

GERMAN MILLS CREEK GEOMORPHIC SYSTEMS MASTER PLAN RECORD OF CONSULTATION APPENDIX G

Prepared for: CITY OF TORONTO

Prepared by: MATRIX SOLUTIONS INC., A MONTROSE ENVIRONMENTAL COMPANY

Version 1.0 December 2024 Mississauga, Ontario

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APPENDIX G1 Notice of Commencement

M Toronto

September 2022

German Mills Creek Geomorphic Systems Master Plan

The City of Toronto has initiated a study to identify sewer and watermain infrastructure located within both German Mills Creek that is at risk of erosion from high flows due to storms and snow melt runoff. The study will evaluate and recommend solutions to reduce these erosion risks through an assessment of the creek's geomorphology (stream processes).

The geomorphology of a creek examines how natural and human factors have shaped its form and function over time. For example, how erosion can affect the path a creek follows (form) and the aquatic and terrestrial habitats the stream supports (function).

Study Area

The study area covers the two km length of German Mills Creek from Steeles Avenue East to where it meets the East Don River.



Study Details

The study will focus on:

- Identifying sewers, watermains and outfalls located within the creek that are at risk from erosion caused by flows from storms and snow melt runoff.
- Developing, evaluating and recommending solutions to reduce erosion impacts on the infrastructure, while improving aquatic and terrestrial habitats.

The study will not examine trail conditions or recommend improvements to trails, forestry or ravine amenities. The City may undertake separate efforts in the future to address these features.

toronto.ca/germanmills

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Exposed Sewer Manhole



Sewer Crossing

Process

This study is being undertaken as a Master Plan which is a long-range plan that examines the needs within a geographic area and provides a framework and vision to implement recommended improvements. The study will follow the Municipal Class Environmental Assessment study process, an approved planning process under the Ontario Environmental Assessment Act, which includes providing opportunities for public input.



Next Steps

- Develop and evaluate alternative solutions for each at-risk infrastructure location
- Share recommended solutions for feedback before completing the study

More Information

Tracy Manolakakis Manager, Public Consultation Unit Metro Hall, 19th Floor, 55 John Street Toronto, ON M5V 3C6 Email: germanmills@toronto.ca Tel: 416-392-2990

* Information will be collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

如果需要普通话协助,请拨 311 如果需要廣東話協助,請致電 311

toronto.ca/germanmills

APPENDIX G2 Public Information Centre



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August 1, 2023

German Mills Creek Geomorphic Systems Master Plan

The City of Toronto has initiated a study to identify sewer and watermain infrastructure within German Mills Creek that are at risk of erosion from high flows due to storms and snow melt.

This study looks at how the City's storm sewer and watermain infrastructure can be protected within the creek using recommended solutions to help reduce or prevent future impact. This will ensure the City's infrastructure continues to operate and service residents and businesses. The solutions will be part of a Master Plan for the creek that is implemented over a multi-year period.

The public is invited to learn more about the study, ask questions and provide feedback on potential impacts of the recommended solutions.



Study Area

The study area is the two-kilometer length of German Mills Creek from Steeles Avenue East to where it meets the East Don River in the west.

Learn More	Attend a site walk	Provide Feedback
View project information on the website and provide feedback toronto.ca/germanmills	Visit the study area with the project team to discuss the study recommendations and ask questions Friday August 18, 2023 (rain or shine) Drop in 9:00 a.m. – 11:00 a.m. Site walk at 9:00 a.m.	Complete an online survey or request a printed copy. Submit comments by email, mail or phone. Comment deadline: Friday September 1, 2023
Meet at the trail	entrance south of Steeles Avenue on the west sid	e of Leslie Street.
This location is wheelchair/mobility device accessible. If you have a specific accessibility need or require accommodation, please contact us in advance.		

Paid parking is available at the Canadian Memorial Chiropractic College at 6100 Leslie Street.

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Study Details

The geomorphology of a creek examines how natural and human factors have shaped its form and function over time. Erosion can affect the path a creek follows (form) and the aquatic and terrestrial habitats the stream supports (function). Erosion results in gradual changes to the form and function of the creek and creek bed. Significant changes to water levels during storms have contributed to increased erosion, which poses risks to the City's sewer and watermain infrastructure.

Impacts from erosion can be corrected and further prevented through natural channel design by reconstructing the bed and bank of a stream with natural rock and/or vegetation which allows for a new stable path for the creek. The following alternative solutions for natural channel design were evaluated for infrastructure at risk of erosion throughout the study area:

Alternative 1: Do nothing, no improvements

Alternative 2: Improvements through local works less than 200 metres

Alternative 3: Improvements through local works less that 200 metres and floodplain connections Alternative 4: Improvements in a segment of the creek greater than 200 metres

Based on a risk assessment and evaluation, eleven recommended projects have been identified to address erosion impacting infrastructure by stabilizing the creek bed and banks of German Mills Creek. Six projects are recommended for local works less than 200 metres. Five projects are recommended for local works less than 200 metres. Five projects are recommended for local works less than 200 metres.

Future implementation of the recommended natural channel design projects requires:

- Tree removal, to be followed by restoration and replanting with native trees and shrubs
- Possible realignment of the pedestrian bridge located 500 metres west of Leslie Street

Temporary construction impacts will be communicated prior to construction.

The final design of each recommended project will be developed during a detailed design stage, following the approval of the Master Plan and prioritization of projects.

Process

The study is following the Municipal Class Environmental Assessment study process for Master Plans, which is an approved planning process under the Ontario Environmental Assessment Act and includes opportunities for public input.



Next Steps

A Master Plan report will be filed with the provincial Ministry of Environment Conservation and Parks and be made public for a 30-day review period.

