nelson@trca.ca.

Sincerely,

<Original signed by>

Laurie Nelson, MCIP, RPP
Director, Policy Planning

BY E-MAIL

cc:

TRCA: John MacKenzie, Chief Executive Officer
Sameer Dhalla, Director, Development and Engineering Services
Beth Williston, Associate Director, Infrastructure Planning and Permits
Steve Heuchert, Associate Director, Development Planning and Permits



June 8, 2020

BY EMAIL ONLY (kirby.dier@ontario.ca)

Ms. Kirby Dier
Network and Microgrid Policy
Ministry of Energy, Northern Development and Mines
77 Grenville St, 6th Floor
Toronto, ON M7A 2C1

Dear Ms. Dier:

Re: Proposal to identify and protect a corridor of land for future electricity infrastructure in the Greater Toronto Area (ERO #019-1503)

Thank you for the opportunity to comment on the Ministry of Energy, Northern Development and Mines' (ENDM) Environmental Registry (ERO) posting on the proposal to identify and protect a corridor of land for future electricity infrastructure in the Greater Toronto Area (GTA), in support of future growth in Halton, Peel and York regions.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources.

Government Proposal

The Independent Electricity Systems Operator (IESO), Ontario's electricity planner, has identified a long-term need for electricity transmission infrastructure in Halton, Peel and York regions, but the technical scope of transmission infrastructure required, and the timing of its need may not be certain for many years. In June 2019, ENDM and the IESO initiated the Northwest GTA Transmission Corridor Identification Study (the study) to identify an appropriate corridor of land for use by future linear transmission infrastructure when the need arises. TRCA understands that the government is currently seeking feedback on the proposed narrowed study area, shown in the Proposed Transmission Narrowed Area of Interest figure included in the ERO posting, as well as input on the guiding principles the government will consider in conducting the study. The outcome of the study will be a recommendation on land to be preserved for future transmission infrastructure and protected from development for other purposes.

ENDM has noted that any future electricity transmission development in the study area would be subject to *Environmental Assessment Act* requirements and other applicable regulatory approvals, including through the Ontario Energy Board.

General Comments

TRCA understands that the currently proposed narrowed area of interest for the transmission corridor largely corresponds to the Ministry of Transportation's (MTO) 2019 Focused Area Analysis for the GTA West Highway Environmental Assessment (EA). TRCA is a commenting agency involved in the review of the GTA West Highway EA. At this time, TRCA understands that the exact alignment of the highway has not been confirmed, nor is it clear where the electricity transmission corridor will be located relative to the highway (north of or south of the highway). Via a presentation to TRCA's Board of Directors on January 24, 2020, and through multi-agency working groups for the EA, MTO indicated that they anticipated sharing the preferred multimodal transportation corridor route publicly before the end of Spring 2020, with the exception of Sections 7 and 8 where further work is required to confirm the route in those areas.

A resolution from TRCA's Board of Directors meeting of January 24, 2020, was that MTO and ENDM/IESO confirm efforts to coordinate their independent studies and ensure negative impacts are fully assessed and minimized wherever practicable. Staff's report and recommendations to the Board recognized the substantial environmental impact the infrastructure projects can have, often crossing or running parallel to natural systems, requiring vast areas of natural feature removals, major grade and drainage alterations, and installation of hardened surfaces or underground components affecting groundwater and surface water receptors, e.g., watercourses, wetlands, woodlands.

The transmission corridor study area traverses TRCA's jurisdiction through the Etobicoke Creek, Mimico Creek and Humber River watersheds, including several hectares of TRCA-owned lands known as the Nashville Conservation Reserve. TRCA concerns are related to how the two infrastructure corridors would affect:

- flood and erosion hazards;
- watercourse and wildlife crossings;
- stormwater management;
- natural feature removals and corresponding ecosystem compensation;
- land use and/or acquisition of TRCA-owned lands as it may affect natural heritage and archaeological resources and recreation master planning, including trails and trail connections, and ultimately,
- climate resilience.

The Provincial Policy Statement's section 1.6 requires infrastructure and public service facilities to be provided in an efficient manner that prepares for the impacts of a changing climate while accommodating projected needs. It is TRCA's assertion that the transmission corridor study's attention to many of the above noted concerns will help demonstrate how such preparation can be addressed.

Detailed comments

TRCA's comments are organized according to the five guiding study principles and the questions posed in the ERO posting. We understand that provincial legislation, policies and technical planning documents have informed the principles and that "balance among the principles will be required in implementing the study."

Principle 1: Co-locate with other linear infrastructure

Corridor routing should maximize the use of existing linear infrastructure corridors wherever feasible (e.g., GTA West Transportation Corridor, 400 series highways, other infrastructure corridors).

TRCA understands ENDM is recognizing the opportunity to co-locate a transmission corridor with the Ministry of Transportation's (MTO) proposed GTA West Transportation Corridor, and so are proposing to align the timing of the study with milestones related to MTO's Environmental Assessment. TRCA supports the co-location of linear infrastructure in accordance with the Provincial Policy Statement (PPS), the Growth Plan and the TRCA's own policy document, The Living City Policies. By avoiding fragmenting large swaths of land in multiple locations, co-location of linear infrastructure can help minimize impacts to natural hazards, natural features and water resources.

Also aligned with provincial policies, is The Living City Policies' recommendation for coordinated processes (e.g., *Planning Act* and *Environmental Assessment Act*) to facilitate strategic infrastructure placement and design that avoids cumulative impacts and seeks opportunities for improvements to natural systems. In addition, the Growth Plan and the recently updated PPS both contain policies for greater integration of infrastructure planning with development planning with an aim to limiting land consumption and resource use.

While we understand that the transmission study is independent of the GTA West Highway Environmental Assessment, these studies should be coordinated to optimize opportunities for avoiding or reducing risk associated with natural hazards, for minimizing, mitigating and compensating for impacts to the natural heritage system, and for seeking opportunities for remediation and restoration enhancements.

Principle 2: Plan for the most cost-effective outcome

Corridor routing should protect least cost routing where feasible, which could include identifying the shortest geographic route and reducing crossings of other infrastructure such as highways, railways, pipelines and other transmission lines.

TRCA staff are supportive of corridor route planning that minimizes costs, contingent on all of the study principles being weighted fairly so that major environmental impacts will not be accepted in favour of least-cost alignments. We note that the principle's examples of identifying the shortest geographic route and reducing crossings of other infrastructure may be ambitious given the need for connections at specific locations and that realignments may be required to avoid existing infrastructure.

TRCA recognizes the need to minimize costs in the siting and alignment of the transmission corridor, but the assessment should also take a long-term view regarding the later stages of planning, design and construction of the electricity infrastructure. A short, direct route alignment may result in having to cross through difficult to construct areas due to natural hazards or groundwater conditions. The long-term costs of maintenance or repair from damage due to erosion or groundwater issues, for example, need to be considered, as well as the potential for exacerbation of these issues due to the surrounding urbanizing landscape and climate change. In this regard, other least-cost routing measures, which would also align with Principle 3, would be to minimize the number of crossings of valley and stream corridors.

Unavoidable impacts to the natural heritage system and the need for ecosystem compensation should also be factored into costing analyses. TRCA will recommend ecosystem compensation for loss of natural features at the EA stage of the project and at detailed design under TRCA's permitting process. This is especially important to assess early in the process, since infrastructure maintenance requirements may limit opportunities for placement of restoration plantings within the infrastructure footprint. Similarly, restoration locations outside the transmission corridor may be limited due to the GTA West Highway footprint and development pressures in proximity to the proposed study area. Comprehensive, upfront planning for the corridor will help streamline the approach to finalizing compensation at later planning stages and provide an estimate of the associated cost to better inform the preferred alignment.

Further, given that several hectares of TRCA-owned property will be traversed by the transmission corridor, TRCA Property staff request that future TRCA land acquisition costs be included within the costing analysis of

the study and, once the design has been finalized, that negotiations be undertaken regarding land base compensation for any lands impacted.

A comprehensive analysis that considers all of the study principles equally, and the impacts of a changing climate, should determine the most cost-effective outcome in the short and long term.

In order to plan for the most effective outcome, TRCA recommends that the criteria for selecting a recommended transmission corridor include factors in addition to cost, and that these criteria be evaluated and weighted such that the process to determine the preferred route alternative is clear and transparent.

Principle 3: Minimize impacts to natural heritage, agricultural and hydrological features consistent with provincial policies

Minimize corridor impacts on the natural heritage system, agricultural lands and hydrologic features consistent with provincial policies and plans (e.g., Provincial Policy Statement, Growth Plan, Greenbelt Plan).

TRCA supports this principle as The Living City Policies align with provincial and municipal policies for protection of natural heritage and water resources systems as well as agricultural lands. In order to meet this principle, the study criteria should include evaluation of impacts to watercourses, wetlands, and valley and stream corridors. TRCA recommends that this principle also incorporate the provincial requirements of reducing the risks associated with natural hazards of flooding and erosion. The PPS directs that infrastructure should be strategically located to support the effective and efficient delivery of services, and to ensure the protection of public health and safety in accordance with the natural hazard policies in Section 3.0. As well, the Growth Plan states that infrastructure must be adapted to be more resilient.

Siting of infrastructure during the next planning phases will be important to achieving resilience and to avoiding and minimizing impacts to natural heritage, and to avoiding and mitigating risks associated with natural hazards. Construction technologies for installing underground infrastructure to avoid natural feature removals may be preferred to above-ground, although studies need to determine which options will best minimize impacts. It is TRCA's understanding that an EA will be completed to further assess the preferred alignment as determined by the corridor study, followed by design and permitting. We look forward to further involvement as the analysis supporting the various alignments within the recommended corridor takes place.

Should the transmission corridor study reveal limited opportunities for restoration plantings within the corridor due to maintenance access needed for infrastructure components, there may still be opportunity for meadow habitat restoration. TRCA's [Meadoway](#) project is a unique approach to integrating and naturalizing linear public open space into urban landscapes. The existing infrastructure corridor spanning TRCA watersheds is undergoing enhanced naturalization with meadow habitat and trail construction, subject to restrictions on uses within the corridor. It is recommended that future transmission corridor design alternatives for the current transmission study consider opportunities to enhance biodiversity in this way, thereby meeting shared public agency objectives and provincial policies for active transportation and climate resilience.

Principle 4: Minimize impacts on built up areas

Corridor routing should minimize impacts on existing municipal plans in the study area, including impacts on existing built up areas, cultural heritage, planned developments and airports.

TRCA staff have worked closely with municipalities and the development industry to plan for the development, redevelopment and intensification of the areas in proximity to the corridor while protecting and enhancing the natural heritage system and avoiding and mitigating the risk associated with flood and erosion hazards. Natural heritage lands, including hazardous lands, have been conveyed into public ownership through municipal planning processes. TRCA supports the principle that impacts to municipal plans and built up areas be

minimized, especially given the significant efforts invested in negotiating for the protection, management and public conveyance of natural system lands.

Principle 5: Provide flexibility for the future

- *Corridor routing should take a long-term view and should not preclude reasonably anticipated future infrastructure requirements.*
- *Corridor routing should allow for connections to existing electrical infrastructure.*
- *Corridor routing should not preclude specific technology types, which will be determined by a future transmitter (i.e., overhead lattice, overhead monopole, underground).*
- *Corridor routing should preserve sufficient flexibility for future environmental study.*

TRCA agrees and supports the statements regarding flexibility for the future as listed in this principle. Indeed, as indicated in our comments above, TRCA recommends that routing should take a long-term view in order to consider future costs and to prepare for the impacts of a changing climate.

We recommend that in terms of future infrastructure requirements that recreational / trail considerations should also be considered. The Parkway Belt West Plan included conceptual trail alignments for a similar scale hydro transmission and utility corridor. You may wish to reference the September 2019 [TRCA Trail Strategy](#) in your study and the future EA and design work should be viewed as an opportunity to implement TRCA Trail Strategy through an approach similar to TRCA's work with Hydro One and the City of Toronto with the Meadoway on the Gatineau corridor in Toronto.

With regard to specific technology types, TRCA appreciates this flexibility given that a future transmitter's ability to choose between above ground versus below ground infrastructure or a mix of both is important for exercising the best option for minimizing, mitigating and compensating for environmental impacts.

Also noted above, we understand that an EA will be completed at a later stage to further narrow the transmission route within the broader protected corridor. TRCA appreciates that there will be some level of flexibility within the corridor to adjust the location of the transmission infrastructure, once data become available to further inform exact alignments.

Question 1: Are you aware of potential barriers or issues that may be associated with the proposed narrowed area of interest?

In January 2020, TRCA staff reviewed the potential impact of the various proposed MTO transportation alignments for the GTA West Highway on TRCA-owned property. At that time, the potential impact to TRCA-owned property from the transportation corridor ranged from 8 to 73 hectares (ha), depending on the route. In TRCA's report of January 24, 2020 entitled "GTA West Transportation Corridor Individual Environmental Assessment," submitted to MTO, TRCA identified several areas of concern including possible impacts to TRCA-owned lands.

The 2019 Focused Analysis Area for the GTA West Highway Environmental Assessment and the Proposed Transmission Narrowed Area of Interest represent a broader area of study than the specific transportation routes evaluated in January 2020. The total potentially affected TRCA-owned land in the Proposed Transmission Narrowed Area of Interest is approximately 130 hectares.

The majority of the potentially impacted TRCA lands are in the Nashville Conservation Reserve (NCR) in Vaughan. The NCR is a 900+ hectare TRCA property that supports a variety of wildlife, provides significant deer wintering yards and is an important migratory corridor. It is a diverse site containing many different habitat types such as forests, wetlands, meadows, former agricultural fields and small tributaries that feed into the main branch of the upper Humber River. Phase 2 of the Nashville Multi-Use Trail Project, undertaken by TRCA in partnership with York Region and the City of Vaughan, is currently ongoing and will build a 400-metre

section of compacted granular trail to improve trail quality, accessibility and inter-regional trail connections in the vicinity of the GTA West Highway preferred technical route. The NCR's large size and current and future ecological value make it an integral part of our city-region's natural heritage system.

TRCA appreciates that a protected corridor for electrical transmission is required to accommodate projected energy needs for rapidly growing communities. Rather than being a barrier, the protected ecosystems and nature-based recreation opportunities currently being enhanced and established in the NCR also represent an important public service that should be able to persist in tandem with the highway and the transmission corridor. Therefore, TRCA recommends that the transmission study direct the future transmitter to mitigate the impacts that construction and installation will have on the NCR, and where this is not possible, to integrate natural system and trail connectivity into the different infrastructure components to maintain connectivity for both wildlife and public use.

Question 2: Are there other principles we should consider in conducting the study?

As mentioned in the comments on Principle 2, TRCA recommends that avoiding or reducing the risk associated with natural hazards of flooding and erosion also be included as a guiding principle of the study. TRCA is an agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the PPS. Consideration of natural hazards should be incorporated as early as possible in the infrastructure planning process of the transmission corridor location and is an appropriate consideration to include in the study as it relates to climate resiliency. In TRCA's experience, placement of hydroelectric corridors adjacent to and crossing valley systems results in increased erosion risk, as regular maintenance within the corridor often creates a need for access routes through sensitive areas, over watercourses, down valley slopes and through wetlands. It will be essential once this project moves into the EA phase, that the type of infrastructure technology and location for a route to be identified and recommended that avoids sensitive and hazardous areas to the extent possible.

TRCA Property staff request that there be coordination with TRCA throughout the transmission corridor planning and design process to further review and provide input on options to avoid and mitigate impacts to TRCA-owned lands, and to determine an alignment that will minimize and/or mitigate impacts through the Nashville Conservation Reserve.

Question 3: Do you have any other outstanding questions or concerns?

Based on the review of information on the transmission corridor and the GTA West Highway provided to date, TRCA staff raised several issues that have yet to be addressed. Many of these issues are also relevant to both projects, such as:

- What will be the cumulative impacts of two infrastructure corridors on the surrounding NHS?
- Will there be further updates provided by ENDM regarding background information to inform a preferred corridor?
- How and where will this be documented? Will this be documented through the IESO's Integrated Regional Resource Plan update or through another process?
- The geographic scale of the protected transmission corridor is not clear. TRCA requests that ENDM clarify the proposed protected corridor width in order to inform further TRCA feedback.
- The potential orientation of the transmission corridor relative to the GTA West Highway project is not clear (i.e., will the transmission corridor alignment be located to the north or south of the highway?) TRCA requests clarification on this matter, noting that significant potential impacts to sensitive lands, including TRCA-owned lands, may occur depending on the selected approach.

In addition to providing responses to the above questions, TRCA also requests ENDM to consider a number of recommendations as described below.

TRCA Recommendations

In order to support the government's proposal to identify a corridor for electricity transmission in support of regional growth in Halton, Peel and York regions, and continue to ensure the protection of people and property from natural hazards and the conservation of natural resources, TRCA recommends the following:

- 1) That in the interest of conforming to the Provincial Policy Statement, which requires infrastructure and public service facilities to be provided in an efficient manner that prepares for the impacts of a changing climate while accommodating projected needs, the transmission corridor study address TRCA comments regarding:
 - flood and erosion hazards;
 - watercourse and wildlife crossings;
 - stormwater management;
 - natural feature removals and corresponding ecosystem compensation;
 - land use and/or acquisition of TRCA-owned conservation lands;
 - climate resilience.
- 2) That in addition to co-locating the transmission corridor with the GTA West Transportation Corridor, that the planning processes for these two major projects be coordinated in order to optimize opportunities to avoid, minimize, mitigate and compensate for environmental impacts.
- 3) Regarding projected costs:
 - a. That the study principles be fairly weighted so that major environmental impacts will not be accepted in favour of least-cost alignments.
 - b. In order to plan for the most effective outcome, that the criteria for selecting a recommended transmission corridor include factors in addition to cost, (e.g., all study principles and the impacts of a changing climate), and that these criteria be evaluated and weighted such that the process to determine the preferred route alternative is clear and transparent.
 - c. To streamline the approach to finalizing required compensation at later planning stages and inform cost estimates, that requirements for ecosystem compensation (to compensate for unavoidable impacts to the natural heritage system) and associated costs be considered in the study.
 - d. That future TRCA land acquisition costs be included within the costing analysis of the study and, once the design has been finalized, that negotiations be undertaken with TRCA Property staff regarding land base compensation for any lands impacted.
- 4) That the transmission corridor study criteria include evaluation of impacts to watercourses, wetlands, and valley and stream corridors.
- 5) That the provincial requirements of reducing the risks associated with natural hazards, be added to Principle 3 on provincial policies.
- 6) That future transmission corridor design alternatives consider opportunities to enhance biodiversity, incorporate active uses and fully maximize restoration opportunities within the corridor, subject to restrictions on uses within the corridor, using [The Meadoway](#) project as a model.

- 7) That the environmental impacts of above- versus below-ground technologies be considered in future decisions on technology and alignment alternatives, noting TRCA's preference for the option that will minimize environmental impacts.
- 8) That the transmission study direct the future transmitter to mitigate the impacts that construction and installation will have on the Nashville Conservation Reserve, and where this is not possible, to integrate natural system and trail connectivity into the different infrastructure components to maintain connectivity for both wildlife and public use.
- 9) That there be coordination with TRCA throughout the transmission corridor planning and design process to further review and provide input on alignment options to avoid, minimize and mitigate impacts to TRCA-owned lands, including the Nashville Conservation Reserve.

Thank you once again for the opportunity to provide comments on the proposal to identify and protect a corridor of land for future electricity infrastructure in the GTA. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc. (PI) MCIP, RPP
Chief Executive Officer

BY-E-MAIL

Cc: Lukasz Grobel, Project Manager, Ministry of Transportation

TRCA: Laurie Nelson, Director, Policy Planning
Sameer Dhalla, Director, Development and Engineering Services
Moranne McDonnell, Director, Restoration and Infrastructure
Beth Williston, Associate Director, Infrastructure Planning and Permits
Daniel Byskal, Associate Director, Property and Risk Management



June 24, 2020

BY E-MAIL ONLY (clairissa.myschowoda@ontario.ca)

Clairissa Myschowoda
Species at Risk Branch - Permissions and Compliance
Ministry of the Environment, Conservation and Parks
300 Water Street
4th Floor, South Tower
Peterborough, Ontario K9J 3C7

Dear Ms. Myschowoda:

Re: Metrolinx: Permit for activities that will result in a significant social or economic benefit to Ontario (ERO #019-1682)

Thank you for the opportunity to comment on the Ministry of Environment, Conservation and Parks' Environmental Registry (ERO) posting on the proposed permit for activities that will result in a significant social or economic benefit to Ontario, sought by Metrolinx. We understand the posting is to solicit input on a proposal for permits under the *Endangered Species Act* in relation to three priority transit projects that will improve public transit in the Greater Toronto Area. The proposed permits have the potential to impact species at risk and consider options to avoid and minimize impacts on the species.

The Toronto and Region Conservation Authority (TRCA) has an ongoing interest in protecting wildlife species and their habitat given our roles as described below. TRCA conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNR Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under Section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. Where endangered species are affected by development, provincial staff undertake a concurrent review of planning proposals in accordance with the *Endangered Species Act*. TRCA supports our provincial partners and other public

infrastructure providers in avoiding, mitigating and compensating to protect and restore wildlife habitat in the environmental assessment process, and through our mandate under the *Conservation Authorities Act*.

Government Proposal

We understand the government is seeking public input on a proposal for permits under the *Endangered Species Act, 2007* (ESA) in relation to three priority transit projects: the Eglinton Crosstown West Extension, the Ontario Line and the Scarborough Subway Extension. The proposed permits have the potential to impact species at risk and consider options to avoid and minimize impacts on the species. The species known to occur in the project study areas are Barn Swallow and Butternut, while publicly-available species occurrence data suggest that Bank Swallow (*Hirundo rustica*), Blanding's Turtle (*Emydoidea blandingii*), Chimney Swift (*Chaetura pelagica*), Eastern Small-footed Myotis (*Myotis leibii*), Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-coloured Bat (*Perimyotis subflavus*) may occur in the study areas.

We understand that this proposal does not imply that the Ministry of Environment, Conservation and Parks (MECP) will issue a permit, and that a permit may only be issued where the legal requirements set out in clause 17(2)(d) of the ESA have been satisfied.

General Comments

We commend Metrolinx for proactively seeking permits for species at risk impacts within the project study areas in advance of the detailed design phase. This approach is consistent with a recommendation made in TRCA's previous comments to the ERO on four priority transit projects, with the rationale that comprehensive, creative and collaborative approaches early in the infrastructure planning process facilitates streamlining, better decision making, positive outcomes and greater certainty for all stakeholders. TRCA submitted comments on March 19, 2020 on MECP's ERO posting #019-0614, "Proposed regulations for how the Environmental Assessment process will apply to four priority transit projects in the Greater Toronto and Hamilton Area," to the MECP's Environmental assessment branch. A copy of the letter is enclosed for your information.

From the current ERO posting, we understand that Metrolinx is seeking ways to minimize adverse effects on the species and that many of these mitigation measures may be included as requirements in the proposed ESA permits, such as:

- undertaking studies to confirm or refute the presence of the species prior to construction commencing;
- undertaking work at the time of year when the species are less sensitive to disturbance if habitat will be removed:
- removing it at the time of year when the species are less likely to be present;
- creating or enhancing habitat for the Species to compensate for the habitat that was removed;
- if any members of the species will be removed (i.e. Butternut), compensating for these impacts through actions that benefit the species (e.g. plantings);
- providing contractors with education on how to identify the species at risk and what steps to take should the species at risk be encountered within the study areas; and
- monitoring the effectiveness of any steps taken to minimize adverse effects on the species and taking additional steps to increase their effectiveness should they be found to be ineffective.

In addition to the above efforts of the proponent to minimize impacts, ecological impacts that cannot be mitigated should be compensated for to maintain a robust natural heritage system resilient to the impacts from the new infrastructure. As a major landowner in the GTA and an agency actively engaged in ecological restoration projects, TRCA is well-positioned to provide potential project options and available land to facilitate ecosystem compensation.

Through watershed research, science and expertise, TRCA has developed a number of technical guidance tools and strategies that can be used to inform and support the implementation of the ESA permitting process for mitigating and compensating species and habitat impacts. TRCA's Guideline for Determining Ecosystem Compensation and TRCA's Integrated Restoration Prioritization framework are landscape level approaches to identifying ecological impairments, compensating for and improving ecosystem function. While species at risk (SAR) are not a focus of these tools, many SAR benefit from these approaches through the main restoration objectives that address hydrological processes, natural cover, connectivity, and landforms and soils. Complemented by the framework, TRCA's Restoration Opportunities Planning tool is a method to inventory feasible ecological restoration projects at the watershed sub-catchment scale that include SAR considerations.

Accordingly, TRCA infrastructure planning and restoration ecology staff are available to work cooperatively with the Ministry and Metrolinx to ensure a natural heritage systems approach to environmental impacts is applied throughout the project, which includes accounting for and minimizing impacts to SAR. TRCA and Metrolinx are already working to address issues concerning natural hazards of flooding and erosion risks associated with the transit projects, as outlined to MECP in the enclosed March 19, 2020 letter.

TRCA Recommendations

On the basis of the above comments, TRCA recommends that:

- 1) Metrolinx and the project consultants work collaboratively with TRCA to ensure a systems approach to natural resource conservation is applied throughout the priority transit projects, including minimizing species at risk impacts.
- 2) Opportunities be pursued to coordinate ecosystem compensation with the *Endangered Species Act* process for impacts to the natural heritage system that cannot be mitigated.
- 3) Metrolinx and the project consultants consult with TRCA to identify potential ecosystem compensation project opportunities on TRCA-owned lands.

Thank you once again for the opportunity to provide comments on the proposed permit for activities that will result in a significant social or economic benefit to Ontario, sought by Metrolinx. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(PI) MCIP, RPP
Chief Executive Officer

Encl. TRCA Submission dated March 19, 2020 Re: ERO #019-0614, Four Priority Transit Projects in the Greater Toronto and Hamilton Area

BY E-MAIL

cc:

TRCA:

Laurie Nelson, Director, Policy Planning
Sameer Dhalla, Director, Development and Engineering Services
Beth Williston, Associate Director, Infrastructure Planning and Permits
Ralph Toner, Associate Director, Restoration and Resource Management
Daniel Byskal, Associate Director, Property and Risk Management

March 19, 2020

BY E-MAIL ONLY (ken.cunningham@ontario.ca)

Ken Cunningham
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West
Toronto, Ontario M4V 1P5

Dear Mr. Cunningham:

Re: Proposed regulations for how the Environmental Assessment process will apply to four priority transit projects in the Greater Toronto and Hamilton Area (ERO #019-0614)

Thank you for the opportunity to comment on the Ministry of Environment, Conservation and Parks' Environmental Registry (ERO) posting on the proposed regulations for how the Environmental Assessment process will apply to four priority transit projects in the Greater Toronto and Hamilton Area.

Toronto and Region Conservation Authority (TRCA) is a key participant in the environmental assessment (EA) process within its watershed-based jurisdiction, both as a reviewer of EAs and as a proponent of undertakings under the *Environmental Assessment Act*. TRCA conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CAs) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures. TRCA's roles are:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under Section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources.

Government Proposal

We understand the government's current proposal would modify the existing environmental assessment process for four priority transit projects in the Greater Toronto and Hamilton Area. It will modify the existing Transit Project Assessment Process (TPAP), as set out under Ontario Regulation 231/08 for Transit Projects and Metrolinx Undertakings, to better suit a public-private partnership (P3) project delivery model, while ensuring appropriate consultation occurs, and that the protection of the

environment remains a priority. Specifically, the proposal is to enact a new regulation pertaining specifically to the Ontario Line Project, and to amend O. Reg. 231/08 Section 15.

The existing TPAP is a scoped environmental assessment process for certain classes of transit projects specified in Schedule 1 of O. Reg. 231/08. These project classes are exempt from the more rigorous class environmental assessment process required by Part II.1 of the *Ontario Environmental Assessment Act*. We understand that the current government proposal is for a further scoped EA process, as compared with the TPAP, for the four priority transit projects, and furthermore that substantial components of the process will be completed within the coming months so construction may begin before the end of 2020.

General Comments

TRCA staff have reviewed the proposal and generally support streamlining the delivery of priority public transit projects while maintaining environmental oversight. TRCA works regularly with its provincial and municipal partners on public infrastructure projects while avoiding duplication and delay. At the same time, we recognize the importance of a robust assessment of environmental, social and economic considerations and public consultation processes, appropriately scoped for project scale and location.

Proposed Ontario Line Regulation

Issues resolution

TRCA supports that objections to the proposed projects are addressed through an issues resolution process that Metrolinx manages. It has been our experience working on other Metrolinx projects, that when Metrolinx maintains full control of their project from a project management perspective, a timelier review and commenting process is facilitated.

Early Works

The Provincial Policy Statement (2020) states the objective to direct development away from areas of natural and human-made hazards, which protects public health and safety, and minimizes cost, risk and social disruption. Through this lens, TRCA has a long-standing relationship with Metrolinx working on major facilities to ensure they are planned and developed to avoid and or minimize impacts from the provincial interest on natural hazards, specifically flood risks.

TRCA emphasizes that natural hazards associated with flooding and erosion must be accounted for during the EA phase in order to properly manage their associated risk to infrastructure investments and the public users of transit projects. The proposed early works process may not account for this, which is of concern to TRCA due to the Ontario Line's location within the lower Don River flood plain and in an area particularly affected by the fluctuating Lake Ontario levels. Considerable financial resources are currently being channeled towards addressing flood risk to over 290 hectares of downtown Toronto and the Port Lands. The studies, monitoring and information arising from the Port Lands Flood Protection initiative should be considered, maintained and incorporated into the planning and development of the Ontario Line. It will be critical that Metrolinx engages with key stakeholders of the Port Lands Flood Protection Initiative to identify and avoid these flood risks as well as develop mitigation measures. TRCA is recommending that the responsibility and accountability for planning, design and implementation of mitigation measures remain with Metrolinx and not be assigned to contractors.

Climate Change Considerations

The impacts of a changing climate should also be accounted for during the project's design phase in order to inform risk management measures. For the Ontario Line, as an example, this may include utilizing updated TRCA or other models to account for changing climate and including additional freeboard for planned infrastructure in flood prone areas to accommodate for rising Lake Ontario water levels. It is imperative that technical studies, including evaluating and planning for the mitigation of such risk using current methodologies, be completed by Metrolinx prior to the detailed design phase. These studies may take time to complete, and as such may cause conflict in the approval of some of the proposed early works, namely bridge structures and any other structures such as stations proposed in flood plain areas.

Accordingly, TRCA staff are concerned with the scope of the proposed "early works" definition of project components that will be allowed to proceed to construction before the completion of the draft Environmental Impact Assessment Report. Early works typically include activities such as land assembly, preloading and utility relocations. This contrasts with the currently proposed major structural realignment activities included as "early works" such as station construction, bridge replacements and expansions and rail corridor expansion. TRCA cautions that as currently proposed the broad definition of early works may result in major alignment challenges with unforeseen impacts to public safety related to flooding and erosion impacts, as well as negative impacts to natural systems that may include natural heritage features of provincial interest.

Another concern is existing riverine flood protection infrastructure that has been constructed to protect life and property, impacts to which must be avoided through the design of the Ontario Line. In addition, the groundwater conditions are a significant environmental factor along stretches of the proposed Ontario Line corridor, much of which is proposed to be tunneled. Developing mitigation strategies for groundwater impacts should be considered in the early works initiatives so as not to impact the overall project schedule. TRCA notes that groundwater conditions may affect the project's construction feasibility, and that groundwater issues are typically identified through the existing Environmental Assessment process.

Preliminary activities should also consider land assembly/acquisition in the early works phase if the entirety of lands within the project area are not owned by the Province. TRCA recognizes that TRCA-owned lands may be required for project completion in certain locations and would appreciate being involved early in the process as these negotiations can be lengthy.

Soil Considerations

TRCA has several planned erosion and hazard management infrastructure projects along the Toronto Waterfront that could be potential sites for the placement of soils. TRCA would appreciate continued engagement on potential soil management strategies as these projects evolve.

Draft Early Works Report

As proposed under Section 8(2).7, the Draft Early Works Report must include measures to mitigate the negative environmental impacts of the preferred alternative. This methodology is problematic as mitigation measures are proposed prior to assessment and evaluation of the impacts that the preferred method of carrying out the early works and other methods might have on the environment (and Metrolinx's criteria for assessment and evaluation of those impacts). Those steps occur as part of the Environmental Impact Assessment Report, however, if the early works as stated in the draft document can proceed prior to the Environmental Impact Assessment Report there could be

unforeseen issues in the future that result in project delays. TRCA would recommend that selection of the preferred alternative, including in the case of early works, include an evaluation of potential impacts and mitigation to confirm feasibility and that the proposed regulation be revised to account for an amendment process.

Preferred alternative determination

The Draft Environmental Conditions Report speaks to mitigating the environmental impact of the preferred alternative in draft regulation Section 4(3).7, suggesting the preferred alternative is determined based on minimal environmental information prior to completion of the Environmental Impact Assessment Report. This approach is problematic, as mitigation occurs prior to assessment and evaluation of the impacts that the preferred method of carrying out the works and other methods might have on the environment (and Metrolinx's criteria for assessment and evaluation of those impacts). Those steps occur as part of the Environmental Impact Assessment Report that follows the Environmental Conditions Report. TRCA would prefer that the selection of the preferred alternative include an evaluation of potential impacts and mitigation to confirm feasibility.

Assessment and reporting requirements

TRCA notes that the proposed regulation lacks a clear definition of "Environment" (draft regulation Section 1), and which studies are to be included in an Environmental Conditions Report (Section 4(3)), Environmental Impact Assessment Report (Sections 15(1) and 18(1)), and Early Works Report (Sections 8(2) and 11(1)). For example, stormwater, groundwater, natural hazards including flooding and erosion, natural heritage, terrestrial and aquatic habitat studies must be specified for the report. TRCA recommends these studies be clearly defined to ensure the proper information is assessed, mitigated and conveyed in the Environmental Conditions Report, Environmental Impact Assessment Report and Early Works Report.

From TRCA's perspective, it is imperative that issues associated with transit construction in proximity to the Waterfront Toronto Port Lands and in particular the associated flood protection features in this area, which constitute technically complex areas prone to significant flooding, are addressed and confirmed through the preliminary Environmental Conditions Report. Satisfying complex technical concerns in this regard is paramount to ensuring the constructability of the project which will in turn reduce risk and save time during construction.

Given the inherent impacts on the natural heritage system associated with transit projects, ecosystem compensation should be addressed in the various project studies. Where impact assessment and mitigation measures are required, ecosystem compensation should also be included as a necessary consideration. This requirement to consider ecosystem compensation earlier in the project will streamline the approach to finalizing required compensation at later planning stages. TRCA recommends that ecosystem compensation should be included in the draft regulation within Sections 8(2).7, 15(2).7 and 21(1).4 of the proposed regulation.

Species at risk

TRCA supports that Metrolinx may apply for and obtain authorization to proceed with measures to accommodate any species at risk or provincial heritage properties in advance of completing the process outlined in the regulation, subject to any consultation or other requirements associated with those processes. In TRCA's experience, issues related to species at risk are raised at the detailed

design stage and can delay approvals, whereas this delay could be avoided if the issues are addressed earlier in the process. TRCA also recommends that the regulation include a protocol or agreement whereby Metrolinx can address issues requiring federal species at risk approvals, as well as approvals from Fisheries and Oceans Canada regarding harmful alteration or disruption, or destruction of fish habitat under the purview of the *Fisheries Act* in order to avoid review delays at the detailed design stage.

Project changes

Regarding how project changes are dealt with in the draft regulation, Section 21(2) states that the procedure in subsection (1) for addressing a change does not apply if the change is required to comply with another Act, a regulation made under another Act, or an order, permit, or approval or other instrument issued under another Act. However, there is no procedure outlined for changes required to comply with these elements (i.e., how changes required to comply with a permit issued under another Act will be incorporated into the project's assessment and approval process). TRCA suggests outlining how a change required to comply with another Act will be addressed and the protocol for circulating proposed changes in order that other agencies, such as conservation authorities remain informed.

Proposed Changes to O. Reg. 231/08

As noted in our comments on the proposed Ontario Line Regulation, given the inherent impacts on the natural heritage system associated with transit projects, ecosystem compensation should be addressed in the various project studies. Where impact assessment and mitigation measures are required, ecosystem compensation should also be included. It is our experience that the inclusion of ecosystem compensation considerations earlier in the planning process will streamline the approach to compensation at later planning stages. TRCA recommends that ecosystem compensation in accordance with Metrolinx's standard should be included in Sections 15(1).3 and (15).4 of O. Reg. 231/08, in the addendum to the environmental project report.

TRCA Recommendations

In order to achieve a streamlined priority transit project development process in a timely manner and continue to ensure the protection of people and property from natural hazards and the conservation of natural resources, TRCA recommends:

- 1) The proposed project assessment timeline ensures projects can demonstrate that they will avoid increasing risk of natural hazards (flood and erosion risks) to infrastructure or public health and safety through the completion of appropriate technical studies that inform detailed design.
- 2) The environmental studies required are clearly defined within the regulation to ensure the proper information is assessed, mitigated and conveyed in the Environmental Conditions Report, Environmental Impact Assessment Report and Early Works Report.
- 3) A protocol be developed for harmonizing federal approvals and any other required provincial approvals early in the process to avoid delays prior to detailed design. The Aquatic Habitat Toronto model involving DFO, MNRF, TRCA and other government agencies may be helpful to consider in this regard.

- 4) The scope of early works be limited to typical low risk activities such as land assembly, staging, stockpiling, in lower risk areas of the project.
- 5) Should the proposed scope of early works remain as proposed, that a 30% detailed design be required and reviewed by the government agency review team for the project to confirm potential impacts, feasibility and mitigation measures prior to the approval of the early works.
- 6) We recommend that consideration of sustainability strategies such as the placement or use of soil in nearby projects in support of nearby conservation authority flood and erosion control projects be considered to reduce GHG emissions be a requirement.

Thank you once again for the opportunity to provide comments on the proposed regulations for how the Environmental Assessment process will apply to four priority transit projects in the Greater Toronto and Hamilton Area. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our comments, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(PI), MCIP, RPP
Chief Executive Officer

BY E-MAIL

cc:

TRCA: Laurie Nelson, Director, Policy Planning
Sameer Dhalla, Director, Development and Engineering Services
Moranne McDonnell, Director, Restoration and Infrastructure
Beth Williston, Associate Director, Infrastructure Planning and Permits



June 28, 2020

BY E-MAIL ONLY (leanne.jennings@ontario.ca)

Leanne Jennings
Species at Risk Branch - Species at Risk Recovery Section
Ministry of the Environment, Conservation and Parks
300 Water Street
North tower, 5th floor
Peterborough, Ontario K9J 3C7

Dear Ms. Jennings:

Re: Developing government response statements for nine species at risk under the Endangered Species Act, 2007 (ERO #019-1749)

Thank you for the opportunity to comment on the Ministry of Environment, Conservation and Parks' Environmental Registry (ERO) posting on the draft government response statements for nine species at risk under the *Endangered Species Act, 2007*.

The Toronto and Region Conservation Authority (TRCA) has an ongoing interest in protecting wildlife species and their habitat given our roles as described below. TRCA conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under Section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, and as stated in the *Made-In-Ontario Environment Plan*, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. Where endangered species are affected by development, provincial staff undertake a concurrent review of planning proposals in accordance with the *Endangered Species Act*. TRCA supports our provincial and municipal partners in avoiding, mitigating

and compensating to protect and restore wildlife habitat in the planning and environmental assessment processes, and through our mandate under the *Conservation Authorities Act*.

Government Proposal

We understand that under the *Endangered Species Act* (ESA), the government must ensure that a recovery strategy is prepared for each species that is listed as endangered or threatened. A recovery strategy provides science-based advice on what is required to achieve recovery of a species. Generally, within nine months after a recovery strategy is prepared, the ESA requires the government to publish a statement summarizing the government's intended actions and priorities in response to the recovery strategy. The response statement is the government's policy response to the scientific advice provided in the recovery strategy.

The Ministry is proposing government response statements that outline actions the government is taking and supports to protect and recover nine species at risk (SAR) in Ontario:

Blanding's Turtle (*Emydoidea blandingii*),
Eastern Whip-poor-will (*Antrastomus vociferus*),
Little Brown Myotis (*Myotis lucifugus*),
Northern Bobwhite (*Colinus virginianus*),
Northern Myotis (*Myotis septentrionalis*),
Spiny Softshell (*Apalone spinifera*),
Spotted Turtle (*Clemmys guttata*),
Tri-colored Bat (*Perimyotis subflavus*)
White Wood Aster (*Eurybia divaricata*).

General Comments

TRCA staff have reviewed the draft government response statements and support the actions proposed to protect and recover these SAR in Ontario. We note, however, that many of the actions essential for achieving the government's recovery goals are categorized as "government-supported" as opposed to "government-led". For example, within the response statements for the three turtle species, the government-supported actions listed under Research and Monitoring, Management, Stewardship and Awareness Focus Areas are to be supported through the funding available for the SAR Stewardship Program. Therefore, TRCA staff have the following questions:

- How will the objectives allocated under government-supported actions be appropriately funded and supported to allow for these goals to be achieved?
- How is the severity of risk for each species taken into consideration when sub-allocating these funds?
- How will any new findings of the research be integrated into the existing and future recovery strategy items?

In TRCA's experience, available funding is project-specific and therefore does not accommodate a natural heritage systems approach. In this regard, it may be more efficient to establish multi-species action plans to address common threats for species that occupy the same ecotype/habitat in Ontario.

This would help reduce duplication and increase efficiency while improving effectiveness of SAR recovery.

All government response statements acknowledge that successful SAR recovery requires inter-governmental co-operation and the involvement of many individuals, organizations and communities. It would be beneficial for the statements to identify what the roles of other public agencies might be, specifically conservation authorities and municipalities given their roles in monitoring, restoration, education, and planning and permitting as well as landowners and proponents of Class Environmental Assessments.

Currently, however, the ESA process can be overly restrictive as to limit monitoring and restoration activities (e.g., reddsides). Given that SAR live within an ecosystem, restoration and regional monitoring activities should be considered as beneficial in the context of species recovery strategies and response plans. For example, TRCA has capacity to assist in recovery efforts due to a long history of regional watershed monitoring, (e.g., with funding and cooperation from the government, TRCA could commence turtle surveys across our region for species present in our jurisdiction). TRCA is already undertaking road ecology research and could target SAR in our monitoring and research in addition to the multiple species and indicators that the program currently tracks.

In addition, TRCA's Integrated Restoration Prioritization framework is a landscape level approach to identifying ecological impairments and improving ecosystem function. While SAR are not a focus of the framework, many SAR benefit from this approach through the main restoration objectives that address hydrological processes, natural cover, connectivity and landforms and soils. Complemented by the framework, TRCA's Restoration Opportunities Planning tool is a method to inventory feasible ecological restoration projects at the watershed sub-catchment scale that include SAR considerations.

Related to the above, it may also be helpful to identify existing tools and established processes that could be used by the agencies to implement the actions and achieve recovery goals. Again, this harmonization could lead to reducing duplication and finding efficiencies. The response statements acknowledge cooperation with other agencies is important but do not offer details on how the implementation will work through the SAR Stewardship Program. Following are some suggestions for examples of implementation through the use of existing tools:

- require construction mitigation techniques for road construction and natural forms of shoreline stabilization through the ESA permit process;
- the government can directly influence water management plans through licenses/permits required under the *Lakes and Rivers Improvement Act*;
- the increase in habitat connectivity, particularly within private lands, could be stimulated through tax breaks for implementation of Stewardship Plans on private lands;
- more funding could be allocated for detection and enforcement of illegal collection of specimens;
- to address the amount of accidental deaths through boat collisions, introduce an educational component into the Safe Boating legislation and license regarding potential collisions with wildlife; and

- to reduce mortality from fishing by-catch, introduce an educational component into the obtention of a Fishing License.

