

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

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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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Attachments: 1

Attachment 1: Highland Creek Watershed Greening Strategy