More Information

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German Mills Creek Geomorphic Systems Master Plan

Municipal Class Environmental Assessment Notice of Study Commencement

Study Overview

The City of Toronto has initiated a Municipal Class Environmental Assessment (EA) study to identify sewer and watermain infrastructure located within German Mills Creek that is at risk of erosion from high flows due to storms and snow melt runoff. The study will evaluate and recommend solutions to reduce these erosion risks through an assessment of the creek's geomorphology (stream processes). The study area covers the two km length of German Mills Creek from Steeles Avenue East to where it meets the East Don River.

The Process

This study is being undertaken as a Master Plan which is a long-range plan that examines the needs within a geographic area and provides a framework and vision to implement recommended improvements. The study will follow the Municipal Class Environmental Assessment study process, an approved planning process under the Ontario Environmental Assessment Act, which includes providing opportunities for public input. Public consultation activities are expected to take place in late 2022. Details on how to participate will be posted at toronto.ca/germanmills

We want to hear from you:

Visit the project website for more information or contact us if you want to be placed on our mailing list for updates.

Tracy Manolakakis Manager, Public Consultation Unit Metro Hall, 55 John Street 19th Floor, Toronto ON M5V 3C6



Tel: 416-392-2990 Email: germanmills@toronto.ca Visit: toronto.ca/germanmills

Issue Date: August 2022

Information will be collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record





German Mills Creek Geomorphic Systems Master Plan Environmental Assessment

Public Consultation: August 2023



German Mills Creek Geomorphic Systems Master Plan

In 2021 the City of Toronto initiated the German Mills Creek Geomorphic Systems Master Plan (GSMP) Environmental Assessment (EA), as one of five ongoing GSMPs across the City to identify and assess water and stormwater infrastructure in German Mills that is at risk of erosion from high flows due to storms and snow melt runoff.

Study Purpose:

- To identify concerns related to erosion that may damage the City's water and stormwater infrastructure
- To develop solutions that protect the City's water and stormwater infrastructure from excessive erosion processes within the stream
- To improve stream functions, such as increasing stream bank stability, reducing erosion, enhancing stormwater conveyance, and improving habitats



The City's sewer and water infrastructure in and alongside streams include:

- Watermains to supply drinking water to homes and businesses
- **Storm sewers** to collect rain and snow-melt from streets and properties and discharge it into streams (via outfalls)
- Sanitary sewers to collect and transport sewage from homes and businesses for treatment

This study is not focused on trails, trail access, trees, invasive species or other park features.

Study Process

This study is being undertaken as a Master Plan which is a long-range plan that examines the needs within a geographic area and provides a framework and vision for recommended improvements. The study will follow the Municipal Class Environmental Assessment study process, an approved planning process under the Ontario Environmental Assessment Act, which includes providing opportunities for public input.



After the study completion the City will:

• Prioritise projects from all five ongoing GSMPs based on a city-wide approach for creek and river restoration and erosion control work



Study Area

The study area is the two-kilometer length of German Mills Creek from Steeles Avenue East to where it meets the East Don River in the west.

Focused Study Area Watercourse

- --- Railway
- ---- Watermain
- ---- Storm Sewer
- Sanitary Sewer
- Stormwater Outfall
- Storm Sewer Maintenance Hole
- Sanitary Sewer Maintenance Hole





Level of Erosion Risk

The level of risk caused by erosion was based on a technical assessment characterizing risk probability (time to exposure), existing bank protection, and risk severity should damage occur.

Very Low – Low-risk Sites

- Infrastructure and site conditions are stable
- Limited monitoring is required

Medium-risk Sites

- Infrastructure and site conditions are relatively stable
- Limited/some monitoring may be required

High-risk Sites

- Infrastructure is not exposed but is expected within 5 years
- Regular monitoring may be required

Imminent-risk Sites

- Infrastructure is exposed and at risk of failure; requires immediate attention
- Regular monitoring and improvements to the infrastructure are required





Priority Sites Based on Risk

The study area includes 56 City of Toronto water, stormwater and sanitary sewer infrastructure sites.

Level of risk was assessed for 43 water and stormwater sites.

Based on the risk assessment, 11 priority project sites were identified for further evaluation as part of the study.





Bank:	The sides of the creek, also part of the floodplain
Channel:	The water in the creek / river / stream
Confluence:	Where 2 or more watercourses meet
Erosion:	Gradual changes to the form (path a creek follows) and function (aquatic and terrestrial habitats the stream supports) of the creek and creek bed due to increased water flow and storms
Floodplain:	The area surrounding the channel which holds increased water flow when the width of the creek expands seasonally or due to storms and snowmelt
Substrate:	The material on bottom of the bed of the creek

Cross-section of stream channel and floodplain





Risk Assessment: Priority Site 1

Sanitary sewer maintenance hole and lateral sewer connection	
Descriptions of conditions	 Exposed maintenance hole and pipe Other 2 pipes 1.2 m and 0.16 m depth of cover remaining At an actively eroding large meander
Risk level	Imminent
Per Saddletree One	PS Avenue East how one east



Sanitary sewer maintenance hole		
Descriptions of conditions	 1 maintenance hole fully exposed 1.3 m depth of cover remaining at sewer crossing Severe and ongoing bank erosion occurring 	
Risk level	Imminent	
Per Saddletree Orie	es Avenue East uno sinue de la contractione de la	



Sanitary sewer maintenance hole	
Descriptions of conditions	 0.92 m and 1.54 m depth over nearby pipe crossings 1 maintenance hole is fully exposed Severe and ongoing bank erosion
Risk level	Imminent
Per Alintwood Drive	Avenue East under the fast under the set under the set unde