TRCA also offers the following comments specific to each draft response statement.

Draft Government Response Statement for Blanding's Turtle

- It is not just newly created roads/trails that attract nesting females, but routine maintenance on existing roads/trails that results in fresh gravel or grading also attracts females. This is an important timing consideration for road/trail management.
- Coyotes have also been identified as predators (see COSEWIC Assessment)
- The effects of European red ants are not well understood on hatchlings or nesting females. We suggest this be added under the research and monitoring actions of site-specific threats or invasive species.
- The impact that red-eared sliders have on Blanding's turtles needs to be quantified in terms of interspecific competition and the transmission of diseases under research and monitoring actions.
- Similarly, under the stewardship and awareness actions, efforts need to be taken to educate the public on the impacts of aquarium turtle release and the proper ways to surrender unwanted pet turtles.
- Non-native turtle releases for all turtles should also be identified; this creates interspecific competition for resources and can potentially introduce disease into populations.
- Stewardship and awareness actions should target stormwater pond managers to ensure that management, including water drawdowns, not occur during the critical overwintering period. This can be as simple as direct and well-publicized best management practices targeted to local municipalities.
- Suggest prioritizing the research action regarding the effects of different types/sizes of roads based on the level of estimated impact (existing data allows for this).
- Suggest prioritizing management of invasive species (presumably Phragmites) based on more robust criteria than just "where they pose a direct threat". Phragmites is unlikely to pose a direct threat in the early stages of invasion when it is much easier to control. Rather, phragmites poses a direct threat once it becomes so dense and expansive that it is extremely difficult and expensive to control.

- “Priority sites” are referred to but it is not identified where these are; could this information be released to allow agencies to focus efforts? One proviso should be that the information remains confidential to the agencies so that poachers cannot take advantage of these sites.
- The response statement could specify implementation mechanisms for priority actions identified such as government-led permit conditions for mitigation techniques to address new road construction and road mortality, forest management, aggregate extraction and energy production.
- More funding could be allocated for detection and enforcement of illegal collection of specimens. The reduction on illegal collection of species should also be specifically identified as an action under the Management or Stewardship and Awareness Focus Area.

Draft Government Response Statement for Spiny Softshell

- It is suggested that all actions to improve recruitment are necessary given that there may be approximately 900 individuals left in the province. More diligent and immediate measures are required in order to support the long-term viability of the existing population.
- Suggest prioritizing management of invasive species (presumably Phragmites) based on more robust criteria than only “where they pose a direct threat” (see same comment above under Blanding’s Turtle).
- The impact that aquarium turtles may have on spiny softshells needs to be quantified in terms of interspecific competition and the transmission of diseases under research and monitoring actions. Similarly, under the stewardship and awareness actions, efforts need to be taken to educate the public on the impacts of aquarium turtle release and the proper ways to surrender unwanted pet turtles. TRCA has captured both Chinese spiny softshell and Texas spiny softshell in our restored wetlands and are concerned about the effect these exotic species may be having on our native turtles.

Draft Government Response Statement for Spotted Turtle

While this species is likely extirpated from TRCA’s jurisdiction we offer the following comments informed by extensive habitat management work:

- Suggest prioritizing management of invasive species (presumably Phragmites) based on more robust criteria than just “where they pose a direct threat” (see same comment above under Blanding’s Turtle).
- It is not just newly created roads/trails that attract nesting females, but routine maintenance on existing roads that results in fresh gravel or grading also attracts females. This is an important timing consideration for road management. Especially for spotted turtles, this

action needs to be expanded to include recreational trails with ATV use. The impacts that on and off-trail ATV use has on spotted turtles should be a primary stewardship and awareness action.

- The impact that red-eared sliders have on spotted turtles needs to be quantified in terms of interspecific competition and the transmission of diseases under research and monitoring actions. Similarly, under the stewardship and awareness actions, efforts need to be taken to educate the public on the impacts of aquarium turtle release and the proper ways to surrender unwanted pet turtles.
- The impact that subsidized predators have on spotted turtles should be a primary stewardship and awareness action. This could be targeted to residents in known spotted turtle areas encouraging them to clean up bird feeder waste, secure garbage and compost, never feed wildlife, etc.
- The draft response statement identifies mass mortality of hibernating spotted turtles as a potential consequence of changes to the water table occurring during hibernation periods. The need for water management plans for activities that could result in alteration of water regimes in wetlands should be added as a specific action item.
- Because there are only 2,000 to 3,000 mature individuals left in Ontario with a high mortality rate, more diligent and immediate measures are required from the Government in order to support the long-term viability of existing population.
- The implementation of mitigation techniques involved in new road construction and road mortality could be directly tied to government-led permits as a requirement.
- The increase and maintenance in habitat connectivity, particularly within private lands, could be stimulated through tax breaks for implementation of Stewardship Plans on private lands. Due to the life history of this species, connectivity between aquatic and terrestrial habitats is particularly critical.
- More funding could be allocated for detection and enforcement of illegal collection of specimens.

Draft Government Response Statement for Whip-poor-will

- Since they are forest edge nesters, Whip-poor-will are likely to be significantly impacted by subsidized predators that patrol this type of habitat; they are also likely impacted by cats and dogs.

- In light of the above, the stewardship and awareness section should include outreach to private property owners regarding the impact of subsidized predators on whip-poor-will and other wildlife and the actions they can take to reduce predator populations.
- The above noted section could also include information on the impact of outdoor cats and off-leash dogs as large contributors to ground nesting bird declines. The Ministry should consider adopting a “cats indoors” campaign to address the enormous and well-documented impact that cats have on birds, and other wildlife.
- With regard to “priority sites”, with a 94% decline in population, it should be assumed that every site is a priority site.
- The response statement refers to declines of prey populations related to pesticides and insect controls. As it is apparent that increased pesticides have a negative impact on insect populations, resources should be reallocated to focus on insect declines and potentially assist a variety of aerial insectivores.

Draft Government Response Statement for White wood aster

Although White wood aster is not in TRCA’s jurisdiction, we offer the following:

- It is not realistic to assess deer browse on this plant since it is likely entirely eaten or eaten beyond the point of identification. Furthermore, research has already shown that when protected from deer, herbaceous plants can recover, further research is not required rather, it is time to implement protection (see research by York University/Ontario Parks at Rondeau and Presqu’île Provincial Parks).
- Outreach and awareness actions should also include trail management best practices to ensure users and managers do not impact trailside asters.

Draft Government Response Statements for Bats (Little Brown Myotis, Northern Myotis, and Tri-Coloured Bats)

- A high priority for research should be maternity roosts. Likewise, inventory and mapping priorities should include maternity roosts.
- Awareness and habitat protection objectives should also target homeowners (especially in rural areas) with specific advice on how to help bats directly and indirectly. Rural homeowners will likely have a genuine interest in assisting bat populations when they learn of the pest control benefits bats provide, and the easy and inexpensive ways they can promote bat habitat both directly and indirectly on their property (bat boxes, naturalized areas, etc.).

- The background primer acknowledges that urbanization and land development is a major contributor to the decline in foraging and roosting habitat, yet there are no sections in the response statement pertaining to urban development and/or anthropogenic impacts (except lines 273-274) to the three bat species and/or their habitat (including foraging habitat, hibernacula/swarming sites, and maternity roosts sites). Line 273 may be interpreted that the government will continue to mitigate anthropogenic threats to habitat only within provincially protected areas. Clearer direction should be provided on the protection of the three bat species and their habitat outside provincially protected areas where development is more prominent.
- The response statement identifies the *Made-in-Ontario Environment Plan* in the context of greenhouse gas reductions. The Ministry may want to consider that reference to specific policy or strategy documents may require future updates to the response statement. An alternative would be to state that greenhouse gases should be reduced by a targeted amount by 2030 to reduce pollution for reasons related to bat recovery.
- Aerial insectivores are seeing declines across Ontario; additional action items to increase insect populations or to help halt the decline would be beneficial for this species recovery (also see comment above related to Whip-poor-will and pesticides).
- It is suggested that the government provide direction for best management practices and/or guidance documents to help prevent direct and indirect impacts to the three bat species and their habitat based on existing scientific evidence/knowledge. For example, implementing application of timing window for removal of trees with suitable maternity roost potential. An approach where surveys are required if timing windows cannot be met would be helpful. It would be beneficial if this was a requirement for any proposed permanent removal of bat habitat, similar to urban development impacts to redbreasted nuthatch habitat.
- Another consideration in terms of recent threats is that bats are being portrayed as the cause and carriers of the Corona virus, being unfairly hunted and killed. This could be referenced under public education efforts in “Awareness and Habitat Protection” action items.

TRCA Recommendations

On the basis of the above comments, TRCA recommends that the Ministry consider:

- 1) Multi-species recovery strategies and government response statements being developed for species that occupy the same ecotype/habitat in Ontario to incorporate and better reflect a systems-based approach to species protection and recovery.
- 2) Specific reference to ecosystem restoration activities and regional monitoring activities being included within the government response statements as positive actions for multi-species benefits including SAR.

- 3) The government response statements:
 - a. Reallocate a number of action items from government-supported to government-led actions, as recommended in the body of this letter, to enhance implementation and goal achievement.
 - b. Define the roles of other agencies, including conservation authorities and municipalities, in SAR recovery.
 - c. Incorporate use of existing tools, through established processes, that the Province can leverage to provide species protection and achieve the government response statement goals.
- 4) TRCA's recommendations to emphasize certain species-specific impacts provided in this letter be incorporated into the government response statements, such as impacts of anthropogenic development, invasive species, subsidized predators, domesticated pet predation, domesticated species releases, illegal specimen collection, off-trail all-terrain vehicle use and road maintenance activities.
- 5) TRCA's recommendations to support potential species-specific mitigation factors provided in this letter be incorporated into the government response statements, such as municipal stormwater management best management practices, timing window requirements for existing or potential habitat removal, and prioritizing the research action regarding the effects of different types/sizes of roads based on the estimated magnitude of species impact.

Thank you once again for the opportunity to provide comments on the draft government response statements for nine species at risk under the *Endangered Species Act, 2007*. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.661.6600, ext. 5281 or at laurie.nelson@trca.ca.

Sincerely,

<Original signed by>

Laurie Nelson MCIP, RPP
Director
Policy Planning

BY E-MAIL

cc:

TRCA: John MacKenzie, Chief Executive Officer
Sameer Dhalla, Director, Development and Engineering Services
Ralph Toner, Associate Director, Restoration and Resource Management
Scott Jarvie, Associate Director, Watershed Planning and Ecosystem Science
Brad Stephens, Senior Manager, Planning Ecology



July 31, 2020

BY E-MAIL ONLY (sandra.bickford@ontario.ca)

Sandra Bickford
Ontario Growth Secretariat
777 Bay Street, Suite 2304
Toronto, Ontario M7A 2J8

Dear Ms. Bickford:

Re: Proposed Amendment 1 to A Place to Grow: Growth Plan for the Greater Golden Horseshoe (ERO #019-1680)

Proposed Land Needs Assessment Methodology for A Place to Grow: Growth Plan for the Greater Golden Horseshoe (ERO #019-1679)

Thank you for the opportunity to comment on the Ministry of Municipal Affairs and Housing's Environmental Registry (ERO) postings on the proposed Amendment 1 to A Place to Grow: Growth Plan for the Greater Golden Horseshoe and the proposed Land Needs Assessment Methodology.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under Section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, and as stated in "A Made-In-Ontario Environment Plan," conservation authorities work in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. Through Memorandums of Understanding and Service Level Agreements, TRCA provides technical support to its provincial and municipal partners in implementing municipal growth management policies. Further, TRCA recognizes the importance of efficiency, certainty, transparency and accountability in planning and design review processes, so that development and infrastructure projects can occur in a timely and environmentally sustainable manner.

Government Proposal

We understand Amendment 1 proposes changes to the population and employment forecasts, the horizon year for planning, and other policies in the Growth Plan to increase housing supply, create jobs, attract business investment and better align with infrastructure.

We understand the government is also consulting on a new Land Needs Assessment Methodology for the Greater Golden Horseshoe, which supports the implementation of the Growth Plan. Growth Plan policy 2.2.1.5 of the Plan requires upper- and single-tier municipalities to use the Methodology issued by the Minister to assess the quantity of land required to accommodate forecasted growth to the horizon of this Plan. This posting presents the new outcome-based Methodology that, if approved, would replace the existing Methodology. A simplified approach to land needs assessments that reduces the overall complexity of implementation of the Plan is being proposed to provide more flexibility to municipalities.

General Comments

TRCA staff have reviewed the proposed Amendment 1 and the revised Land Needs Assessment Methodology and offer the following comments organized by the areas of change for which we are providing input.

TRCA understands the importance of stimulating growth in the Greater Golden Horseshoe as part of the economic recovery from the COVID-19 crisis, but this should not come at the expense of the fundamental principles of the Growth Plan for “protecting what is valuable”. The proposed amendments would benefit from a more balanced approach for considering social, economic and environmental interests. If, as stated in the Growth Plan, communities and infrastructure are going to be adapted to be more resilient, greenhouse gas emissions across all sectors of the economy are to be reduced, and valuable water resources and natural areas are to be protected, then strong direction is needed for municipalities to be able to determine that their growth forecasts and land needs can be accommodated while protecting water resources, natural heritage and managing impacts from natural hazards. The protection of these valuable natural resources within and outside the Protected Countryside of the Greenbelt, must be maintained in order to implement provincial policies for “preparing for the impacts of a changing climate.”

Proposed Amendment 1 to A Place to Grow: Growth Plan for the Greater Golden Horseshoe	
Proposal	Comments
Growth Forecasts for the Greater Golden Horseshoe <ul style="list-style-type: none">• Changes to the text of the Growth Plan to extend the Plan’s horizon to 2051 and provide clarity regarding the application of Schedule 3 to 2051• A new Schedule 3 to replace the existing Schedule 3 and Schedule 7 in the Growth Plan. The new Schedule 3 includes population and employment forecasts for	<p>TRCA is concerned that the proposed ability for a municipality to exceed the revised forecasts may encourage larger scale and more frequent requests for Settlement Area Boundary Expansions (SABE) in advance of the completion of comprehensive studies (e.g., watershed and subwatershed studies) that help determine natural heritage, infrastructure and water management constraints and opportunities. In our jurisdiction we also note and would recommend policy to stave off requests e.g., the recent Dorsay request for Minister’s Zoning Orders (MZO) outside of the Municipal Comprehensive Review (MCR) process.</p> <p>The proposed ability to exceed targets, combined with the previously approved Plan amendments of reduced density targets, appears inconsistent with the intent of the Growth Plan to avoid unmanaged growth, promote intensification and limit</p>

<p>upper- and single-tier municipalities to 2051.</p> <ul style="list-style-type: none"> Revised population and employment forecasts in Schedule 3 shall be minimums that municipalities may exceed through a Municipal Comprehensive Review. 	<p>land and resource use. With the proposed amendments both SABEs and MZOs can take place outside of the MCR process causing potential disruptions in the orderly management of land. With the proposed amendments, the comprehensive studies that normally occur within an MCR would be circumvented by development and servicing schemes and proposals that may not take into consideration the larger context of the watersheds and systems being affected by them. TRCA is currently working with several of its municipal partners to support them in the integrated growth management work they are undertaking through their MCRs.</p> <p>While section 2.2.8.5 of the Growth Plan states that SABEs outside of an MCR process are still required to follow environmental impact criteria set out in 2.2.8.3, including that the expansion be informed by sections 2 (Wise Use and Management of Resources) and 3 (Protecting Public Health and Safety) of the Provincial Policy Statement (PPS), we would discourage expansions outside of the MCR process. If the government decides to proceed with this amendment despite the concerns being raised by our municipal partners, given the importance of these requirements for the feasibility, planning and design of development and servicing, additional detail and policies requiring more comprehensive prerequisite studies e.g., watershed and subwatershed plans, master environmental servicing plans, etc. should be more prominently positioned and emphasized within an updated Growth Plan to ensure conformity and implementation.</p> <p>In TRCA's experience, there is significant development pressure to locate infrastructure in the natural heritage system and natural hazard lands, as well as for site alteration and grading to occur, within areas of the system intended to function as vegetation protection zones. A robust natural heritage system is a valuable public service required to combat the impacts of urbanization and climate change and offers respite and nature-based recreational opportunities for the growing population as evidenced by the increased use of these areas during the COVID-19 pandemic.</p> <p>Accordingly, stronger and more specific direction is needed for limiting land and resource use within the natural heritage system and for mitigation of impacts within the natural heritage system. Such policies should state that development and servicing should avoid the natural heritage system, where possible, including hazardous lands, and associated Vegetated Protection Zone (VPZs), and further, that development and infrastructure should meet stormwater management (SWM)</p>
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	<p>criteria for water quality, quantity, erosion, and water balance (for natural features and drinking water sources). We note that the Plan contains policies for watershed planning prior to SABEs within or outside of an MCR process but these policies do not address erosion or water balance, which can be major impacts of urbanization.</p> <p>Further, the Plan’s definition of Sub-watershed Planning should be highlighted in the policies, i.e., “integrated with natural heritage protection” and “identifies specific criteria, objectives, actions, thresholds, targets, and best management practices to support ecological needs.”</p> <p>TRCA is supportive of maintaining Growth Plan policies promoting SWM master planning and Low impact Development (LID) measures (e.g., 2.2.1.4, 3.1, 3.2.7, 4.2.1.10), and we are pleased that these are not proposed to be changed. In TRCA’s experience, however, we note that many municipalities can be reluctant to permit LID measures for SWM beyond conventional conveyance techniques, especially on public lands citing insufficient research and information on the long-term use and maintenance of these technologies. This tends to result in LID measures being situated on private lands where there is a risk of such features eventually being altered or removed. Better implementation of the SWM and LID Growth Plan direction could result if policies were added that more specifically direct municipalities to examine options for LIDs within private and public lands. For example, the policies could direct an examination of the co-location of compatible public service facilities where feasible (e.g., SWM in and around parks). This would in turn encourage municipalities to help ensure that their public lands and infrastructure, including transportation corridors, are resilient to the effects of urbanization and the compounding effects of climate change. The TRCA Sustainable Technological Evaluation Program (STEP) has worked with industry to pilot and conduct research on LID technologies that may be useful to examine if the government would like to provide more prescriptive and directive policy on LIDs. Such a move would likely be positively received by industry stakeholders and environmental agencies including conservation authorities.</p>
<p>Aggregate Mineral Resources Extraction</p> <ul style="list-style-type: none"> Changes to the text of the Growth Plan to remove the prohibition on new mineral aggregate operations, 	<p>It should be clarified that the reference in this amendment to the Natural Heritage System for the Growth Plan is still applicable only to lands outside the Greenbelt Plan Area and outside of Settlement Area boundaries that were approved and in effect as of July 1, 2017. This is particularly important given that policy 4.2.2.6 of the Plan states that beyond the Natural</p>

<p>wayside pits and quarries from habitats of endangered species and threatened species within the Natural Heritage System for the Growth Plan</p>	<p>Heritage System for the Growth Plan, including within settlement areas, the municipality: a) will continue to protect any other natural heritage features and areas in a manner that is consistent with the PPS.</p> <p>The rationale for this amendment is stated in the ERO posting as proximity to market, but we question how it reconciles with the environmental protections in the Growth Plan, the PPS, the <i>Endangered Species Act</i> (ESA) and other provincial plans and regulations. It may be helpful if the analysis that led to this proposed change were shared. For example, in our jurisdiction it is unclear what species and what areas would be affected. Moreover, given that the ESA would continue to apply for aggregate mineral resource extraction uses, this change would likely cause uncertainty for stakeholders. TRCA recommends the prohibition in Growth Plan policy 4.2.8.2 for these habitats be maintained or at minimum, the permission be contingent on demonstration of no reasonable alternative locations, minimizing, mitigating and/or compensating for the impacts to species and their habitats with more stringent rehabilitation requirements of a net ecological gain.</p>
<p>Provincially Significant Employment Zones/Major Transit Station Areas</p> <ul style="list-style-type: none"> Changes to the text of the Growth Plan to permit municipalities to undertake employment area conversions outside the municipal comprehensive review for lands that are identified as provincially significant employment zones (PSEZs) and within major transit station areas (MTSAs) 	<p>To avoid impacts to people and property due to flooding and erosion while supporting transit-oriented development, clear provincial direction is needed for addressing natural hazards in the conversion of PSEZs to non-employment lands within MTSAs. Many of these areas in our jurisdiction are older brownfield or greyfield areas. A number of these higher order transit stops in TRCA's jurisdiction fall within areas subject to flooding, and similar to employment lands, typically consist of a higher proportion of impervious surface. Developing employment uses or non-employment uses within MTSAs must account for natural hazards, whether identified outside or inside of an MCR process.</p>

Land Needs

The proposed Land needs Assessment Methodology should be revised to specifically direct the removal of natural heritage system lands and lands subject to natural hazards from the developable area in accordance with Growth Plan policy 2.2.7.3 "The minimum density target will be measured over the entire designated greenfield area of each upper- or single-tier municipality, excluding the following: a) natural heritage features and areas, natural heritage systems and floodplains, provided development is prohibited in these areas."

Proposed Land Needs Assessment Methodology for A Place to Grow: Growth Plan for the Greater Golden Horseshoe	
Proposed Methodology	Comments
Purpose and Objectives	The methodology states that municipalities must consider a number of key factors to ensure that a sufficient and appropriate mix of land is available but does not include the environment among these factors. Growth Plan policy 2.2.7.3, cited above, should be emphasized as a premise to the consideration of all other factors. Adequate greenspace planning/allocation, including trails, should also be considered key, especially within urban areas. This priority need has become more apparent during the COVID-19 pandemic.
Implementation and Conformity	The proposed methodology is much less detailed than the previous (2018) methodology. While this provides more flexibility to municipalities, the risk is that it will be inconsistently applied across the GGH. The broad approach using higher growth forecasts and the previously lowered density targets could lead certain jurisdictions into an unsustainable development pattern rather than a focus on intensification and complete communities.
Timeframes	Applying the LNA Methodology is one of the required components in an MCR process. TRCA has an interest in ensuring that municipalities conform to the watershed planning policies of the Growth Plan taking into account environmental take-outs, (i.e., policy 2.2.7.3), for the LNA within the MCR timeline. It would be beneficial for certainty and streamlining for all stakeholders if the Province were to provide a procedural guidance document in this regard. These guidance documents were part of the Coordinated Plan review recommendations. We note that the MECP Watershed Planning Guidance draft was never finalized despite watershed planning remaining within the PPS and recommendations of the Provincial Flood Advisor which speak to the importance of watershed planning.

TRCA DRAFT Recommendations

On the basis of the above comments, TRCA recommends that the Growth Plan amendments and the proposed Land Needs Assessment Methodology be revised to:

- 1) Place greater emphasis on policies requiring watershed planning and subwatershed planning to assess the impacts of development and infrastructure on the environment to inform growth and infrastructure planning.
- 2) Maintain the prohibition on new mineral aggregate operations within habitats of Endangered and Threatened species within the Natural Heritage System of the Growth Plan.

- 3) Barring recommendation (2), at minimum, require that permission for incursions into the natural heritage system be contingent on demonstration of no reasonable alternative locations and minimizing, mitigating or if necessary, compensating for the impacts to species and their habitats with more stringent rehabilitation requirements of a net ecological gain.
- 4) Require avoidance of natural hazards and remediation where avoidance is not possible, in the conversion of Provincially Significant Employment Zones to non-employment lands within Major Transit Station Areas. This could include encouraging the use of tools such as specific development charges or levies, among others, to complete required flood protection infrastructure as a catalyst to facilitate development, while reducing or eliminating flood risk.
- 5) Specifically direct the removal of natural heritage system lands and lands subject to natural hazards from the developable area in accordance with Growth Plan policy 2.2.7.3 in the proposed Land Needs Assessment Methodology
- 6) Utilize TRCA STEP research, guidelines and protocols to include more details on comprehensive studies and LID measures that should accompany SABEs, major redevelopment and intensification in flood prone areas or that may impact or exacerbate hazards in downstream areas.

Thank you once again for the opportunity to provide comments on the proposed Amendment 1 to the Growth Plan. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(Pl), MCIP, RPP
Chief Executive Officer

BY E-MAIL

cc:

TRCA: Laurie Nelson, Director, Policy Planning
Sameer Dhalla, Director, Development and Engineering Services



July 31, 2020

BY E-MAIL ONLY (waterpolicy@ontario.ca)

Erinn Lee
Ministry of Environment, Conservation and Parks
Water Policy Branch
Foster Building, 10th Floor
40 St. Clair Ave W
Toronto, ON M4V 1M2

Dear Ms. Lee:

Re: Updating Ontario's Water Quantity Management Framework (ERO #019-1340)

Thank you for the opportunity to comment on the Ministry of Environment, Conservation and Parks' Environmental Registry (ERO) posting on updating Ontario's water quantity management framework. We understand this update proposes regulatory changes for managing water takings to protect the long-term sustainability of surface water and groundwater and to ensure these important resources are responsibly managed and safeguarded now and for future generations.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under Section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, and as stated in the *Made-In-Ontario Environment Plan*, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. TRCA provides technical support to its municipal partners, as a Source Protection Authority and through Memorandums of Understanding and Service Level Agreements in implementing the natural heritage, natural hazard and water resource policies of municipal and provincial plans.

Government Proposal

The Ministry of Environment Conservation and Parks (MECP) reviewed provincial policies, programs and science tools for managing water takings in Ontario. Independent consultant BluMetric also completed an assessment of water resources in the province, focusing on selected water quantity study areas potentially vulnerable to the cumulative effects of multiple water users, drought, climate change, population growth or changing land use. Additionally, the consultant evaluated whether existing permits to take groundwater for the purpose of water bottling are being adequately managed within the water taking permitting framework. Findings of the MECP and BluMetric assessments were validated by a third-party panel from Professional Geoscientists Ontario (PGO).

The ERO posting also contains a Proposal Paper that outlines MECP's proposed goals and actions, for which the public's input is requested prior to the government undertaking enhancements to Ontario's water quantity management program.

General Comments

With TRCA's roles, responsibilities and experience in mind, we offer the following comments on the MECP proposals as outlined in the Proposal Paper, BluMetric, and PGO reports, and general feedback on policies and programs associated with water taking in Ontario.

Given our experience as watershed managers and having local knowledge of water resource conditions, conservation authorities and municipalities warrant greater consultation for Permit to Take Water (PTTW) reviews. While PTTW applications are circulated to TRCA, we currently have a limited role in the process. It is typically when a proposed project triggers permit requirements under section 28 of the *Conservation Authorities Act*, (TRCA Ontario Regulation 166/06), that we review extensively for construction de-watering operations. We note that the provincial review did not include an assessment of the impacts of permanent de-watering for development and infrastructure, yet these types of operations can weigh significantly on groundwater levels, affecting environmental receptors (wetlands, watercourses) as well as drinking water supplies.

Water taking permit review should better recognize the dynamic nature of the water resource system, adjusting for the amount of water in the system, rather than allowing a constant draw regardless of adverse conditions such as drought. The amount of allowable water to be taken should be tied to the water budget of the area feeding the groundwater. For example, this could be based on the amount of rainfall at the point where the groundwater system is primarily recharged and decreased during times of prolonged dry conditions or lack of rainfall on the primary recharge points. Target rainfall volumes can be investigated and provided to trigger specific water taking maximums. This will require that the proponent conduct a more comprehensive analysis of the groundwater system, including water budgeting, to establish precipitation targets for specific water taking volumes.

The provincial review's conclusion that water taking in Ontario is generally sustainable is uncertain, since the assessment did not take into account all of the water available or being taken. As a starting point for a more comprehensive approach to assessing water resources, conservation authorities, in their role as source protection authorities under the *Clean Water Act*, could be tasked with updating their 2010 water budgets.

Another ongoing concern for PTTW, is that the provincial review process does not currently have the tools to consider cumulative impacts when issuing permits. Conservation authorities endeavor to take this perspective in watershed planning and source water protection and would welcome the opportunity to offer our expertise and experience to assist in updating and more greatly participating in the provincial review processes.

The following comments are organized by the ERO proposal's areas of change for which we are providing input. **Bolded text** indicates TRCA's main suggestions and recommendations for the Ministry's consideration.

Updating Ontario's Water Quantity Management Framework - Proposal Paper	
Section	Comments
Introduction	
Ontario's framework for managing water takings	
The water bottling moratorium	As stated in the Professional Geoscientists Panel report, the volumes of water withdrawn by water bottlers are negligible overall. TRCA agrees with the Panel that placing a moratorium on a single industry is not a necessary step from a technical standpoint.
The ministry's water quantity management review	Further to the comment above, it would be preferable to have a more comprehensive review of water use instead of a focus on a single industry (i.e., water bottling).
Main conclusions of the review	
Ontario has an effective framework for managing water takings	Ontario's water quantity management framework needs to be more robust, as currently not all types of water takings are captured. Some water takings are regulated through the Permit To Take Water process (PTTW), some through the Environmental Activity and Sector Registry (EASR), and some are completely exempt. Second, there is little to no assessment of the cumulative impacts of water takings in these review processes. It is critical to understand how much water takers are using in total in order to better assess sustainability.
Bottled water takings are being managed sustainably under the existing framework	We agree but are concerned that other types of water takings are not being adequately assessed.
Water resources in Ontario are generally sustainable, with a few local exceptions	This conclusion is uncertain since the assessment does not take into account all of the water available or taken. As a starting point for a more comprehensive approach, conservation authorities, in their role as source protection authorities under the Clean Water Act, could be tasked with updating their watershed-based water budgets, last prepared in 2010.
Opportunities to enhance the current framework to be more resilient to current and future water quantity management challenges	There are several opportunities to enhance the current framework – better data, more open data, and better cumulative assessment.
Where do we want to go?	
Goal 1: Establish clear provincial priorities of water use	
Proposed Action: Establish priorities of water use in regulation (O. Reg. 387/04 amendment)	We support this clarification of priorities for assessment in the review process.

Updating Ontario's Water Quantity Management Framework - Proposal Paper	
Section	Comments
Proposed Action: Provide guidance on applying priorities of water use	If priorities are established, this will be key to consistent application across the province.
Discussion Q: 1. Do you support including priorities of water use in regulation? Why or why not?	TRCA supports establishing priorities of water use in regulation. Municipal water supply needs to be secure, while ecological needs, particularly for surface water takings, are equally important for human and environmental health. Certain commercial needs are also vital to a thriving economy yet these takings need to be assessed against municipal drinking water sources and natural resources.
Discussion Q: 2. How should priorities of use be applied to water taking decisions? When should it be applied? What process should be followed? Who should be involved? What information should be considered?	<p>Priorities should be used to communicate with water users during droughts.</p> <p>As Environment is listed as the first water use priority (equal with Drinking Water), the Province should explicitly acknowledge the need for a robust decision-making framework for determining environmental use allocations when large water taking permits are under consideration (either for large individual permits or for a high concentration of smaller permits within a given area). This acknowledgement is needed to recognize that it is challenging to determine "environmental flow needs" (EFN, from BluMetric report) without first having some statement of ecological values or priorities. The Province could survey assessment tools and targets from the science of EFN and the availability of tools which have proliferated in recent years (as outlined in the BluMetric report). Municipalities, conservation authorities, and the public should be given opportunity to comment on the Province's preferred framework. We recognize the need for a framework that is relatively simple and has some flexibility to account for different levels of data availability and/or system sensitivity.</p>
Discussion Q: 3. Municipal drinking water supply is proposed as a highest priority use. What municipal drinking water needs should be considered a priority (e.g., current, planned growth, longer-term growth)?	For municipal use, long term growth must be considered, especially for communities that are groundwater-dependent. These communities must have confirmed supply for the 30-year horizon, otherwise, growth allocated to these areas may not be sustainable. This would align with the Province's currently proposed forecast period for the Growth Plan for the Greater Golden Horseshoe of 2051 (to be extended from the current 2041).
Goal 2: Update our approach to managing water takings in stressed areas	
Proposed Action: Add authority in regulation to manage water takings	TRCA supports this proposed action, particularly since cumulative impact assessment for water takings is a gap in the framework. The action is supported contingent on the areas to

Updating Ontario's Water Quantity Management Framework - Proposal Paper	
Section	Comments
on an area basis (O. Reg. 387/04 amendment)	be managed being kept current. Given our roles in source water protection and watershed management, conservation authorities can be a valuable resource in the identification of areas that may become stressed in the future.
Proposed Action: Update existing guidance for managing water takings on an area basis	The proposal to provide clearer direction to Permit to Take Water Directors for assessing a group of water takings on an area is a positive step towards greater understanding of cumulative impacts; having the direction in regulation will also improve transparency and certainty for all stakeholders.
Proposed Action: Develop additional guidance for managing water takings in drought conditions	We agree that the Ontario Low Water Response policies and activities should be incorporated into the proposed framework to cooperatively manage low water and drought mitigation and response locally. We note that funding for conservation authorities under the Low Water Response Program was essentially discontinued a few years ago. Conservation authorities welcome the opportunity to offer our expertise and experience from watershed management and source water protection assessment but require funding to participate.
Proposed Action: Replacing high use watershed maps and prohibitions in the regulation (O. Reg. 387/04 amendment)	We support the proposal to replace the high use watershed maps with updated guidance for managing water takings on an area basis, and for how to manage water when drought conditions occur. This is contingent on the guidance being updated regularly, because our knowledge of the available groundwater resources and the magnitude of groundwater withdrawals evolves over time.
Discussion Q: 1. Under what circumstances should the ministry consider assessing and managing water takings on an area basis?	<ul style="list-style-type: none"> • Areas of moderate or significant risk as calculated by a Tier 3 Water Budget under the <i>Clean Water Act</i> • Requests from municipalities • Requests from conservation authorities • When drought conditions (as indicated under Ontario Low Water Response) are reported for an area for three consecutive years. <p>Further to the above, the Ministry should consider an explicit trigger or threshold for determining when the cumulative impacts of smaller water takings are of concern to environment, drinking water, and other water uses. This threshold should be automatically triggered when a certain density of permits is reached within a given horizontal radius and/or stream reach distance, with different thresholds applying to areas/municipalities adjacent to the Great Lakes versus those in interior/headwater settings (and possibly another threshold in between those two extremes of settings). Thresholds would also</p>

Updating Ontario's Water Quantity Management Framework - Proposal Paper	
Section	Comments
	need to be assessed relative to the estimated available water in a system (e.g. % allocated of total available); in light of the increased stress on aquatic ecosystems during summer and early fall, thresholds of water use should take into account water availability this period rather than relying on annual total availability, in accordance with approaches taken by other jurisdictions (as outlined in the BluMetric science review).
Discussion Q: 2. What suggestions do you have for the process of assessing and developing a strategy to manage water takings on an area basis? For example, how should local water users, stakeholders, and Indigenous communities be engaged?	Local water users should be contacted through information on their PTTW or EASR application. Groundwater use data should be collected in stressed areas, including domestic use. Water users should be required to report their groundwater use on an annual basis even if they have not obtained a PTTW.
Discussion Q: 3. How can the province help water users be more prepared for drought?	Education and outreach activities regarding approaches for water conservation.
Goal 3: Make water taking data more accessible	
Proposed Action: Enable sharing of government water quantity data (O. Reg. 387/04 and O. Reg. 63/16 amendments)	This would be very welcome.
Proposed Action: Enhance access to government water quantity data	This would be very welcome.
Discussion Q: 1. Is there any water quantity and monitoring information reported to the ministry that should not be made publicly available? If so, why?	No. This is a public resource, and public has a right to know how it is being used.
Discussion Q: 2. Would the proposed online resource be helpful to you? Why or why not? Are there other mechanisms for sharing this information that would be helpful to you?	Yes, but TRCA would prefer regular release of data such that it can be incorporated into our overall watershed management system, currently maintained by the Oak Ridges Moraine Groundwater Program.
Discussion Q: 3. What data would you like to see included in the online resource?	Having daily water use data for all existing and future permits available to the public through a user-friendly online portal would be a positive step forward for water management in Ontario. All data on groundwater quality, quantity and monitoring should be available through the online resource. More specifically, location and aquifer for taking, or at least depth of wells, daily volumes, duration, and source. Further, the data should include

Updating Ontario's Water Quantity Management Framework - Proposal Paper	
Section	Comments
	<p>all water use data submitted to the Ministry in fulfillment of permit requirements, and data should list daily total withdrawals (rather than being summed to coarser timescales, e.g. weekly/monthly).</p> <p>TRCA supports the Professional Geoscientists Panel's assertion that making water use data available to the public would help to ease concerns among the public about over-allocation of water resources within certain stream reaches (based on total permitted allocations within the current system that tend to reflect unrealistic maximum withdrawal rates).</p>
Discussion Q: 4. How would you like to see water quantity data presented? What are the most useful formats (e.g. maps with embedded information, reports, tables, story pages)?	<p>A geo-referenced mapping portal would likely be the best tool for presenting the data and making it available. The Oak Ridges Moraine Groundwater Program has developed a cutting-edge user portal that may provide a useful template for elements of a potential provincial water quantity management data portal (https://www.oakridgeswater.ca/).</p>
Discussion Q: 5. What water resources information and guidance would you like to see made available to the public?	<p>Source, including aquifer, where known. In addition, the public should be able to see a summary report of the efforts put forth in the permit review process before a PTTW is issued. Further, a list of studies/reports required for future continuation of the permit will provide more assurance to the public that a sustainable water use has been ensured and there are tools available with the Ministry to restrict water use, if warranted.</p>
Goal 4: Give host municipalities more input into water bottling decisions	
Proposed Action: Require water bottling companies to report whether they have support from the host municipality when applying for a new or expanded water taking (O. Reg. 387/04 amendment)	See comments for discussion Q. 1 below.
Discussion Q: 1. Do you support the proposal to require water bottling companies to seek support from their host municipality when applying for a Permit to Take Water? Why or why not?	TRCA recommends that all water takings, not just water bottling, within municipalities that have municipal wells, should require municipal support.

Final Report and Recommendations of the Professional Geoscientists Ontario Panel	
Cumulative assessments of impacts from water use	As indicated in our comments on the Proposal Paper, the PTTW process does not currently have the tools to consider cumulative impacts when issuing permits. Conservation authorities endeavor to take this perspective in watershed planning and source water protection, and would welcome the opportunity to offer our expertise and experience to assist in the provincial review processes.
Consumptive Use	TRCA supports the Professional Geoscientist Panel in that most takings should be considered consumptive, because they generally move water from ground to surface or from one surface water feature to another. In both cases, the water does not end up where it started from.

BluMetric Report	
General	This report is well researched and well written, but dependent on Permit To Take Water data, which is not necessarily complete.
Climate Change	Future projections of climate change impacts on both groundwater and surface water resources need to be more consistent across the province.
Public Data	TRCA supports the recommendation for public access to water taking data.
Land Use Planning	TRCA has made recommendations to the Ministry of Municipal Affairs and Housing on Growth Plan Amendment 1 to enhance the Growth Plan's watershed planning policies to specifically direct development to meet stormwater management criteria for water quantity and water balance for environmental and municipal drinking water purposes (in addition to erosion and water quality). If the PTTW process were also to adopt a watershed or sub-watershed perspective, (as suggested above through the "area-based" approach), this would enhance coordination and consistency of provincial and municipal approaches to water resource management.

Ontario's Water Taking Policies and Programs	
Pump Tests	TRCA would support a simplified process for pump test approvals, such as the EASR system, to promote the acquisition of the best available information on a streamlined basis. In TRCA's experience, we want to encourage proponents to make

Ontario's Water Taking Policies and Programs	
	use of the best available data, but because of approval delays and permit costs, such tests are often not performed.
Water Use	It is clear that PTTW are being obtained for much more water than is required. The Ministry should consider ways for applicants to provide more realistic estimates - perhaps an added field for "anticipated daily volume" in addition to the maximum permitted rate. Another approach would be to add flexibility such as exists in the EASR process, where short term exceedances are allowable, without fear of enforcement action.

Thank you once again for the opportunity to provide comments on updating Ontario's water quantity management framework. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(Pl), MCIP, RPP
Chief Executive Officer

BY E-MAIL

cc:

TRCA: Laurie Nelson, Director, Policy Planning and Regulation
Sameer Dhalla, Director, Development and Engineering Services
Don Ford, Senior Manager, Hydrogeology and Source Water Protection



August 21, 2020

BY E-MAIL ONLY (callee.robinson@ontario.ca)

Callee Robinson
Ministry of Environment, Conservation and Parks
Environmental Assessment Branch
135 St. Clair Ave W
Toronto, ON M4V 1P5

Dear Ms. Robinson:

Re: Environmental assessment modernization: amendment proposals for Class Environmental Assessments (ERO #019-1712)

Thank you for the opportunity to comment on the Ministry of Environment, Conservation and Parks' (MECP) Environmental Registry (ERO) posting on amendment proposals for Class Environmental Assessments (Class EAs).

We understand that public notice is being given pursuant to section 15.4 of the *Environmental Assessment Act*, and that MECP is modernizing the environmental assessment program by working with proponents of Class EAs to propose changes meant to ensure strong environmental oversight while aligning assessment requirements with environmental impact, reducing duplication, and increasing efficiency of the Class EA process. The proposal follows recent amendments to the *Environmental Assessment Act* made through legislation (the *More Homes, More Choice Act*, 2019 and the *COVID-19 Economic Recovery Act*, 2020).

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under Section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;

- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, and as stated in “A Made-In-Ontario Environment Plan”, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. TRCA provides technical support to its municipal partners through Memorandums of Understanding and Service Level Agreements in implementing the natural heritage, natural hazard and water resource policies of municipal and provincial plans.

Conservation Authority Watershed-Based Review Important for Addressing Climate Change

Given that TRCA is a commenting body under both the planning and EA processes and an advisor to our municipal partners on their Master Plans, TRCA reviews several types of public infrastructure proposals from both public and private proponents. This is important for consideration of the cumulative impacts that come from multiple infrastructure projects being proposed in TRCA watersheds combined with numerous private development proposals under the *Planning Act*.

In TRCA’s highly urbanized and intensifying jurisdiction, aging infrastructure in need of renewal is prevalent. Where exposed, at-risk infrastructure is proposed for replacement, repair, or expansion, TRCA works with public and private proponents to improve conditions. This is often accomplished through adapting and retrofitting infrastructure and remediating existing natural hazards that reduces the risk to public safety and enhances the long-term functioning of infrastructure.

Through service level agreements with municipalities, and other public infrastructure providers (e.g., Metrolinx, Enbridge Gas Distribution), TRCA provides technical advice during the completion of various EAs, as well as at later stages of detailed design and construction under our regulatory role. Where a Crown agency is exempt from the regulatory requirements of the CA Act, TRCA has service agreements in place with select agencies to offer review and comment on a voluntary basis; uptake on voluntary review highlights the need for provincial infrastructure to be protected from natural hazards of flooding and erosion. Strongly linked to this is the need to manage natural resources, critical for resiliency of natural systems and infrastructure due to the impacts of urbanization and the compounding effects of climate change.

Further to the above, in TRCA’s experience working with provincial and municipal public infrastructure providers, sector-based service level agreements that standardize review roles, fees and timelines, and stakeholder workshops to educate proponents about agency requirements, are exceedingly helpful for reviewers and proponents. A number of neighbouring CAs have adopted these approaches and TRCA staff would be pleased to meet with the Province to outline how these arrangements have worked to improve review and approval processes.