Sanitary sewer adjacent to pathway	
Descriptions of conditions	 Sewer within 1 m from edge of creek Sewer runs parallel to pathway and creek Vertical banks against sewer in several locations
Risk level	High
o o d Bruce	Farm Drive Belind Bank



Sanitary sewer adjacent to pathway	
Descriptions of conditions	 Sewer within 1 m from edge of creek Sewer runs parallel to pathway and creek Bank is actively eroding and near confluence with Bestview Tributary
Risk level	High
o o o o o o o o o o o o o o o o o o o	Farm Drive Provide Pro



Sanitary sewer adjacent to pathway and railway	
Descriptions of conditions	 Sewer within 1 m from edge of creek Existing erosion protection moderately stable
Risk level	High
Bouldehard	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6



Sanitary sewer pipe crossing	
Descriptions of conditions	 0.37 m depth of cover over existing pipe Channel substrate is mainly sand so more susceptible to erosion
Risk level	Medium
o o o o o o o o o o o o o o o o o o o	Farm Drive Person



Sanitary sewer pipe crossing	
Descriptions of conditions	 0.48 m depth of cover over existing pipe Channel substrate is cobble and gravel so less susceptible to erosion
Risk level	Medium
Bruce	Farm Drive Provide Andread Contract of the Constant of the Con



Sanitary sewer pipe crossing	
Descriptions of conditions	 1.2 m depth of cover over existing pipe Grade control structures (rocky ribs) to reduce channel velocities
Risk level	Medium
O O O Bruce	Farm Drive



Risk Assessment: Priority Site 10





Sanitary sewer maintenance hole	
Descriptions of conditions	 Maintenance hole well protected behind armourstone blocks No sign of active erosion but maintenance hole is within 4 m of creek
Risk level	Low
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Naintenance Hole



Alternative Solutions for Natural Channel Design

Alternative 1: Do Nothing

• No improvements

Alternative 2: Improvements through local works less than 200 metres

- Bed and bank work in the stream and floodplain
- Project site less than 200 metres
- No work between project sites

Alternative 3: Improvements through local works less that 200 metres and floodplain connections

- Bed and bank work in the stream and floodplain
- Floodplain will be widened to increase capacity for creek flow, reducing water velocities and erosion
- Project site less than 200 metres
- Where there are gaps between project sites, there is only floodplain work and no work in the creek

Alternative 4: Improvements in a segment of the creek greater than 200 metres

- Bed and bank work in the stream and floodplain
- Larger project sites greater than 200 metres
- Bed, bank, and floodplain works are continuous between project sites



Alternative Solutions for Natural Channel Design continued



Alternative 2 – Project A and B separated

Alternative 3 – Project A and B connected through works in the floodplain



Example of Alternative 2

Improvements through local works less than 200 metres





Example Alternative 4, Greater than 200 m

Improvements through local greater than 200 metres



Section of creek realigned

Highland Creek - Scarborough After construction 2

Evaluation Criteria

The following 5 categories of criteria are used to evaluate alternative solutions

Physical & Natural Environment

Improves stability of stream and valley walls, flood conveyance, groundwater quality, vegetation, aquatic and terrestrial habitats including habitat for at-risk species, and minimised tree removals

Economic Considerations

Evaluate total capital costs against recurring costs for maximum improvements and outcomes over a span of 30 years

Infrastructure Risk

Addresses erosion and risk to City's water and sewer infrastructure



Social & Cultural Environments

Protects built and cultural heritage as we as landscape and archaeological resources, long term benefits for the community, minimum or short term negative impacts, and consideration for impacts on private property

Technical & Engineering Considerations

Evaluate regulatory agency standards, availability of staff and technical resources, maximum improvement for ecosystem and infrastructure



Recommended Solutions: Imminent-risk Sites

Project were developed based on the priority risk sites. Each project will address the priority risk site along with nearby infrastructure

Project No.	Recommended Solution	Evaluation Detail
1	Local work and floodplain connection Possible realignment of the pedestrian bridge located 500 metres west of Leslie Street to allow the stream a natural course	 Recommended solution: Addresses erosion risk within existing footprint without major corridor realignment and grading Floodplain connection not as essential in these areas as it is generally well connected Future implementation of the recommended natural channel design projects requires tree removal, to be followed by restoration and replanting with native trees and shrubs.
2	Local work and floodplain connection	Same as Project No. 1 above
3	Local work and floodplain connection	Same as Project No. 1 above




Preferred Solutions: High-risk Sites

Project No.	Recommended Solution	Evaluation Detail
4, 5, 6, and 7	Local work less than 200 m	 Recommended solution: Addresses erosion risk within existing footprint without major corridor realignment and grading Floodplain connection not as essential in these areas as it is generally well connected Erosion issues are less severe in these locations Future implementation of the recommended natural channel design projects requires tree removal, to be followed by restoration and replanting with native trees and shrubs.