Expedited Approval Processes

TRCA previously commented on MECP’s Discussion Paper: Modernizing Ontario’s Environmental Assessment Program. In this next phase of modernization for the EA process, it is important to note that undertakings now determined to be exempt from the Class EA process subject to new screening criteria within Class EA documents, and as permitted through the amendments to the EA Act, may

still be subject to regulations under section 28 of the *Conservation Authorities Act*. For example, projects meeting the definition of development under the CA Act being undertaken within TRCA's jurisdiction, would still require permission under Ontario Regulation 166/06. To ensure that low-risk projects are not unduly delayed, TRCA has expedited review processes in place such as "Routine Infrastructure Works", "Emergency Infrastructure Works" and staff delegated permits or clearances. These are employed to consistently streamline review and approval through both the regulatory permitting process as well as the voluntary review process for Crown public infrastructure providers.

Coordination among Planning Act and Environmental Assessment Act processes

TRCA appreciates the proposed Class EA amendments' efforts to better integrate *Planning Act* and EA Act processes consistent with direction in the Provincial Policy Statement and A Place to Grow: Growth Plan for the Greater Golden Horseshoe. Similarly, TRCA's "The Living City Policies" (2014) directs staff participating in the review of applications under the EA Act and the *Planning Act*, to ensure that the applicant and municipal planning authority are aware of TRCA permitting requirements under our CA Act regulation, where applicable; and further, our staff assist in the coordination of these applications to avoid ambiguity, conflict and delay or duplication in the process. We would recommend that documents released under the Class EA initiative also emphasize the need to consider CA Act permits and requirements at the earliest possible stages of the planning and design process to ensure an integrated approach in which permitting and technical information requirements to support all required approvals under all Acts are scoped into supporting studies for projects as early as possible to help streamline project reviews.

TRCA as a Proponent or a Co-Proponent of Class Environmental Assessments

As a major landowner and close working partner with our member municipalities, TRCA is also a proponent or co-proponent of several remediation and infrastructure-related projects, in which the processes set out in the Conservation Ontario Class Environmental Assessment for Remedial Flood and Erosion Control Projects document (CO Class EA) and/or the Municipal Class EA document are followed. As a landowner, the CO Class EA allows TRCA to undertake remedial flood and erosion control projects without applying for formal approval under the EA Act, on condition that the planning and design process in the document is followed, and that all necessary federal and provincial approvals are obtained. Examples of current TRCA projects under the CO Class EA are erosion protection works along the Scarborough Bluffs and other sections of the Lake Ontario shoreline, as well as joint CA-municipal Class EA undertakings for flood remediation to facilitate urban renewal, e.g. Downtown Brampton flood protection EA.

We also undertake individual EAs and Municipal Class EAs on behalf of our partners or as a co-proponent and are interested in opportunities to streamline some of these processes. In our role, we have seen the Municipal Class EA process occasionally leveraged for vexatious and frivolous reasons rather than for public interest purposes resulting in unnecessary delays on important flood protection and infrastructure projects. TRCA would be pleased to share our insights on how Part II Order requests could be limited so as to only allow such requests to be considered for more legitimate natural environment, or socio-economic matters.

Government Proposal

We understand that MECP is working with holders of Class EAs to propose changes meant to ensure strong environmental oversight while eliminating duplication and reducing delay.

There are currently ten different Class EA processes and three streamlined environmental assessment regulations, each with varying requirements. As outlined MECP's April 25, 2019 Discussion Paper: Modernizing Ontario's Environmental Assessment Program, MECP is proposing changes to the EA framework by moving to consistent streamlined EA processes set out in regulation, with clear expectations regarding consultation and defined timelines. The proposed amendments to the Class EAs will inform the development of these streamlined regulations.

Amendments are proposed for eight Class EAs, including several of interest to TRCA: the Class EA for Minor Transmission Facilities (Hydro One), the Municipal Class Environmental Assessment (Municipal Engineers Association), the Remedial flood and erosion control projects (Conservation Ontario), and the Provincial Transportation Facilities (Ministry of Transportation). Some of the proposed changes include:

- changing requirements for some projects, including reducing requirements for certain projects, or exempting projects altogether
- establishing or updating screening processes to determine the appropriate categorization for a project
- updating the Class EAs to ensure consistency with the *Environmental Assessment Act* as a result of the passage of the *More Homes, More Choice Act, 2019*
- administrative changes to correct errors; update references to legislation and regulations; clarify the existing text; and update references to bodies, offices, persons, places, names, titles, locations, websites, and addresses

In addition, MECP proposes to update certain sections of Class EAs with standardized language to ensure consistency between Class EAs, including:

- the amending procedures in Class EAs to be consistent with the *Environmental Assessment Act*, as a result of the changes made by the *More Homes, More Choice Act, 2019*, including amendments by the Minister and the Director.
- the sections in Class EAs on Part II Orders to explain the Minister's authority under section 16 of the *Environmental Assessment Act* and to create consistency across all Class EAs.

General Comments

While TRCA is generally supportive of proposed Class EA amendments for streamlining purposes, we believe that the important role of conservation authorities in the Class EA process for protecting life and property and managing natural resources could be strengthened. As an example, the Class EA amendments that we have reviewed do not reference conservation authorities' section 28 regulation under the CA Act. Further, in the case of Crown projects, as the Province is exempt from CA regulations, there is no mechanism in place for the protection of life and property or the management of natural resources at the detail design stage, in order to fulfill the objects of the EA Act. The mandate of CAs strongly aligns with provincial objectives for resilient public infrastructure

and, if highlighted in the amendments, can better enable CAs to assist in meeting the intent of the EA Act to provide for the protection, conservation and wise management of Ontario's environment. Similarly, strengthening CA regulatory requirements to include Crown undertakings, will further assist in meeting the intent of the Act.

TRCA appreciates the inclusion of the amendments to Section 16 Municipal Class EA Table 3 for Climate Change and have provided detailed comments in this regard in the table below. Our experience is that some proponents remain resistant to recognizing the impacts of climate change, including expected increases in more extreme weather events, and the subsequent impacts on infrastructure, particularly in flood or erosion prone areas.

The following comments offer additions and revisions in order to highlight the valuable watershed-based programs and services of conservation authorities critical to safe and resilient public infrastructure planning. The comments are organized based on the Class EA types of interest to TRCA: Minor Transmission Facilities (Hydro One), Municipal Class Environmental Assessment (Municipal Engineers Association), Remedial flood and erosion control projects (Conservation Ontario) and Provincial Transportation Facilities (Ministry of Transportation). Recommendations for MECP's consideration are in **bolded text**.

Class EA for Minor Transmission Facilities (Hydro One)

2A. Hydro One Amendment Proposal Table	
Proposal	Comments
General	<ul style="list-style-type: none"> Hydro One recently acknowledged that as a non-Crown entity, conservation authority (CA) permits under Section 28 of the <i>Conservation Authorities Act</i> (CA Act) are required for regulated Hydro One activities in CA regulated areas. A working group led by Conservation Ontario to update the Memorandum of Understanding between CAs and Hydro One has been formed, though work has not yet commenced. TRCA staff recommend that specific references to CA permits should be included in the Schedules. Early screening and consultation is encouraged; permits are new to Hydro One Networks Incorporated (HONI) and partnership development/Service Level Agreements (SLAs) are recognized as an effective way to move forward and continue streamlining initiatives using the conditions that will be set forth through Conservation Ontario.
Appendix D, Table D-1	TRCA supports the amendment to Appendix D, Table D-1 title, which clarifies that applications are to be circulated to non-Provincial Ministry bodies, but request that “other approvals” be specific to the section 28 <i>Conservation Authorities Act</i> regulations.
Amendment #2 Time Lapse, Section 5.2	TRCA staff support increasing the construction initiation timeline to ten years from five years to support more streamlined project implementation.
Amendment #3 Emergency Situations, Section 5.4	TRCA recommends the amendment be modified to recognize requirements for permits for emergency works from other agencies such as CAs. Within TRCA’s jurisdiction, the permitting process for emergency infrastructure projects would be followed to ensure that the emergency is addressed while meeting regulatory requirements. The TRCA emergency infrastructure works process is tailored to projects considered “failure,” “critical,” or “urgent” and was developed in consultation with the City of Toronto and other municipal governments.
Amendment #4 Exempt Undertakings, Section 1.1	TRCA staff generally support the proposed exemption criteria, however, have the following comments: <ul style="list-style-type: none"> Regarding the HONI environmental data used to inform the Environmental Management Plans (EMPs):

2A. Hydro One Amendment Proposal Table	
Proposal	Comments
	<ul style="list-style-type: none"> ○ This should also include obtaining relevant environmental data from CAs, (e.g., flood plain data) where they exist, as CAs' data are generally current and comprehensive ○ Require that data gaps be filled in by specialized studies when needed, especially when a CA permit is required. • Environmental Protection Plan (EPP)/EMP Rationale: <ul style="list-style-type: none"> ○ TRCA staff recommend including a requirement to also consult with CAs in order to obtain the best available data. • TRCA staff appreciate the rationale that work in an existing right of way (ROW) should be acceptable, however many of these ROWs (especially those in Toronto) cross CA regulated areas like wetlands and valley and stream corridors, including steep slopes and flood plains. It should be noted in the document that construction within CA-regulated areas requires a permit prior to commencement. Moreover, preferred access routes often traverse CA-owned land. The best routes to access the site, conduct maintenance work, etc. must be discussed on a project-by-project basis.
Amendment #5 Screening Criterion 'h', Section 3.3.3	<ul style="list-style-type: none"> • TRCA staff support the proposed amendment, which provides much-needed clarification.
Amendment #6 Telecommunication Stations, Section 6.3	<ul style="list-style-type: none"> • TRCA staff request clarification. Our understanding is that telecommunication towers are regulated through the federal CPC-2-0-03 — Radiocommunication and Broadcasting Antenna Systems and are the responsibility of Industry Canada. <ul style="list-style-type: none"> ○ Please clarify (perhaps in a footnote to the tables) that the federal legislation <u>does not</u> apply to communication systems specific to Hydro One infrastructure (and as such are not exempt from provincial legislation or the CA Act Section 28 regulations).
Amendments #8, 9 Part II Order Process, Section 3.4.4 & Procedures, Section 5.1	<ul style="list-style-type: none"> • TRCA staff request that MECP provide the standardized wording of these sections for review once available.

Municipal Class Environmental Assessment (Municipal Engineers Association)

Number/Section	Proposed Amendment	Comments
3A. Municipal Class EA Amendment <u>Table 1 Proposed Changes to Road Schedules</u>		
R1/Appendix 1	2. Shaping and cleaning existing roadside ditches	<ul style="list-style-type: none"> Regarding the term “roadside ditches,” some urban drainage features may be watercourses under the <i>Conservation Authorities Act</i> section 28 regulation. Please qualify “shaping and cleaning of existing roadside ditches” to clarify that ditches should be screened by a CA to determine if they are watercourses or fall within a regulated area and subject to a permitting process under the CA Act.
R7/Appendix 1	14b. Construction of a collector or arterial road[...]	<ul style="list-style-type: none"> TRCA staff prefer that collector or arterial roadway works remain Schedule B or C, as significant information related to natural heritage can come from public consultation. Further, collector and arterial roadways can have numerous impacts on the public interest such as natural heritage and hazard lands that need appropriate consideration and input. TRCA staff question the rationale for a sidewalk or multi-purpose path to be classified as Schedule B (see R18/Appendix 1 Amendment to 23b.), but not a collector or arterial roadway. It is also important to maintain roadways as Schedules B or C given that crossing structures sized under the <i>Planning Act</i> are not required to undergo a justification for the sizing chosen, considering hazards, habitat or socio-economic impacts. However, these are important elements for long-term consideration of infrastructure sizing that are not currently adequately covered under the <i>Planning Act</i>. TRCA staff appreciate the coordination of <i>Planning Act</i> and EA Act processes to reduce duplication, but are concerned that road projects under the purview and the <i>Planning Act</i> will not benefit from the EA Act alternative alignment process or sizing for bridges and culverts in Schedules B and C. Even the higher stages of the planning process such as Master Planning and Secondary Plans tend not to address these elements of review. As a new road can present major environmental impacts, the avoidance and mitigation examined through the EA process still need to be captured in the streamlined process. Rules need to be clearly defined at the outset for a comprehensive review that protects the environment as well as the infrastructure and help prepare for the impacts of a changing climate.

Number/Section	Proposed Amendment	Comments
		Therefore, TRCA recommends that the exemption for roadway works only apply if the <i>Planning Act</i> process will address alternative alignments and proper sizing for bridges and culverts.
R17 and R18/Appendix 1	23a. and 23b.	<ul style="list-style-type: none"> TRCA staff welcome the amendment to lower thresholds for current Schedule B and C projects involving pathways to Schedules A+ and B, as the Schedule C process for trails refining conceptual alignments is appropriate for road projects but is unduly onerous for pedestrian trails.
R30/Appendix 1	38. Any undertaking listed [...]	<ul style="list-style-type: none"> TRCA staff request that this measure also require consultation with CAs and obtaining necessary permits through expedited processes (i.e., the TRCA emergency infrastructure works permit process). Emergencies are not exempt from CA Act regulations, but they are addressed in an expedited fashion that reflects the degree of urgency (failure, critical, urgent) developed in conjunction with the City of Toronto and other municipal partners.
R33/Appendix 1	Schedules – Overlap Between EA Approvals	<ul style="list-style-type: none"> TRCA staff support the effort for coordination given overlap between schedules and support the direction to use the more rigorous schedules when more than one could apply. We request a note be added to this section that stipulates how to address projects that are also under the purview of the <i>Planning Act</i>. Further to the above, in the case of public infrastructure projects proceeding through a <i>Planning Act</i> process, and where an EA process applies, TRCA recommends that the municipalities who will assume the infrastructure be a co-proponent to engage with review agencies and the public to ensure transparency, complete public consultation requirements, and awareness on the part of the municipality as to the end product for their assumption and maintenance.
R33/Appendix 1	Schedules – Background Studies	<ul style="list-style-type: none"> Regarding the statement that background studies are exempt from the Class EA process, often these studies are required to make effective planning and technical decisions. There should be a stipulation that background studies, although exempt, remain as part of the public review process.

Number/Section	Proposed Amendment	Comments
General	N/A	<ul style="list-style-type: none"> • TRCA staff recommend provisions for including Low Impact Development (LID)/green infrastructure be added to the Municipal Class EA. All new and expanded roads should have a treatment train stormwater management scheme that integrates with the existing SWM plan for surrounding planned development and include retrofits where necessary for older established development. This scheme should include LID and green infrastructure as a requirement in their designs. For expanding infrastructure, both the existing portion of pavement as well as the new should require SWM controls.
3B. Municipal Class EA Amendment Table 2 <u>Proposed Changes to Water/Wastewater Schedules</u>		
W58 to W68/Appendix 1	(Multiple)	Please see comments above for same sections in Road Schedules
W72/Appendix 1	76 Construction of the following infrastructure [...]	<ul style="list-style-type: none"> • TRCA staff appreciate this amendment, however, recommend that it should be expanded to include green infrastructure (i.e. provisions to address urban biodiversity as well as water management).
W75	Overlap Between EA Approvals	<ul style="list-style-type: none"> • Please see comments above for same section in Roads Schedules.
W75	Background Studies	Please see comments above for same section in Roads Schedules.
W75		<ul style="list-style-type: none"> • As this section references dams and weirs, it is especially important to identify CA regulations.

Number/Section	Proposed Amendment	Comments
3C. Municipal Class EA Amendment Table 3 Proposed Changes to Municipal Class EA Manual		
2. Executive Summary	Description of the Class of Undertakings	<ul style="list-style-type: none"> • Regarding the Schedule A/A+ stipulation for consulting with the local community, please revise to be clear that this includes circulation to review agencies including CAs, where works are proposed in a CA regulated area.
4. Glossary of Terms	Subject to Planning Act Requirements	<ul style="list-style-type: none"> • This definition should be revised to ensure it captures all relevant planning requirements. Suggest “the project must conform to all municipal planning policies, by-laws and standards” including buffer, SWM, etc.
4. Glossary of Terms	N/A	<ul style="list-style-type: none"> • In the definition of “proponent” or “proponency,” requirements should be provided that when a developer enters into arrangements with a municipality to design and build infrastructure, the municipality retains oversight and approval of the EA and detailed design process, mitigates conflicts, etc. with review agencies. • This should also be defined in #10, A.1.3 Proponency.
10.	A.1.3 Proponency	<ul style="list-style-type: none"> • Same comments as above for municipal oversight of private proponents
12.	A.1.5.1 Monitoring of Municipal Class EA	<ul style="list-style-type: none"> • This record of filing should be publicly available. Proponents should use the same naming convention for all applications and public notices to avoid confusion.
16.	A.1.7 MECP Codes of Practice and Climate Change	<p>TRCA staff appreciate the entirety of this section. Clarity as to the importance of climate change, the implementation of the Ministry’s companion guide for Climate Change in the EA process, and alignment with climate change policies in the Provincial Policy statement are all vitally important for integration of EA and Planning Act processes; in this regard the infrastructure policies in A Place to Grow: Growth Plan for the Greater Golden Horseshoe could be referenced here as well. Further, given the direct link of CA work to the provincial direction for “preparing for the impacts of changing climate”, specific reference to CAs should be added, as</p>

Number/Section	Proposed Amendment	Comments
		<p>well as natural hazards management. In advance of explicit guidance, which should be informed by the upcoming Provincial Climate Change Impact Assessment, it may be beneficial to include specific examples within the documentation related to adapting infrastructure for climate change. Examples could include additional freeboard for infrastructure projects proposed along shorelines to adapt to wider-ranging lake levels, additional freeboard along riverine flood protection projects to account for uncertainty in future peak flows, stream stabilization, erosion control, and conveyance sizing analysis upstream and downstream of planned structures to address increased flows in extreme weather events for roadways and riverine systems.</p>
18.	A.2.7 Master Plans	<ul style="list-style-type: none"> • TRCA staff appreciate the additions to this section describing the process and approaches in more detail. A flow chart of the different approaches and the stages in each may be a helpful tool in illustrating the steps and their order. This further direction could include timing of stages and roles of review agencies. Such direction should ensure that establishing an approach and a Technical Advisory Committee are required early in the process to enhance certainty for all stakeholders. • At the Master Plan level, as in the higher levels of the Planning Process (e.g., Official Plan, Secondary Plan, Master Environmental Servicing Plan) there should be incorporation of the watershed plan and or subwatershed plan (depending on the extent of the study area) as an overarching guidance document. In this section, for example, where the new text states, “This involves analysis on a regional or systems scale, which enables the proponent to identify needs and establish broader infrastructure alternatives and solutions. The inventory of the natural, social and economic environments which are to be considered when assessing the alternative solutions may also be broader/more general” would be appropriately informed by watershed or sub-watershed scale planning, especially from the natural environmental perspective. Incorporation of watershed planning for defining a problem (first phase of Master Planning, section A.2.2 Identification and Description of the Problem or Opportunity) would also align with the proposed amendments to section A.1.7 on MECP Codes of Practice and Climate Change.

Number/Section	Proposed Amendment	Comments
21.	A.2.9.1 - A.2.9.4	<ul style="list-style-type: none"> • TRCA staff appreciate the additional text describing the integration of the <i>Planning Act</i> and Class EA Act processes. TRCA recommends that a requirement be added for a lead project manager to be established to coordinate the review to ensure the requirements of both processes are fulfilled in a comprehensive and efficient manner. In TRCA's experience, having a single point of contact/coordination avoids duplication and is helpful for addressing conflicts in competing interests among stakeholders (e.g., regional municipal and local municipality, provincial ministries and agencies). • This section could also reference other infrastructure (telecommunications, etc.) required for city planning. • Regarding co-proponency in which a developer may be completing infrastructure as part of the latter EA phases, TRCA staff recommend the municipality have final sign off on the EA work, such that Council approval is sought for the proposed works prior to submission of the EA documentation to MECP. • We appreciate that the integration of LPAT appeal/Part II Order is outlined but this may prove to be difficult. For example, when the projects are integrated with the Transit Class EA, or the Hydro Transmission Class EA, there are additional levels added to the decision-making hierarchy that would be difficult to unravel and adjudicate. There may also need to be changes to different Acts and extensive new procedures prepared to enable this approach. TRCA suggests in these cases that a working partnership be developed that would oversee development of a specific project area and work with proponents on all requirements. Perhaps the Office of the Provincial Development Facilitator (OPDF) could be assigned such work and/or involved in extreme cases where a Provincial Interest is present. Another approach might be to suggest facilitation through someone appointed by the local and or Regional Council with involvement by agencies on city-building initiatives. We recommend additional consideration and consultation potentially with the OPDF, the Ministry of Municipal Affairs and Housing, and other agencies prior to finalizing this approach. • Regarding A.2.9.4 Documentation, the final sentence in the proposed amendment states that, "This may result in a slightly longer single document versus two

Number/Section	Proposed Amendment	Comments
		separate documents that contain mostly duplicative information in both.” In TRCA’s experience, at times there is insufficient documentation at one stage, and so there are gaps in information at subsequent stages. As such, an additional amendment should require addendum documentation for missing technical information where needed.
23.	A.2.10 Relationship of Projects Within the Class EA to Other Legislation	The list of federal, provincial and municipal governments’ policies and guidelines added to this section was previously listed in Section D.3.3.3, Policy and Guidelines, and had included “Conservation Authority Policies and Regulations.” Section D.3.3. now refers to the new list in A.2.10. Although A.2.10 states that the list is not exhaustive and that it is the proponent’s responsibility to secure all approval and permitting requirements, the new list no longer references conservation authorities. In TRCA’s case, we are routinely a part of the review process given that linear infrastructure often crosses TRCA regulated areas and CA owned properties within valleys. Therefore, CA regulations should be included in the list.
25.	A.2.10.6 The Clean Water Act	<ul style="list-style-type: none"> • Within the section on “Projects that create new or amended vulnerable areas,” please amend the following text to more accurately reflect the required actions for project proponents and Source Protection terminology as follows (new text in bold): <ul style="list-style-type: none"> ○ “To fully understand the impact of establishing a new or expanded drinking water systems, it is recommended that the technical work required by the CWA to update the vulnerable areas and potential drinking water threats be undertaken concurrently with the Municipal Class EA process.” ○ “For further information on source protection requirements, the proponent should contact source protection staff at the local Source Protection Authority or Source Protection Region.”
31.	A.3.1 General Consultation	<ul style="list-style-type: none"> • TRCA requests that this section include CAs as a stakeholder; for instance, where “review agencies” are mentioned, CAs could be referenced as an example.

Number/Section	Proposed Amendment	Comments
39.	D.1 and D.1.1	<ul style="list-style-type: none"> • TRCA staff appreciate the provision of clarification as to proponency, as there has been confusion in the past if a project proponent is Metrolinx or the municipality, especially with regard to transit hubs. • We also appreciate clarification of Schedule 1 – other projects exempt – and that mixed-use facilities (i.e. car/rail facilities) cannot use the Transit Project Assessment Process (TPAP); and that TPAP is for heavy rail (subways) and the MCEA is for other transit types.
41.	D.3 Glossary of Terms	<ul style="list-style-type: none"> • The “ancillary features” definition for landscaping should also include LID, green infrastructure, and other green design/sustainable design elements.
42.	D.1.4 and D.1.5	<ul style="list-style-type: none"> • 2. Natural Heritage Features - Where the additions in this section reference municipal policies for environmental protection, please add that a local conservation authority may also have policies or guidelines for natural heritage compensation or restoration where impacts to natural features cannot be avoided or mitigated. • Please add a section on natural hazards since this is also a key consideration in generating and evaluating alternative transit improvement solutions. • 3. Social Environment and 4. Economic Environment - Metrolinx, municipalities and other infrastructure providers, with which TRCA works in its roles as technical advisor and regulator, have established specialized terminology for types of community benefits. For instance, the terms “community benefits” and “public realm benefits” are commonly used together, with the following definitions: <ul style="list-style-type: none"> • Community benefits: Project based benefits that provide measurable economic benefits to the local community. • Public realm benefits: Provision of support for local opportunities for social and environmental improvements. <p>In the context of public infrastructure projects, social improvements associated with public realm benefits may include provision of services to conservation areas (such as extending a water main into a conservation area), trails, interpretive signage and others. Environmental improvements might be ecological restoration and wildlife</p>

Number/Section	Proposed Amendment	Comments
		crossings for road and rail infrastructure. Use of these terms should be considered for the MCEA.

General		<ul style="list-style-type: none"> With regard to consultation requirements, TRCA recommends that CAs be consulted as early in the EA process as is practicable, including prior to the Request for Proposal stage to ensure appropriate study requirements are outlined at the outset and that appropriate consultant expertise is hired. This will help expedite the review process by a considerable amount of time, especially with complex projects.
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Remedial flood and erosion control projects (Conservation Ontario)

4. Conservation Ontario (CO) Amendment Proposal Table	
Proposal	Comments
General	TRCA staff recognize that the proposed amendments align with what was discussed as part of the CO working group for the Class EA amendment. The changes to align this Class EA more closely with other approved Class EAs for similar types of work, and to clarify wording and expectations as it relates to maintenance of existing flood and erosion control infrastructure, are very positive. These changes will allow critical maintenance projects that have historically had limited public interest to be streamlined.

Provincial Transportation Facilities (Ministry of Transportation)

8A. Draft Amended MTO Class EA	
Section	Comments
Exempt Projects	<ul style="list-style-type: none"> Group D Exemptions – Please note that barrier placements associated with watercourse crossings are of great importance to CAs. For instances where the watercourse overtops the roadway during storm events, erecting a barrier of any kind can result in increases to the flood hazard upstream of the roadway. Similarly, this also applies to culvert or bridge replacements, as undersized crossing structures can result in significant upstream flooding.

8A. Draft Amended MTO Class EA	
Section	Comments
	<p>As well, we note that “watercourse erosion corrections” are also exempt – such alterations to a watercourse are regulated by CAs and are within our expertise as review agencies who can assist with mitigation and remediation strategies to avoid or reduce risk.</p> <ul style="list-style-type: none"> • There should be some mechanism for ensuring exempted activities that pose a flood or erosion risk (or are located within CA regulated areas) are reviewed by the local conservation authority in order to protect public safety as well as the infrastructure. • There are several other exempted projects (e.g., those affecting drainage and “drainage ditches”), that could affect and be affected by hazards and impair sensitive natural heritage features otherwise needed as green infrastructure to address provincial objectives for preparing for the impacts of a changing climate. • TRCA currently has service level agreements with other provincial transportation infrastructure providers that result in mutual benefit for both parties, and would be pleased to meet with MTO staff to discuss a similar partnership.
Detail Design	<p>Page 10 – states that the MTO Class EA process ends after preliminary design is complete and detail design begins. In TRCA’s experience, the detail design phase occurring outside the provincial process often means that environmental oversight is lost, and the party contracted to complete the design is under no obligation to meet CA requirements.</p> <p>Therefore, there should be some mechanism for ensuring the detail design process outside the Class EA process, for activities within a CA regulated area, has the oversight of the local conservation authority, in order to protect public safety as well as the infrastructure.</p>

Thank you once again for the opportunity to provide comments on the amendment proposals for Class Environmental Assessments. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(PI) MCIP, RPP
Chief Executive Officer

BY E-MAIL

cc:

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August 22, 2020

BY E-MAIL ONLY (EAmmodernization.MECP@ontario.ca)

Ms. Antonia Testa
Ministry of Environment, Conservation and Parks
Environmental Assessment Branch
135 St. Clair Ave., W.
Toronto, ON M4V 1P5

Dear Ms. Antonia Testa:

Re: Proposal to exempt various Ministry of Transportation projects from the requirements of the Environmental Assessment Act (ERO #019-1883)

Thank you for the opportunity to comment on the Ministry of Environment, Conservation and Parks' (MECP) Environmental Registry (ERO) posting on a proposed regulation to exempt select Ministry of Transportation (MTO) projects from the requirements of the *Environmental Assessment Act*, subject to conditions. The Highway 401/Leslie Street (Date of TESR: August 2011) project, located within the jurisdiction of the Toronto and Region Conservation Authority (TRCA), is included in the list of select projects.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities. TRCA is:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, and as stated in the *Made-In-Ontario Environment Plan*, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. TRCA provides technical support to its municipal partners, as a Source Protection Authority and through Memorandums of Understanding and Service Level Agreements in implementing the natural heritage, natural hazard and water resource policies of municipal and provincial plans.

Government Proposal

As part of the government's commitment to modernize the environmental assessment program, MECP is proposing a regulation to exempt select MTO projects from the requirements of the Environmental Assessment Act (EA Act), subject to conditions. MTO reviewed critical transportation infrastructure and

identified priority projects that previously went through an environmental assessment process but were not implemented, including one MTO class environmental assessment (Class EA) for Provincial Transportation Facilities (Class EA) projects within TRCA's jurisdiction, the Highway 401/Leslie Street (Date of TESR: August 2011) project. Based on the ERO posting, these select projects have completed a Transportation Environmental Study Report (TESR)

If a project has not been implemented within five years of completing a TESR, MTO is required to do an addendum in accordance with the MTO Class EA. The purpose of an addendum is to consider any significant changes which have taken place since the submission of the original Class EA project. The changes may include new conditions in the study area, new government policies, new engineering standards, or new technologies for mitigating measures. As such the above project is now subject to the five-year addendum process.

If the proposed exemption regulation is approved, the MTO would no longer be required to complete the addendum process as outlined in the MTO Class EA for this project. As a result, MTO would not be required to complete a review of the original TESR which is normally completed to document any changes to the project. By exempting these requirements, there would not be any opportunity for public review of an addendum nor any opportunity to submit Part II Order requests.

In addition, MTO would not complete a Design and Construction Report (DCR) documenting the environmental assessment process during detail design for public review. There also would not be any opportunity to submit Part II Order requests on the DCR. However, the proposed regulation would impose additional conditions on the project, as appropriate. For example, the MTO would be required to:

- issue a public notice to proceed with the implementation and construction of the project in accordance with the completed Class EA;
- begin construction of these projects within ten years of this regulation;
- continue consulting with Indigenous communities, as necessary for the individual projects; and
- fulfill conditions of a Minister's decision on Part II Order requests that have already been submitted for projects listed above, as applicable.

Detail design for the projects on the list above will still occur, and project-specific permits and approvals will need to be obtained. MTO's infrastructure is designed by professionals bound by legislation, policies, and procedures, and this would not change in the absence of a discrete environmental document. Likewise, impacts to the environment would still need to be predicted, measured, and mitigated, as dictated by other provincial and federal legislation.

General Comments

In 2011, MTO completed the Preliminary Design and Class EA for the development of a rehabilitation strategy for Highway 401 from west of Leslie Street to East of Warden Avenue in the City of Toronto, in the Don River watershed. As such, the associated 2011 TESR covered a broad area. The rehabilitation strategy investigated pavement concrete base repairs; repairs/improvement to the drainage system; rehabilitation and/or replacement of 17 existing bridges within the study area (including over the Don River); and a shift in the Leslie Street interchange to the south including alterations to the GO Transit station parking lot.

TRCA staff reviewed and provided comments on the 2011 TESR, including a conceptual Flood Plain Hydraulic Study prepared by MTO which was determined to be generally satisfactory at a high level, subject to refinement at detailed design. Following the EA study, TRCA reviewed a Flood Plain Hydraulic Study prepared by Delcan Corporation. TRCA comments on this study included concerns with respect to insufficient model

information and increases to flooding on private property at Manorpark Court. In correspondence to MTO dated October 11, 2011, staff identified TRCA's provincially mandated regulatory authority with respect to natural hazard management and noted the design as proposed could not be supported as it could result in unacceptable risk to health, safety or property damage and that this issue be addressed at the final detailed design stage.

TRCA has been involved in other project reviews and designs for this area, including a 2014 detailed design and Class EA for the Leslie Street off-ramp. TRCA provided comments on the eastbound off-ramp configuration until 2016, at which point MTO declined to proceed with the review of final designs through the TRCA's Voluntary Project Review process. Engagement with TRCA in this project area resumed in 2018 with a new detailed design and Class EA for the rehabilitation of the Highway 401 Eastbound Collector Lanes from Avenue Road to Warden Avenue and included rehabilitation of the existing Don River bridge. TRCA believes that this EA is within the scope of the Highway 401/Leslie Street (Date of TESR: August 2011) project, and therefore subject to this ERO posting. On August 21, 2020, TRCA received the 60% design drawings from MTO. In order to provide a fulsome response to concerns related to our interest in works proposed at the Leslie Street interchange, (i.e., the Don River bridge and the culvert works), TRCA requested copies of the study reports for the natural environment (e.g. terrestrial, aquatic, etc.), geotechnical reports (e.g. borehole investigations, slope stability analyses, etc.), hydraulic analyses (e.g. HEC-RAS model, SWM reports, etc.) and any hydrogeological reports. In response, MTO staff requested clarification noting that while TRCA is entitled to review and provide comments, MTO is not seeking approvals or permits from TRCA as MTO is exempt from TRCA's regulatory approval.

Detailed Design and Voluntary Project Review

Through service level agreements with municipalities, and other public infrastructure providers (e.g., Metrolinx, Enbridge Gas Distribution), TRCA provides technical advice during the completion of various EAs, as well as at later stages of detailed design and construction under our regulatory role. Where a Crown agency is exempt from the regulatory requirements of the CA Act, TRCA has service agreements in place with select agencies to offer review and comment on a voluntary basis (Voluntary Project Review (VPR)); uptake on voluntary review highlights the need for provincial infrastructure to be protected from natural hazards of flooding and erosion. Strongly linked to this is the need to manage natural resources, critical for resiliency of natural systems and infrastructure due to the impacts of urbanization and the compounding effects of climate change.

As MTO is exempt from the regulatory requirements of the *Conservation Authorities Act*, TRCA has significant concerns there is no mechanism in place for the protection of life and property or the management of natural resources at the detailed design stage, which fails to fulfill the objects of the EA Act. The mandate of the conservation authorities strongly aligns with provincial objectives for resilient public infrastructure and meeting the intent of the EA Act to provide for the protection, conservation and wise management of Ontario's environment. Accordingly, it is recommended that MTO commit to receiving VPR signoff at the design stage as it relates to TRCA's regulatory and policy interest, as well as provincially delegated responsibilities.

Proposed Regulation - TRCA Recommendations

A proposed draft regulation has not been included as part of this ERO posting; rather the posting generally describes the requirements to be included in the regulation. To date, TRCA's legislated, provincially delegated and regulatory interests have not been addressed. In order to support the government's proposal to stream the existing environmental assessment process with a regulation for select MTO projects and continue to ensure the protection of people and property from natural hazards and the conservation of natural resources,

TRCA recommends the following conditions be placed on this project as part of the provincial approval process:

- 1) That the regulation requires MTO to engage with TRCA through the detailed design process to ensure TRCA's legislated, provincially delegated and regulatory interests related to natural hazard and natural heritage be addressed.
- 2) That the regulation requires MTO to commit to TRCA's Voluntary Project Review process.
- 3) That the regulation requires MTO to provide Natural Heritage Compensation to TRCA or the City of Toronto, as per provisions of the TRCA compensation guidelines, the Metrolinx compensation guidelines or City of Toronto policy.

Thank you once again for the opportunity to provide comments on the proposed regulation to exempt select Ministry of Transportation projects from the requirements of the Environmental Assessment Act, subject to conditions. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.661.6600, extension 5217 or at beth.williston@trca.ca.

Sincerely,

<Original signed by>

Beth Williston, H. BA, MCIP, RPP
Associate Director
Infrastructure Planning and Permits

BY E-MAIL

cc:

TRCA: John MacKenzie, Chief Executive Officer
Laurie Nelson, Director, Policy Planning and Regulation
Sameer Dhalla, Director, Development and Engineering Services



September 4, 2020

BY E-MAIL ONLY (Eugenia.Chalambalakis@ontario.ca)

Eugenia Chalambalakis
Ministry of Environment, Conservation and Parks
Client Services and Permissions Branch
135 St. Clair Ave W
Toronto, ON M4V 1P5

Dear Ms. Chalambalakis:

Re: Proposed changes to environmental approvals for municipal sewage collection works (ERO #019-1080)

Thank you for the opportunity to comment on the Ministry of Environment, Conservation and Parks (MECP) Environmental Registry (ERO) posting on proposed changes to environmental approvals for municipal sewage collection works. We understand the proposed changes are intended to modernize Ontario's environmental approval process for low-risk municipal sewage works by implementing a Consolidated Linear Infrastructure Permissions Approach.

The Toronto and Region Conservation Authority (TRCA) conducts itself in accordance with the objects, powers, roles and responsibilities set out for conservation authorities (CA) under the *Conservation Authorities Act* and the MNRF Procedural Manual chapter on CA policies and procedures for plan review and permitting activities, as follows:

- A public commenting body under the *Planning Act* and *Environmental Assessment Act*;
- An agency delegated the responsibility to represent the provincial interest on natural hazards under Section 3.1 of the Provincial Policy Statement;
- A regulatory authority under section 28 of the *Conservation Authorities Act*;
- A service provider to municipal partners and other public agencies;
- A Source Protection Authority under the *Clean Water Act*;
- A resource management agency; and
- A major landowner in the Greater Toronto Area.

In these roles, TRCA works in collaboration with municipalities and stakeholders to protect people and property from flooding and other natural hazards, and to conserve natural resources. TRCA provides technical support to its municipal partners, as a Source Protection Authority and through Memorandums of Understanding and Service Level Agreements in implementing the natural heritage, natural hazard and water resource policies of municipal and provincial plans. TRCA's own policy document, *The Living City Policies*, contains policies for stormwater management (SWM)

review and regulation that align with provincial and municipal policies for SWM, including meeting provincial criteria for flooding, water quality, erosion, and water balance. Meeting these criteria for the development and infrastructure in TRCA's jurisdiction is critical in assisting our provincial and municipal partners in preparing for the impacts of a changing climate.

Government Proposal

The ERO posting notes that Section 53 of the *Ontario Water Resources Act* (OWRA) requires municipalities and developers to obtain an Environmental Compliance Approval (ECA) to establish, alter, extend or replace sewage works. MECP is proposing to implement a Consolidated Linear Infrastructure Permissions Approach that has been modeled after the existing permissions framework for municipal drinking water systems, which was established in 2009.

Under the proposed approach, municipalities would need to prepare and submit to the ministry applications for consolidated linear infrastructure ECAs that will include a description of all existing municipally owned sanitary collection and stormwater works. A municipality would no longer need to submit individual pipe by pipe ECAs for future alterations provided that the future alterations are built in accordance with new design criteria and all other ECA conditions. Under certain circumstances, and only with municipal approval, other persons such as developers may be able to construct works under the municipality's consolidated linear infrastructure ECA. This is intended to eliminate the need for developers to prepare and submit individual ECAs for sewage works that eventually will be owned by the municipality.

The stated purpose of the Consolidated Linear Infrastructure Permissions Approach and proposed draft design criteria and ECA templates is to:

- reduce regulatory burden for municipalities and developers by streamlining the approval process by replacing existing individual pipe by pipe ECAs with one multi-media ECA for a municipality's wastewater sewage collection system, and one multi-media ECA for a municipality's stormwater collection, treatment and disposal system
- provide clear, transparent and consistent requirements through the new design criteria and conditions in the new ECAs that municipalities and developers can follow for future sewage work
- improve environmental protection and ensure quality and consistency of new sewage works through updating ECA terms and conditions to current standards
- consolidate and update ECA terms and conditions that will apply to each municipality's sewage collection system
- consolidate the ECAs for existing linear infrastructure to establish a holistic picture of all routine works owned by a municipality

General Comments

In TRCA's commenting and regulatory roles, we collaborate with municipalities and development proponents in facilitating the planning, design and construction of municipal sewage works affecting TRCA regulated areas. TRCA staff supports and can assist with the Province's streamlining efforts for sewage works requiring ECAs given current practice in which we offer multi-disciplinary expertise in water resources management. This work also contributes to meeting provincial policies for preparing

for the impacts of a changing climate through the planning and design of resilient infrastructure. For example, TRCA's Living City Policies and Stormwater Management Criteria documents are aligned with and build upon The Growth Plan for the Greater Golden Horseshoe policies, which require:

- municipalities to develop SWM master plans;
- that development be supported by SWM plans;
- that SWM plans be informed by watershed/sub-watershed planning;
- an integrated treatment train approach that incorporates green infrastructure; and
- stormwater retrofits where appropriate.

In TRCA's view, also significant to the currently proposed approval framework, is the Growth Plan policy for SWM plans to establish planning, design, and construction practices that minimize vegetation removal, grading and soil compaction, sediment erosion, and impervious surfaces; and align with the SWM master plan or equivalent for the settlement area, where applicable. These Growth Plan policies also align with the SWM policies in 1.6.6.7 of the Provincial Policy Statement 2020, including to: "minimize erosion and changes in water balance, and prepare for the impacts of a changing climate through the effective management of stormwater, including the use of green infrastructure."

Accordingly, while we agree that the proposed consolidated framework will help streamline review and approval processes, **we recommend that the Ministry's proposed draft design criteria be strengthened to ensure consistency with provincial policy direction for comprehensive, watershed-based infrastructure planning and design.**

Further to the above, in TRCA's experience, the current ECA process is such that municipalities and conservation authorities are engaged in the early planning stages, but MECP staff, as the final approval authority, are not at the table until the final stages of design. **It would be beneficial if provincial staff were engaged during the planning stages to consider such issues as siting and alignment of pipes and construction and maintenance access routes.** For example, the current proposal would require applicants to abide by design criteria but does not address siting and alignment for installation. Siting, installation and long-term maintenance of infrastructure are key components of review in order to ensure sustainable infrastructure planning and design that considers cumulative impacts and the long-term functioning of infrastructure.

TRCA also suggests that a coordinated, proactive approach be taken in engaging other provincial and federal agencies through the infrastructure planning and design process. MECP requirements through the *Endangered Species Act*, MNRF requirements through their various capacities, and Fisheries and Oceans Canada (DFO) through the federal *Fisheries Act* process should be incorporated as early in the process as is feasible. This will ensure sticking points and potentially conflicting requirements are addressed early, avoiding delay.

The following detailed comments are organized by the relevant ERO proposal document sections. The **bolded text** above and in the table indicates TRCA's main suggestions and recommendations for the Ministry's consideration.