Preferred Solutions: Medium- and Low-risk Sites

Project No.	Recommended Solution	Evaluation Detail
8	Local works less than 200 metres and floodplain connections	 Projects in close proximity to each other – addresses multiple erosion risks to infrastructure at once within one construction period as well as provides efficiencies in design costs
		 Balances in-stream erosion reduction and tree removals
		Future implementation of the recommended natural channel design projects requires tree removal, to be followed by restoration and replanting with native trees and shrubs
9	Local works less than 200 metres and floodplain connections	Same as Project No. 8 above





Preferred Solution: Medium- and Low-risk Sites continued

Project No.	Recommended Solution	Evaluation Detail
10	Local works less than 200 metres	Low erosion risk, therefore local works minimize cost and impacts to surrounding infrastructure
		Future implementation of the recommended natural channel design projects requires tree removal, to be followed by restoration and replanting with native trees and shrubs
11	Local works less than 200 metres	Same as Project No. 10 above





Impacts of Creek Restoration and Erosion Control Restoration Works

Future implementation of the recommended natural channel design projects requires:

- Tree and vegetation removal to be replaced with healthy native species, to be further analyzed during detailed design
- Potential pedestrian bridge realignment to allow the stream to have a natural course and avoid future erosion

Construction Impacts

- Residents will be notified prior to any construction
- A restoration plan will be developed prior to construction



Next Steps in Study Process

The study is following the Municipal Class Environmental Assessment study process for Master Plans, which is an approved planning process under the Ontario Environmental Assessment Act and includes opportunities for public input.



Once a GSMP is approved, recommended solutions will be included in the City's Stream Restoration and Erosion Control Program which will prioritize and allocate budget for detail engineering design and construction.

Residents will be notified prior to any construction occurring.



Public Consultation



Public Consultation – Activities

Learn More	Attend a site walk	Provide Feedback
View project information on the website and provide feedback toronto.ca/germanmills	Visit the study area with the project team to discuss the study recommendations and ask questions	Complete an online survey or request a printed copy. Submit comments by email, mail or phone.
	Friday August 18, 2023 (rain or shine) Drop in 9:00 a.m. – 11:00 a.m. Site walk at 9:00 a.m.	Comment deadline: Friday September 1, 2023

Meet at the trail entrance south of Steeles Avenue on the west side of Leslie Street.

This location is wheelchair/mobility device accessible. If you have a specific accessibility need or require accommodation, please contact us in advance.

Paid parking is available at the Canadian Memorial Chiropractic College at 6100 Leslie Street.



Staff Contacts

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Public Consultation Unit

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Photo Sources: Top – Humber River after large storm (Toronto and Region Conservation Authority TRCA) Bottom – Burke Brook armourstone wall (City of Toronto)

Fluvial Geomorphology is the study of streams. Streams are studied by:

- Form: width, depth, length, slope
- Function: movement of water and sediment
- How form and function are interrelated and how they change over time



Photo Sources: Rod Anderton (Yellow Creek)

Water and stormwater infrastructure in Toronto works with our streams, rivers, lakes and watersheds.

High flows from past storms have caused erosion damage to sewers and watermains located in and near the City's ravines and watercourses resulting in a need to protect water and sewer infrastructure from further excessive erosion.

Understanding streams helps us to develop solutions to:

- Changing conditions, such as the excessive erosion of water and sewer infrastructure
- Work with the changes in the stream
- Enhance stream functions and habitats in the longterm



- Streams are **dynamic** and follow natural processes of erosion and laying sediment until a stable form is developed and maintained
- **Stressors** can destabilize the stream over the short or long-term causing changes in its shape, location and overall size. These stressors include:



Historical Land Use and Land Management Changes,

where watershed land use and land management has been altered resulting in the obstruction of infiltration and absorption of rain and snow melt into the ground



Climate change, increases the frequency and intensity of precipitation events, including large storms, which increases the flow in streams

Historical floodplain encroachment and built

controls, or adjustments, alter a stream's form in ways that counter-act natural processes, such as channelization, culverts and walls.



Photo Sources: Rod Anderton (Duncan Creek)



How streams respond to stressors

Higher flows enter the stream

The speed and volume of water within the stream increases



Photo Sources: Rod Anderton (Berry Creek)

The stream adjusts and accommodates the higher flows

Excessive erosion "moves" the stream closer to the City's water and sewer infrastructure



Example of High Flows



The photo on the left shows dry weather conditions in Yellow Creek near Yonge Street and St Clair Avenue. The photo below is in the same location with high flows on November 27, 2020, a few hours after a storm.



Photo source: Rod Anderton (left) John Bossons (right)



Common characteristics of natural streams include:

- Stream either meanders and curves, or is a steppool system
- Stream has varying depths
- Diverse stream features and habitats:
 - Boulders, shallow riffles, fish spawning zones, deep pools and point bars
- Trees and vegetation provide:
 - o Stream bank stability
 - Aquatic habitat
 - \circ Cover for fish from predators
 - Shade to cool/reduce over-heating of the stream's water temperature
- This study focuses on protecting water and sewer infrastructure using solutions that incorporate natural stream characteristics as much as possible



Glossary

Bank:	The sides of the stream, also part of the floodplain
Channel:	The water in the stream / creek / river / watercourse
Confluence:	Where two or more streams meet
Erosion:	The movement of soil or rock by wind, water, or other natural processes
Floodplain:	The area surrounding the stream channel which holds increased water flow when the width
	of the stream expands seasonally with spring snowmelt or due to storms
Geomorphology:	The study of the characteristics and history of landforms
Substrate:	The material on the stream bottom / bed

Cross-section of stream channel and floodplain





How we develop a plan to work with a stream's geomorphology

Identify problems and causes

Identify historical context and existing stream conditions

- To determine how they influence the stream's current and future conditions
- Identify other ecological aspects such as habitats within a stream and along the banks as these are indicators of stability or instability

Collect information and evaluate existing and future conditions

Evaluate changes in the stream's form and function as a response to stressors

- Evaluate how, and at what rate, a stream's form and function changes
- Evaluate how this is impacting water and sewer infrastructure

Develop Solutions

Develop and design an improved stream form that will:

- Protect water and sewer infrastructure
- Improve stream function, such as increasing stream bank stability, reducing excessive erosion and improving aquatic habitats



Methods of infrastructure protection

Infrastructure protection and stream restoration work can be constructed within the existing stream "footprint" over various stream segments/lengths to protect water and sewer infrastructure.