Proposal Section	TRCA Comments
Proposed Consolidated Linear Infrastructure Permissions Approach	<p>The current ECA process does not consider the cumulative impacts of multiple outlet sources on a single watercourse from an erosion or flooding perspective. For example, it should be a requirement of the new ECA approach to demonstrate that there will be no impacts to the receiving system. A good starting point for the assessment of cumulative impacts will be the currently proposed aspect of the approach that municipalities would need to submit a description of all existing sanitary collection and stormwater works within their boundaries. The comprehensive perspective of this new requirement should be set in the context of the watershed/sub-watershed level of study required in the Growth Plan infrastructure policies, as described in the general comments above. This approach could be leveraged to inform the determination of the cumulative impacts on the environment of new or expanded infrastructure. Therefore, please consider incorporating a requirement for municipal cumulative impact assessment consistent with Growth Plan infrastructure and watershed planning policies.</p> <p>Moreover, aligned with the streamlining objectives of the proposal would be the upfront recognition of studies and approvals required. For instance, the criteria for the proposed consolidated approach should emphasize the need to consider <i>Conservation Authorities Act</i> permits and requirements where applicable at the earliest possible stages of the planning and design process. This would ensure an integrated approach in which permitting and technical requirements to support all required approvals are scoped into supporting studies for projects as early as possible. TRCA has expedited approval processes applied where appropriate (e.g., minor works and emergency works permits). In addition, the application of conservation authority regulations is critical to ensuring natural hazard, natural heritage and water resource impacts are managed to protect the environment and the infrastructure. Therefore, we recommend that the proposed ECA framework specifically reference conservation authority (CA) s. 28 permit requirements under the <i>Conservation Authorities Act</i> and to emphasize that CAs where they exist can act as a technical resource to assist municipalities and private proponents in meeting the criteria.</p>

Proposal Section	TRCA Comments
New design criteria for linear infrastructure sanitary and some storm management collection systems	<p>TRCA supports consolidating sanitary and storm ECAs, however, specific to SWM systems, it is important for the criteria to direct a proactive, multi-disciplinary approach to determining the location and design of stormwater outlets. In TRCA's review roles, all relevant stakeholders and experts conduct field visits to collectively determine the best approach to design, effectively confirming that the design direction can be supported by TRCA through the permitting process.</p> <p>Consideration should be given to embedding a proactive, multi-disciplinary approach to outlet siting and design within the provincial criteria. Ecological and geotechnical concerns often drive the design of SWM outlets. This, in turn, can impact the design of the entire SWM system proposed. For example, a pond draining east to west is re-designed to drain west to east to avoid a steep, forested slope and outlet down a gently sloping meadow. In this way, both engineering criteria and ecological concerns are addressed early in the process, which contributes to a streamlined approach.</p>
New Consolidated Linear Infrastructure ECA templates	<p>Please consider adding sections to the template for consistency with any corresponding municipal SWM master plan for the proposal and/or for the required SWM plan. As these plans are required to be informed by watershed/sub-watershed scale studies, they should be able to confirm that the proposed infrastructure has been considered comprehensively in the context of watershed conditions and management recommendations. In addition, the templates could require those proposed infrastructure projects that do not have an overarching SWM plan, to demonstrate how the proposal was considered in the watershed and/or sub-watershed context for cumulative impacts and how corresponding mitigation measures will address impacts.</p> <p>Finally, the template could include a section that requires the proponent to demonstrate how the proposal investigated the need and options for stormwater retrofit, given the need to match current SWM standards, in accordance with the overarching plans; where plans do not exist, this could be a standalone requirement. An example of guidance that addresses all of these issues is section 7.4.1.1.1, Policies for Stormwater Management Infrastructure, on pages 85-86 of TRCA's The Living City Policies.</p>

Draft Design Criteria - January 2020	
Proposal Section	TRCA Comments
Introduction	<p>Design Considerations – 1.2.1 currently states, “All sanitary sewers, storm sewers, force mains, maintenance holes, and chambers, shall be designed considering all relevant soil and hydrogeological conditions as identified by the geotechnical professional.”</p> <p>We recommend changing “geotechnical professional” to “qualified professional” to reflect that a hydrogeologist or other qualified person may identify relevant soil and hydrogeological conditions to inform these designs. Overall, the criteria should identify the types of qualified professionals/disciplines required for the process of siting outfalls and that this occur at early planning stages (e.g., draft plan of subdivision).</p>
Design of Sanitary Sewers	<p>TRCA staff are concerned that the design criteria for sanitary sewers do not encourage development of emergency overflow pathways that terminate in locations other than waterbodies, creeks or rivers (please see comments and recommendations below on the Draft ECA Template for a Municipal Sewage Collection System, Schedule B)</p>
Storm Sewers	<p>Within the context of current legislation, policies, and science relating to stormwater management (SWM), TRCA’s SWM Criteria document provides guidance on specific water management strategies and programs, building on the principle that the establishment of appropriate, effective, and sustainable SWM practices requires a solid understanding of the form, function, and interrelation of the water resources and natural heritage systems. This document provides guidance in the planning and design of stormwater management infrastructure for developers, consultants, municipalities, and landowners, and outlines the processes and infrastructure needed to address flooding, water quality, erosion, water balance, and natural heritage. While this document addresses SWM throughout TRCA’s jurisdiction, a review of site specific conditions is recommended to ensure that any necessary variations on these requirements are identified early in the planning and design process, through thorough consultation with all affected agencies and stakeholders, to maintain sound engineering and environmental practices. This document could be used to inform the design criteria for infrastructure related</p>

Draft Design Criteria - January 2020	
Proposal Section	TRCA Comments
	to SWM, and as a resource for municipalities and consultants working under the Province's proposed consolidated approach.

Draft Stormwater Linear Infrastructure ECA Template July 2020	
Section	Comments
Schedule D: General	<p>Section 5.2.5 – Please note that the City of Toronto and TRCA are in the final stages of developing a calculation to provide an accurate total suspended solids (TSS) removal rate for oil/grit separator (OGS) units based on standardized soils gradation and performance testing conducted under the ISO 14024:2016 standard. Several OGS vendors have completed third party testing and verification under this standard. TRCA recommends that MECP consider the following alternatives to capping the removal rate at 50%: incorporating a sizing calculation verified under standard ISO 14024 described above, or considering a cap with final rates determined through City/CA sizing tool. Cities that do not have a sizing tool should continue with a removal rate cap of 50%. TRCA staff would be pleased to provide further information on this initiative should the Ministry so desire. TRCA's Sustainable Technological Evaluation Program is another excellent resource to consult for research and pilot studies with industry and stakeholders.</p> <p>Section 5.3.1 – This section stipulates that the authorization for the SWM Facility alterations included in the consolidated approval does not include alterations that establish regional SWM end-of-pipe control facilities. While this is reasonable, TRCA requests clarification on the considerations for regional SWM facilities. Will they require an ECA or special permit, or will establishing regional controls not be considered a significant change?</p> <p>Section 5.5.6 – Not all "Works" as defined in 5.5.1 need to be monitored. For instance, OGS have been third party tested and verified under a separate protocol. Several smaller LIDs (e.g. back yard soakaways) may require that only a representative subset be monitored to verify performance. Others may only require testing to verify function (e.g. bioretention) where</p>

Draft Stormwater Linear Infrastructure ECA Template July 2020	
Section	Comments
	<p>previous monitoring programs have adequately documented performance of similarly designed systems. TRCA recommends adding wording to the template to recognize that monitoring and verification requirements may vary depending on the type of works, to avoid deterring owners from implementing effective decentralized stormwater works due to monitoring requirements.</p> <p>Section 7.0 – The requirements for outlets or outfall structures are not substantial enough given the effort required to properly site an outfall location to limit long term impacts to the outfall or caused by the outfall structure. TRCA recommends that criteria be added for siting outlets, including locations on watercourses, ecological and fluvial considerations to minimize natural heritage and natural hazard impacts, and elevation above certain flood levels to ensure adequate discharge rates. Appendix E2 of the TRCA SWM Criteria (2012) document (as described and linked above) could be referenced in the provincial template as it provides an excellent resource for criteria that should be considered when siting an outfall structure, as well as erosion mitigation strategies to limit localized erosion and undercutting of outfall structures.</p>
Appendix A: Stormwater Management Criteria	<p>Construction Erosion and Sediment Control: The criteria documents listed are not equivalent; the 2002 Canadian Council of Ministers of the Environment (CCME) Suspended Solids Guideline is a numerical target that is implicit within the other two references. The CSA Erosion and Sediment Control Inspection and Monitoring Standard, and in particular the TRCA Erosion and Sediment Control Guideline for Urban Construction, also outline how the target can be evaluated through a monitoring program. TRCA recommends removing the reference to the CCME guideline as it is inherent within the other two options listed.</p>

Draft Sanitary Linear Infrastructure ECA Template July 2020	
Section	Comments
Schedule B: Municipal Sewage Collection System Description	<p>Page 5 – Overflow – this section requires sanitary pumping stations to have emergency sanitary “overflow discharge locations and pathways to final receivers (waterbody/creek/river).” Alternative pathways that direct emergency overflows to SWM ponds, for example, (where feasible given the size of the area being serviced), should be promoted in the design criteria. For example, during the review of Mayfield West Phase 1, Caledon, a pumping station was located directly adjacent to a SWM pond, so that all stakeholders agreed to direct the overflow to the SWM pond. It would be helpful if the updated provincial criteria could encourage this practical direction where feasible. Regarding pumping station overflow location and pathway to the natural environment, the criteria should require a step to consider design opportunities to avoid or mitigate impacts on the environment. For small pumping stations, often there are opportunities to design an intermediate holding area as part of the overflow system. A stormwater management pond or parkland could be designed in a way that provides temporary holding of flows. This would mitigate the impact of a direct overflow into a watercourse or valley. An exploratory step, considering design options for this, should be embedded in the design and approval process for smaller pumping stations.</p>
Schedule C: All documents issued as Schedule C to this ECA which authorize alterations to the System	<p>We note that combined sewer overflows (CSOs) are discussed in Schedule C, not Schedule B. With regard to overflow requirements for CSOs, there is no discussion on investigating the potential impacts to the natural environment or investigating mitigation strategies to reduce impacts. While it is understood that the document prohibits increased volume or occurrences of overflows, the document still only discusses that overflows should proceed to the nearest watercourse/lake. Portraying natural features as simply “a receiver” is outdated and not consistent with the Ministry’s more modern approach with respect to stormwater. There needs to be greater emphasis on reducing the number of overflows or understanding and mitigating the natural heritage impact as much as possible through multi-disciplinary investigation and design.</p>

Thank you once again for the opportunity to provide comments on the proposed changes to environmental approvals for municipal sewage collection works. Should you have any questions, require clarification on any of the above, or wish to meet to discuss our remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(PI), MCIP, RPP
Chief Executive Officer

BY E-MAIL

cc:

TRCA: Laurie Nelson, Director, Policy Planning and Regulation
Sameer Dhalla, Director, Development and Engineering Services
Darryl Gray, Director, Education and Training
Beth Williston, Associate Director, Infrastructure Planning and Permits

Chief Executive Officer



May 27, 2020

Patricia Koval
Member
Ontario's Advisory Panel on Climate Change

Re: TRCA Recommendations to the Advisory Panel on Ontario's Flooding Strategy

Dear Ms. Koval:

Thank you for taking the time to meet Toronto and Region Conservation Authority (TRCA) staff on March 9, 2020 to share our knowledge and expertise in supporting the creation of resilient communities, infrastructure, and housing within our jurisdiction.

On September 10, 2019, TRCA staff had the opportunity to meet with Ontario's Special Advisor on Flooding to present both the unique challenges of our highly urbanized jurisdiction, as well as our expertise in flood risk management in this context, including a tour of successfully completed and in-process flood protection projects. We were pleased to see many of TRCA's recommendations to the Special Advisor, as outlined in the attached letter of September 27, 2019, carried forward into his final report released by the Province on November 28, 2019.

The subsequent release of Ontario's Flooding Strategy on March 9, 2020 acknowledges the success of current provincial policy and the expertise of conservation authorities and municipalities in implementing provincial policy to help reduce flood risks. The structure of the report follows the components of the emergency management cycle and mirrors our own flood risk management strategies, programs and services. Many of the actions outlined in the Strategy are areas in which TRCA has already exhibited leadership.

We were also pleased to see:

- Acknowledgement of flooding as a natural process that will continue to occur;
- Recognition of the role and legacy of Conservation Authorities as essential partners in protecting people and property from flooding;
- Recognition of the need to update provincial guidelines, including the MNRF River and Stream Systems - Flooding Hazard Limit and the Great Lakes Shoreline Hazard Limit to account for both technological advancements, as well as climate change; and
- A set of Goals, Priorities, and Objectives for flood management that align with TRCA's Strategic Plan, priorities, and legislative mandate.

While it is recognized that Ontario's Flooding Strategy (the Strategy) is meant to be a high level document, our review has highlighted several areas of improvement, as noted below.

1. Further details in a workplan, including timelines, to provide certainty on the delivery of priorities and actions

While the recommendations within the Special Advisor's report were explicitly outlined, it is not easy to distinguish the roles, responsibilities, or timelines to execute and deliver the suite of actions and activities identified in the Strategy. The most important area of improvement would be to issue a follow up document that provides a workplan for the actions and activities in the Strategy in order to provide more certainty to stakeholders. As an example, our work continues to be governed by many of the guidelines and policies that were identified for updating, therefore it is critical to accelerate the timelines associated with the updating of both the policies and the technical guidelines so that they can be applied to the significant capital investments in flood and erosion risk reduction in programs such as the Disaster Mitigation and Adaptation Fund.

2. Establishing Working Groups

Responsibilities, timelines, membership, and the participation process associated with certain working groups identified in the Strategy, such as the "Urban Flooding Work Group" or "Multi-Agency Flood Mapping Technical Team", are not clear. The converse situation exists where some of the actions warrant a working group which has not been identified, such as actions and activities related to policy, legislative or regulatory matters associated with land use planning, or the task to "examine and analyze existing flood level values specified on the Great Lakes – St. Lawrence and connecting channels, considering recent high-water levels and what may be predicted under a changing climate". It is acknowledged that successful implementation of the actions within the Strategy will require the collaboration and support of several stakeholders, including conservation authorities. Therefore, it will be imperative that the working groups are resourced with the appropriate stakeholders and expertise, together with a workplan to ensure timely deliverables to advance the Strategy.

3. Highlighting the value of watershed planning and conserving natural resources to managing flood resiliency

One of the key recommendations that we provided to the Flood Advisor was to promote better integration of natural hazard, natural heritage and water resource system policies through watershed and subwatershed planning, as well as infrastructure planning in the Provincial Policy Statement. Conserving natural resources makes watersheds more resilient to the variations in precipitation patterns resulting from climate change. As such, natural hazards and natural heritage are intrinsically linked. While the Strategy does include a variety of actions related to wetlands, it could be further strengthened and enhanced about the interrelationship between natural heritage systems and natural hazards, particularly within the urban/urbanizing context.

4. Funding to support implementation

While the strategy does note the need to leverage existing funding programs for other levels of government, there are no new funding commitments outlined in the strategy. CAs have a large portfolio of purpose-built, as well as inherited, flood control structures that are approaching their end of life; significant investments will be required to upgrade, and maintain, infrastructure in a state of good repair. The strategy noted a continuation of financial support from the Water Erosion Control Infrastructure (WECI) program, however increased funding to this program is desirable in order to meet the cost-sharing requirements for other federal funding programs, such as the Disaster Mitigation and Adaptation Fund.

Funding through the federal National Disaster Mitigation Program (NDMP) has been effective at supporting flood risk reduction through multiple means and has allowed CAs to accelerate important work in flood line mapping, flood risk modeling, flood infrastructure assessments and flood forecasting and warning. TRCA secured over \$3.9 Million in NDMP funds to accelerate our program work.

Given the ample evidence of risks associated with extreme weather and climate change, funding is required to continue the important work in both the flood forecasting and warning and flood infrastructure realms. While the federal Disaster Mitigation and Adaptation Fund (DMAF) can help support projects with a capital component, important work such as the development of improved flood forecasting and warning tools and risk assessments would not qualify for DMAF funding. Many of these federal grants are matching programs. The Province could play a leadership role by supporting mechanisms for municipalities to collect dedicated funding for flood remediation and mitigation projects.

5. Priority: Updating Technical Guidelines

Given TRCA's significant experience in flood risk management which aligns with the actions and activities outlined in the Flood Strategy, we are eager to share our knowledge and technical expertise to support the Province to achieve our collective goals and objective to increase Ontario's resiliency to flooding. As discussed in our meeting on March 9th, we would recommend that a top priority would be the updates the Ministry of Natural Resources and Forestry (MNRF) Technical Guidelines related to natural hazards, including guidance to "prepare for the impacts of a changing climate" in order to be consistent with Provincial Policy Statement (PPS) 2020. With guidance developed by the Province now being referenced in section 3.1.1 Natural Hazards of the PPS, there is an urgent need to have the technical guidance updated to reflect current technology and approaches, particularly within the urban context, so as not to be a barrier for innovative solutions. While this updating process is technical in nature, these guides do influence land use planning and CA permitting decision, as such, it recommended that as noted above, a policy, planning and regulatory working group be established and integrated with the technical work. This will ensure current challenges and opportunities are considered and that any policy, legislative and regulatory changes are identified.

Specific updates relating to key technical guidelines are outlined below.

Update the Ministry of Natural Resources and Forestry (MNRF) Technical Guide (River and Stream Systems, Flood Hazard Limit) to:

- a) **Account** for technological advancements in the last 15 years, including the proliferation of two-dimensional modelling software and methodologies, as well as the use of GIS-based models and mapping outputs.
- b) **Provide** guidance, as per the commitments in "A Made-in-Ontario Environment Plan", to support the application of climate change science in decision making, including the consideration of the extreme precipitation increases expected with our changing climate in both floodplain mapping and infrastructure design.
- c) **Provide technical and policy guidance specific to flood risk in the urban context to:**
 - Resolve the reporting relationship for stormwater management and flood risk management. CAs deal with Ministry of Environment, Conservation and Parks (MECP) for stormwater management matters but deal with MNRF for flood management matters. The role of stormwater ponds in mitigating the impacts of urban development, for example, are recognized by MECP, but are not recognized as providing flood risk reduction benefits according to MNRF.
 - Take a risk-based approach to mitigate existing urban flood risk. Historically, CA efforts have been focused on delineating hazard areas. While this is important to implement land use management for new greenfield development, within the urban context it is important to

assess priorities for flood mitigation from a risk-based perspective, targeting the highest risk areas and developing solutions that fit within the urban constraints of the area.

- Reconcile growth and risk reduction goals. The Provincial Growth Plan and municipal official plans have identified areas for intensification and urban expansion. In order to accommodate the proposed growth in Ontario, impacts to flooding must be considered and managed appropriately. Many Urban Growth Centers, (e.g. Downtown Toronto, Brampton, Vaughan) are located in historic flood plains and in some cases, future urban expansions can result in increases to Regional flood flows, in turn expanding downstream flood plains. In order to protect life and property from flooding and allow for future growth, remedial measures to provide permanent flood protection need to be considered since passive approaches (e.g. moving development to other locations, expropriating land and infringing on riparian rights) may not be feasible. Currently, the methodology of utilizing remedial measures is not considered in the current MNRF Technical Guidelines (2002); however, there are examples where these types of practices have been successfully implemented in Ontario, with Provincial approval (e.g. West Donlands Flood Protection landform) with resulting benefits including acting as a catalyst for development of the Pan Am Village and major private sector redevelopments.
- d) **Update the 2009 Special Policy Area Procedures** informed by lessons learned by CAs from comprehensive updates undertaken in the last 10 years. Many SPAs were designated in the late 1980s and early 1990s. Several comprehensive updates undertaken in TRCA's jurisdiction have been completed in consultation with municipalities, the Province, and the public. These multi-year projects have provided valuable insights on improvements to processes and outcomes such as: ensuring municipal documents (Official Plans and Zoning-By-laws) reflect the current planning and policy regime; ensuring corresponding updates to municipal flood emergency response plans; and ensuring the up-front understanding of technical studies required to accompany applications to streamline submissions in the development process.

Regarding the MNRF Technical Guides for Great Lakes -St. Lawrence River Shorelines Hazards:

- a) **Update** the 100-year level for Lake Ontario to account for the high levels seen in 2017 and 2019. Data included in the 2001 Technical Guide are based on older data presented in the MNRF document, "Great Lakes System Flood Levels and Water Related Hazards" (February 1989), which includes an analysis of data ending in the year 1987. The Province should update the governing reach-by-reach 100-year lake elevations to account for more recent historical records, climate change, and the impact of Plan 2014 of the International Joint Commission. This should be done in conjunction with the expedited review of Plan 2014 by the Great Lakes Adaptive Management Committee, in order to ensure a common approach between the federal IJC initiatives and the MNRF objectives.
- b) **Include** guidance on the expected changes in shoreline erosion risk with a changing climate, as a result of updated return period lake levels, as well as the reduction in expected ice-cover under future climate scenarios.
- c) **Reconcile** the variation in determining the shoreline erosion hazard limit as currently described in the MNRF Technical Guide and regulations under Section 28 of the Conservation Authorities Act.

Update the MNRF Technical Guide River and Stream Systems: Erosion Hazard Limit to:

- a) Account for any technological advancements, include guidance on climate change and provide technical and policy guidance to erosion risk within the urban context.

6. Priority: Conservation Authorities Act and associated regulations

The Strategy acknowledges that municipalities and conservation authorities are central to the success of local flood management, having distinct delegated roles from the Province along with legislated and regulatory responsibilities. In this regard, we recommend the following related to the *Conservation Authorities Act* and associated regulations:

- a) **Support** the creation of a robust natural hazard protection and management mandatory program and services regulation under Section 21.1 (1) of the *Conservation Authorities Act* that recognizes the value of comprehensive integrated watershed management and conserving natural resources to reduce risks associated with flooding
- b) **Include** pro-active watershed and subwatershed planning, flood and erosion control, and remediation work as a mandated activity of CAs.
- c) **Recognize** within the mandatory programs and services, the role of CAs in the land use planning and environmental protection process, as linked to legislation including the *Planning Act*, *Environmental Assessment Act*, and the *Conservation Authorities Act*, in supporting the implementation of provincial policies.
- d) **Add** a clause of indemnification or statutory immunity for the good faith operation of essential flood and erosion control infrastructure and programming

Thank you once again for the opportunity to meet with you and to provide TRCA staff comments and recommendations on flood risk management and resilience in Ontario. A copy of the presentation given by Rehana Rajabali, Sameer Dhalla, Moranne McDonnell and Laurie Nelson at the meeting has also been enclosed. Should you have any questions, require clarification, or wish to meet to discuss the above remarks, please contact the undersigned at 416.667.6290 or at john.mackenzie@trca.ca.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(PI) MCIP, RPP
Chief Executive Officer

Encl.

BY E-MAIL

cc: Sameer Dhalla, Director, Engineering and Development Services
Rehana Rajabali, Senior Manager, Flood Risk Management
Laurie Nelson, Director, Policy Planning
Moranne McDonnell, Director, Restoration and Infrastructure

September 27, 2019

Mr. Doug McNeil, P.Eng.
Special Advisor on Flooding
c/o Ms. Jennifer Keyes
Manager, Water Resources Section
Ministry of Natural Resources and Forestry

VIA EMAIL

jennifer.keyes@ontario.ca

Dear Mr. McNeil:

Re: TRCA Recommendations to the Province on Flood Risk and Resilience in Ontario

Thank you for taking the time to meet Toronto and Region Conservation Authority (TRCA) staff on September 10, 2019 to discuss our roles, responsibilities, and expertise related to flooding within our jurisdiction. We appreciated the opportunity to take you on a tour of flood prone areas in our jurisdiction and to see firsthand, successfully completed, or in-process flood protection projects.

TRCA and its member municipalities have a vested interest in your work and are highly supportive of the Province's efforts to meet shared provincial and municipal objectives for addressing flood risk in Ontario's watersheds. Further to our meeting, the following recommendations were compiled by TRCA staff who oversee our response to flood events and work with municipalities, emergency services, watershed residents and the Province on matters related to flooding. These comments have also been vetted by TRCA's Senior Leadership Team involved in the implementation of adaptive "flood proofing measures" on behalf of our partners including municipalities and government agencies. We are hopeful our recommendations will inform your work.

To improve flood resilience in Ontario, we offer the following recommendations with supporting comments and rationale:

1. Acknowledge the success of current provincial policy and the expertise of conservation authorities and municipalities in implementing provincial policy to help reduce flood risks

Since the development of modern flood plain policy, the watershed approach, conservation authority model (including section 28 regulations), and Hurricane Hazel flood standard have been extremely effective at reducing flood risks in our jurisdiction, especially in new greenfield development areas. Strong provincial legislation and policy, including the *Planning Act*, Provincial Policy Statement (PPS), the *Conservation Authorities Act* (CA Act), *Environmental Assessment Act*, *Development Charges Act*, as well as supporting technical guides in hazard management, have substantially reduced flood risks in newly developed greenfield areas in our jurisdiction. In addition, the fact that section 28 permitting Regulations under the CA Act are applicable law under the *Building Code Act* has been an important mechanism in avoiding increases in flood risk for people, property and infrastructure. We would recommend your report acknowledge that the existing provincial flood risk management framework, and its implementation by municipalities and conservation authorities, has collectively gone a long way to reduce and mitigate flood risks in Ontario.

2. Strengthen and update provincial legislation, policies and guidelines

The Made-In-Ontario Environment Plan affirms the important role of conservation authorities (CAs) in the land use planning and environmental protection process. CAs provide significant support to both the Province and municipalities in the implementation of the PPS and the Provincial Plans (e.g. Growth Plan). CA core roles are linked to other legislation such as the *Planning Act* and the *Environmental Assessment Act*, where we provide one-window review of natural hazard issues related to development and infrastructure applications and relevant sections of implementation of the PPS. Additionally, the administration of TRCA's regulatory permitting responsibilities under Section 28 of the *Conservation Authorities Act* complements our delegated planning responsibilities. Furthermore, the unique watershed-based governance model of CAs that transcends municipal boundaries has enabled innovation in developing practical solutions to current and emerging issues, (e.g. flood

management, climate change, rapid urbanizing/growth), through partnerships with other CAs and municipalities. To maintain and improve on-the-ground implementation, we offer the following recommendations related to the **Provincial Policy Statement Review**:

- 2.1. **Enhance** the current policy framework to recognize the urban context, (i.e. flood vulnerable urban cores and transit lines), and provide guidance for appropriate community revitalization/redevelopment, including encouraging flood mitigation projects and remediation to provide protection to existing development, even if it is not possible to remediate the risk to the regulatory level.
- 2.2. **Promote** better integration of natural hazard, natural heritage and water resource system policies through watershed and subwatershed planning and infrastructure planning in the PPS. Conserving natural resources makes watersheds more resilient to the variations in precipitation patterns resulting from climate change. As such, natural hazards and natural heritage are intrinsically linked.
- 2.3. **Update** the Technical Guidelines to support policy interpretation and implementation to address the following: the urban context/existing development in the One-Zone Approach, safe ingress and egress standards, flood proofing standards, risk assessments criteria, and clear standards for One-Zone, Two-Zone and Special Policy Areas, as well as incorporating climate change.
- 2.4. **Update** the 2009 Special Policy Area Procedures informed by lessons learned by CAs from comprehensive updates undertaken in the last 10 years. Many SPAs were designated in the late 1980s and early 1990s. Several comprehensive updates undertaken in TRCA's jurisdiction have been completed in consultation with municipalities, the Province, and the public. These multi-year projects have provided valuable insights on improvements to processes and outcomes such as: ensuring municipal documents (Official Plans and Zoning-By-laws) reflect the current planning and policy regime; ensuring corresponding updates to municipal flood emergency response plans; and ensuring the up-front understanding of technical studies required to accompany applications to streamline submissions in the development process.

We also offer the following recommendations related to the Conservation Authorities Act and associated regulations:

- 2.5. **Support** the creation of a robust natural hazard protection and management mandatory program and services regulation under Section 21.1 (1) of the *Conservation Authorities Act* that recognizes the value of comprehensive integrated watershed management and conserving natural resources to reduce risks associated with flooding.
- 2.6. **Include** pro-active watershed and subwatershed planning, flood and erosion control, and remediation work as a core mandated activity of CAs.
- 2.7. **Recognize** as a core mandatory program and service, the role of CAs in the land use planning and environmental protection process, as linked to legislation including the *Planning Act*, *Environmental Assessment Act*, and the *Conservation Authorities Act*, in supporting the implementation of provincial policies.
- 2.8. **Add** a clause of indemnification or statutory immunity for the good faith operation of essential flood and erosion control infrastructure and programming.

Please consider the following related to the Development Charges Act:

- 2.9. In any future review of the *Development Charges Act*, continue to enable financing tools such as Area-Specific Development Charges to finance flood protection works, particularly for community revitalization and intensification areas.

3. Acknowledge the difference between greenfield flooding controls and flooding controls in historically developed areas

As discussed on site at our meeting, there is a substantial difference between managing floods in newer greenfield development and historically developed areas, some of which are now subject to intensification pressures. We recommend your report point out some of the specific challenges with managing the existing flood risk in areas developed prior to the implementation of flood plain policy and regulation in Ontario's land use policy and planning regime. We would also ask that your report please point out the need to rehabilitate, enhance or build new flood protection infrastructure, coincident with or as a catalyst to urban development. We feel that your report should also note the issues with short or smaller catchment areas in urbanized watersheds, that are characterized by a flashy flood response, and year-round risk.

4. Recognize the importance of financing retrofits and flood and erosion protection work for developed areas

Flood prone urban areas with historical development, built in areas where development would not be permitted today, along with aging infrastructure that cannot handle flows resulting in urban flooding illustrate the need for local knowledge in applying models and tools best suited to each circumstance. These areas also require special attention in terms of municipal financing tools to address historical erosion prone areas and aging infrastructure such as culverts, bridges, sewers, watermains, roadways that are flood prone. In some cases where intensification is proposed, there is a major reluctance for developers to participate in retrofitting of infrastructure and upgrades to support development.

Some of our municipal partners have used development charges to fund flood and erosion remediation and green infrastructure (e.g. Toronto Waterfront projects, the Vaughan Metropolitan Centre for the Black Creek corridor). Other partners are introducing levies to help address aging stormwater infrastructure. A sustainable funding model is needed to support the maintenance, renewal and improvement of flood mitigation and remediation measures. Development charges should be considered as part of a suite of funding options including levies, rate increases on water, stormwater, etc. to incent developers, government agencies and municipalities to address flooding issues as part of comprehensive redevelopment, intensification and community revitalization.

5. Link flood protection and remediation with major provincial infrastructure investments

In some cases, major provincial investments have been made by Metrolinx or regional transit agencies, (VIVA Rapidco, TTC etc.), in locations where flood risks, despite being known, have not been addressed. Often the budgets for projects did not include funding envelopes for such remedial works as part of the project and therefore the flood risks remain unaddressed. New highway or roadway projects should also address historical issues and lead to a net benefit where existing flood risks are present. However, in a recent case in the City of Vaughan in York Region, on the Metrolinx Barrie Go Rail Corridor near Langstaff, Metrolinx did, at the advice of agencies including TRCA, upgrade a culvert. This upgrade will reduce upstream riverine flooding and protect the rail line from future flood risks. This more recent practice should be encouraged in all provincial infrastructure projects to protect provincial investments.

6. Clarify roles and responsibilities in flood management for both riverine and urban flooding

In our jurisdiction, there have been many examples where urban flooding has resulted in major disruptions and impacts on property, businesses and people. A significant gap that exists both in terms of mapping and warning, is the area of urban (pluvial) flood risk. While this is not the mandate of CAs, the fact that CAs have delineated one type of flood risk area has created an appetite on the part of the public for similar flood risk information for urban (pluvial) flood risk. The Province could support municipalities in developing pluvial flood risk information, in providing guidance on how to incorporate climate change in infrastructure design, and in supporting flood resilient design standards, where they are not already in place, through municipal drainage bylaws and stormwater management requirements. One of the challenges in addressing pluvial flood risk is that many of these areas are not experiencing the type of development that other areas have experienced so infrastructure improvements cannot be leveraged as a condition of development through the *Planning Act* processes and or through Area-Specific Development Charges that might exist in Intensification Areas or in Greenfield Areas.

7. Update the technical guidance that governs floodplain mapping and land use management

The policy guidance and technical standards on floodplain mapping are set by the Province. The Ministry of Natural Resources and Forestry (MNRF) Technical Guide (River and Stream Systems, Flood Hazard Limit) should be updated to:

7.1 Account for technological advancements in the last 15 years, including the proliferation of two-dimensional modelling software and methodologies, as well as the use of GIS-based models and mapping outputs.

7.2 Provide guidance, as per the commitments in the Ontario Environment Plan, to support the application of climate change science in decision making, including the consideration of the extreme precipitation increases expected with our changing climate in both floodplain mapping and infrastructure design.

7.3 Provide technical and policy guidance specific to flood risk in the urban context to:

- Resolve the reporting relationship for stormwater management and flood risk management. CAs deal with Ministry of Environment, Conservation and Parks (MECP) for stormwater management matters but deal with MNRF for flood management matters. The role of stormwater ponds in mitigating the impacts of urban development, for example, are recognized by MECP, but are not recognized as providing flood risk reduction benefits according to MNRF.
- Take a risk-based approach to mitigate existing urban flood risk. Historically, CA efforts have been focused on delineating hazard areas. While this is important to implement land use management for new greenfield development, within the urban context it is important to assess priorities for flood mitigation from a risk-based perspective, targeting the highest risk areas and developing solutions that fit within the urban constraints of the area.
- Reconcile growth and risk reduction goals. The Provincial Growth Plan and municipal official plans have identified areas for intensification and urban expansion. In order to accommodate the proposed growth in Ontario, impacts to flooding must be considered and managed appropriately. Many Urban Growth Centers, (e.g. Downtown Toronto, Brampton, Vaughan) are located in historic flood plains and in some cases, future urban expansions can result in increases to Regional flood flows, in turn expanding downstream flood plains. In order to protect life and property from flooding and allow for future growth, remedial measures to provide permanent flood protection need to be considered since passive approaches (e.g. moving development to other locations, expropriating land and infringing on riparian rights) may not be feasible. Currently, the methodology of utilizing remedial measures is not considered in the current MNRF Technical Guidelines (2002); however, there are examples where these types of practices have been successfully implemented in Ontario, with Provincial approval (e.g. West Donlands Flood Protection landform) with resulting benefits including acting as a catalyst for development of the Pan Am Village and major private sector redevelopments.
- Update the 100-year level for Lake Ontario to account for the high levels seen in 2017 and 2019. Data included in the 2001 Technical Guide are based on older data presented in the MNRF document, "Great Lakes System Flood Levels and Water Related Hazards" (February 1989), which includes an analysis of data ending in the year 1987. The Province should update the governing reach-by-reach 100-year lake elevations to account for more recent historical records, climate change, and the impact of Plan 2014 of the International Joint Commission. TRCA and the City of Toronto undertook a similar analysis for the purpose of the Toronto Islands Flood Characterization and Risk Assessment Project.

8. Disseminate best practices from our jurisdiction and others across Ontario

Within our jurisdiction, TRCA has pioneered work in two-dimensional floodplain mapping, flood risk assessment, and real-time gauging for flood warning communications. The Province could support the adoption of the best practices developed by CAs across Ontario, supporting consistency in service delivery through training and knowledge transfer. Events such as the annual Provincial Flood Forecasting and Warning Committee and the MNRF Technical Transfer Workshop represent important opportunities for knowledge exchange. The Province could combine local expertise with province-wide knowledge transfer opportunities like these annual events. The Province should continue and expand these opportunities and consider making these workshops mandatory in the most vulnerable and highest risk flood prone areas of the Province.

9. Foster a culture of risk awareness and provide indemnity to conservation authorities to match the delegation of responsibilities

Many responsibilities have been delegated to, or mandated upon, CAs from the Province, including the construction and operation of flood control infrastructure and local Flood Forecasting and Warning. Unlike municipalities, who have some limited immunity from action for similar services, or the Crown, who has reduced lines of action against it, the services provided by CAs incur exposure to potentially significant liabilities. This, in turn, has a direct impact to the format and content of flood warning messages. As one measure aimed at managing potential liabilities, disclaimers and clarifications must be included in addition to critical key messages. It is recommended that a clause of indemnification or statutory immunity for the good faith operation of essential flood and erosion control infrastructure and programming be added to the *Conservation Authorities Act*.

10. Communicate risk as a high priority

Continued funding to support robust floodplain mapping should be coupled with practices and policies that make it easier to share and access risk information. TRCA has made the regulatory floodplain information publicly accessible for several years, however, the willingness of municipal partners to proactively share risk information with the public varies. Some parties are reluctant to publicize risk information if no funding for an infrastructure project is currently underway to address the risk. As highlighted by the priority of the Sendai Framework for Disaster Risk Reduction (SFDRR), understanding risk is the critical first step in reducing risk. Actively communicating risks to vulnerable communities can lessen the impact of flooding, as residents can take preparatory steps to protect themselves and their homes. The Province should explore options to strengthen requirements for the disclosure of flood risk information in real-estate transactions. CAs, including TRCA, currently offer a solicitor-realty service in this regard. Clear and current guidelines and standards for Flood Forecasting and Warning, as well as floodplain mapping, are also imperative so that municipalities and CAs can point to the fulfillment of due diligence according to standards and guidelines to protect people and property.

11. Enable and enhance CA Act Section 28 enforcement and compliance provisions

TRCA Enforcement staff have experienced many instances where flooding and erosion have been caused by illegal construction practices. This has included the filling in of flood prone valleys, the construction of impoundments, diversion of watercourses, the burial of streams, all of which have exacerbated flood risk on site and downstream. TRCA has, as part of the CA Act review, requested stronger powers on par with other provincial and municipal legislation, including the ability to impose Stop Work orders, orders to comply, and to access private property to help assess situations to avoid flood risks.

12. Modernize flood forecasting and warning measures

While Flood Forecasting and Warning measures have drastically improved in the past 60 years, significant investment is required to modernize the program and fully leverage new technologies. TRCA has been working with academic partners in these areas and leveraging National Disaster Mitigation Program (NDMP) funding where possible, but the following goals could be extended to all areas of the Province: Developing real-time flood forecasting models that merge hourly forecasts with radar and real-time gauge data, the use of machine learning

algorithms for data assimilation and ensemble forecasting, and geotargeting flood warning messages using Common Alerting Protocol format to integrate with the Alert Ready platform and mobile public safety apps.

13. Link flood and erosion control projects to required asset management plans

Municipalities are required to have asset management plans, and this presents the opportunity to link the issue of prioritizing investments to avoid major losses for assets that are in flood prone areas. The City of Toronto-TRCA Erosion Hazard Mitigation Program applies a risk-based approach to municipal infrastructure to identify opportunities where investments in infrastructure protection, (e.g., conducting works to stabilize a flood prone bridge or valley wall), could reduce risk of infrastructure failure, thus avoiding substantial costs. Such an approach should be encouraged as part of asset management work particularly in developed areas. We recommend that municipalities work with CAs to prepare such proactive risk-based plans that include preliminary costing for remediation for flood and erosion prone areas as part of their core CA mandate.

14. Continue provincial funding support for conservation authorities and cooperation between all levels of government to maximize opportunities presented by federal funding programs

CAs have a large portfolio of purpose-built, as well as inherited, flood control structures that are approaching their end of life; significant investments will be required to upgrade, and maintain, infrastructure in a state of good repair. The financial support from the Water Erosion Control Infrastructure (WECI) is an important source of funding for flood infrastructure and should be protected, at minimum, or enhanced to provide for the required infrastructure investment.

Funding through the federal NDMP has been effective at supporting flood risk reduction through multiple means and has allowed CAs to accelerate important work in flood line mapping, flood risk modeling, flood infrastructure assessments and flood forecasting and warning. The current program ends in March 2020, and the lack of funding in this area would create a problematic funding void.

Given the ample evidence of risks associated with extreme weather and climate change, funding is required to continue the important work in both the flood forecasting and warning and flood infrastructure realms. While the federal Disaster Mitigation and Adaptation Fund (DMAF) can help support projects with a capital component, important work such as the development of improved flood forecasting and warning tools and risk assessments would not qualify for DMAF funding. Many of these federal grants are matching programs. The Province could play a leadership role by supporting mechanisms for municipalities to collect dedicated funding for flood remediation and mitigation projects.

Thank you once again for the opportunity to meet with you and to provide TRCA staff comments and recommendations on flood management and resilience in Ontario. A copy of the presentation given by Rehana Rajabali, Sameer Dhalla and Laurie Nelson at the meeting has also been enclosed. Should you have any questions, require clarification, or wish to meet to discuss the above remarks, please contact the undersigned at your earliest convenience.

Sincerely,

<Original signed by>

John MacKenzie, M.Sc.(PI), MCIP, RPP
Chief Executive Officer

Encl.

BY E-MAIL

cc: Sameer Dhalla, Director, Engineering and Development Services
Rehana Rajabali, Senior Manager, Flood Risk Management
Laurie Nelson, Director, Policy Planning

Toronto and Region Conservation Authority Expertise in Climate Change

Mitigation, Adaptation, Flood and Erosion Risk Management

Presentation to: Pat Koval and Lynette Mader, Provincial Climate Change Task Force Advisory Group

Presentation Outline

1. Our role in climate resilience
2. How past decisions drive our risk
3. Global and Regional Climate Change Context
 - Warmer, Wetter, Wilder
 - How this alters the risks
4. Creating resilient communities
 - Land use planning and policy
 - Guidance on incorporating climate change into Hazard Mapping
5. Creating resilient infrastructure
6. Creating resilient housing
7. Tools for effective management of resources
8. Summary

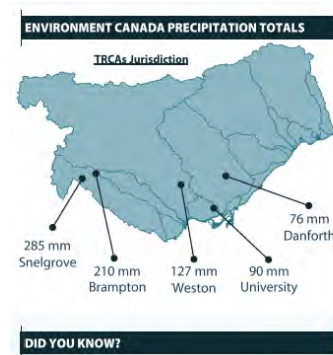
1. Our history and role in climate resilience



Toronto and Region Conservation Authority expertise and partnership in climate resilience

- TRCA has been working on climate related risks since the time of Hurricane Hazel
- TRCA hosts the Ontario Climate Consortium (OCC), established in 2011 as a centre of research and analysis expertise
- TRCA is involved in the design and implementation of programs and projects with our municipal partners (e.g. Peel Climate Change Partnership, Durham Climate Change Adaptation Program, Toronto Flood Resilience Working Group) - these include both adaptation and mitigation initiatives





Hurricane Hazel – a lesson in climate risks

Hurricane Hazel
mobilized the need for
managing Ontario's
watersheds, for the
safety of communities



Hurricane Hazel (1954) ⁴⁰⁶

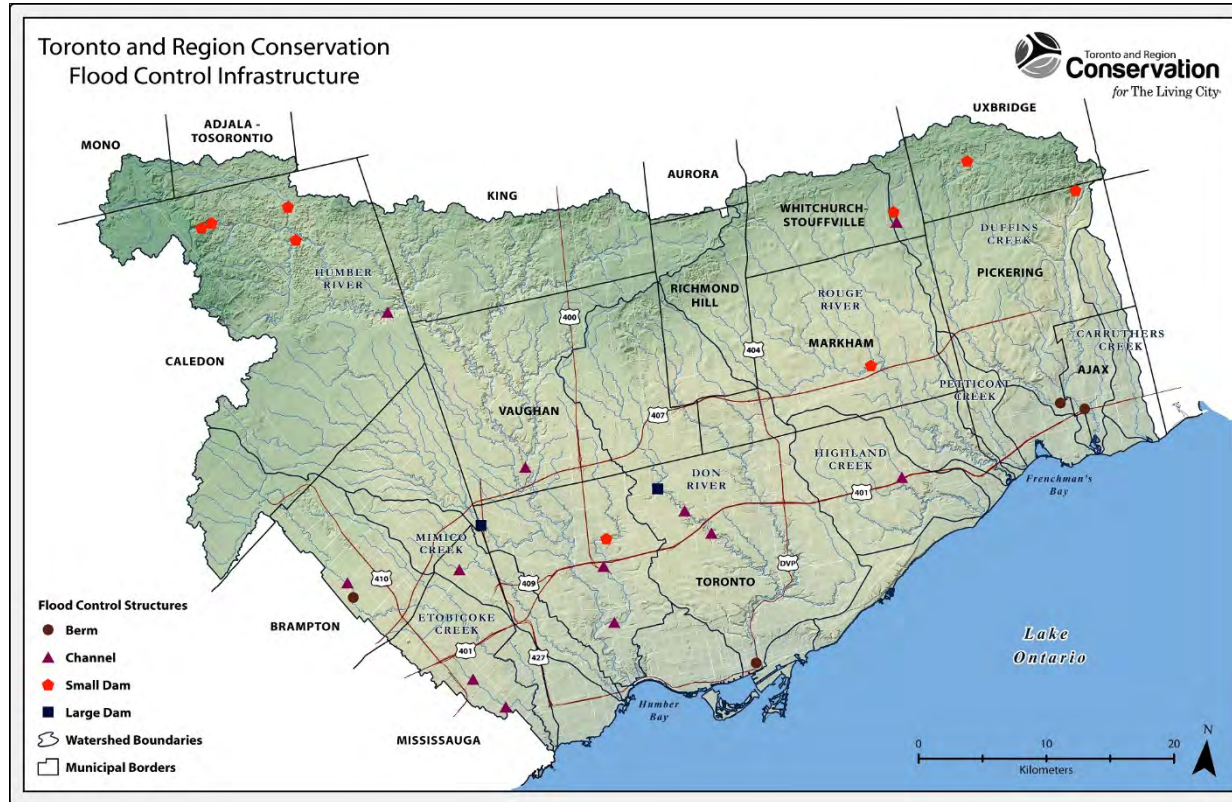


METROPOLITAN TORONTO AND REGION
CONSERVATION AUTHORITY

Post-Hazel Flood Control

- Metropolitan Toronto and Region Conservation Authority (MTRCA) was formed in 1957.
- Amendment to CA Act to acquire lands for recreation and conservation purposes and mandate for flood management
- 1959 Plan for Flood Control and Water Conservation, with three focus areas: Land Acquisition, Flood Control Infrastructure, and Land-Use Planning

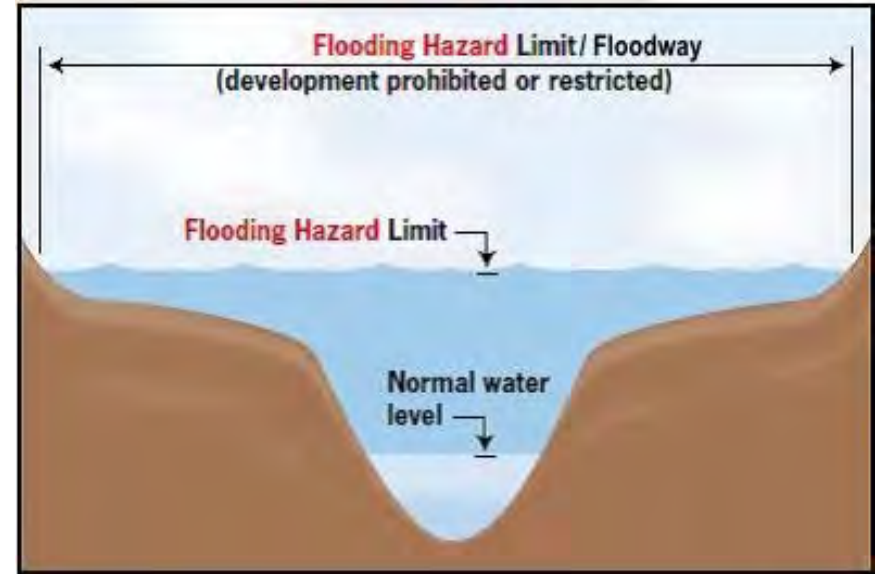
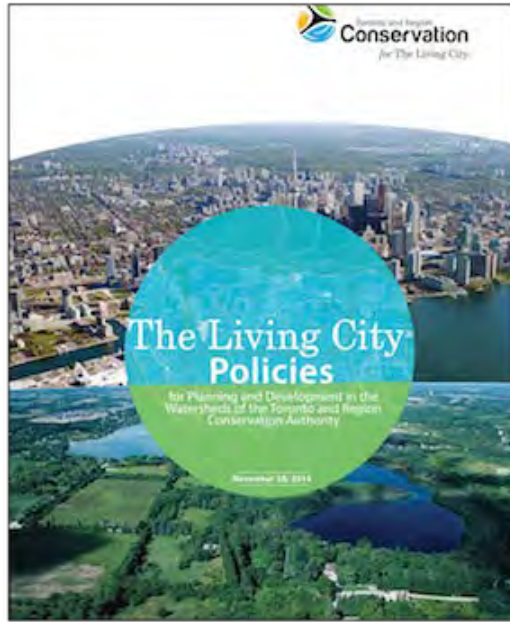
Land Acquisition & Flood Control Infrastructure



- Jurisdiction of flood plain land to Authorities
- Conservation Authorities involved in flood control structures



Many built 50 years ago, others were inherited mill dams

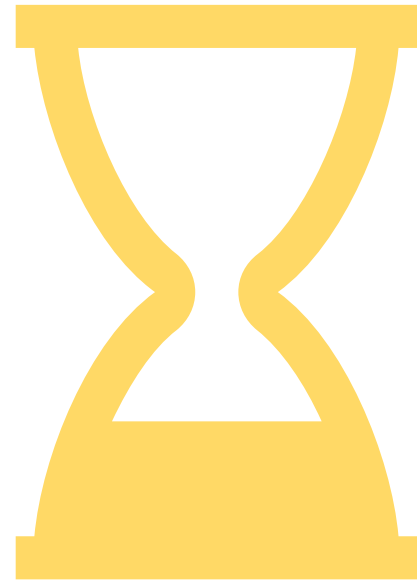


Land Use Planning

Resilience is a partnership

- Province: Funding, policy guidance, MNRF direct responsibilities for the flood hazard
- Federal government: Funding, policy guidance, weather warnings (Environment Canada)
- Conservation Authorities: development and infrastructure plan review, permitting, flood forecasting and warning (as delegated from the province), etc.
- Municipalities: Primary responsibility for all types of emergency response, including flooding (under Emergency Management and Civil Protection Act); storm drainage infrastructure and urban (pluvial) flooding, *Planning Act*
- Individuals: Personal preparedness and property-level measures

2. Historic Decisions Affecting Present-Day Development



Factors Increasing Risks

Historic infilling

- Garbage dumped in ravines
- Unengineered fill dumped on top
- Houses built on slopes made of unconsolidated fill
- Communities built in flood-prone areas



Factors Increasing Risks

Loss of natural cover and increase of impervious surfaces

- Increase of surface and water temperatures and increase surface water runoff directly into watercourses – before modern stormwater management



Factors Increasing Risks

Minimal Setbacks

- Homes built too close to the top of slope



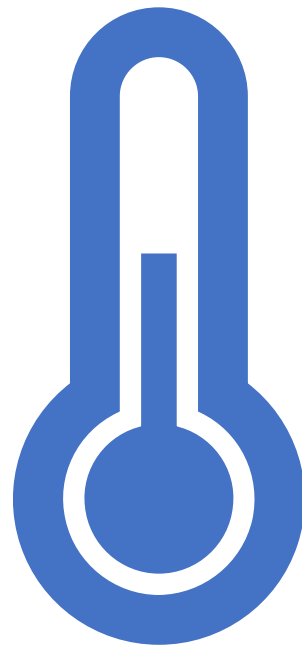
Factors Increasing Risks

Climate Change

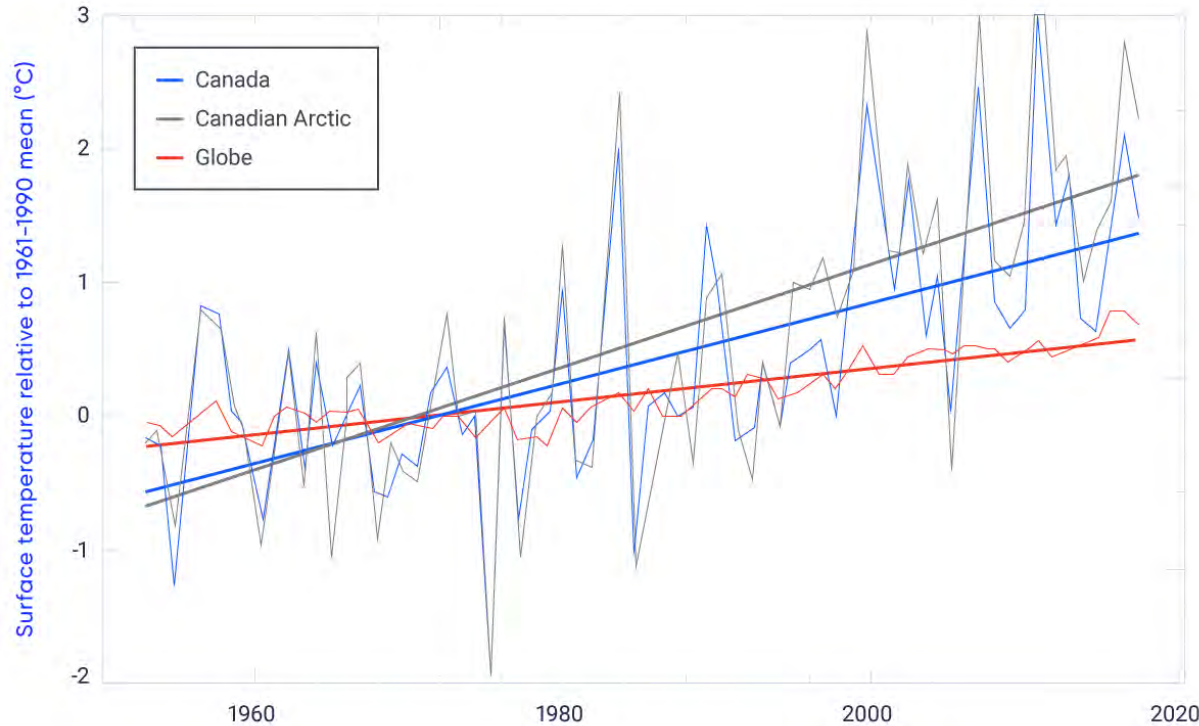
- Increased precipitation events (frequency & degree)
- Record high lake levels



3. The Climate Change Context



Canada is Warming Faster Than the World



From the 2019 Canada's Changing Climate Report:

Headline Finding:

The rate of surface warming for Canada is more than twice the rate of surface warming for the globe.

Meanwhile, the rate of warming for the Canadian Arctic is about three times the global rate.

How has the Climate Changed in Canada?

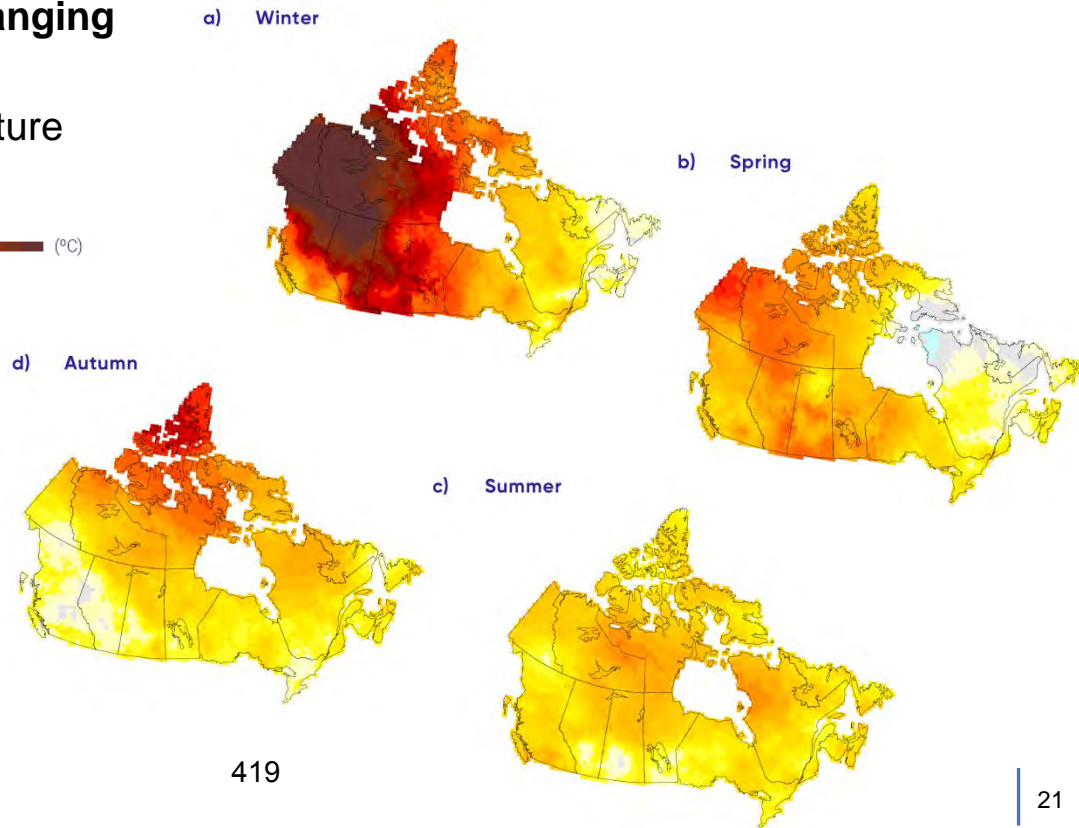
From the 2019 Canada's Changing Climate Report:

Changes in seasonal temperature across Canada (1948-2016)



Headline Finding:

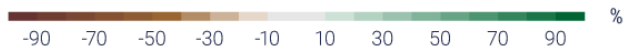
Between 1948 and 2016, the best estimate of mean annual temperature increase is 1.7°C for Canada as a whole and 2.3°C for northern Canada



How has the Climate Changed in Canada?

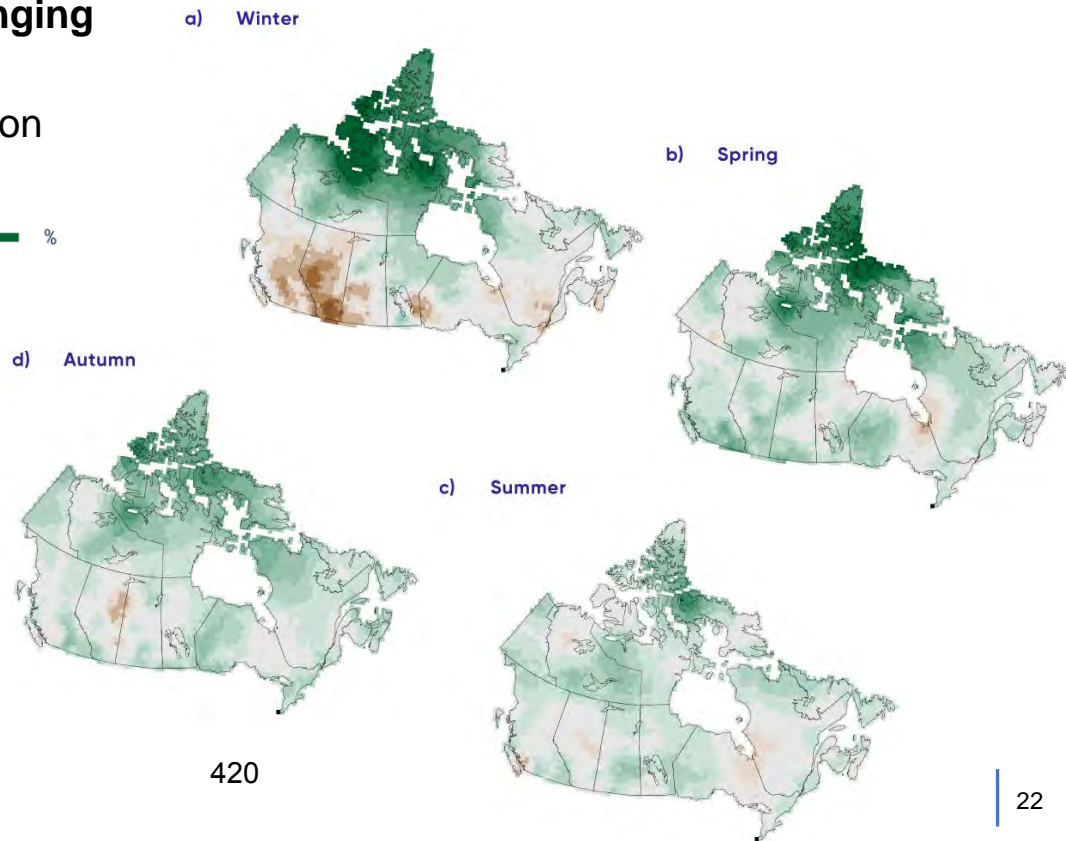
From the 2019 Canada's Changing Climate Report:

Changes in seasonal precipitation across Canada (1948-2012)



Headline Finding:

There is medium confidence that annual mean precipitation has increased, on average, in Canada, with larger percentage increases in northern Canada



Climate Change Impacts in Canada

From the 2019 report on Canada's Top Climate Change Risks

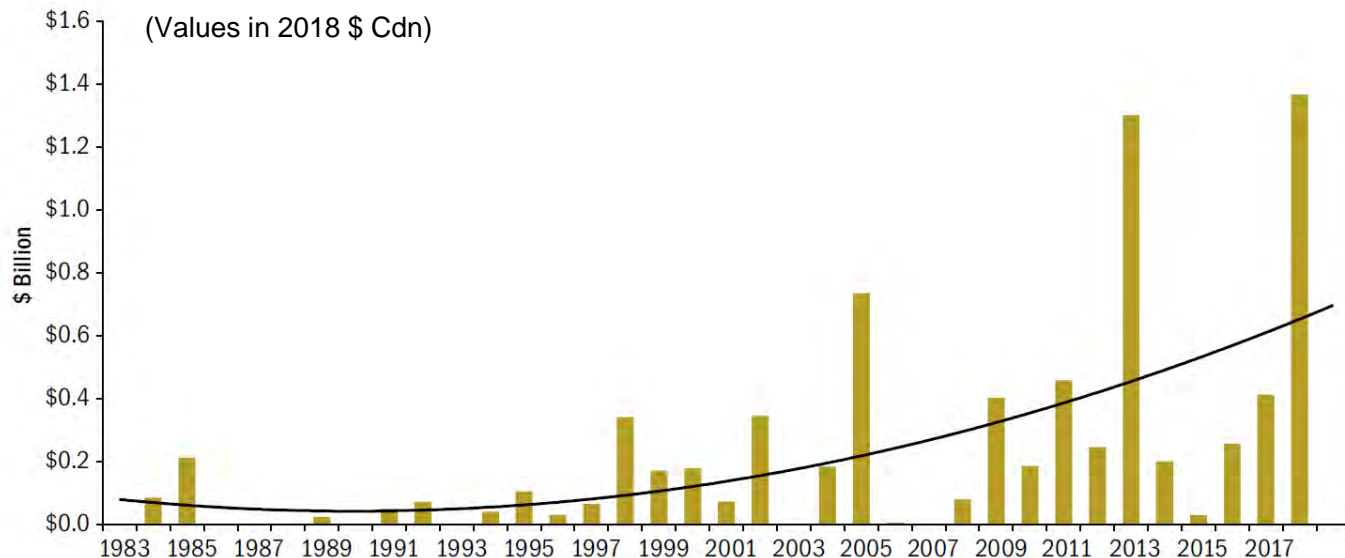


Top 12 Risks:

- Agriculture and Food
- Coastal Communities
- Ecosystems
- Fisheries
- Forestry
- Geopolitical Dynamics
- Governance and Capacity
- Human Health and Wellness
- Indigenous Ways of Life
- Northern Communities
- Physical Infrastructure
- Water

Insured Losses in Ontario

Due to Large Catastrophic Events ($\geq \$25$ million)



Source of data: Insurance Bureau of Canada Facts Book, CatIQ, PCS, Swiss Re, Munich Re, and Deloitte

Large catastrophic losses include damage due to wind, water, ice, snow, hail, fire, lightning and earthquakes.

Costs include damage of personal and commercial property, and automobiles, excluding adjustment expenses.

Recent Severe Weather Events

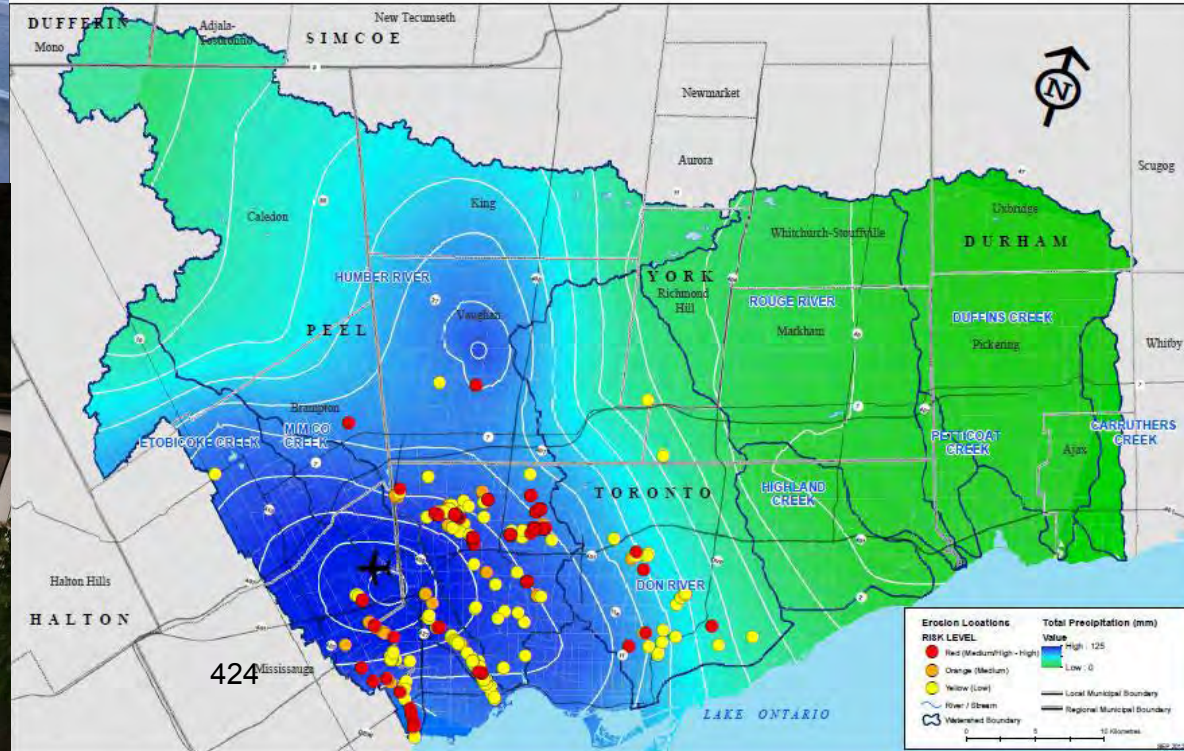




July 8, 2013



- 140 mm in 2-3 hours
- Flooding, power outages, damages to infrastructure, major erosion across jurisdiction
- Significant impact to public & private property



2018 Several Storm Events



Date	Rainfall (mm)	Hours	Description
Jan 22	55	48	5 Year - on frozen ground
Feb 19	32	48	Late winter rainfall event
Apr 04	29	24	Spring rainfall event
Apr 13	81	72	2 x 2 Year - on frozen ground
Jun 01	26	1	Cloudburst event
Jul 05	64	4	5 Year - very intense (Upper Humber)
Jul 16	75	8	25 Year - Rouge watershed
Jul 29	43	1.5	2 Year - very intense (Upper Don)
Aug 08	73	12	25 Year - Downtown flooding
Aug 17	52	24	5 Year - Upper Humber
Aug 21	40	12	2 Year - Downtown
Sep 10	34	24	Fall rainfall event
Total Severe Weather Events: 12			

January 11, 2020

- 60-96 mm of rainfall across entire TRCA jurisdiction in 30 hours
- Triggered erosion issues across jurisdiction



Facing Upstream

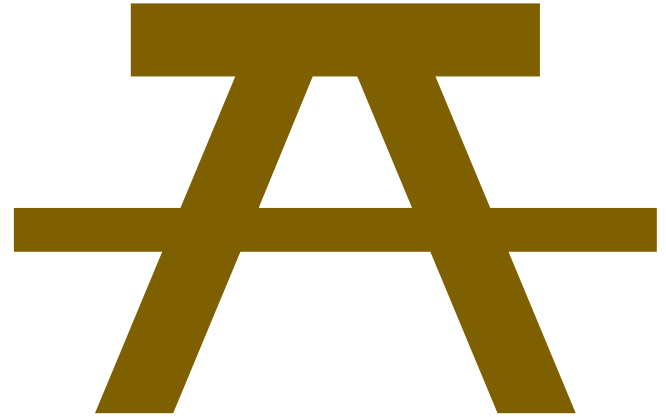


Facing Downstream



Photos show approximately 33 m of asphalt road washed out into the Humber River at the Toronto Zoo (cutting transportation, damaged infrastructure)

4. Developing Resilient Communities



PREVENTION & MITIGATION

Limiting exposure to risk:

- Implementing TRCA's regulations and policies

Reducing risk:

- Operating a flood forecasting and warning program
- Maintaining flood control infrastructure
- Creating a flood protection strategy for vulnerable areas
- Implementing remedial works projects

Understanding the risks:

- Climate, geology, watershed response and potential for climate change

Documenting the risks:

- Floodplain mapping, identification of flood vulnerable areas

RECOVERY

- Flood event documentation and lessons learned
- Storm analysis

Flood Risk Management

PREVENTION & MITIGATION

PREPAREDNESS

- TRCA's Flood Contingency Plan
- Emergency Plans
- Emergency Operations Centre
- Training
- Public Education

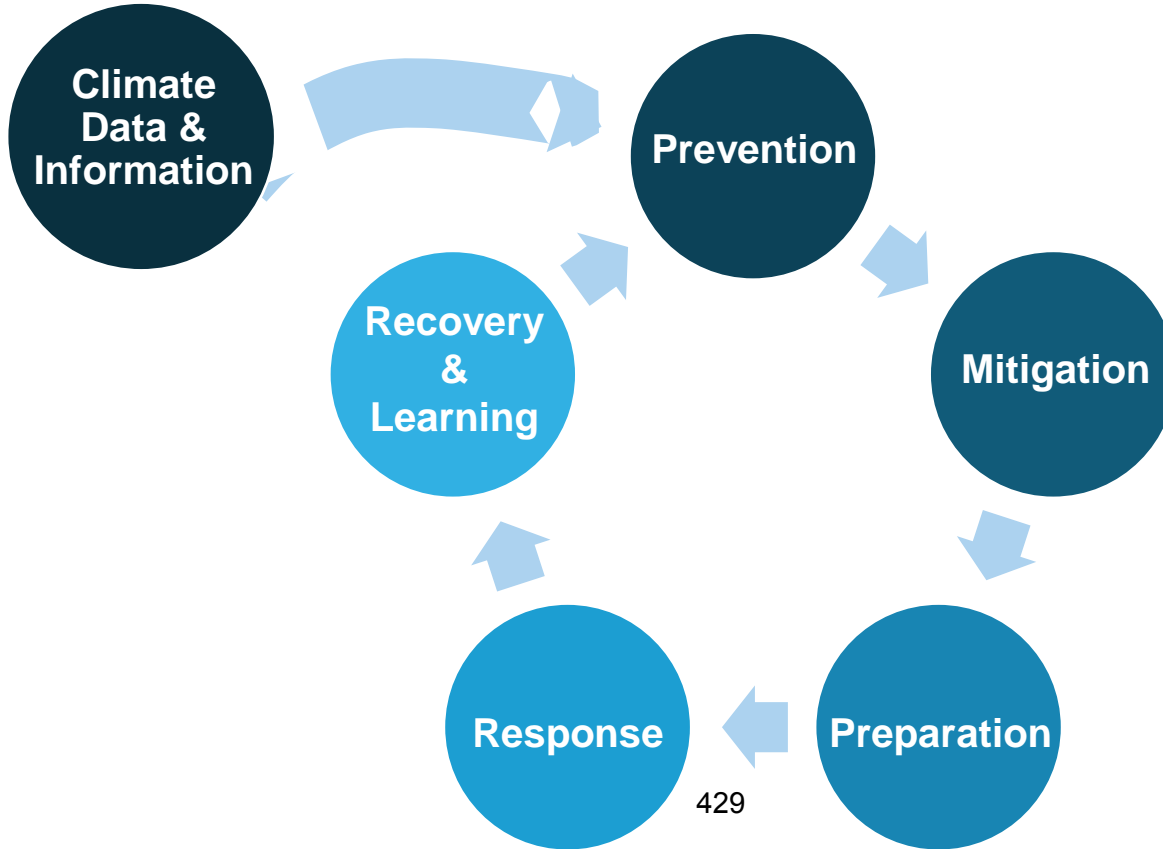
RESPONSE

- Provide Flood Forecasting and Warning (issuing flood messages)
- Operate flood control infrastructure
- Communicate information and advice
- Data management

RECOVERY

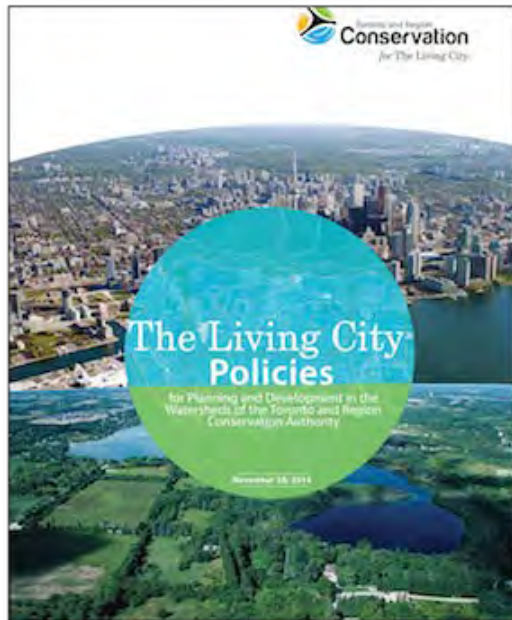
RESPONSE

Climate Change is a modifier

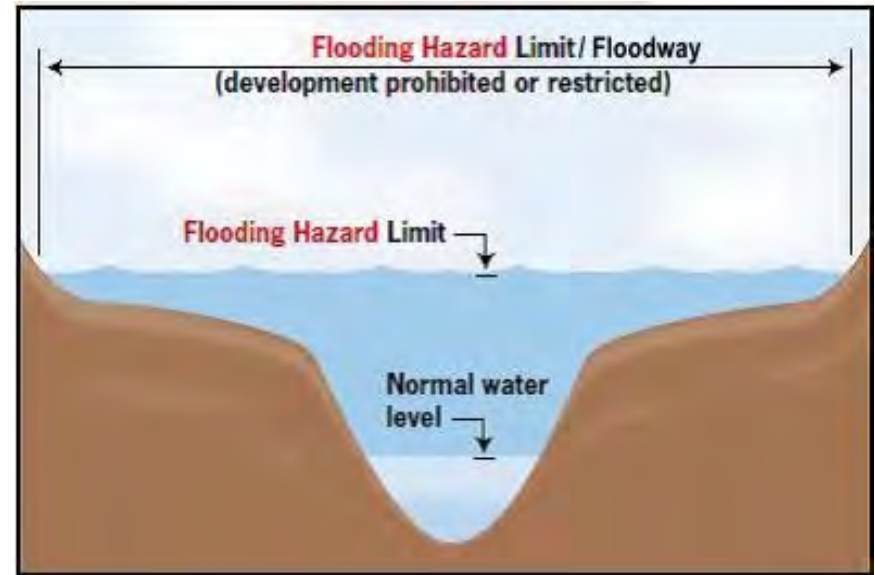


429

Identifying and mapping hazards are key to resilient communities



430



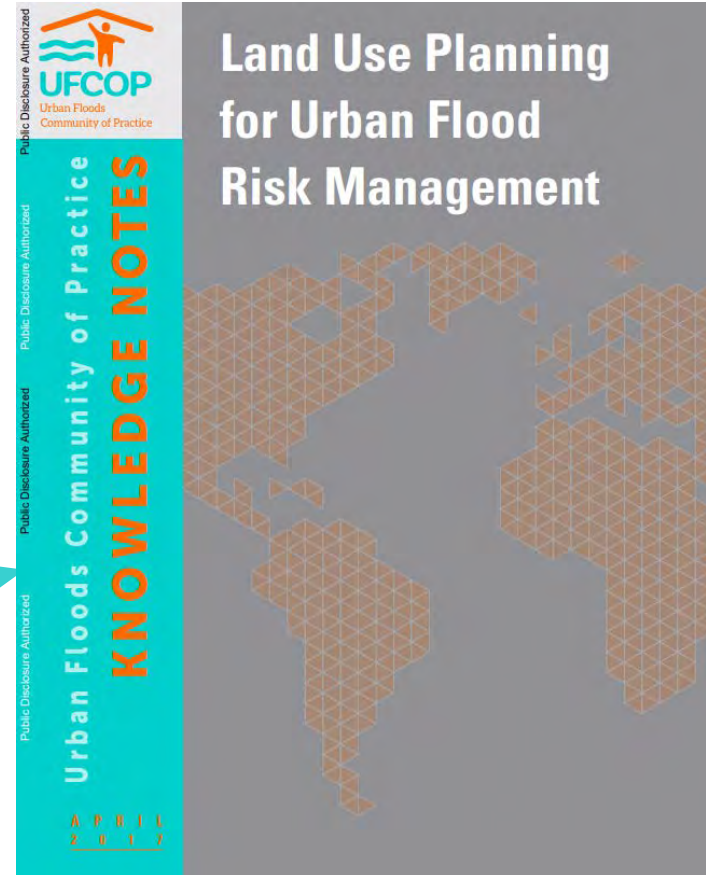
Conservation Authorities..
Making 'Room for the River' for over 60 years...



- Acquisition Site
- Property
- Target System
- Target System
- Area
- Area
- ing Area
- elt

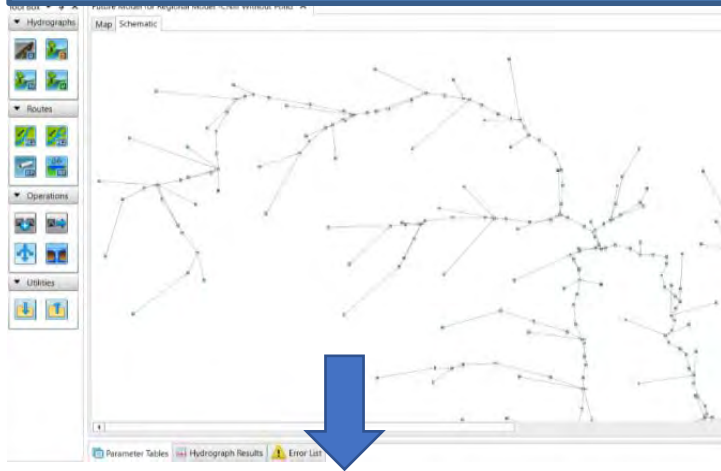
- Coordination of flood risk in multiple sectors that involve land development (critical infrastructure and utilities, open space, and housing)
- Coordination of flood risk at multiple scales, from local plans for specific communities to multijurisdictional watershed planning
- A safe, productive, and livable urban environment at lower cost as compared to using structural systems

Land use planning is a critical component of an integrated approach to flood risk management. The Sendai Framework for Disaster Risk Reduction 2015–2030 underscores the importance of land use planning and policy to address underlying disaster risk drivers, which include unplanned and rapid urbanization, poor land management, and weak regulation of and incentives for private disaster risk reduction investment (UNISDR 2015). Global networks through initiatives such as the ICLEI Resilient Cities, the UNISDR Making Cities Resilient, the Rockefeller Foundation's 100RC, and the C40 Cities have put flood risk concerns on many a city council's agenda. Cities across the globe are gearing up to address flood risks through land use planning; many are in initial stages of lobbying for commitment, and many have made significant strides in risk assessment. But the adoption of land use planning for flood risk management remains challenging.

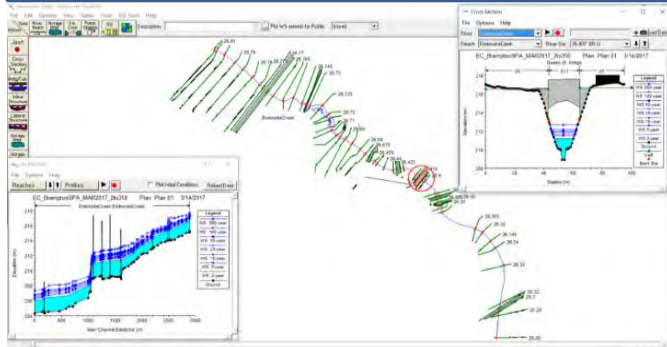


Technical foundation for floodplain mapping

Hydrologic Modeling



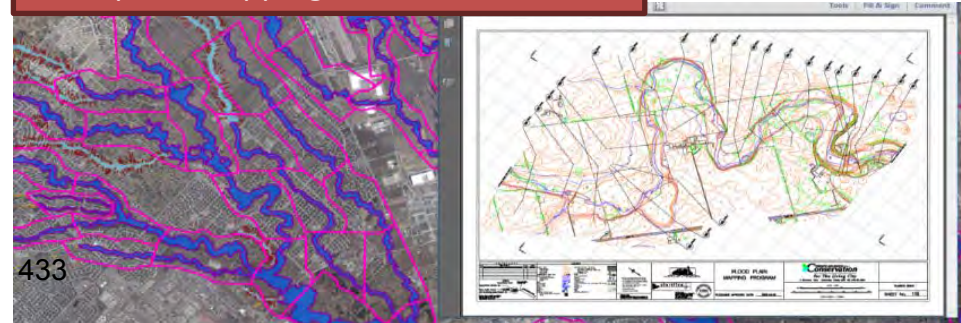
Hydraulic Modeling



Stormwater Management Criteria

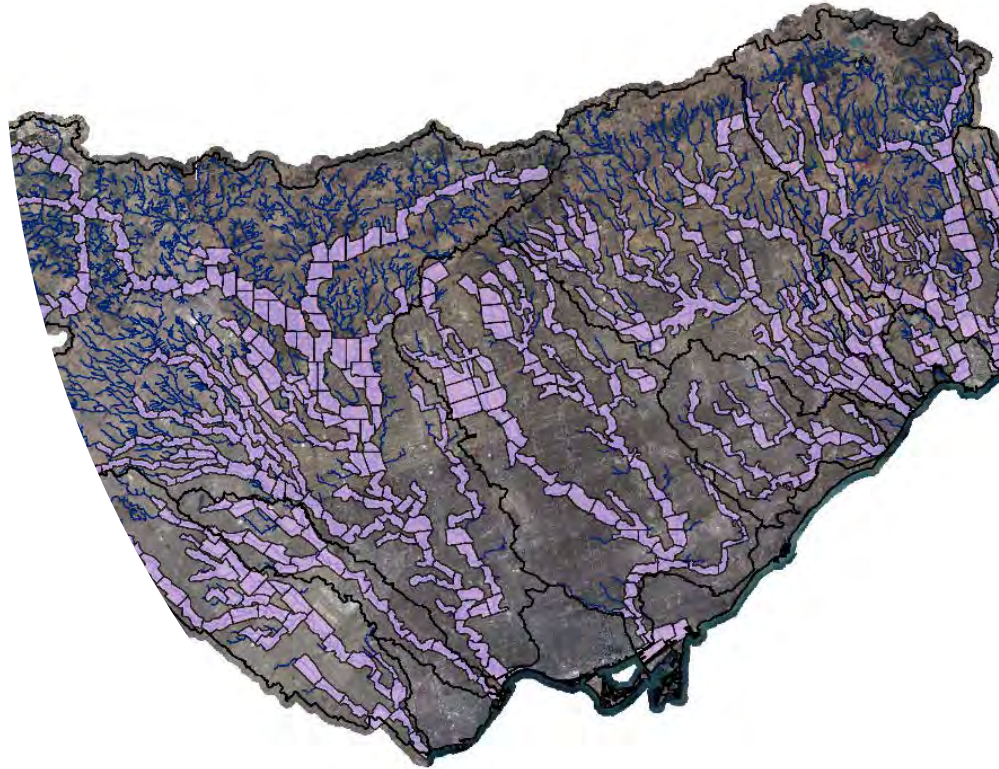


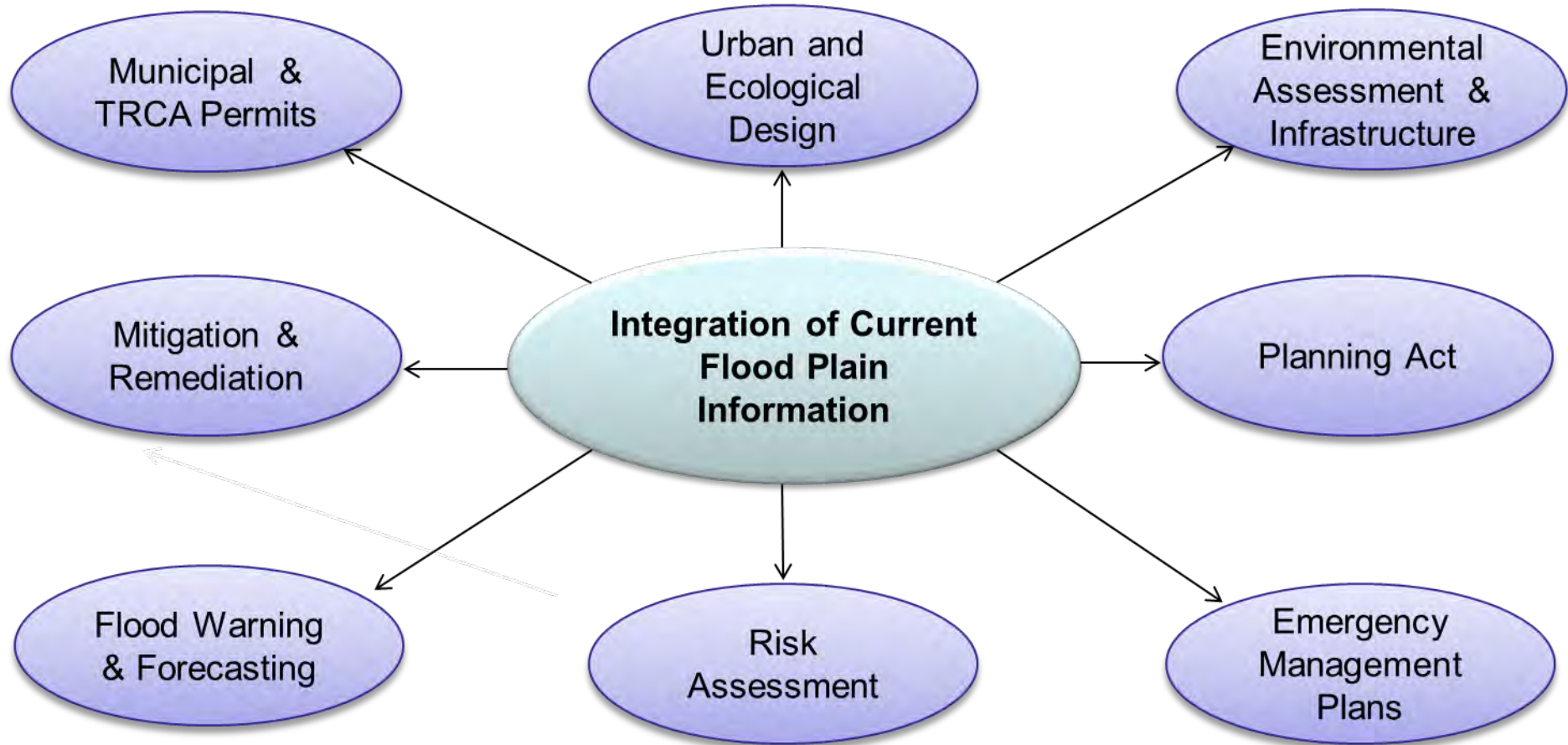
Floodplain Mapping



Floodplain Mapping

- TRCA:
 - Over 15,000 ha of engineered floodplain maps (547 mapsheets)
 - 9 different watersheds (and thus hydrology models)
 - Most maps were less than 15 years old anyway – after all NDMP updates complete, all will be within 7-8 years
- Conservation Authority Average:
 - 72 percent of floodplain maps are outdated
 - 44 percent of these are in high risk areas





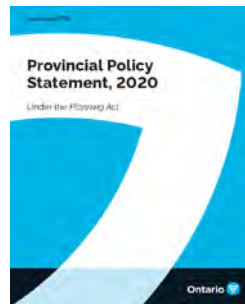


Preserving and Protecting
our Environment for
Future Generations

A Made-in-Ontario Environment Plan



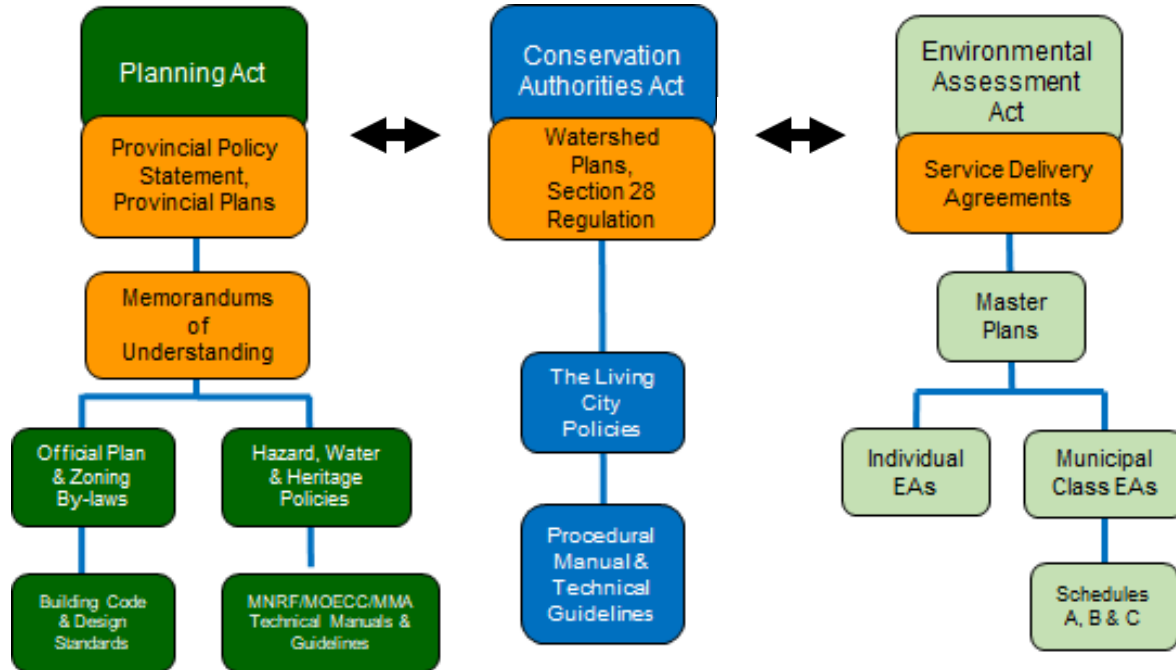
Ministry of the Environment,
Conservation and Parks

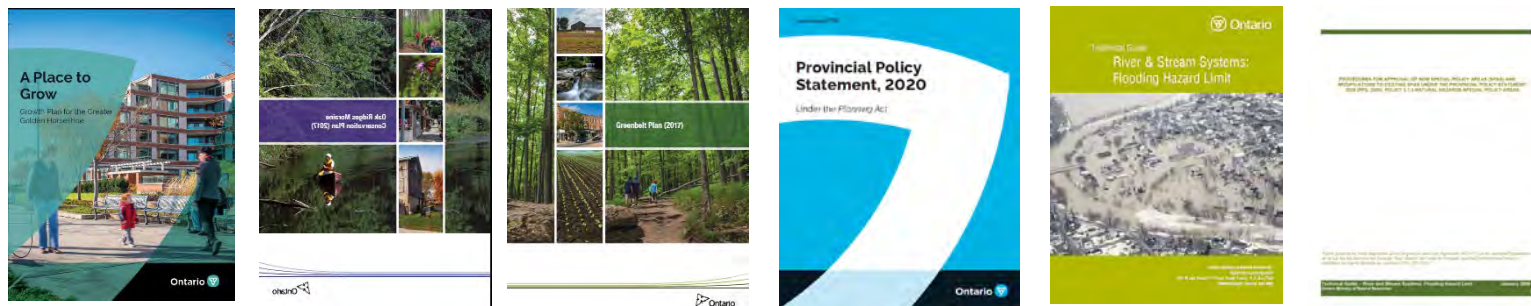


Effective hazard risk management
requires supportive policy
guidance...