Photo of an armourstone bank and vegetated stone treatment at the water's edge along the stream bank of Burke Brook.

Methods of infrastructure protection

Realignment of the stream away from water and sewer infrastructure.





Methods of infrastructure protection

Move Water & Sewer Infrastructure



Where possible, new water or sewer infrastructure is constructed in a new location further from the stream in the ravine/valley. The original infrastructure is removed or abandoned in place, which is typically less disruptive and less costly than removal.



Geomorphic Systems Master Plans (GSMPs)

There are numerous ongoing GSMPs across the City in streams to identify and assess water and sewer infrastructure at risk of excessive erosion from high flows due to storms and snow melt runoff.

GSMPs are initiated with a study to observe how the City's water and sewer infrastructure can be protected within the stream along with an evaluation of recommended solutions to help reduce or prevent future impact. This ensures the City's infrastructure continues to operate and service residents and businesses. Solutions from the GSMPs for each stream will be implemented over a multi-year period.

Purpose of a GSMP study:

- To identify concerns related to excessive erosion that may damage the City's water and sewer infrastructure located in streams
- To develop solutions that protect the City's water and sewer infrastructure from excessive erosion processes within the stream
- To improve stream functions, such as increasing stream bank stability, reducing excessive erosion and improving habitats



Public Event Summary



Date: Friday, August 18, 2023 Event Type: In-Person Start time: 9:00 a.m. End Time: 11:00 a.m. Location: Site walk in German Mills Creek Total Participants: 45

Project Overview:

The City of Toronto has initiated a study to identify sewer and watermain infrastructure within German Mills Creek that is at risk of erosion from high flows due to storms and snow melt.

This study looks at how the City's sewer and watermain infrastructure can be protected within the creek using recommended solutions to help reduce or prevent future impact. This will ensure the City's infrastructure continues to operate and service residents and businesses. The solutions will be part of a Geomorphic Systems Master Plan (GSMP) for the creek that is implemented over a multi-year period.

Event Objectives:

The public is invited to learn more about the study, ask questions and provide feedback on potential impacts of the recommended solutions.

Event Overview:

The meeting was hosted by the Public Consultation Unit facilitated by Aadila Valiallah, Senior Coordinator of the Public Consultation Unit. Devin Coone, Senior Project Manager, Engineering & Construction Services presented an overview of the study and led the group on a walk to view 2 Toronto Water infrastructure sites at risk of erosion. Participants were able to ask questions and interact with several members of City staff from Engineering and Construction Services as well as Toronto Water. Additional staff from the Public Consultation Unit provided facilitation support and record keeping.



Questions & Comments

The following questions and answers were provided during the meeting. All questions have been categorized by topic.

Торіс	Questions & Comments	Project Team Response
Project details	Will the pedestrian bridge be moved? How will the bridge be realigned?	The bridge may need to be adjusted to accommodate erosion of the creek. Once we determine the best design to protect the creek and the maintenance hole at Site #1, we will determine if changes need to be made to the bridge.
	Will the bend at project #1 be realigned? (#1 - #3)	There may be some realignment to be determined during detailed design.
	Isn't the concrete at Site #2 secure enough to protect the maintenance hole?	If no action is taken, the maintenance hole could fail during a severe weather event. The soil around the maintenance hole is at risk of erosion, which offers support for the concrete structure.
	Will the erosion on the trial be fixed?	The focus of the work is erosion of the creek which is a risk for water infrastructure in or alongside the creek.
	What is the design approach for the improvements? Will it be "hard engineering" (i.e., retaining walls), or "soft engineering"?	Improvements will work with the flow of the creek. Hard engineering is tough to maintain.
	Request for a photo montage/ computer generated images of how the creek and trail will look post-construction.	
	How will the project impact erosion on private property?	Project work will not have a direct impact on private property.
Design options	What is the extent (if any) of creek realignment?	There will be minimal creek realignment.
	What is the consequence of 'do nothing'?	Trees falling into the creek from erosion, maintenance support structure fails, concrete breaks, the sewer breaks, sewage enters the stream.

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Торіс	Questions & Comments	Project Team Response
	What would happen if the "do nothing" alternative was taken at site #2. What would be the implications and/or impacts to the exposed manhole?	There will be no improvements and the risks to infrastructure could get worse.
Concerns with the current environment	Concern about erosion spreading into private properties.	For erosion on private property, connect with the Toronto Region Conservation Authority.
	Creek water is getting more murky and there is an increase in mosquitos.	
Construction concerns - natural	Concern for the impacts of construction on wildlife and natural habitat during construction.	
habitat	Concern that the tree canopy will be lost with the removal of mature trees during construction. Reference made to Duncan Creek experience.	
	Replanting / revegetation often takes a long time after construction, will there be any mitigation measures for providing shading along the trail during in the interim?	
	Tree removal was performed during the Duncan Creek Restoration construction period and the trail was left with no canopy post-construction.	The trees are growing and wildlife is returning to the meadow.
	Will the trail be closed during construction/	There will likely be closures, we will know the full extent once detailed design is complete.
closure	 Concern for length of time the trail is closed. The trail is important to residents/ cyclists in the area, they cannot afford to lose the trail for a long period of time. Residents and cyclists were blocked off without notice near Sheppard/ 401 and Leslie. Duncan Creek was closed for 2-3 years 	We will know more about trail closures leading up to construction once the final design is complete. Notice will be provided to the community leading up to construction.
	Request for temporary/ alternative trails during restoration/ construction, so that it will not take away nature enjoyment for residents.	