TRCA Plan Review Roles & Responsibilities





Provincial Plans, Policies & Technical Guidelines



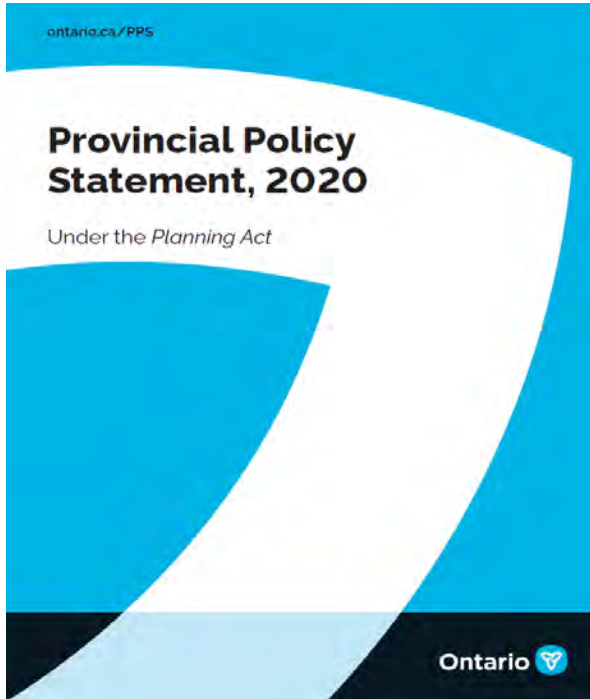
Municipal plan input, development and environmental assessment review,
permitting and compliance, policy analysis,
technical expertise & advice



Conservation Authority Watershed Plans, Policies & Technical Guidelines



Section 3.0 Protecting Public Health and Safety



- Mitigating potential risk to public health or safety of property damage from natural hazards, including the risks that may be associated with the impacts of a changing climate, will require **the Province, planning authorities, and conservation authorities** to work together.
- Development shall generally be directed, in accordance with **guidance developed by the Province** (as amended from time to time), to areas outside of...

River & Stream Systems: Flooding Hazard Limit



Updated guidance on hazard limits needed from the Province

- Updates needed:
- Guidance on how to incorporate climate change
- Better guidance on the urban context
 - How to account for impacts of urbanization on existing floodlines
 - Maintenance of infrastructure
- Technological advancements in the last 15 years:
 - 2D Modelling
 - GIS based models and outputs
 - Identification of spill areas, through the above

Erosion Risk Management Program

- A recognized need for remediation and construction of erosion control structures
- Monitoring of areas affected by flooding, erosion, and or slope instability
- Study and investigation of erosion hazards within TRCA's watersheds
- Working with municipalities, regions, and federal government





Resilient Communities

- The Erosion Risk Management Program (ERMP) works to create erosion control structures that reduce risk and hazards
- Protection of public green space and recreational resources, such as trails

A portion of the Humber Trail was rebuilt and protected with a vegetated rock revetment. Works also improved habitat quality for endangered Redside Dace.



Before



Rotary Peace Park

- Cost of works: \$1.7M
- 160 m long armourstone revetment to protect frequently used recreational path
- Completed in July 2019

Yellow Creek Trail Emergency Works

- Cost of works: \$750,000
- 90 m armoustone retaining wall as well as riffle and plunge pool sequences
- Completed in December 2019



Before

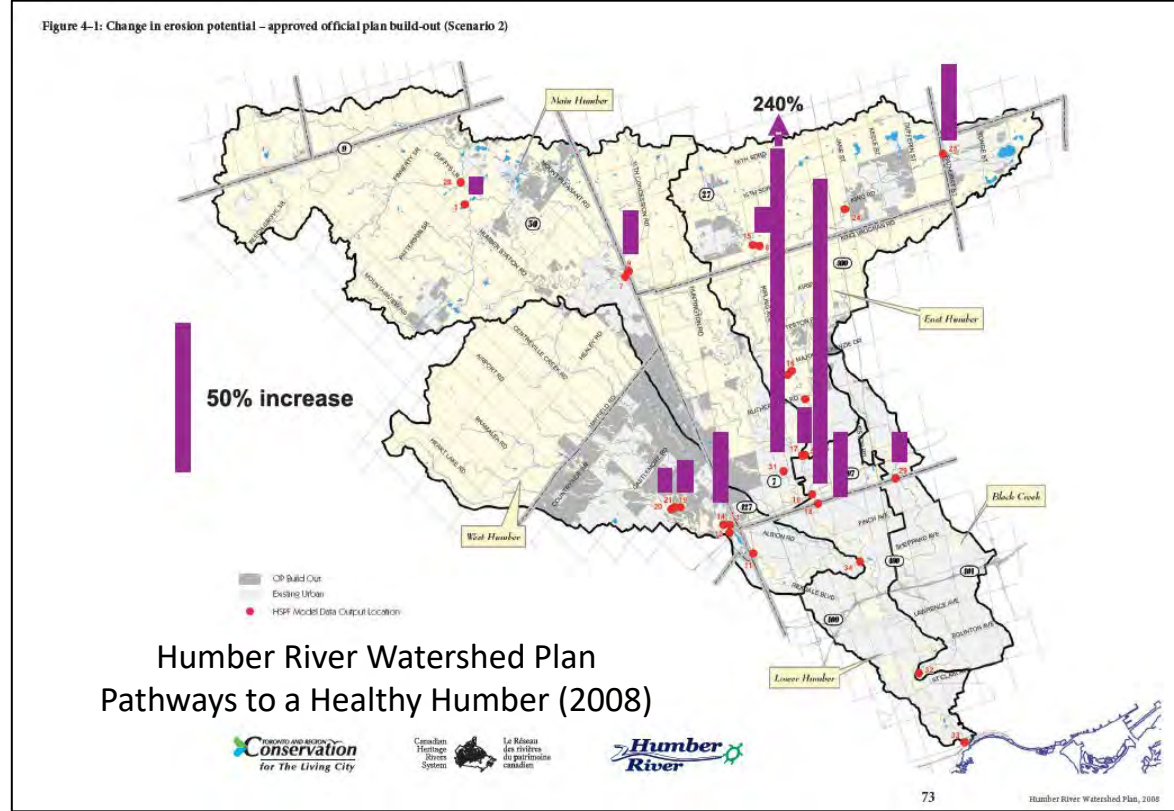
Resilient Communities



- The Restoration and Resource Management programs restore hydrology and natural cover within and adjacent to the Natural Heritage System
- Improves climate change resiliency by creating a more robust natural heritage system that mitigates flood and temperature events through improved natural cover and water storage

Knowledge & Data

- Conducting geotechnical & geomorphic assessments to determine long-term risk
- Municipal and Regional strategies to manage assets and risk



5. Developing Resilient Housing

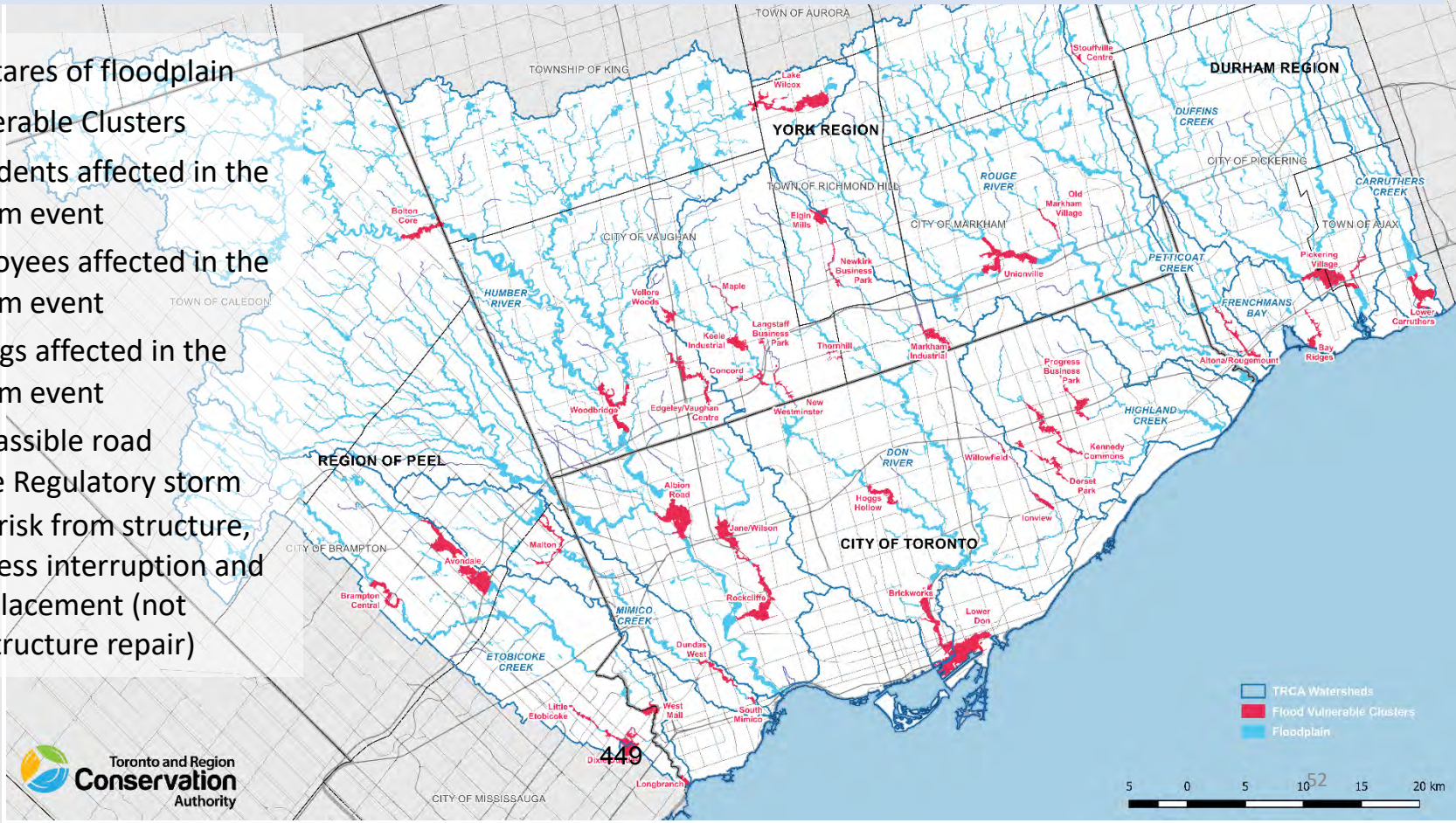


Presentation to Toronto
Real Estate Board -
shifting perceptions
around climate risk



What about areas settled prior to land-use planning?

- >14,000 Hectares of floodplain
- 41 Flood-Vulnerable Clusters
- >43,000 Residents affected in the Regulatory storm event
- >41,000 Employees affected in the Regulatory storm event
- >9,900 Buildings affected in the Regulatory storm event
- 195km of Impassible road segments in the Regulatory storm
- ~\$3 Billion in risk from structure, contents, business interruption and population displacement (not counting infrastructure repair)



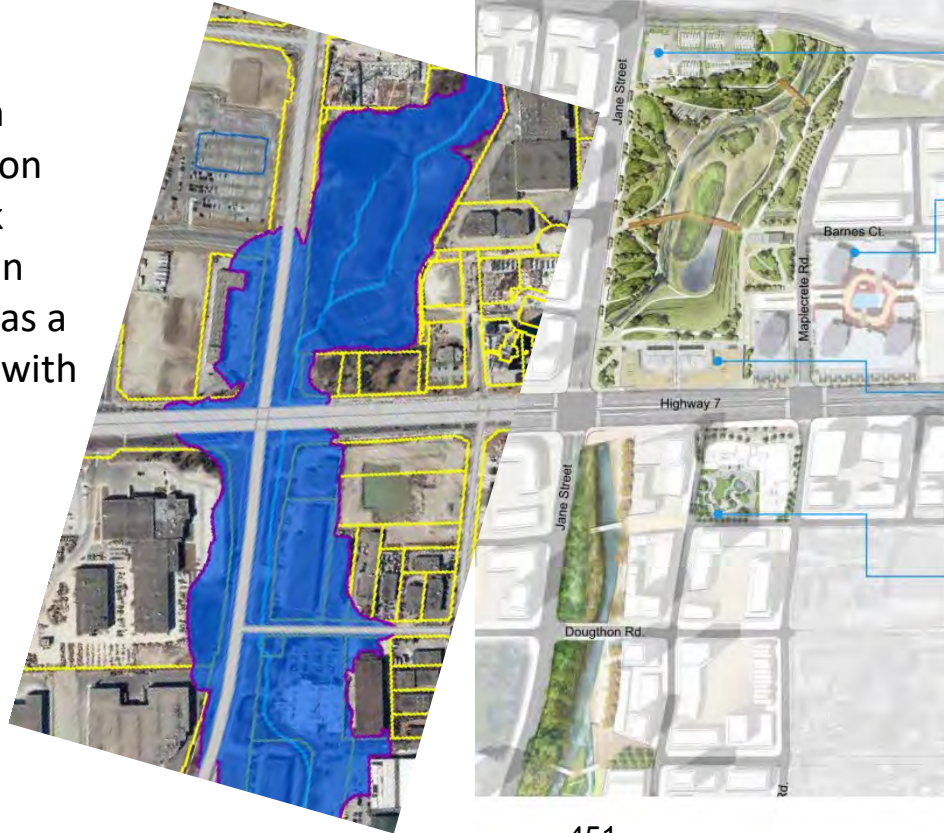
tion Studies

Study Yonge Street and Food Vulnerable Area Assessment

-
- The map displays the Greater Toronto Area with various regions labeled: HALTON HILLS, BRAMPTON, MISSISSAUGA, and TORONTO. Specific areas are highlighted with red and orange colors, indicating Special Policy Areas and Flood-Vulnerable Clusters respectively. These areas are circled in black. A legend in the bottom right corner identifies the red color as 'Special Policy Areas' and the orange color as 'Flood-Vulnerable Clusters'. A north arrow is also present in the bottom right corner.

Vaughan Central/Edgeley

- Ranked 14th in TRCA Jurisdiction in terms of risk
- Slated for urban intensification as a growth centre with a new subway station
- Black Creek Renewal Environmental Assessment approved



Adjacent Development Activity

THE MET

572 residential units
1,104 new residents*
2018 (estimated)

EXPO CITY

1,935 residential units
3,735 new residents*
Phase 1 Towers 1 + 2 – 2016
Phase 2 Towers 3 + 4 – 2019 (estimated)
Phase 3 Tower 5 – 2023 (estimated)

ZZEN / MIDVALE

837 residential units
(proposed)
1,615 new residents*
2019/2020 (estimated)

COSMOS

833 residential units
(proposed)
1,608 new residents*
2019/2020 (estimated)

Private development concepts shown are renderings only and subject to Council approval

*estimated

West Don Flood Protection Landform

- Flood protection landforms (FPL) address deficiencies of structural measures to permanently eliminate flooding
- Relatively new concept currently unique to the Lower Don within TRCA's watershed
- Engineered to withstand all forms of failure and essentially forms part of the surrounding landscape due to sheer size of the measure



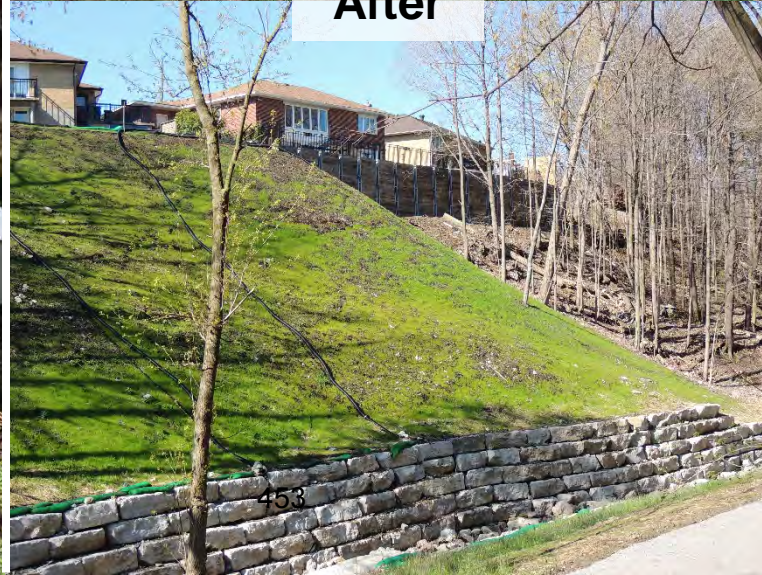
Jennifer Court & Whitburn Crescent



Before



After



- Cost of works: \$3.5M
- Includes 100+ m of armourstone retaining walls
- Completed in 2018

12-14 Appletree Crt



Before



After

- Cost of works: \$1.3M
- Amourstone wall and rubble fill buttress
- Completed in May 2018

Toronto Community Housing Building

- Toe protection in Humber River for TCH by 1025 Scarlett Road
- Cost of works: \$1.3M
- 160 m long vegetated buttress
- Completed in 2018



Before



After



455

Before



After

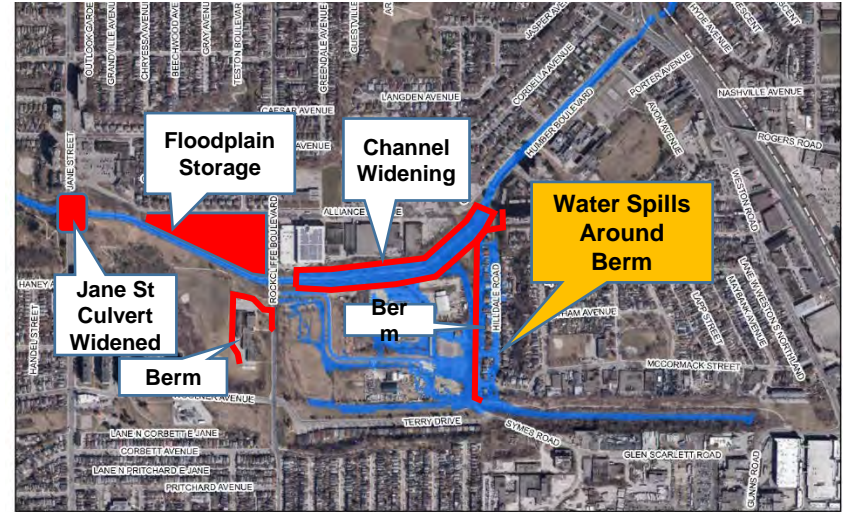
6. Developing Resilient Infrastructure



Rockcliffe Flood Remediation and Transportation Feasibility Study

Objectives:

- Expand flood remediation to protect more properties from frequent flooding.
- Establish a flood protection level of service For example, no flooding in the 100-year storm.
- Ensure flood remediation solutions consider impacts to private property, local drainage, utilities, transportation projects and traffic needs.
- Identify short and long term actions that prioritizes flood remediation at vulnerable areas first



2014 EA Preferred Alternative With New Modelling

into
er
our



Provincial Policy guidance needed for climate change considerations in Infrastructure Design



Regional Infrastructure Monitoring & Protection

- Regional partnerships formed to help with **long-term management** and **remediation** of erosion affecting regional infrastructure
- TRCA formalized monitoring parameters to establish baseline conditions and to **ensure long term protection**
- Protection against erosion along ravines & watercourses
- Risk-based, annual inspection schedule
- Current partnerships with Peel and York Region





York Region

- The **Infrastructure Hazard Monitoring Program** is a joint program between TRCA and York Region
- Assess any risk to exposed/buried infrastructure
- TRCA formed a partnership with Region of York in 2011; since then:
 - An average of 200 high risk sites **monitored** each year
 - An average of 5 sites **remediated** each year
 - Over 600 m of infrastructure **protected**
 - Over 900 m of valley & shoreline **stabilized**



Channel realignments and restoration can help fortify channels by directing water naturally and buffering high flows



Pomona Creek

- An undermined drainage pipe beneath a public trail
- Failing gabion basket wasn't providing protection
- New vegetated buttresses help to buffer flooding and high flow rates
- Weeping tiles within the bank improve drainage
- Native trees/shrubs planted to stabilize slope

Peel Region

- Since 2017:
 - Over 500 sites **monitored** each year
 - An average of 2 sites **remediated** each year
 - **Over 150 m of infrastructure protected**
 - Over 500 m of valley & shoreline **stabilized**
- TRCA works with Region of Peel of address sites of high risk and vulnerability





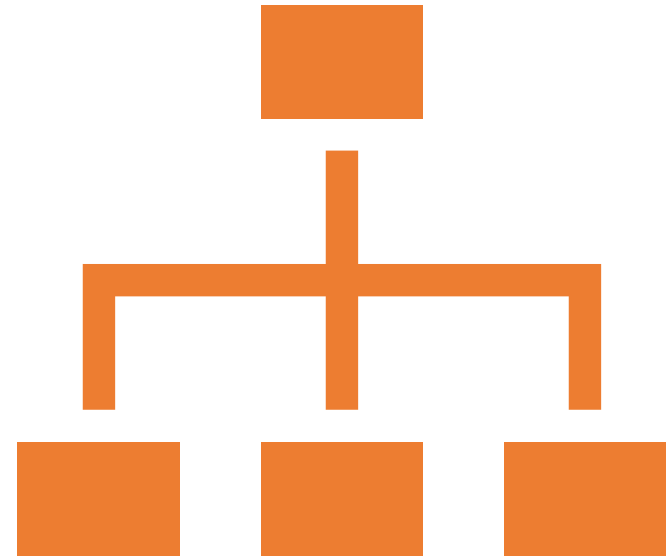
Damaged infrastructure cannot properly manage changes in discharge and flow, putting infrastructure and watercourse banks at further risk



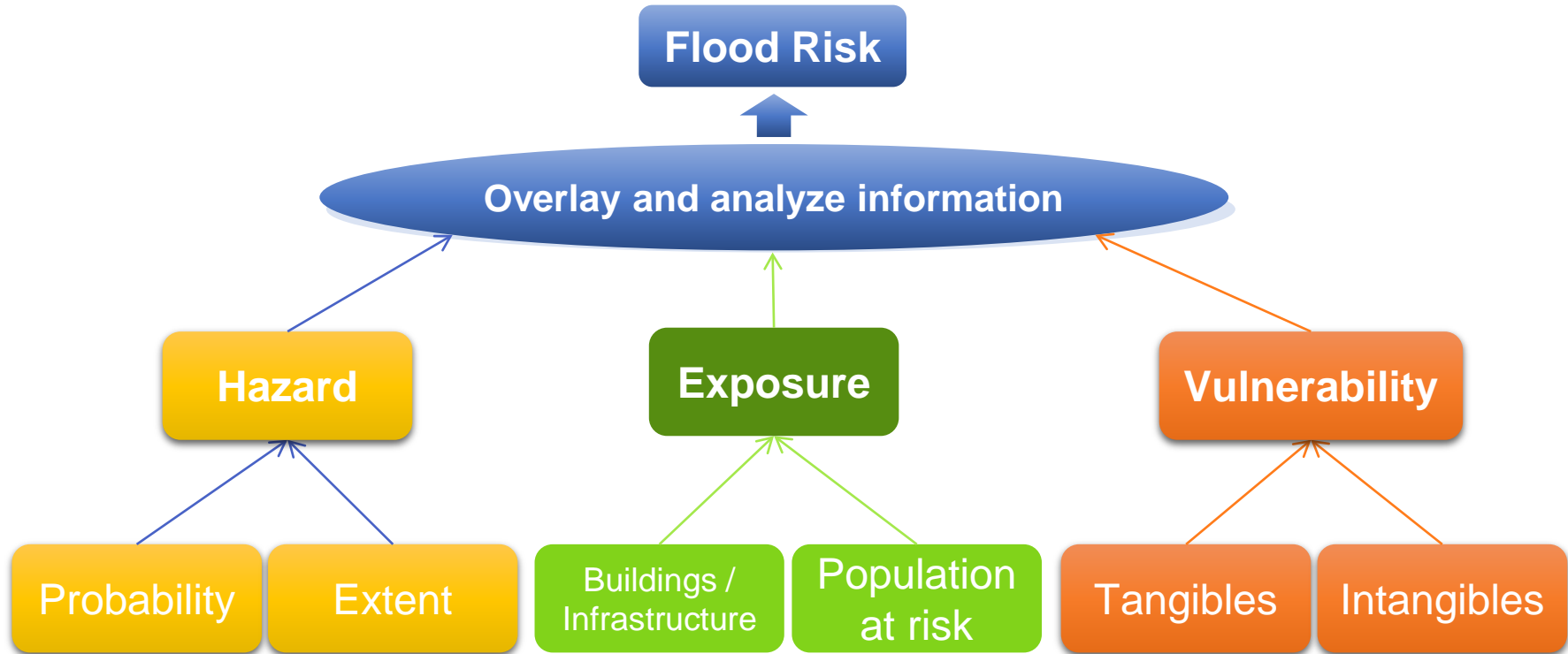
Centennial Park

- Outfall repair & bank stabilization

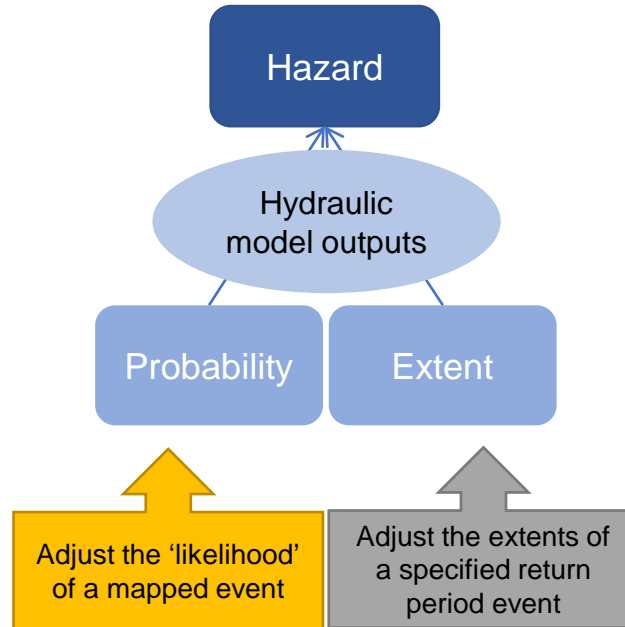
7. Tools for Proactive & Efficient Resources Management



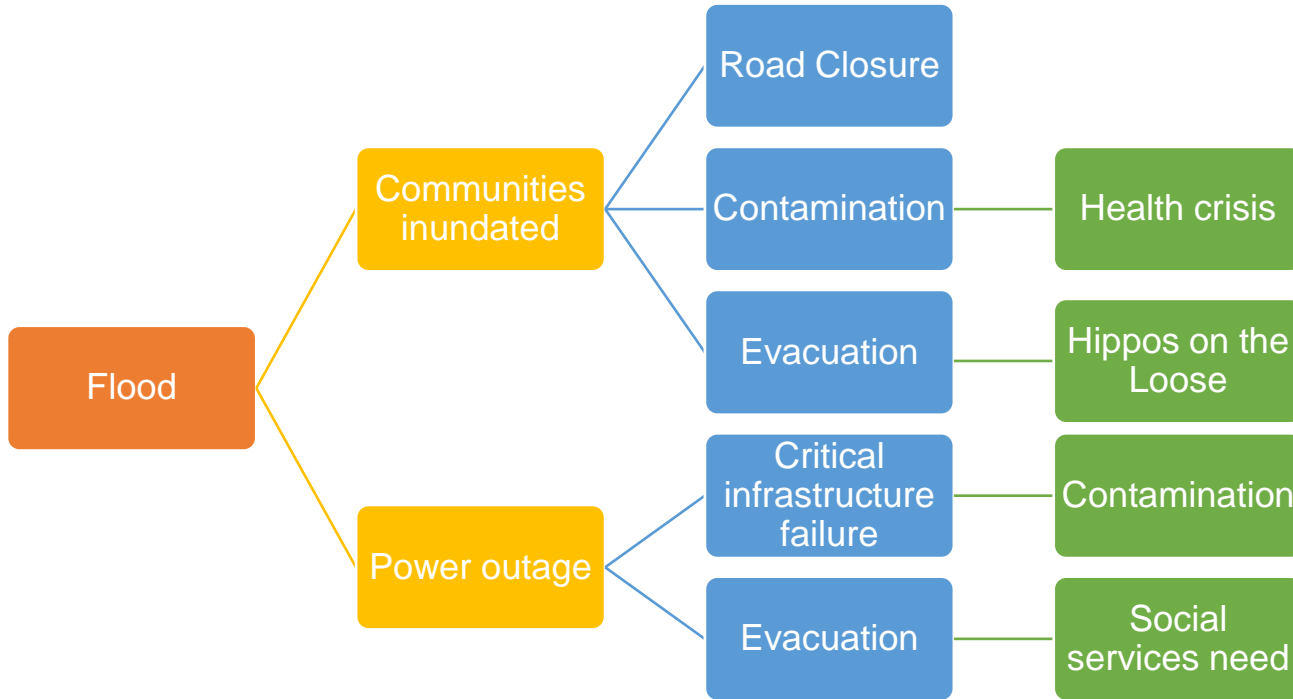
Flood Risk Assessment and Ranking Project



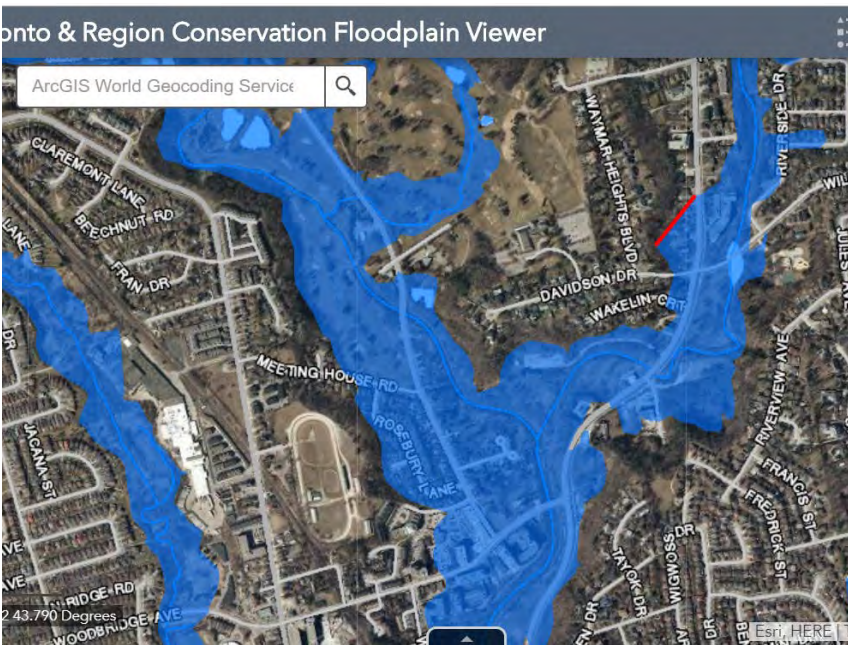
Future work: Incorporating Climate Change into Hazard Estimates



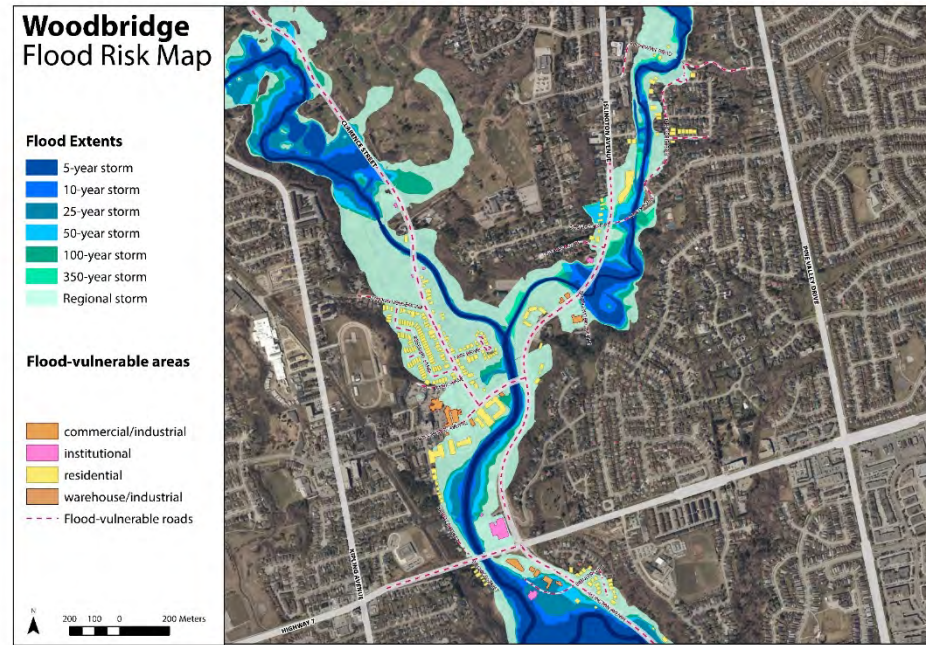
Assessments that capture interdependencies and impacts



Generic information already available



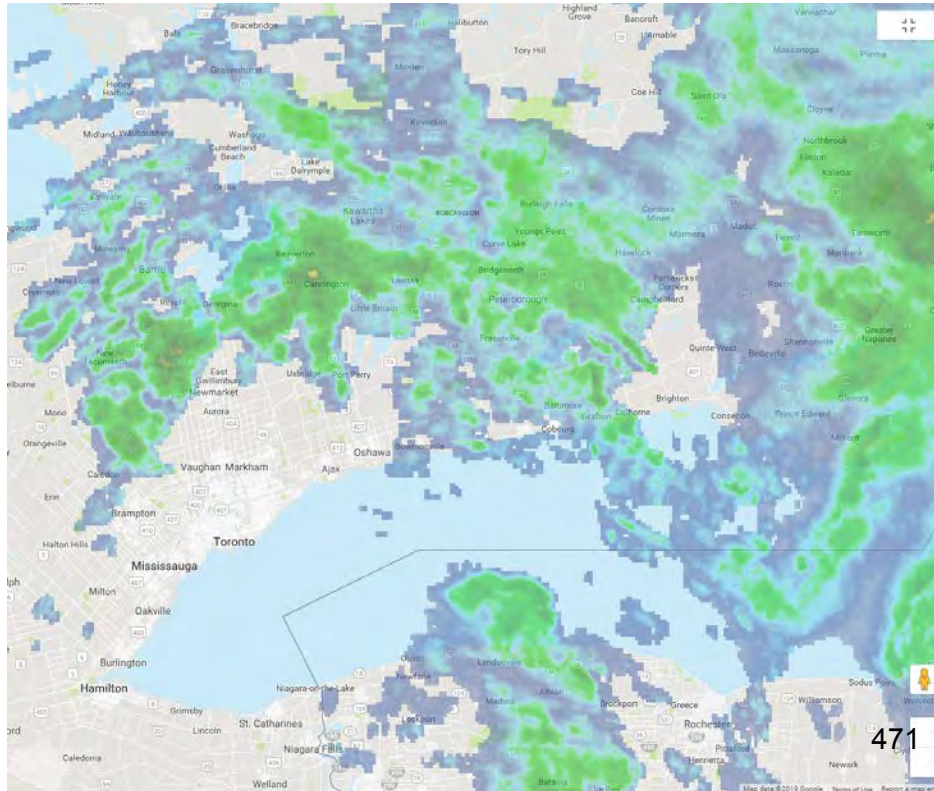
More granular risk information proposed



Flood Risk Outreach

- Neighbourhood specific web content with risk maps
- Informational letters
- Site-specific public open houses

Flood Forecasting Decision Support System



471

vation A

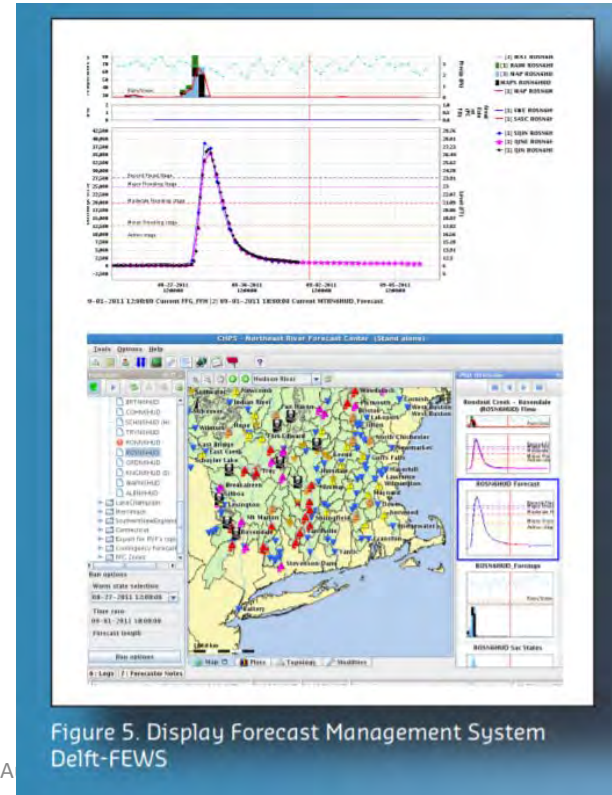
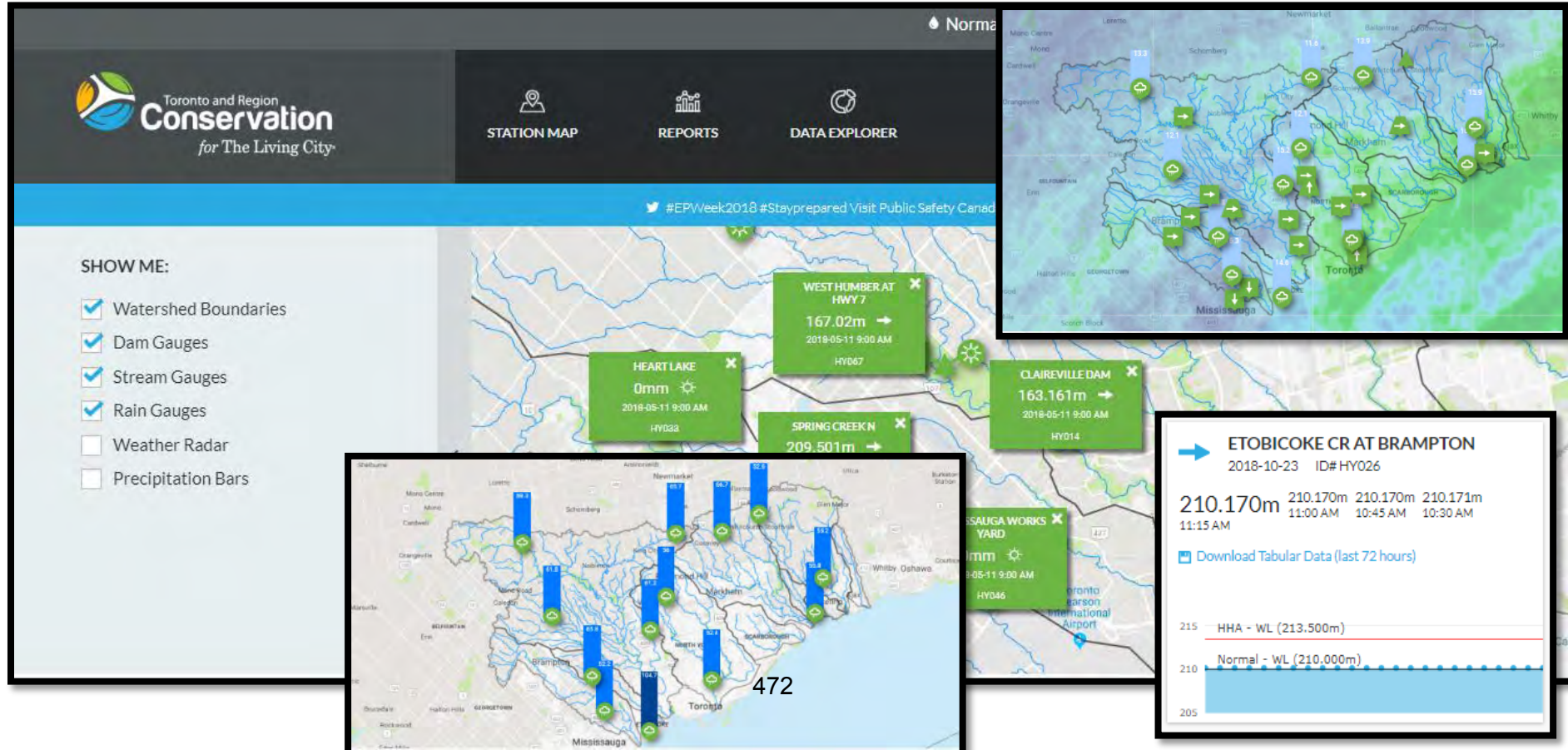


Figure 5. Display Forecast Management System Delft-FEWS

TRCA's Flood Monitoring Website

Beta.trcagauging.ca

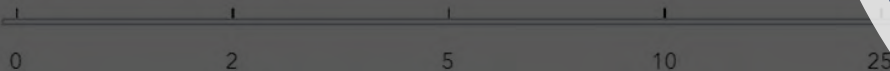


Address or place



Site-Specific Response Plans & Tools

Flood Level (return period in years)



Toronto and Region Conservation Authority

-79.389 43.736 Degrees

473



Desktop Analysis of Existing Data

- Future Erosion Hazard Mitigation Strategy (FEHMS)
- Identifies areas with increased risk of slope failure using multiple data sets
- Aids in prioritization of mitigation work
- Reduces slope failure through prevention
 - Remediating area before a failure happens
 - Lower costs overall



Future Erosion Hazard Mitigation Strategy (FEHMS)

Identify areas that have increased risk of slope failure for carrying out proactive mitigation works.