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Торіс	Questions & Comments	Project Team Response
	Request that a clear timeline for trail closures be provided to residents.	
Comments on future landscaping	Request for more information about the variety of trees that will be planted Labelling of trees would be appreciated	
	Preference for native trees to be planted post- construction.	Native species will be planted. For every tree removed three native trees will replace it.
Project Communication	Will residents be notified when constructions begin?	Notices will be circulated to the community leading up to detailed design and prior to construction.
	When will we know about the impacts of construction?	During the detailed design phase we will know the specific approach for each project and the impacts. This phase should take place in the next 2 years.

Project Team and Panelists

Devin Coone, Senior Project Manager, Design and Construction, ECS Daniel McCreery, Senior Engineer, Design and Construction, ECS Keyra Kam, Design and Construction, ECS Bill Snodgrass, Senior Engineer, Infrastructure and Planning, Toronto Water Aadila Valiallah, Senior Coordinator, Public Consultation Unit Katelynn Northam, Senior Coordinator, Public Consultation Unit Daniela Castellanos Forero, Coordinator, Public Consultation Unit Carol Lee, Coordinator, Public Consultation Unit

Councillor(s)

Councillor Shelley Carroll, Ward 17-Don Valley North

Study Consultation Report

German Mills Creek Geomorphic Systems Master Plan - Creek Restoration and Water Infrastructure Protection Study

Public Consultation Report

April 16, 2024

Prepared by: Aadila Valiallah, Senior Coordinator, Public Consultation Unit <u>Aadila.Valiallah@Toronto.ca</u> 416-338-2985 City of Toronto, Metro Hall 55 John Street, 19th Floor Toronto, ON. M5V 3C6



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Executive Summary

The City of Toronto is carrying out a study to identify sewer, storm and watermain infrastructure within German Mills Creek that is at risk of damage due to erosion impacts as result of high flows from storms and snow melt.

This study looks at how the City's sewer, storm and watermain infrastructure can be protected within the creek using recommended solutions to help reduce or prevent future impact to City infrastructure resulting from erosion. This will ensure the City's infrastructure continues to operate and service residents and businesses. The solutions will be part of a Geomorphic Systems Master Plan (GSMP) for the creek to be implemented over a multi-year period. This report details the activities and feedback received during consultation on the German Mills Geomorphic Systems Master Plan Study that took place between August 1, 2023, and September 1, 2023. During consultation, information was provided about the risks to sewer and watermain infrastructure along the creek along with a summary of the recommended solutions. Interested individuals were able to ask questions and provide feedback on the recommended solutions for creek restoration and water infrastructure protection.

Summary of engagement:

- One public event with 49 participants
- Thirteen comment submissions received via telephone and email
- Seventeen survey responses



Overall, most participants were concerned with erosion along the creek and there was general support for the recommended solutions. Concerns were raised about the potential impacts of project implementation, such as tree removals, impacts on wildlife habitat and temporary trail closures. Participants who use the trails within the study area were concerned about the length of time required for construction and the impacts it will have on access to the trail.

Study Summary

Study Area



The study area is a two-kilometer length of German Mills Creek from Steeles Avenue East to where it meets the East Don River in the west. Within the German Mills study area, there is a multi-use trail along the course of the creek. The trial is used regularly throughout the year (weather permitting), by residents of all ages for walking, running, cycling as well as recreation.

Study Summary

This report summarizes consultation activities and feedback received during consultation for the German Mills Creek Geomorphic Systems Master Plan Creek Restoration and Water Infrastructure Protection Study (the Study), which took place between August 1, 2023, and September 1, 2023.

The purpose of the Study is to identify appropriate solutions for protecting the City's water infrastructure, which is at risk of damage from erosion. The study was carried out following the Municipal Class Environmental Assessment (MCEA) master planning process for Schedule B projects.

Following a risk analysis of 43 water and stormwater infrastructure sites, possible solutions to address 11 priority sites were evaluated according to a range of criteria including overall ability to address risk to infrastructure, improvements to the physical and natural environment, protection of the social and cultural environment, economic considerations and technical and engineering requirements.

Based on the risk assessment and evaluation, the City is recommending creek restoration through natural channel design for six local works projects that are less than 200 metres in reach, and five local works projects that are less than 200 metres with floodplain connections. Implementation of the recommended projects will be prioritised over the medium to long term, city-wide, and construction is not expected to begin until 2025.

Notification & Consultation Activities

Notification

A variety of communication methods were used to notify interested community groups and members of the public about consultation.

A Notice of Commencement was circulated in October 2022 to First Nations, Agencies and Utilities to providing information on the study and the study process.

The following communications were issued on the week of August 1, 2023 at the onset of the public consultation period:

- An update on the project website including public consultation materials and link to the feedback survey toronto.ca/germanmills
- Notice sent through Canada Post direct mail to 5,412 addresses in the study area
- Direct email to 71 contacts including utility companies, government agencies, community interest organisations and community groups

- Direct email to First Nations identified by the Ministry of the Environment, Conservation and Parks:
 - Alderville First Nation
 - o Beausoleil First Nation
 - Chippewas of Georgina Island First Nation
 - o Chippewas of Rama First Nation (Chippewas of Mnjikaning)
 - Curve Lake First Nation
 - Hiawatha First Nation
 - Huron-Wendat First Nation
 - Mississaugas of Scugog Island First Nation
 - Mississaugas of the Credit First Nation
 - Six Nations of the Grand River

Consultation Activities

Public Event

A public drop-in event and site walk took place on August 19, 2023, from 9:00 – 11:00 a.m. at the entrance to the multi-use trail on the west side of Leslie Avenue, south of Steeles Avenue. The event was attended by 49 registered participants in addition to several people who have dropped in.