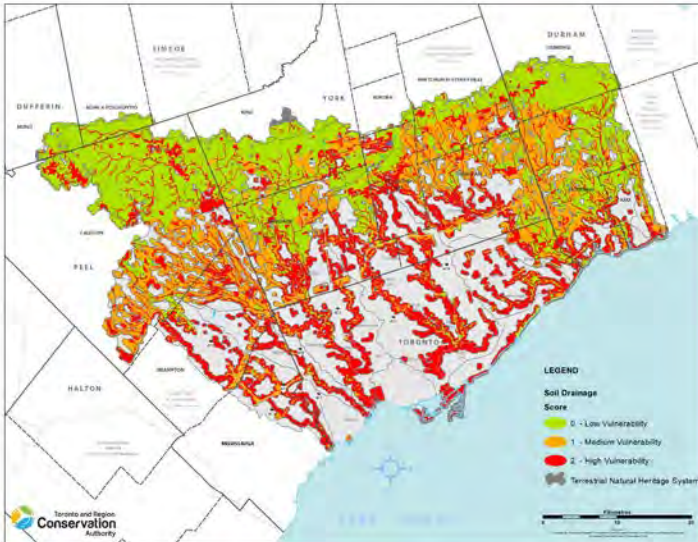
- Capital works coordination
 - Multiple risks mitigated under one project (e.g. risk to houses, water infrastructure, trails)
 - Multiple users of the same construction access road (consecutively)
 - Leaving access roads for City departments to access existing assets (e.g. sanitary crossings)
 - Converting access roads into future trails
 - Invasive species removal / native plantings on private lands



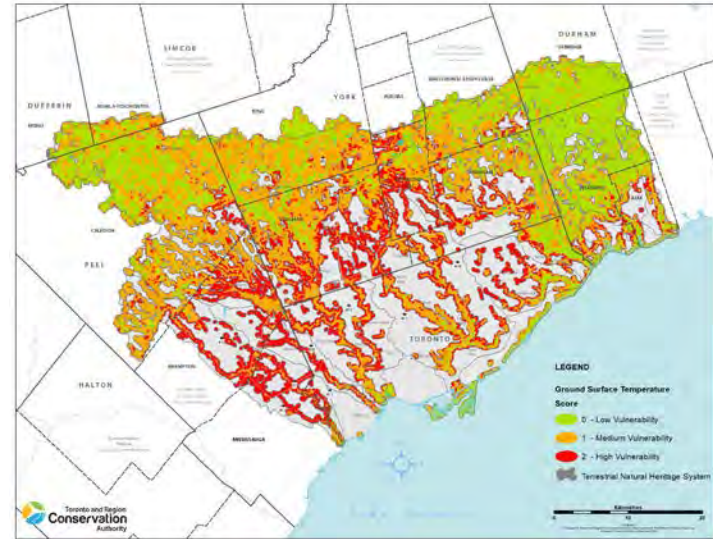
Climate Vulnerable Assessments

- Identifies relative degree of vulnerability within natural heritage system
- Informs where natural cover and wetland restoration projects could be located to mitigate vulnerability and benefit local communities

Soil drainage vulnerability scores



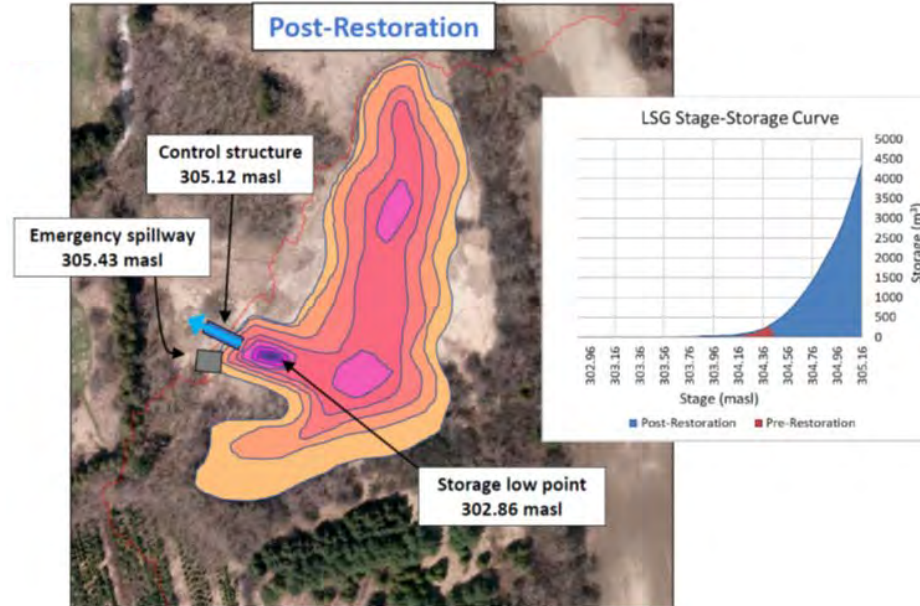
Ground surface temperatures vulnerability scores



Strategic Wetland Restoration

- Research had shown that Restored Wetland can reduce downstream flooding
- Lake St. George Wetland (annual averages)
 - Increased water storage volume by 2313%
 - Decreased maximum outflow rate by 73%
 - Improved deep percolation by 569%
 - Removed 66% more total phosphorous
 - Removed 81% more total suspended solids

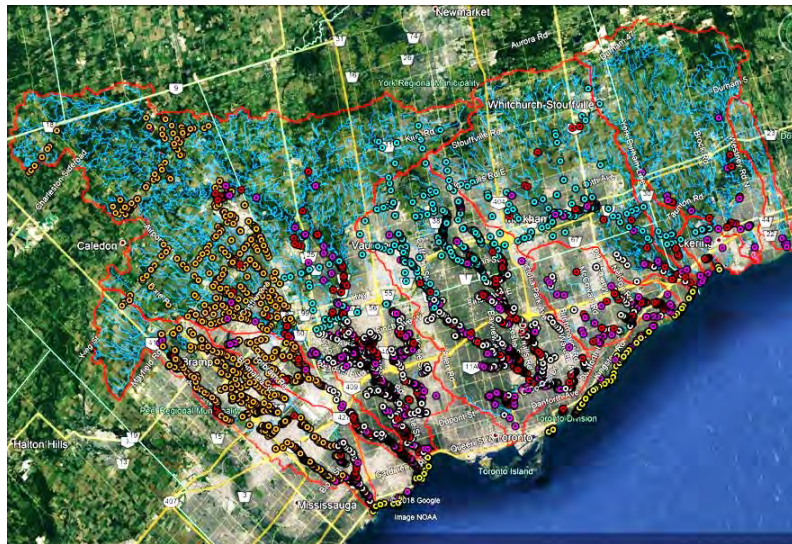
Key Performance Indicator	Pre-Restoration	Post-Restoration	Change	Change (%)
Annual average storage volume (m ³)	93	2244	2151	+2313%
Maximum storage volume (m ³)	290	8397	8107	+2796%
Total ET loss (mm)	420	434	13	+3%
Total surface outflow (1000 m ³)	26.5	18.2	-8.2	-31%
Total surface outflow (mm)	279	192	-86	-31%
Maximum outflow rate (m ³ /s)	0.46	0.13	-0.33	-73%
Total deep percolation (mm)	26	177	150	+569%
Total loss [ET + deep perc.] (mm)	447	610	163	+37%





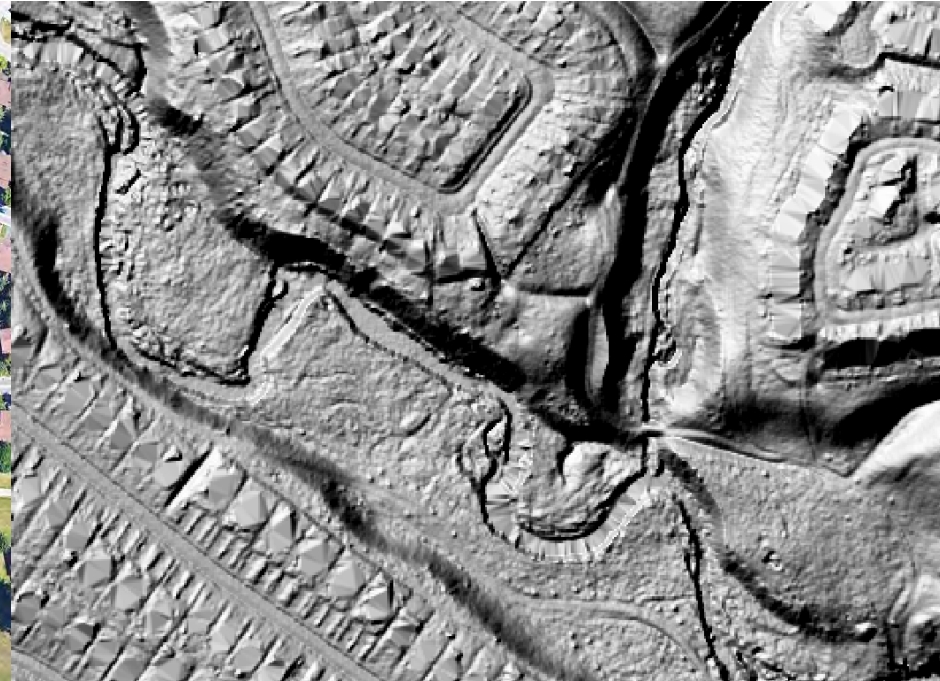
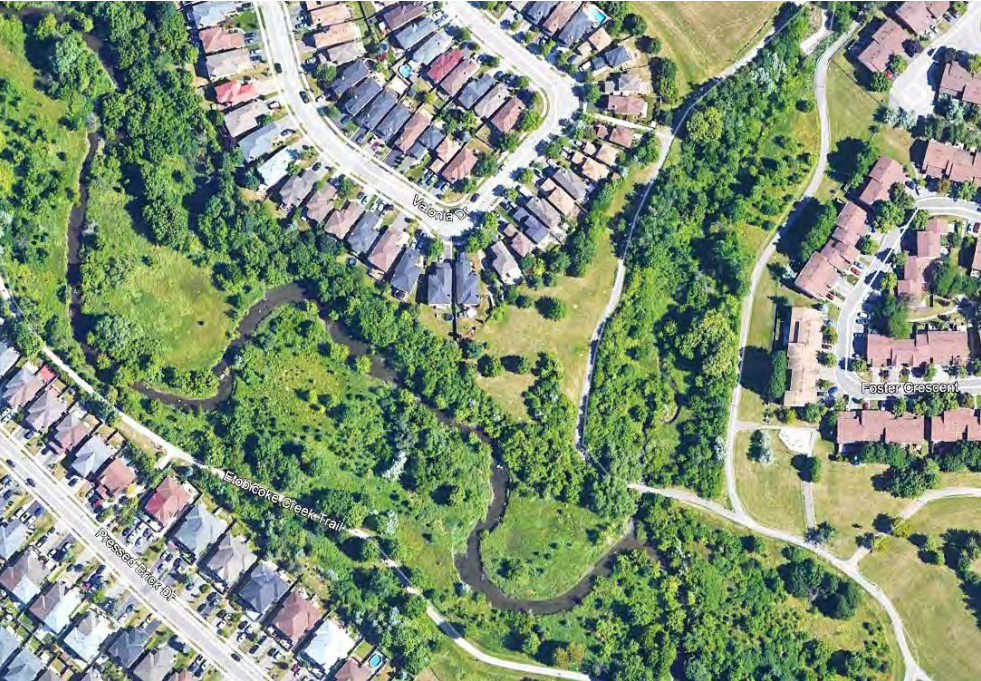
Real-Time Monitoring of Events

- Flood Risk Analysis Network (FRANK)
- Analyzes real-time stream and rain gauge data
- Determines which watercourses & reaches were affected
- Deploy inspection staff to quantify condition and/or movement



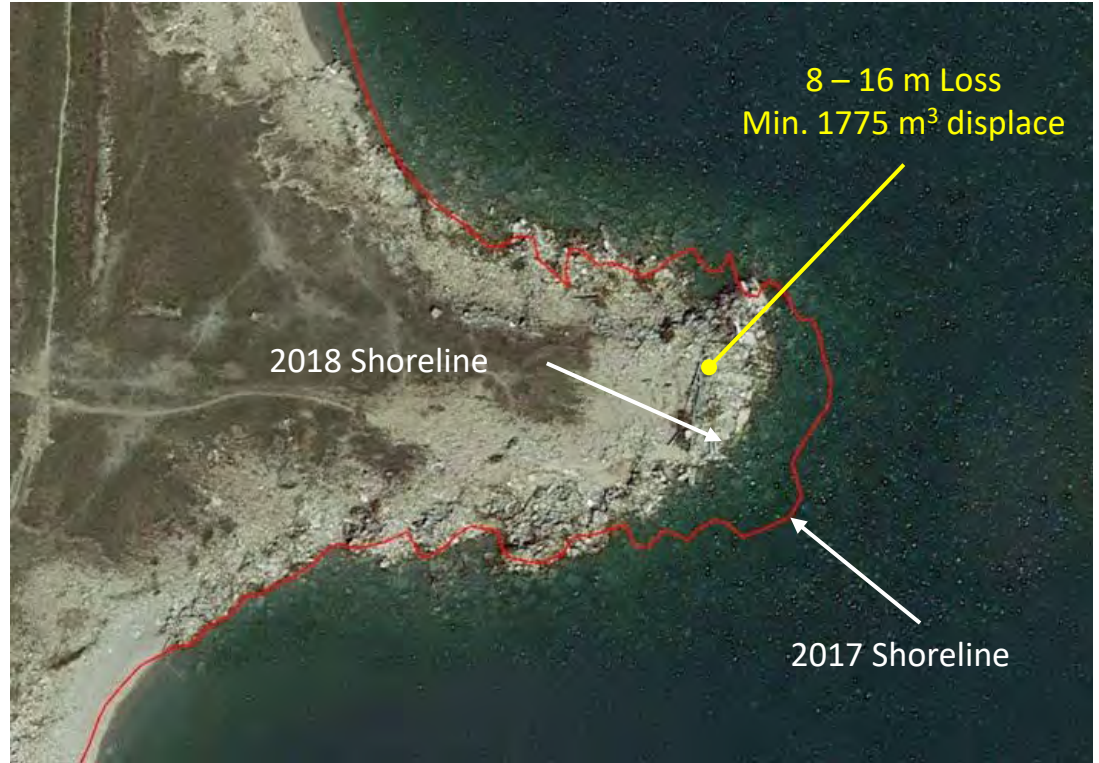
FRANK flags area
at risk
during/after an
event so that
TRCA knows
which structures
to inspect

Light Detection and Ranging (LiDAR) Analysis



Remotely Piloted Aircrafts (RPA)

- Changes the way we track and monitor erosion
- Monitoring of waterfront land will be safer, more accurate, and detailed



Remotely Piloted Aircrafts (RPA)

- 3D imagery to help document conditions and visualize solutions

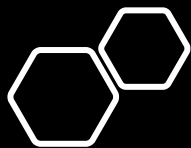


Coherence needed from
upper levels of government
on risk and vulnerability
assessment methods



Continued investment needed
in risk-reduction projects and
programs and the tools that
enable them





In Summary

- Conservation Authorities have been partners in building resilient communities, housing, and infrastructure since our inception
- We have specialized expertise in flood and erosion risk management, in climate change adaptation analysis, and in driving implementation of mitigation practices
- There are several recommendations on provincial policy guidance needed to support climate resilient communities, housing, and infrastructure – many of these have been identified in the report by Ontario's Special Advisor on Flooding
- The continued provision and partnership around funding opportunities like the National Disaster Mitigation Program, the Disaster Mitigation and Adaptation Fund, and Green Infrastructure Fund are critical

Section III – Items for Information of the Board

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Sameer Dhalla, Director, Development and Engineering Services

RE: **FLOOD RISK MANAGEMENT ANNUAL UPDATE**
Overview of Flood Forecasting and Warning Program and Flood Response Planning Activities with Municipal Emergency Management Partners

KEY ISSUE

Summary of current and future non-structural flood risk management initiatives, highlights of flood events experienced in the past year, and overview of flood response planning activities occurring in conjunction with municipal partner staff.

RECOMMENDATION

WHEREAS TRCA staff provided an overview of the Flood Risk Management Program at the Board of Directors meeting #6/19 held on June 21, 2019, and were directed to provide an annual summary of flood risk management work that has been completed;

IT IS RECOMMENDED THAT this report be received.

BACKGROUND

Almost 5 million people live within the 9 watersheds and Lake Ontario waterfront that make up TRCA's jurisdiction. With drainage areas ranging from 38 square km for the Carruthers Creek to 900 square km for the Humber River, all of TRCA's watersheds are relatively small. These small drainage areas, with short stream lengths and highly urbanized (impervious) surfaces, leave little lead time between rainfall and flood impacts. Year-round flood threats include ice-jams in the winter, snowmelt in spring, unpredictable thunderstorms in the summer, and hurricane remnants in the fall. While land-use planning has effectively reduced risk in greenfield areas, many neighbourhoods were historically settled near rivers prior to flood plain management. Examples include old downtowns in Brampton, Bolton, Unionville, and Stouffville. In other places, spills from altered watercourses and floodplains extend into populated areas. Across TRCA's jurisdiction, there are 41 such Flood Vulnerable Clusters, or areas where there is a high concentration of buildings in the floodplain.

TRCA undertakes a wide variety of programs to fulfil our Strategic Plan objectives to reduce flood risks and protect communities. These programs span the full spectrum of the emergency management cycle: from land-use planning to prevent exposure to hazards, to capital projects to mitigate flooding, to the many non-structural initiatives in the preparedness, response, and recovery phases that work to reduce the threat to public safety in areas of existing flood risk. These non-structural initiatives include flood emergency planning with municipal partners, personal preparedness education and outreach, and the Flood Forecasting and Warning (FFW) program. TRCA's flood risk management activities are leading-edge, incorporating state of the art technologies in real-time gauging, hydrology and hydraulic modeling and multi-mode communications. Many of the recommendations of the 2020 Ontario Flooding Strategy refer to flood risk reduction activities that have long been in-place at TRCA. During flood events, the information provided by TRCA plays a critical role assisting municipal partners in making decisions for emergency response. The FFW program is staffed by a complement of Flood Duty

Item 9.4

Officers (FDOs) and Chief Flood Duty Officers (CFDOs) who are on-call 24 hours a day, 7 days a week, 365 days a year.

At TRCA Board of Directors Meeting #6/19, held on June 21, 2019, a summary of Flood Risk Management activities was presented to the Board, and the following resolutions were approved:

THAT TRCA staff, in partnership with TRCA's municipal partners, continue to implement and advance flood risk management projects;

AND THAT TRCA staff be directed to continue to work with municipal staff and the insurance industry to share information from NDMP projects to advance and improve flood communications;

AND FURTHER THAT staff provide an annual summary of flood risk management work that has been completed.

As outlined in the Ontario Flooding Strategy, the roles and responsibilities for ensuring public safety during flood events are shared between various levels of government, conservation authorities, and individuals. Municipalities have the primary role in undertaking emergency response actions, including road closures and evacuations, and are legislated, through the Provincial Emergency Management and Civil Protection Act, to develop emergency plans and conduct training exercises to support preparedness. In areas where a Conservation Authority exists, they hold the delegated responsibility from the Ministry of Natural Resources and Forestry (MNRF) to operate a Flood Forecasting and Warning Program in accordance with the *Provincial Flood Forecasting and Warning Guidelines*. The FFW program is designed to:

- Support municipal flood emergency planning,
- Monitor weather and watershed conditions daily and maintain a local data collection network,
- Issue flood messages to municipalities, applicable agencies, media and the public in order to advise of potential flooding when appropriate,
- Operate TRCA dams and flood control structures to reduce the effects of flooding when appropriate,
- Maintain communications with municipalities and the MNRF Surface Water Monitoring Centre during a flood event.

In fulfilling these objectives, TRCA works closely with partner municipalities, and with meteorological authorities such as the Ontario Storm Prediction Centre (OSPC) operated by Environment Canada and Climate Change (ECCC).

To support effective flood response during an event, and to support municipal partners in fulfilling their emergency management responsibilities, TRCA staff also participate in the development of flood emergency response plans, training, and emergency management exercises. The remaining sections of this report provide a summary of notable flood events over the past year, as well as highlight key advancements in flood forecasting and emergency response planning that have been supported by funding from the National Disaster Mitigation Program (NDMP).

RATIONALE

Significant weather events of 2019 and 2020

Since the last program update, several weather events occurred within TRCA's jurisdiction, some of which resulted in flood impacts to specific areas. Fifty-six (56) flood messages were issued covering 35 different forecasted weather events, some of which had no impacts and others which featured more notable impacts (or a higher degree of unpredictability), as outlined below:

1) Lake Ontario high water levels – Spring/Summer 2019

Lake Ontario water levels in 2019 exceeded the previous record level set in 2017 by 2cm, with a daily 24-hour average level at the Toronto gauge peaking at 75.95m. In addition to the higher peak water level, the duration of the peak level was significantly longer than in 2017. Regardless, the tools, mitigation tactics, operational protocols and relationships that were established in responding to the 2017 high lake levels allowed areas like the Toronto Islands to remain open in spite of the conditions.

Anticipating the potential for high levels again in 2020, the Lake Ontario High Water Level Incident Management System (IMS) response structure was pro-actively implemented in March of 2020, to support the pro-active resilience works requested by TRCA's municipal partners. Tools, such as the Lake Ontario High Water Levels Viewer, were improved and re-deployed to provide members of the public with enhanced situational awareness. A relatively dry spring and the favourable snowmelt of the Ottawa River allowed water levels on Lake Ontario to peak below major impact thresholds in 2020.

2) Severe thunderstorm - July 17, 2019

An unexpected thunderstorm developed over parts of Toronto and Mississauga on the morning of July 17, 2019, impacting the Etobicoke and Humber River watersheds. Flood Warnings were issued, and staff were in communication with emergency management partners. Minor riverine flooding was observed in parklands alongside Little Etobicoke Creek. Riverine flooding was not observed along Black Creek, however, there were numerous reports of urban (pluvial) flooding in the area. Localized rainfall totals reached 95mm, with the highest value recorded on the City of Toronto gauge network.

3) Winter rain event – January 11-12, 2020

A large low-pressure system brought significant precipitation to the TRCA jurisdiction in early January. Rainfall events in the winter can result in significant runoff as frozen ground conditions can absorb little rainfall. This rainfall event was widespread and affected the entire jurisdiction, bringing between 70-95mm over the course of two days. The runoff passed quickly through some watercourses with smaller drainage areas, such as Black Creek and Little Etobicoke Creek, without critical water levels being reached. By contrast, TRCA's larger watersheds with significant headwater systems, such as the Humber River, Rouge River, and Duffins Creek, responded to the significant volume of water, with flooding and erosion reported at many points along the valley system. Many of the impacts were to recreational amenities and land uses, and included road closures, trail washouts, and service road impacts. TRCA's virtual Emergency Operations Centre

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(EOC) for flood events was partially activated for this event, providing support to municipal partner EOCs.

4) Ninja Storm – July 8, 2020

On the seventh anniversary of major flooding, and much like the “Ninja Storm” that occurred two summers earlier, an unexpected convective storm developed in the mid-afternoon and delivered 65-75mm of rain concentrated in the Black Creek subwatershed. In addition to numerous reports of urban (pluvial) flooding, riverine flooding into parkland, lawns, and parking lots occurred where Black Creek exceeded its banks in several locations. The key challenge with these types of storms is their intensity and unpredictability. Flood Duty Officers were able to quickly respond to the conditions that differed significantly from the original forecast, and the rapid response was aided by the previous installation of additional real-time gauges, such as the Westmount Park rain gauge in Rockcliffe, and access to radar-based forecasting tools.

As illustrated by flooding events in recent years, many areas within TRCA's jurisdiction are prone to flooding from mechanisms that have little predictability. The lack of lead-time to initiate emergency response actions necessitates the streamlining of information sharing during flood emergencies in TRCA's most at-risk areas. To enable this, investments in two program areas were undertaken as part of the National Disaster Mitigation Program: the development of the Delft-FEWS flood forecasting decision support system (DSS), and the development of site-specific flood emergency planning documents.

Site-specific Flood Response Planning (SSFRP)

Municipalities have the primary responsibility for ensuring the welfare of residents. This includes the mandate for response actions such as evacuations, road closures, and procedures to safeguard infrastructure. TRCA's role is that of providing expertise and technical assistance regarding the riverine flood hazard to municipalities.

While the potential for a flood to develop can have little *predictability*, there is an enhanced understanding of *impacts* in the most vulnerable areas, particularly following the completion of TRCA's Flood Risk Assessment and Ranking project. Information derived from this project and the updated floodplain mapping undertaken in recent years had already been utilized by FDOs and CFDOs to assist during flood emergencies, however, the SSFRP project aimed to establish a common understanding of risks, responsibilities, and possible protective actions between TRCA and our municipal partners. The project involved joint development of a set of impact tables and possible response procedures, together with simplified mapping that could be utilized by first responders.

The development of SSFRPs in partnership with municipalities was targeted for the following Flood Vulnerable Clusters (FVCs)

- Rockcliffe (City of Toronto)
- Jane-Wilson (City of Toronto)
- Dixie-Dundas (City of Mississauga)
- Spring Creek/Bramalea (City of Brampton)
- Bolton Core (Town of Caledon)
- Stouffville Centre (Town of Whitchurch-Stouffville)
- Oak Ridges/Lake Wilcox (Town of Richmond Hill)
- Unionville (City of Markham)

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- Woodbridge (City of Vaughan)
- Lower Carruthers (Town of Ajax)

To support the development of these site-specific documents, TRCA staff develop draft flood impact tables and maps, which are shared with Emergency Management staff at each municipality, who in turn convene the appropriate divisions to confirm the impacts and identify possible protective actions to be undertaken. The key component of a SSFRP is an action table outlining the impacts as flood threats progress, the associated actions, and the party responsible for implementing those actions. Examples of actions include road closures, potential evacuations, infrastructure inspections, and facility closures. The purpose of developing the SSFRP is to provide a framework for communications, actions, and procedures associated with responding to a flooding event specific to known impacts in vulnerable communities. It has also provided TRCA staff with an understanding of the type of information municipalities require during flood events, which in turn ensures that TRCA's IMS structure for flood emergencies mirrors that of municipal partners.

Depending on the municipality, the SSFRPs do not necessarily represent formal response plans, but rather represent “site-specific risk information packages” meant to complement existing municipal emergency plans or risk-specific plans for flooding. The utility of developing these plans was illustrated as the communication channels established for the Rockcliffe and Jane-Wilson enabled TRCA and first responders to connect more quickly during the July 8, 2020 Ninja Storm.

The above locations were selected to represent high-risk clusters distributed across partner municipalities. The process of developing the SSFRP has also strengthened working relationships with each of these municipal emergency management partners. Typically, TRCA staff work together with municipalities to deliver flood related education and outreach information during Emergency Preparedness Week and other appropriate events. In 2020, however, the COVID-19 response resulted in the cancellation of outreach activities, as well as in delays in finalizing SSFRP documentation, as municipal emergency management staff have been focused on pandemic response measures.

Flood Early Warning System (FEWS) Development

Priority 3 of the Ontario Flooding Strategy – Enhance Flood Preparedness – includes action areas to enhance flood forecasting and early warning systems. TRCA's Flood Forecasting and Warning program is constantly evolving to meet the unique challenges of our jurisdiction, adding new tools and data sources as they become available. Recognizing that the characteristics of TRCA watersheds and the nature of the weather systems that impact them make it difficult to predict flooding, TRCA has been working to develop a decision support system (DSS) for FDOs that consolidates the myriad of information and data sources used, and that incorporates the next generation of flood forecasting models. Following an internal gap-analysis exercise and a third-party review of available tools for flood forecasting, the Delft Flood Early Warning System (FEWS) was selected as the platform on which to build TRCA's next generation DSS.

FEWS is an industry-leading, open-source decision support system software that organizes the forecasting process. It brings together various sources of weather forecasts, radar information, measured rainfall and streamflow data, as well as real-time hydrologic models and data assimilation algorithms, to support and streamline flood forecasting and warning activities. It is not a model itself, but rather a model-agnostic decision support system that can run multiple models or ensemble predictions, as well as support and document decisions. As an open-source platform, it has a wide user-base internationally as well as in North America, including the entire US National Weather Service, Manitoba Hydro, BC Hydro, and Alberta Environment.

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It is highly customizable, but requires significant configuration effort, which is supported by an engaged user community.

Leveraging funding from the final intake of the NDMP, a pilot system has been developed which will form the basis of configuration for TRCA's jurisdiction. The completed pilot provides aggregation and spatial averaging of weather and radar forecasts for all of TRCA's jurisdiction, as well as a customized adaptor that allows for FEWS to run hydrologic models in SWMM, which is one of the programs that is used by TRCA for floodplain mapping purposes. The pilot allows real-time rain and streamflow data to be incorporated into forecasts, including simple data assimilation methods. While the completed pilot represents the beginning of the journey towards more targeted flood messaging, continued efforts in configuration to bring in other flow forecasting models will be required in the coming years. Staff are in the process of training on the functionality and configuration settings of the system, and the Flood Risk Management team will be testing and building upon the pilot project before making the system operational.

Real-time Gauging Network and Website

TRCA's real-time gauging network, together with the updated real-time gauging website, are essential tools for TRCA's Flood Forecasting and Warning program. The Flood Infrastructure and Hydrometrics team continues to expand the real-time gauging network; recent additions include a stream gauge near the Elgin Mills and Newkirk Business Park flood vulnerable clusters in Richmond Hill, as well as two rain gauges in the Carruthers Creek watershed. The real-time network currently comprises 22 stream and dam gauges, and 26 rain gauges (some of which do not operate in the winter). With the increased network density, however, comes increased operations and maintenance requirements. In addition to providing Flood Duty Officers, municipal partners, and members of the public with critical information during flood events, the gauging website is often utilized by the scientific community and praised by weather forecasters for being able to concisely present information. An update to the gauging website back-end is currently underway to consolidate its data source with the primary hydrometric data management system.

TRCA is collaborating with the Region of Peel to support its Gauge-Adjusted-Radar-Rainfall (GARR) project, providing rain gauge data used in real-time calibration, and post-event validation, of radar-rainfall products. As it would be impossible to achieve rain gauge coverage everywhere, GARR products represent an important advancement in flood forecasting and warning and are utilized where available to assist Flood Duty Officers. TRCA is also working with municipal partners, such as the City of Toronto, to import their rain gauge network information, with the aim of providing FDOs with a consolidated real-time precipitation network.

Flood Risk Outreach

As outlined in the report adopted by resolution #A88/20 at the June 24, 2020 Board of Directors meeting, TRCA has exhibited leadership in the delivery of flood risk information to residents through the Flood Risk Awareness and Education Program. While the focus since April has shifted to the creation of digital content in the absence of NDMP funding and in light of COVID-19 restrictions on gatherings, flood outreach activities remain an important component of the Flood Risk Management program. Ensuring Ontarians are aware of flood risks is one of five overarching objectives within the Ontario Flooding Strategy, and communications activities for this year include the development of new digital content, informational videos, and pursuing partnerships for pro-active communications together with the Peel Climate Change Partnership, Conservation Ontario, and various municipal partners. In the realm of knowledge transfer, TRCA continues to play a role in facilitating the Provincial Flood Forecasting and Warning Committee workshop, which will be held virtually in the fall. TRCA is also participating in the

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upcoming Technical Transfer Workshop, which will be hosted by the Canadian Water Resources Association.

Conclusion

TRCA takes a multi-disciplinary approach to Flood Risk Management, including strong programs in Flood Forecasting and Warning and flood emergency management. TRCA's urbanized watersheds and the increasing threat from extreme events require advanced technology and robust response protocols to manage flood events efficiently. TRCA is consistently improving the flood management program, leveraging best-available technologies and processes to mitigate risk for priority areas. As the flood risk management program evolves to meet the challenges of our jurisdiction, the degree of technical support and expertise required to administer the various tools and technologies also increases. TRCA will continue to pursue both structural and non-structural measures to reduce the existing and substantial flood risk in our jurisdiction, leveraging updating flood mapping and modeling, incorporating new technologies in remote sensing, and enhancing emergency preparedness planning with municipal partners.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:
Strategy 2 – Manage our regional water resources for current and future generations

FINANCIAL DETAILS

Funds for general FFW operations are available in operating account 115-60 (Flood Warning Program) and 115-62 (Flood Risk Management and Communications). Gauging is funded through capital account 107-01 (Flood Forecasting and Warning System). The Site-Specific Flood Response Planning and FEWS Decision Support System projects were funded through capital accounts 107-74 and 107-73 respectively, which were supported by the National Disaster Mitigation Program, and capital funding from the City of Toronto, York, Peel and Durham Region

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Date: August 17, 2020

Section III – Items for the Information of the Board

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Michael Tolensky, Chief Financial and Operating Officer

RE: **UPDATE ON THE DOWNTOWN BRAMPTON FLOOD PROTECTION
PROJECT MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**

KEY ISSUE

An update on the progress for the Downtown Brampton Flood Protection Project Environmental Assessment.

RECOMMENDATION

IT IS RECOMMENDED THAT the update on the Downtown Brampton Flood Protection Environmental Assessment be received.

BACKGROUND

At Board of Directors Meeting #5/20, held on June 26, 2020, Resolution #A78/20 was approved as follows:

THAT the update on the Downtown Brampton Flood Protection Environmental Assessment be received;

THAT Toronto and Region Conservation Authority (TRCA) be authorized to amend the existing fee for service agreement with the City of Brampton should they agree to fund additional works required during the transition of the project from the planning phase to detailed design;

THAT the Chief Executive Officer be granted delegated authority to approve any procurements required as a result of additional works authorized by the City of Brampton, should there be a need to expedite prior to the September 2020 Board of Directors meeting;

AND FURTHER THAT TRCA report back to the Board of Directors in the fall of 2020 to provide an update on the status of the project and next steps.

RATIONALE

TRCA and the City of Brampton, as co-proponents of the Downtown Brampton Flood Protection Municipal Class Environmental Assessment (DBFP EA), received notification from the Ontario Ministry of the Environment, Conservation and Parks that as of September 2, 2020 the City of Brampton and TRCA are able to proceed with the Project in the manner it was developed and designed.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 4 – Create complete communities that integrate nature and the built

environment

Strategy 7 – Build partnerships and new business models

FINANCIAL DETAILS

Funding for the DBFP EA is available through a fee for service delivery agreement with the City of Brampton within account 193-01, the National Disaster Mitigation Program, and TRCA's Region of Peel Climate Budget (2018).

The City of Brampton is proposing a potential amendment to the existing fee for service agreement to allow for additional funds to be available to TRCA for the EA Team to support the City of Brampton's Urban Design Master Plan process. The scope of work for this support is currently being refined by the City of Brampton.

While the detailed design and implementation of this project is currently not funded, the City of Brampton is exploring funding opportunities. The City of Brampton resubmitted an application to the Federal National Disaster Mitigation Adaptation Fund (DMAF) program to continue work on the DBFP project. TRCA supported the preparation of this application and will continue to work with the City of Brampton on future funding opportunities.

DETAILS OF WORK TO BE DONE

TRCA will work with the City of Brampton to coordinate press releases and social media updates communicating the approval of the Environmental Assessment to the public and key stakeholders. Once the City of Brampton has refined the scope of work for the EA team to support the Urban Design Master Plan process, TRCA will work with the City of Brampton to prepare an amendment to the existing fee for service agreement to allow for the flow of additional funds. Further, TRCA will continue to work with the City of Brampton on future funding applications which would allow the project to continue to progress to detailed design and ultimately implementation.

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Date: September 16, 2020

Section III – Items for the Information of the Board

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Michael Tolensky, Chief Financial and Operating Officer

RE: **SCARBOROUGH WATERFRONT PROJECT DETAILED DESIGN AND
SCARBOROUGH BLUFFS WEST INDIVIDUAL ENVIRONMENTAL
ASSESSMENT UPDATE**

KEY ISSUE

Update on the status of the Scarborough Bluffs West Individual Environmental Assessment (EA) project and the status of Scarborough Waterfront Project West Segment detailed design procurement process, including the Brimley Road South Multi-Use Trail (Request for Proposal RFP No. 10034734), and the West Segment Shoreline and Multi-Use Trail (RFP No. 10034817).

RECOMMENDATIONS

WHEREAS Toronto and Region Conservation Authority (TRCA), in partnership with the City of Toronto, undertook an Individual Environmental Assessment (EA) to create a system of greenspaces along the Lake Ontario shoreline between Bluffer's Park and East Point Park in Toronto that will respect and protect the significant natural and cultural features of the Bluffs, enhance the terrestrial and aquatic habitat, and provide a safe and enjoyable waterfront experience (the Scarborough Waterfront Project);

WHEREAS TRCA received funding of \$4.895 million over two years as part of the 2019 City Budget process to refine the preliminary overall costing for the entire SWP EA and report to the City for the City Council-approved stage 2 stage gating review, as well as complete the detailed design of the West Segment, which includes the funding required for the Brimley Road South multi-use trail detailed design and construction;

WHEREAS TRCA received approval for the Final SWP EA Report from the Minister of Environment, Conservation and Parks (MECP) on November 6, 2019;

WHEREAS TRCA received approval from the Board of Directors on November 29, 2019, and subsequently May 22, 2020, to proceed with the detailed design of the West Segment of the SWP, including the design of the Brimley Road South multi-use trail, based on the concept approved through the Individual EA process;

WHEREAS the CEO was delegated authority by the Board of Directors on May 22, 2020 to award the West Segment detailed design RFPs if the procurement process was complete and fell within the summer hiatus period;

AND WHEREAS staff, in consultation with key City of Toronto staff, finalized and solicited two (2) RFPs for the Brimley Road South multi-use trail, and the West Segment shoreline and multi-use trail, through a publicly advertised process, with the Brimley Road South multi-use trail procurement process completed and approved by the CEO on August 27, 2020, and the West Segment shoreline and multi-use trail procurement process completed and approved by the CEO on September 16, 2020;

THEREFORE LET IT BE RESOLVED THAT the following update on the Scarborough Waterfront Project and Scarborough Bluffs West Individual EA be received, including the award of Contract No. 10034734 for the Detailed Design of the Brimley Road South Multi-Use Trail to McIntosh Perry Consulting Engineers Ltd. for a total cost not to exceed \$238,474 plus 10% contingency, plus applicable taxes, and the award of Contract No. 10034817 for the Detailed Design of the West Segment Shoreline and Multi-Use Trail to Shoreplan Engineering Ltd. for a total cost not to exceed \$1,108,170 plus 10% contingency, plus applicable taxes, as authorized by the CEO;

THAT an update on the status for the SWP be brought forward to the Board of Directors following completion of the West Segment detailed design phase;

THAT TRCA staff work with City of Toronto staff to secure budget to allow implementation of the West Segment shoreline works and initiation of the Central Segment detailed design phase;

AND FURTHER THAT an update on the status of the Scarborough Bluffs West Individual EA project and any required approvals be brought to the Board of Directors for their consideration in the Spring of 2021 or earlier should new direction from the City of Toronto be given.

BACKGROUND

Scarborough Waterfront Project

TRCA, in partnership with the City of Toronto, initiated a study in 2014 under the *Environmental Assessment Act (EA Act)* with a vision to create a system of public greenspaces along the Lake Ontario shoreline between Bluffer's Park and East Point Park, which respect and protect the significant natural and cultural features of the Bluffs, enhance terrestrial and aquatic habitat, and provide a safe and enjoyable waterfront experience.

In May 2018, TRCA received approval from the City of Toronto Executive Committee, and subsequently City Council (Resolution EX34.5), to submit the final Scarborough Waterfront Project Environmental Assessment (EA) to the Ministry of Environment and Climate Change (MOECC) for formal review. TRCA was also directed by Council to report back with preliminary costing for the design and implementation of each project area shoreline segment (West, Central and East), subject to a favourable decision from MOECC, and that cost estimates for the erosion control components, multi-use trail and the waterfront access, along with any funding eligibility criteria, be provided by TRCA as part of the completed stage-gate 3 class 3 costing and detailed design of each of the three shoreline segments.

On November 6, 2019 TRCA received a letter from Minister Yurek, approving the Scarborough Waterfront EA. Earlier in 2019, City Council approved funding of \$4.895M to advance the West Segment detailed design process and to start construction on the Brimley Road South pedestrian improvements. TRCA, in continued partnership with the City of Toronto, is proceeding with the detailed design of the West Segment of the Scarborough Waterfront Project in 2020. Given the necessity to improve pedestrian and cyclist safety along Brimley Road, the Brimley Road South multi-use trail work is the priority in the West Segment detailed design process.

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Since March 2020, TRCA staff have been working with key staff from City Transportation, Water and Parks, Forestry and Recreation divisions to complete the RFPs for both the Brimley Road South multi-use trail and the West Segment shoreline works. The two RFPs were finalized and released in July and August 2020, respectively.

Scarborough Bluffs West

At City Council Meeting #11 on December 9 and 10, 2015, Resolution EX10.23 was passed which directed City Council, through the Capital Budget, to include a \$2 million Toronto Water Capital Reserve contribution towards the Scarborough Bluffs West Individual EA, cash flowed over the 2 or 3-year life of the project. This resolution would see the initiation of an Individual EA similar to the Scarborough Waterfront Project for the shoreline from Bluffer's Park west to R.C. Harris Water Treatment Plant. As the Scarborough Waterfront Project was in the middle of a comprehensive consultation process at this time a mutual decision between TRCA and the City was made to delay the new EA until the active planning process was complete to eliminate potential public confusion.

In order to best position the launch of the future Scarborough Bluff West EA, baseline studies and environmental monitoring in support of the project were completed between 2016 and 2019 and include: terrestrial and aquatic ecology surveys; coastal condition studies; and terrestrial and marine archaeology studies. Under direction received from Toronto Water in February 2020, the project was put on hold until further discussions with appropriate City of Toronto divisions is undertaken to determine next steps for the EA. After on-going dialogue with Toronto Water, \$50,000 has now been secured to continue with the baseline environmental monitoring for 2020.

RATIONALE

Scarborough Waterfront Project

TRCA, in partnership with key divisions of the City is proceeding with detailed design of the West Segment of the Scarborough Waterfront Project. The West Segment boundaries are between Bluffer's Park and the start of the Meadowcliffe Drive Erosion Control Project. Work will include additional engineering and technical analysis, as well as and construction phasing and costing for the following components: the proposed expanded headlands at Bluffer's Park and Meadowcliffe, the expansion of Bluffer's Park Beach, and a multi-use trail through the Segment, including improvements to Brimley Road South and construction of a separated multi-use trail along the east side of Brimley, south of Barkdene Hills to Bluffer's Park. Given the necessity to improve pedestrian and cyclist safety along Brimley Road, the Brimley Road South multi-use trail work will be a first priority in the West Segment detailed design process. In order to best facilitate the planning process moving forward, the detailed design exercise for the West Segment has been split into two RFP processes: Brimley Road South Multi-Use Trail, and West Segment Shoreline and Multi-Use Trail.

TRCA staff, in consultation with key staff from City of Toronto's Transportation Services, Toronto Water and Parks, Forestry and Recreation divisions, finalized and released both RFPs in July and August 2020, respectively.

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Brimley Road South Multi-Use Trail

RFP documentation was posted on the public procurement website www.biddingo.com on July 3, 2020 and closed on July 23, 2020. One (1) addendum was issued to respond to questions received. A total of thirty-nine (39) firms downloaded the documents and four (4) proposals were received from the following Proponent(s):

- GHD Limited
- Lithos Group Inc.
- McIntosh Perry Consulting Engineers Ltd.
- WSP Canada Group Ltd.

The proposal from Lithos Group Inc. was disqualified due to:

- the lack of a detailed work breakdown with staff hour allocations in the technical proposal, resulting in the inability of the Evaluation Committee to evaluate the “appropriate allocation of staff resources” criteria; and,
- the intentional omission of a number of required elements requested to be in the scope of work, resulting in the inability of the Evaluation Committee to compare the Lithos Group Inc. fee proposal with the fee proposals received from the other three (3) Proponents that addressed the full scope of work.

An Evaluation Committee comprised of staff from TRCA’s Project Management Office and the City of Toronto’s Transportation Services and Parks, Forestry and Recreation divisions reviewed the proposals. The criteria used to evaluate and select the recommended Proponent included the following:

Criteria	Description	Weight
Understanding of Project and Scope of Work	<ul style="list-style-type: none"> • Demonstrated understanding of the project, background, requirements, linkages, challenges, etc. 	10
Similar Projects – Scope and Magnitude	<ul style="list-style-type: none"> • Quantity and quality of projects of similar budget and scope 	10
Expertise and Availability of Project Team	<ul style="list-style-type: none"> • Appropriate allocation of staff resources • Qualifications and experience of consultants and sub-consultants, including specified designations (i.e., PEO and full OALA member with stamp) • Project Manager’s qualifications and experience 	15
Approach/Methodology	<ul style="list-style-type: none"> • Detailed description of the work plan • Innovative ideas and approaches to meeting the project objectives • Identification of project limitations or difficulties and proposed solutions 	30
Schedule	<ul style="list-style-type: none"> • Schedule and timelines consistent with project requirements • Ability to commit to timing objectives 	10
Sub-Total		75
Pricing	<ul style="list-style-type: none"> • Total project cost, relative to all submitted proposals 	25
Sub-Total		25
Total Points		100

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The bid received from McIntosh Perry Consulting Engineers Ltd. was determined to best meet the requirements, as outlined in the RFP documents, and was also of reasonable value given the scope of work identified. Further assessment by TRCA staff of McIntosh Perry Consulting Engineers Ltd.'s experience and ability to undertake similar projects was conducted through reference checks which resulted in positive feedback that McIntosh Perry Consulting Engineers Ltd. is capable of undertaking the required scope of work.

At Board of Directors meeting #4/20, held on May 22, 2020, RES.#A60/20 provided delegated authority to TRCA's CEO to award the RFP if the procurement process was complete and fell within the summer hiatus period. As such, TRCA's CEO authorized the award of Contract No. 10034747 to McIntosh Perry Consulting Engineers Ltd. at a total cost not to exceed \$238,747 plus 10% contingency, plus applicable taxes. Proponent's scores and staff analysis of the evaluation results can be provided in an in-camera presentation, upon request.

West Segment Shoreline and Multi-Use Trail

RFP documentation was posted on the public procurement website www.biddingo.com on August 17, 2020 and closed on September 4, 2020. One (1) addendum was issued to respond to questions received. A total of thirty-nine (39) firms downloaded the documents and two (2) proposals were received from the following Proponent(s):

- Shoreplan Engineering Ltd.
- W.F. Baird & Associates Coastal Engineers Ltd.

An Evaluation Committee comprised of staff from TRCA's Project Management Office and Engineering Projects business units reviewed the proposals. The criteria used to evaluate and select the recommended Proponent included the following:

Criteria	Description	Weight
Understanding of Project and Scope of Work	<ul style="list-style-type: none"> Demonstrated understanding of the project, background, requirements, linkages, challenges, etc. 	10
Similar Projects – Scope and Magnitude	<ul style="list-style-type: none"> Quantity and quality of projects of similar budget and scope 	10
Expertise and Availability of Project Team	<ul style="list-style-type: none"> Appropriate allocation of staff resources Qualifications and experience of consultants and sub-consultants, including specified designations (i.e., PEO and full OALA member with stamp) Project Manager's qualifications and experience 	15
Approach/Methodology	<ul style="list-style-type: none"> Detailed description of the work plan Innovative ideas and approaches to meeting the project objectives Identification of project limitations or difficulties and proposed solutions 	30
Schedule	<ul style="list-style-type: none"> Schedule and timelines consistent with project requirements Ability to commit to timing objectives 	10
Sub-Total		75
Pricing	<ul style="list-style-type: none"> Total project cost, relative to all submitted proposals 	25
Sub-Total		25
Total Points		100

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As both proposals received the same overall score, the final overall ranking was determined by the bid that received the highest technical proposal score. The bid received from Shoreplan Engineering Ltd. was determined to best meet the requirements, as outlined in the RFP documents, and was also of reasonable value given the scope of work identified. Based on the Proponent's past work on the SWP EA, in addition to further assessment by TRCA staff of Shoreplan Engineering Ltd.'s experience and ability to undertake similar projects conducted through reference checks which resulted in positive feedback, it was determined that Shoreplan Engineering Ltd. is the most appropriate and qualified Proponent for undertaking the required scope of work.

At Board of Directors meeting #4/20, held on May 22, 2020, RES.#A60/20 provided delegated authority to TRCA's CEO to award the RFP if the procurement process was complete and fell within the summer hiatus period. As such, TRCA's CEO authorized the award of Contract No. 10034817 to Shoreplan Engineering Ltd. at a total cost not to exceed \$1,108,170 plus 10% contingency, plus applicable taxes. Proponent's scores and staff analysis of the evaluation results can be provided in an in-camera presentation, upon request.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 3 – Rethink greenspace to maximize its value

Strategy 5 – Foster sustainable citizenship

FINANCIAL DETAILS

Scarborough Waterfront Project

The total capital investment for the SWP is estimated to be \$170 million, over a 12-year implementation period, and additional post-implementation reporting and monitoring. Given the conceptual level of detail considered in the EA, and annual inflation over the course of the Project, the estimated capital investment includes a healthy contingency of 50%. The total capital investment will continue to be refined during the detailed design process, as concepts are further refined.

As per the staff report submitted to the May 14, 2018 City Executive Committee, and subsequently to City Council on May 22, 23 and 24, 2018, this Project will follow the City Council-approved "stage gate" capital planning and approval process. The work undertaken to date confirms the conceptual feasibility of the Project (stage 1). As part of detailed design, TRCA staff will undertake the work required to establish preliminary design and costs associated with the second stage of the process. Detailed costs for each Segment of the Project that would identify the eligibility of funding sources (i.e. erosion control separate from waterfront access and environmental enhancements) is not yet available. Confirmation of these cost estimates requires the 30% detailed design to be completed at the third stage of the City's stage gating process (stage gate 3, class 3 costing) in conjunction with relevant City Programs.

As part of the 2019 Budget process received funding of \$4.895 million to complete the refined preliminary costing of the entire Project, as well as detailed design of the West Segment, which includes the funding required for the Brimley Road South multi-use trail detailed design and construction.

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Based on the results of the West Segment detailed design RFP processes, the total cost for consultant services associated with the detailed design of the Brimley Road South multi-use trail, and the West Segment shoreline and multi-use trail, is \$1,346,917, plus 10% contingency, plus applicable taxes. TRCA project management and technical support costs have been budgeted as approximately \$830,000 over two years. Considering all applicable taxes and the contingency, the grand total for the West Segment detailed design for external and internal services is \$2,502,760. This leaves \$2,392,240 in the existing budget approved by the City of Toronto, which is expected to be sufficient to cover the costs of constructing the multi-use trail on Brimley Road South. Costs for construction will be further refined through detailed design. Funds are being tracked through the 204-17 account code.

Scarborough Bluffs West

City Council has authorized \$2 million for the Scarborough Bluffs West Individual EA supported by Toronto Water. To date \$1.432 million has been spent from the \$2 million allocation leaving \$0.568 million remaining. Toronto Water did an inter-budget transfer of \$1 million of these funds to the SWP to complete the EA; \$382,000 was spent to undertake annual baseline environmental monitoring (2016 – 2019) in support of the future West EA; and \$50,000 has recently been approved for baseline environmental monitoring in 2020. It is anticipated that the Scarborough Bluffs West EA would cost approximately \$3.5 million from launch to completion over a period of three or more years based on the experience with the SWP. This means a gap of \$2.932 million in funding currently exists. This project has been included on the unmet needs list for the City of Toronto capital budget since 2016.

Toronto Water has indicated that they cannot move forward with an agreement with TRCA to undertake the EA until discussions with other key City divisions are undertaken to discuss the funding gap. The continuation of baseline environmental monitoring work in 2020 will help to ensure the EA is in the best possible state for a future launch.

DETAILS OF WORK TO BE DONE

As requested by City Council, TRCA will refine the preliminary overall costing for the entire SWP during detailed design and will report to the City for the City Council-approved stage 2 stage gating review. TRCA staff have requested a meeting with key City divisions to confirm how project costing and cash flows are to be established and refined to maintain alignment with the City's stage-gate process for a report back to Council.

Following the completion of the West Segment detailed design phase (late Fall/ early Winter 2021), an update on the status of the SWP will be brought forward to the Board of Directors to present the refined construction costing along with a request for authorization to proceed with any next steps requiring Board approval.

TRCA staff will continue to engage the City in discussions around proceeding with the formal initiation of the Scarborough Bluffs West Individual EA. An update on the status of this EA will be brought to the Board of Directors when direction is obtained from the City of Toronto.

Report prepared by: Katherine Hills Learney, extension 5913

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For Information contact: Lisa Turnbull, extension 5645

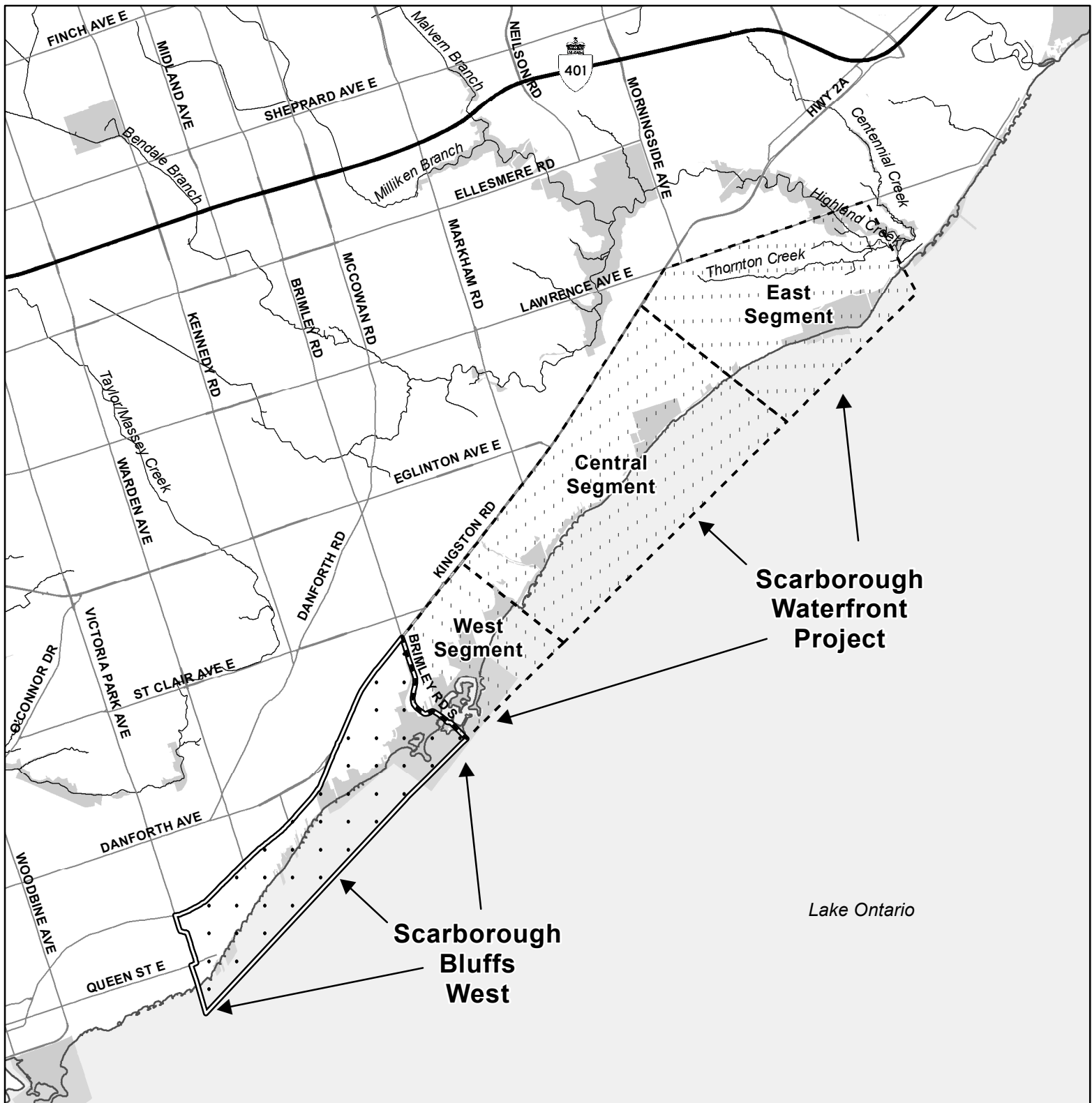
Emails: lisa.turnbull@trca.ca






Attachments: 3

Attachment 1: Scarborough Waterfront Project and Scarborough Bluffs West Study Area

Attachment 2: Refined West Segment Preferred Alternative

Attachment 3: Proposed Path Along Brimley Road South



-  Scarborough Waterfront Project
-  Scarborough Bluffs West
-  Shoreline
-  Watercourse
-  TRCA Property

 **Toronto and Region
Conservation
Authority**



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Key Map

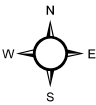


Scarborough Waterfront Project

Refined West Segment Preferred Alternative

Legend

- Risk Line
- Proposed Trail
- - - Proposed Berm Location
- . . . Proposed Interim Groyne Location



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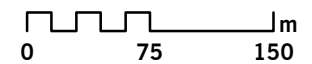
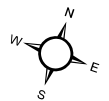


Scarborough Waterfront Project

Proposed Path
along Brimley Road

Legend

- Proposed Trail
- Proposed Retaining Wall



Section III – Items for the Information of the Board

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Michael Tolensky, Chief Financial and Operating Officer

RE: **STANDARDIZED UNIFIED COMMUNICATIONS SYSTEM**
Statement of Interest under the Strategic Business Planning Policy

KEY ISSUE

To provide information to the Board of Directors regarding a planned initiative to implement a standardized unified communications system across Toronto and Region Conservation Authority's (TRCA) office locations, to better serve our stakeholders through improved access to staff, which directly supports TRCA's service standards.

RECOMMENDATION

WHEREAS TRCA staff have assessed the existing telecommunications systems across the organization, identifying ongoing issues in service continuity and complexity;

AND WHEREAS TRCA staff have identified a recommended approach to meeting the needs of the organization through the use of a unified communications solution that resolves these issues;

THEREFORE, IT IS RECOMMENDED THAT the report outlining the details and next steps to securing a unified communications system be received.

BACKGROUND

In accordance with Toronto and Region Conservation Authority's (TRCA) Strategic Business Planning (SBP) Policy, all potential new projects/programs or proposed modifications to existing initiatives must proceed through the SBPP Policy workflow, including reporting to the Board of Directors for informational purposes.

TRCA currently has telecommunication services at 23 office locations. The existing deployment is a non-standardized mixture of vendors and products that have been retrofitted over decades of evolving operations. This has resulted in significant operational difficulties due to end of life equipment, high product variability and system complexity. The variability in systems has provided an inconsistent end-user experience across the organization.

TRCA currently leverages an on-premise Mitel VoIP telecommunications system for voice communication services for a number of these office locations. At the time of purchase in April 2015, this system was the best available service for the needs of the organization, however, technology has evolved, impacting the way that TRCA operates. The existing system has limited integration with some of the more modern productivity solutions as TRCA's digital transformation has shifted toward hosted services driven by the new Head Office which will not have a data centre space. Through TRCA's modernization efforts such as Office 365, Cloud services and a mobile workforce, the Mitel system no longer provides the functionality required for current/future organizational requirements.

RATIONALE

Unified communications is the evolution of the traditional business telephone system, which integrates telecommunications and productivity suite (Office 365) features to provide a unified platform for functionality such as voice calls, instant messaging, video conferencing and extension mobility (ring on desk and cell phone simultaneously).

This project is intended to provide TRCA with a cloud-based unified communications solution that provides efficient and effective business communications to improve customer service excellence, while integrating with the recent modernization of the organization to the Office 365 platform. The objective is to rollout the system in conjunction with the construction of the new Head Office, creating an opportunity to showcase TRCA's modernization journey.

The UC solution improves customer service and relations by unifying service across devices and enable staff to work from anywhere. The solution will provide valuable call analytics and reporting features to help TRCA make informed business decisions. Leveraging a cloud hosted platform ensures continual system enhancements and maintenance resulting in reduced downtime and provides the ability for TRCA to leverage new features and capabilities upon release.

This project will take a holistic view of TRCA's business operations to develop the appropriate communications requirements that support all TRCA's locations, which will reduce existing complexity and increase functionality, reliability and service. As the overarching goal is to enable staff to achieve service excellence and support TRCA's Digital Transformation, this project is closely aligned to TRCA's Strategic Priority to accelerate innovation.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:
Strategy 10 – Accelerate innovation

FINANCIAL DETAILS

Based on a preliminary analysis, it is anticipated that the initial and one-time start-up cost of the new unified communications system would be approximately \$85,000 which includes initiation, planning and execution. It is further estimated that additional annual costs would be approximately \$110,000 for monitoring, licensing, and ongoing support, and maintenance.

A preliminary analysis of the existing IT budget has identified that the current annual telecommunication subscription cost of approximately \$25,000 would be reallocated to the anticipated annual cost of the unified communications system once the existing system is decommissioned. Additional savings of approximately \$35,000 in 2020 can be applied to the one-time capital cost of the new system. This leaves approximately \$50,000 of one-time capital costs, and \$85,000 of the annual monitoring costs to be evaluated and added to the unfunded priorities list.

DETAILS OF WORK TO BE DONE

In accordance with the SBPP Policy, staff will continue to progress through the policy workflow. Once approved, the next steps within the process include a more in-depth market assessment and the establishment of a project funding strategy. Once completed, staff will report back to the Board of Directors on the procurement of the preferred Unified Communications system.

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Report prepared by: Kimberly Krawczyk, extension 5862

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For Information contact: Michael Tolensky, extension 5965

Emails: michael.tolensky@trca.ca

Date: September 25, 2020

Section III – Items for the Information of the Board

TO: Chair and Members of the Board of Directors
Meeting #6/20, Friday, September 25, 2020

FROM: Darryl Gray, Director, Education and Training

RE: **REPORT ON NATURAL RESOURCES CANADA GRANT FOR ELECTRIC
VEHICLE CHARGING STATIONS (PEEL CLIMATE CHANGE PARTNERSHIP)**

KEY ISSUE

To provide an update to Toronto and Region Conservation Authority's (TRCA) Board of Directors regarding the Peel Climate Change Partnership's recently secured funding from Natural Resources Canada (NRCan) for electric vehicle charging stations, in support of the Region of Peel's Zero Emissions Vehicle (ZEV) Strategy.

RECOMMENDATION

WHEREAS at Authority Meeting #4/18, held on May 25, 2018, Resolution #A72/18, TRCA's Board of Directors approved, in principle, the Region of Peel Community Climate Change Partnership Plan;

AND WHEREAS at Board of Directors Meeting #3/20, held on April 24, 2020, Resolution #A33/20, TRCA's Board of Directors endorsed TRCA's continued participation in the Peel Climate Change Partnership ("Partnership") and the Partnership Terms of Reference Update;

AND WHEREAS the Partnership leverages resources and expertise from six Member Organizations - the Region of Peel, Town of Caledon, City of Brampton, City of Mississauga, Toronto and Region Conservation Authority and Credit Valley Conservation - to align and accelerate outcomes from climate change plans and collectively pursue strategic actions for greater results;

AND WHEREAS the Region of Peel, working with the Partnership Technical Implementation Team members, put forward a funding application to Natural Resources Canada's Zero Emission Vehicle Infrastructure Program on September 18, 2019, which was conditionally approved on December 20, 2019;

THEREFORE, LET IT BE RESOLVED THAT the following information report on the funding award by Natural Resources Canada be received.

BACKGROUND

Since 2009, the Member Organizations of the Peel Climate Change Partnership have included the Region of Peel, City of Mississauga, City of Brampton, Town of Caledon, Credit Valley Conservation, and TRCA. Building upon the Region of Peel's Service Strategy Business Plan to address climate change adaptation and mitigation, the Region of Peel, together with the partners above, worked together to develop the Peel Climate Change Partnership ("the Partnership") in 2011. The Partnership built on ongoing and previous plans, policies and actions being undertaken by the six partners, intending to allow the scaling of practices within the region. Through the collaborative efforts of the Partnership, many of the priority actions outlined in the Region of Peel's Service Strategy Business Plan were implemented, including the

Item 9.8

development of a climate trends and futures report, cross sector community climate change vulnerability assessments, and a community greenhouse gas emissions inventory.

In 2017, the Partnership determined that a renewal of its original commitment was required to achieve greater collective impact over the next five years. The purpose of the Partnership is to identify those areas in which strategic collaboration will be most advantageous.

The Partnership recently completed an update of its Terms of Reference to refresh its mandate and purpose, confirm ongoing value to members, review scope of priority work, and increase accountability. The Partnership Terms of Reference review occurred over several months in 2019, as a collective undertaking, and guided by a Working Group of executive leaders across the Partnership. The updated Peel Climate Change Partnership Terms of Reference and Governance Structure were unanimously approved in principle by the Partnership's Steering Committee in December 2019 and received endorsement from the TRCA Board of Directors on April 24, 2020 (Meeting #3/20, Resolution #A33/20). The updated Terms of Reference lay out the three Partnership Strategies that are the focus of the Partnership's work. These include Green Natural Infrastructure, Flood Resiliency and Low Carbon Communities. One of the main outcomes of the Low Carbon Communities Strategy is the development of the Regional Zero Emissions Vehicle (ZEV) Strategy, the development of which is being co-led by Partners in Project Green staff at TRCA.

Global market trends are demonstrating exponential growth in electric vehicle adoption. In 2019, there were over 7 million passenger cars in operation globally, up from 5 million in 2018 (Source: International Energy Agency). Automakers have committed \$300-\$400 billion to make over 200 plug-in vehicle models available worldwide by 2023.

RATIONALE

The Government of Canada has identified that electrification of the transportation sector is key to transitioning to a low-carbon future. Federal targets for zero-emission vehicles (ZEV) are 10% of light-duty vehicles (LDV) sales per year by 2025, 30% by 2030 and 100% by 2040. Through Budget 2019, the Federal Government has announced \$130 million over five years (2019-2024) to deploy a network of zero-emission vehicle charging and refueling stations in more localized areas where Canadians live, work and play. The Federal Government also provides an incentive of up to \$5,000 to purchase an electric vehicle in Canada.

On September 18, 2019, the Region of Peel (working with Partnership Technical Implementation Team members) put forward a funding application to Natural Resources Canada's Zero Emission Vehicle Infrastructure Program (ZEVIP). Working together, Member Organizations were able to surpass ZEVIP's 20-charger minimum eligibility threshold, a feat which could not have been accomplished by any individual organization. The proposal was conditionally accepted (with several minor amendments) on December 20, 2019.

The Region has recently executed funding contribution agreements with NRCan and each Partnership Member Organization to receive and distribute \$207,000 to support the installation of 43 electric vehicle charging stations across 11 Region, municipality, and conservation authority sites by December 31, 2021. Total estimated project costs excluding ZEVIP funding are \$511,000.

Partnership Member Organizations will install EV charging stations in the quantities and at the locations outlined below:

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Partnership Member Organization	Location	Number of Charging Connectors (Level 2)
Region of Peel	7120 Hurontario	2
City of Mississauga	Downtown Sheridan Parking Lot	6
	170 Church St.	6
City of Brampton	Cassie Campbell Recreation Centre	2
	Loafers Lake Recreation Centre	2
	Chinguacousy Wellness Centre	4
	Riverstone Community Centre	4
Town Caledon	New Southfields Community Centre	7
Toronto and Region Conservation Authority	Restoration Services Centre	2
	Boyd Field Centre	2
Credit Valley Conservation	CVC Administrative Office	6

On September 14, 2020, Brampton East MP Maninder Sidhu and other local dignitaries publicly announced the funding award and officially opened seven new electric vehicle charging stations at Southfields Community Centre in Caledon.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 1 – Green the Toronto region’s economy

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 7 – Build partnerships and new business models

Strategy 8 – Gather and share the best sustainability knowledge

Strategy 12 – Facilitate a region-wide approach to sustainability

FINANCIAL DETAILS

The NRCan grant funding of \$207,000 will be distributed by the Region of Peel to each of the Member Organizations through separate Contribution Agreements. The Region of Peel and TRCA executed the Contribution Agreement on May 28, 2020.

The total TRCA project cost is estimated to be \$72,352, with \$20,000 coming from the NRCan funding award and the remainder being borne by TRCA Fleet Services under account code 70008. The majority of the NRCan funding will be provided during FY2021 (\$18,000), with the remainder (\$2,000) being disbursed during FY2022.

The proposed budget and eligible expenditures for TRCA’s work under this funding award are summarized below:

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ELIGIBLE EXPENDITURES	2020-2021	2021-2022	Total
Salaries and benefits	\$10,853	\$1,206	\$12,059
Capital expenses, including informatics and other equipment or infrastructure	\$54,264	\$6,029	\$60,293
Total Eligible Expenditures			\$72,352

DETAILS OF WORK TO BE DONE

The timelines associated with TRCA's planned EV charging station installations are provided in the table below:

Project Identifier	Task 1 – Goods and Services Procurement	Task 2 – Final Design and Permit Acquisition	Task 3 – Construction	Task 4 – Inspection and full operation of the infrastructure	Task 5 – Open to the public, sales activities have begun.
TRCA-1	May 31, 2020	September 30, 2020	December 31, 2020	April 30, 2021	June 30, 2021
TRCA-2	May 31, 2020	September 30, 2020	December 31, 2020	April 30, 2021	June 30, 2021

The Partnership is working on achieving further efficiencies and cost reductions through project implementation. Joint procurement processes are being explored and a prequalified list of EV charging station vendors is being finalized. If successful, this list will be available for use collectively or individually by all Partnership Member Organizations for the next three years and will allow for expedited procurement processes for any future EV Charging Station installations.

In accordance with the terms of the Contribution Agreement, TRCA will provide seven (7) reports between 2020 and 2022; each report will include a financial summary, progress update, and related documentation. Within 20 days of project completion (current estimate: January 15, 2022), TRCA will issue a final financial report and a final technical report.

The Partnership has applied for additional funding as of June 2020 and is awaiting the results of NRCan's review of the proposal, which is planned for Fall 2020.

Report prepared by Jeff Robertson, (416) 894-8454

Emails: jeff.robertson@trca.ca

For Information contact: Jeff Robertson, (416) 894-8454

Emails: jeff.robertson@trca.ca

Date: August 25, 2020

Section III – Items for the Information of the Board

TO: Chair and Members of the Board of Directors
Meeting #06/20, Friday, September 25, 2020

FROM: Sameer Dhalla, Director, Development and Engineering Services

RE: **UPDATE ON APPROVED DELEGATED MAJOR PERMITS**
July and August 2020

KEY ISSUE

TRCA staff are required to report back on any major permits issued through the approved delegated process during the months of July and August 2020.

RECOMMENDATION

IT IS RECOMMENDED THAT the staff report regarding the staff issuance of major delegated permits during the period of July and August 2020, be received.

BACKGROUND

At Board of Directors Meeting #9/19, held on October 25, 2019, Resolution #A184/19 was approved as follows:

THAT the approval of all major development and infrastructure permits within the TRCA's regulatory jurisdiction for the months of December 2019 and July, August and December 2020 be delegated to the Director, Development and Engineering Services;

THAT staff provide a report to the Board of Directors at the September and January meetings to summarize permits that were approved under this delegation of authority.

RATIONALE

During the months of July and August 2020, staff issued no major development permits and one major infrastructure permit within TRCA's regulatory jurisdiction, as follows:

1. A five-year major permit was issued to the Regional Municipality of Peel for the construction of a 2,400 mm diameter trunk sanitary sewer from the northeast corner of Dixie Road and Bramalea Road westerly along Derry Road into Credit Valley Conservation's (CVC) jurisdiction. Work within TRCA's jurisdiction has been divided into two separate permit applications. As part of the Region of Peel's phased work plan for the ultimate construction of this new east-west diversion trunk sewer, the approved application (CFN 60046) includes the construction of the trunk sewer from the northeast corner of Dixie Road and Derry Road, westerly along Derry Road to just west of Highway 410. Work will also involve the construction of a temporary fill pad at the northeast corner of Dixie Road and Derry Road which will be used for construction purposes. Once construction has been completed a portion of the fill will be removed and the site converted to a permanent maintenance access site.

As required, the Clerk provided a copy of the attached permit report to Executive Committee members for a review period of one week. No comments were received from members. Permit C-200732 was issued on August 31, 2020.

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Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 7 – Build partnerships and new business models

FINANCIAL DETAILS

Funding for the review of Peel Region permit applications is made available through a service level agreement within the TRCA-Peel Region Capital Funding program.

DETAILS OF WORK TO BE DONE

N/A

Report prepared by: Beth Williston, extension 5217

Emails: beth.williston@trca.ca

For Information contact: Beth Williston, extension 5217

Emails: beth.williston@trca.ca

Date: August 31, 2020

Attachments: 1

Attachment 1: Regional Municipality of Peel Permit Report

REGIONAL MUNICIPALITY OF PEEL

To construct, reconstruct, erect or place a building or structure, site grade and temporarily or permanently place, dump or remove any material, originating on the site or elsewhere from approximately Dixie Road and Derry Road to just west of Highway 410 in the City of Mississauga, Etobicoke Creek Watershed, as located on property owned by the City of Mississauga from whom the Regional Municipality of Peel is securing temporary and permanent easements.

The purpose is to construct a 2,400 mm diameter trunk sanitary sewer from the northeast corner of Dixie Road and Bramalea Road westerly along Derry Road into Credit Valley Conservation's (CVC) jurisdiction. Work within TRCA's jurisdiction has been divided into 2 separate permit applications. As part of the Region of Peel's phased work plan for the ultimate construction of this new east-west diversion trunk sewer, this application (CFN 60046) includes the construction of the trunk sewer from the northeast corner of Dixie Road and Derry Road, westerly along Derry Road to just west of Highway 410. Work will also involve the construction of a temporary fill pad at the northeast corner of Dixie Road and Derry Road which will be used for construction purposes. Once construction has been completed a portion of the fill will be removed and the site converted to a permanent maintenance access site.

MAP LOCATION: East-West Diversion Sewer (Starting at Dixie Road and Derry Road)



The permit will be issued for the period of September 11, 2020 to September 10, 2025 in accordance with the following documents and plans which form part of this permit:

- **Plan 69789-D - East to West Diversion Sanitary Trunk Sewer, Contract 1, Abbreviations, Legend, and General Notes; prepared by Jacobs; dated January 2020; received July 13, 2020; Plan 69790-D - East to West Diversion Sanitary Trunk Sewer, Contract 1, General Notes and Structure Coordinates; prepared by Jacobs; dated January 2020; received July 13, 2020; red line revised August 21, 2020; Plan 69806-D - Derry Road From Mavis Road to Dixie Road, Prop. 2400mm Sanitary Sewer, STA 7+780 to STA 8+060; prepared by Jacobs; dated June 2020; received August 18, 2020; Plan 69807-D - Derry Road From Mavis Road to Dixie Road, Prop. 2400mm Sanitary Sewer,**

STA 8+060 to STA 8+300; prepared by Jacobs; dated January 2020; received July 13, 2020;
 Plan 69809-D - Derry Road From Mavis Road to Dixie Road, Prop. 2400mm Sanitary Sewer,
 STA 8+480 to STA 8+760; prepared by Jacobs; dated January 2020; received July 13, 2020;
 Plan 69810-D - Derry Road From Mavis Road to Dixie Road, Prop. 2400mm Sanitary Sewer,
 STA 8+760 to STA 9+040; prepared by Jacobs; dated January 2020; received July 13, 2020;
 Plan 69811-D - Derry Road From Mavis Road to Dixie Road, Prop. 2400mm Sanitary Sewer,
 STA 9+040 to STA 9+320; prepared by Jacobs; dated January 2020; received July 13, 2020;
 Plan 69812-D - Derry Road From Mavis Road to Dixie Road, Prop. 2400mm Sanitary Sewer,
 STA 9+320 to STA 9+600; prepared by Jacobs; dated January 2020; received July 13, 2020;
 Plan 69815-D - Derry Road From Mavis Road to Dixie Road, Prop. 2400mm Sanitary Sewer,
 STA 10+160 to STA 10+440; prepared by Jacobs; dated January 2020; received July 13, 2020;
 Plan 69816-D - Derry Road From Mavis Road to Dixie Road, Prop. 2400mm Sanitary Sewer,
 STA 10+440 to STA 10+660; prepared by Jacobs; dated January 2020; received July 13, 2020;
 Plan 69820-D2 - East to West Diversion Sanitary Trunk Sewer, Contract 1, Site No. 2, Staging &
 Work Sequence Plan; prepared by Jacobs; dated June 2020; received July 13, 2020;
 Plan 69817-D - East to West Diversion Sanitary Trunk Sewer, Contract 1, Site No. 2, Existing
 Site Plan and Tree Removals; prepared by Jacobs; dated June 2020; received July 13, 2020;
 Plan 69818-D - East to West Diversion Sanitary Trunk Sewer, Contract 1, Site No. 2, Site
 Preparation Plan; prepared by Jacobs; dated June 2020; received July 13, 2020;
 Plan 69819-D - East to West Diversion Sanitary Trunk Sewer, Contract 1, Site No. 2, Reduced
 Site Laydown Plan; prepared by Jacobs; dated January 2020; received July 13, 2020;
 Plan 69820-D - East to West Diversion Sanitary Trunk Sewer, Contract 1, Site No. 2, Site
 Restoration Plan; prepared by Jacobs; dated June 2020; received July 13, 2020;
 Plan 69831-D - East to West Diversion Sanitary Trunk Sewer, Contract 1, Grading Sections,
 Site 2 & Site 3; prepared by Jacobs; dated June 2020; received July 13, 2020;
 Plan 69833-D - East to West Diversion Sanitary Trunk Sewer, Contract 1, Restoration Details;
 prepared by Jacobs; dated January 2020; received July 13, 2020;
 Plan 69834-D - East to West Diversion Sanitary Trunk Sewer, Contract 1, Miscellaneous
 Details; prepared by Jacobs; dated January 2020; received July 13, 2020.

RATIONALE

The application was reviewed by staff on the basis of the following information:

Proposal:

The Region of Peel will be constructing a new 2,400 mm diameter gravity trunk sanitary sewer for approximately 11 km along Derry Road from Spring Creek (Derry Road and Bramalea Road), ending at the Credit River in Credit Valley Conservation's (CVC) jurisdiction. Wastewater is now generally conveyed by gravity from north to south through the Region's lake-based wastewater system which services the City of Mississauga, City of Brampton and parts of the Town of Caledon. The Peel wastewater system comprises two principal trunk systems: the west trunk system which conveys flow along and near the Credit Valley to the Clarkson Wastewater Treatment Plant (WWTP) and the east trunk which conveys flow along and near the Etobicoke Creek Valley to the G.E. Booth WWTP. Based on capacity needs to service flows to the year 2041 and beyond, and in order to optimize the infrastructure upgrades and timing of upgrades for the east and west trunk sewers, including the wastewater treatment facilities, this east to west diversion is required. This diversion will also leverage the upgraded capacity of the west system. The majority of the sewer will be constructed using a tunnel boring machine at depths ranging from approximately 5 m at the tie-in point (Spring Creek) to approximately 50 m within CVC's jurisdiction. These depths are based on the need for a gravity fed system and required upstream and downstream connection points for the wastewater system.

Work within TRCA's jurisdiction has been divided into two phases. This first phase will involve the construction of the trunk sewer from the northeast corner of Dixie Road and Derry Road to just west of Highway 410. Construction within this phase of work will involve one crossing of Etobicoke Creek and several other minor crossings through TRCA regulated areas located both east and west of Highway 410. Two shafts will be constructed as part of this work which will allow for the launch and retrieval of the tunnel boring machine, as well as for future access to the trunk sewer through maintenance holes. However, only one shaft (shaft 2) is located within a TRCA regulated area adjacent to Etobicoke Creek (Dixie Road and Derry Road). The receiving shaft located west of Highway 410 (shaft 3) is located in a non-regulated area on the north side of Derry Road. It is expected that the sanitary sewer will be tunneled at over 30 m in depth when crossing through the regulated areas closest to Highway 410, however, at Etobicoke Creek the sewer will be constructed approximately 10 m below the watercourse. The drilling length between shaft 2 and shaft 3 is approximately 2.8 km.

A sanitary sewer connection is required at Etobicoke Creek because the east to west diversion sewer will need to connect to the north-south twin 1,050 mm diameter trunk sewers that currently exist along the watercourse. As a result, a level working site (temporary asphalt surface) will be constructed on the east side of Etobicoke Creek, within the flood plain, to facilitate tunnel construction, construction of a drop chamber, access chamber and associated diversion chambers and sewers. Since the north-south trunk sewers at this location are separate, the proposed connection involves breaking into each pipe separately, constructing manholes at each pipe, connecting to a common manhole and installing a connection to the diversion sewer. The temporary site will be graded to above the 100-year storm flood line for added protection to the infrastructure.

A perimeter swale will treat surface runoff from the temporary work site and will direct runoff from the site to sediment traps. The existing ditch along Derry Road will be temporarily carried through a drain pipe. The ditch will be reinstated and restored once construction has been completed and the site re-graded to the proposed permanent elevation. Water from the shaft locations will be discharged to the existing sanitary sewer system.

The temporary asphalt surface will need to be in place for several years as shaft 2 will be required for the construction of the eastern portion of the sewer from Dixie Road to Bramalea Road (to be reviewed under a separate permit application). Upon completion of construction some of the fill established for the working area will be removed, however, the permanent chambers and access road will have a finished ground elevation to the 100-year storm event. Restoration of this site is expected to commence in the year 2024, once work has been completed and the temporary construction pad is no longer required. As such, this permit will be issued as a 5 year permit.

These works were reviewed through the Municipal Class Environmental Assessment process (Schedule C).

Control of Flooding:

Fill is required to facilitate the construction of the diversion sewer on the northeast corner of Derry Road and Dixie Road. The expected net volume of temporary fill at Derry Road and Dixie Road during construction is expected to be 5,735 cubic metres. Once construction has been completed, 3,517 cubic metres of fill will be removed from the site leaving 2,218 cubic metres which will be used to keep the site/infrastructure above the 100-year flood elevation and to accommodate access for future infrastructure maintenance. The temporary fill condition will raise the Regional Flood elevation by 0.05 m and the permanent fill will raise the Regional Flood

elevation by 0.04 m, both of which are within our error of model tolerance. As such, there will be no significant increase to flood elevations within the area as a result of this fill placement. Velocities at this site are also not expected to produce any adverse impacts to the adjacent Etobicoke Creek for the 2 to 5 year storm events. According to the modeling, under existing conditions the subject watercourse sections located upstream and downstream of the project site experience velocities of 2.28 m/s and 1.86 m/s under the 100-year storm flow, respectively. Under the proposed condition, the velocity of the flow within the subject watercourse near the project site increases to 1.35 m/s which is within the range of naturally occurring velocities immediately upstream and downstream of the project site. As a result, this increase in velocity is not expected to have a significant impact on the channel stability.

Pollution:

Standard erosion and sediment control measures including sediment traps, catchbasin covers and silt fencing will be implemented prior to construction and maintained for the duration of construction.

Dynamic Beaches:

Not applicable

Erosion:

No geotechnical/slope stability issues are anticipated for the proposal.

Conservation of Land:

To protect local fish populations during their spawning, nursery and migratory periods, the Region of Peel should ensure that in-water/near-water activities occur within the applicable timing window. The Region of Peel should confirm timing window application and dates directly with the appropriate Provincial and Federal agencies.

Plantings

Restoration of the site will include removal of the temporary asphalt surface and granular base, re-grading the site, topsoil and seeding. Six (6) trees will be removed for this work. Eight (8) coniferous trees, 13 deciduous trees and 69 shrubs will be planted on the site once construction has been completed.

Policy Guidelines:

This proposal complies with Section 8.9 Infrastructure Policies of The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority.

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