Information panels were displayed at the drop-in area and staff were available to provide information and respond to questions. The project team on site included representatives from Engineering & Construction Services and Toronto Water. A site-walk to view the creek and infrastructure at risk was led by the project manager.

The site walk included stops at two infrastructure locations along the creek. One of the sites has a clearly exposed maintenance hole which is considered high-risk for potential damage. During the walk there were opportunities for questions, feedback and dialogue between participants and the project team. Cantonese and Mandarin interpretation was provided.





Survey

An online survey was used to collect feedback on the study and recommended projects. The survey was available August 1, 2023 - September 1, 2023. Seventeen responses were received. Participation was anonymous.

Phone & Email Comments

Questions and feedback were accepted via phone, email, or written letter. Comments were received from 13 people during the consultation period. All comments were recorded and reviewed for consideration and response by the project team.

Outreach to First Nations Communities

The Provincial Ministry of Environment, Conservation and Parks (MECP) has been delegated by the Crown to ensure consultation with "Aboriginal communities" where there is possibility that treaty rights could be impacted. Consultation with First Nations is part of the standard process for environmental assessments. The MECP has provided instruction on communications with relevant First Nations communities in the study area. As Newtonbrook Creek is within Treaty 13, 1805 with the Mississaugas and within the Traditional Territory of both the Mississaugas of the Credit and Williams Treaties First Nations (WTFN), the following First Nations communities were contacted:

- Mississaugas of the Credit First Nation
- Curve Lake First Nation

- Hiawatha First Nation
- Alderville First Nation
- Mississaugas of Scugog Island First Nation
- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation
- Beausoleil
- Williams Treaties First Nations

Communications was sent by email at various stages of the consultation process.

An Archaeology Report was completed with the purpose of identifying whether the lands under study potentially contained archaeology value or evidence. The report was shared with First Nations in December 2023 with an invitation to provide feedback.

In October 2023 the Public Consultation notice was circulated to provide information about the study outcomes and recommendations and invite feedback as part of the public consultation process.

Outreach to Agencies and Utilities

Communications with agencies forms part of the study review process. Communication with utilities ensures there is no infrastructure conflict. Communications with agencies and utilities included circulation of the Notice of Commencement and Public Consultation notice with an opportunity to provide feedback.

Feedback Summary

Many of the participants who provided feedback observed erosion in the creek. There was a general desire to see necessary improvements to protect water and sewer infrastructure as soon as possible and with minimal impact on the environment. Most concerns focused on the future impacts of construction. There was also expressed interest in trail improvements and concerns for erosion on private property, which are both outside the scope of this study.

Public Event

A summary of questions and comments received at the Public Event are summarized below.

Participants raised questions about design details for the recommended projects and construction staging. The project team clarified that these can only be responded to in the future, during the later phase of detailed design work leading up to project implementation.

Participants asked questions about:

- Design details and the aesthetic of the solutions;
- Whether realignment of the pedestrian bridge is necessary;
- Possible changes to the course of the creek (creek realignment) and what it would look like;
- Whether there will be continued access to the trail during construction;
- More information about restoration plans; and
- Consequences of the "Do nothing" option, and whether the concrete structure surrounding the maintenance hole at Priority Site #2 could protect the shaft if project work was not pursued.

Participants provided observations on current conditions:

- Foul smell and an increase in mosquitos from the creek and the marsh areas adjacent to the creek;
- Spreading of invasive plant species along the creek and in the valley; and
- Erosion and changes in watercourse are impacting private property

Most comments and concerns were related to project implementation and construction:

- The tree canopy is greatly appreciated and there is a concern for the loss of trees, specifically mature trees and the tree canopy as a whole; reference was made to Duncan creek which is currently regrowing but will take a few years to mature;
- Concerned about the impacts of construction, including the impact on wildlife habitats as a result of tree removal;
- Necessary tree felling to be done carefully so that logs and branches will be kept off the trail;
- Concerned about the length of time the trail would be closed:
 - The trail is important to residents and cyclists in the area, they cannot afford to lose the trail for a long period of time;
 - Reference was made to other trails in the trail network that were blocked off for extended periods of time; i.e., Duncan Creek, Sheppard/ 401 and Leslie Avenue;
 - Whether temporary or alternative trails could be provided during construction, so as to provide residents with continued enjoyment of nature; and

• Ensure to provide the community with clear communication around construction timelines.

There was interest in the details of restoration, which will be confirmed during the later detailed design

- Whether native trees will be planted post-construction; and
- Whether trees could be identified and labelled

Email and Phone Comments

Comments received from residents via email stressed the need for clear communication about project timelines and trail closures. Comments received via phone/email from members of the public are summarized below.

Participants asked questions about:

- The cost analysis of realigning the bridge compared to re-routing the creek to work with the current bridge configuration, as the bridge is relatively new;
- How the impacts of climate change and building for resiliency relate to this study;
- The life cycle for the recommended solutions and the ongoing maintenance work that will be required; and
- Whether the recommended solutions provided additional benefits for the area.

Several participants provided observations on current conditions:

- Recognition of exposed infrastructure;
- Appreciation for and need to protect the mature trees which provide a much-needed canopy along the trail in the summer;
- Animal habitats and ecosystems along the creek including beavers, deer, loons, etc.;
- Erosion of the creek spreading on to private property;
- Increasing muddy conditions; and
- Some participants felt that the creek does not need restorative work.

Many comments and concerns were related to project implementation:

- That construction will be lengthy; reference was made to Duncan Creek which was closed for 2-3 years;
- That the project will not be completed on time due to a lack of accountability with construction projects, reference to the Eglinton Crosstown LRT construction;
- Comments that additional reinforcements will be needed along the bank to provide protection of the multi-use trail;
- Potential damage to the trail as a result of construction and the potential need for additional reinforcement to provide protections;
- A desire for continued access to the multi-use trial during construction, as the trail connects the north and south portions of German Mills Creek and Duncan Creek, extending to the East Don Trail, it is an important neighbourhood amenity for many residents;
- The possibility for a detour along the trail to avoid the construction if necessary, such detour should be provided prior to construction; and
- More clear communication around trail closures and the construction schedule.

One participant expressed a desire to see erosion on private property addressed as part of the project implementation. For concerns raised about erosion on private properties that do not intersect with a recommended project, owners were directed to reach out to the Toronto Region and Conservation Authority.

There was interest around the details of restoration and some concerns stemming form previous experience with Duncan Creek:

- Replanting after similar projects does not meet expectations, as there does not appear to be enough space for trees to grow back; and
- It was recommended that City staff should review and improve the approach to replanting.

First Nations Communities

There were no objections to the recommended projects.

In response to Archaeology report, the Chippewas of Rama First Nation would like the historical account reviewed, and the Six Nations of Grand River would like to participate in any potential Stage 2 archaeological assessments.

All feedback has been shared with the project team and will be resolved or passed forward in the Environmental Study Report.

Agencies and Utilities

All feedback has been shared with the project team and will be resolved or passed forward in the Environmental Study Report which is the technical report that will move forward with the project.

Survey

There were 17 survey respondents. Responses received to each survey question are described in this section.

About You

This section of the survey asks respondents about their relationship to the project area which provides context for the responses received.

29%

18%

12%

12%



Other

Which statements best describe your relationship to the project?

Most of the survey respondents live near German Mills Creek and use the creek for leisure and recreation. Those who responded with "Other" indicated that they live in the broader area or represent an organisation located near German Mills Creek.

6%

What are the first 3 digits of your postal code?

I use the muti-use trail (MUT) along German

Mills Creek to travel to specific destinations

I attend a school or community centre near

German Mills Creek

I represent an organization or institution

located near German Mills Creek

I work near German Mills Creek

88%



Postal code data is requested to gauge where in the city respondents who have an interest in the project are coming from. Self-reported postal code data verifies that most respondents were local to the area.

How did you review project information?

It was recommended that respondents review the project information on the webpage or at the public event prior to giving feedback.



There is a high level of confidence that responses were well informed. Most respondents (82%) reviewed the About Streams information panels. More than half (65%) of survey respondents read about the German Mills GSMP in the information panels, which provided details on the study risks, alternative solutions, selection criteria and recommended projects. None of the survey respondents attended the public event.

Study Details

Respondents were provided with an opportunity to provide feedback on each of the 11 recommended projects and for the study recommendations overall.

Do you have specific comments for any of the recommended projects?

Project #1: Solution 3 Improvements through local works less that 200 metres and floodplain connections:

- Support for the recommended Alternative (Solution 3);
- Consideration for the lifespan of the bridge should be made, and whether the work can wait until the bridge reaches the end of its lifespan; and
- Erosion along the creek is reaching the trail, which is also at risk.

Projects #2 and #3: Solution 3 Improvements through local works less that 200 metres and floodplain connections:

• Support for the recommended Alternative (Solution 3).

Projects #6 and #7: Solution 2, Local work less than 200 metres:

• Interest in having the trail repaired along with project implementation work.

One respondent preferred the 'Do Nothing' alternative for all projects.

Do you have any general feedback about the study recommendations?

Responses are summarized below:

• Acknowledgement of and support for the study and recommended projects;



- Request to complete the work as soon as possible, with emphasis on the urgency of Project #1, Project #2, and Project #3;
- Emphasis on the need to engage and inform the community leading up to implementation with respect to construction schedules, trail closures and restoration plans; and
- Requests for improvements that are outside the scope of this study: widen the trail, place armour stone for seating, and assist with the removal of invasive plant species (during future tree removals).

Appendix – Survey respondent demographic information

A total of 15 of the 17 respondents provided optional demographic information described below:

What is your gender identity?



What is your age category?



Do you identify as a person with a disability?



Which of the following best describes your current employment status?



Most respondents were between the ages of 26 - 35, with no responses provided from individuals over 85 or under 26 years of age. Males represented 73% of responses. Women and those with a disability each contributed 20% of the responses.

Majority of the 15 respondents, 60%, are employed full-time with 33% retired or unable to work.

Source of Information

How did you hear about this study?



APPENDIX G3 First Nations Consultation

First Nations Responses to German Mills Creek Geomorphic Systems Master Plan

Notifications and consultation activities are summarized in Appendix G3, including direct emails to Indigenous Communities including those identified by the Ministry of the Environment, Conservation and Parks.

- Alderville First Nation
- Beausoleil First Nation
- Chippewas of Georgina Island First Nation
- Chippewas of Rama First Nation, (Chippewas of Mnjikaning)
- Curve Lake First Nation
- Hiawatha First Nation
- Huron-Wendat First Nation
- Mississaugas of Scugog Island First Nation
- Mississaugas of the Credit First Nation
- Six Nations of the Grand River

The Stage 1 Archeological Assessment by TRCA was also circulated (Appendix C1). On December 4, 2023, the City of Toronto received feedback from the Chippewas of Rama First Nation requesting that the First Nation's history be included in future reports going forward and other than that, no other concerns were raised with the study communications. Using the wording provided with the email, a write-up of the history of the Chippewas of Rama First Nation has been included with the Stage 1 Archeological Assessment in Appendix C1.

Comments from First Nations Communities are included within Appendix G3.

Notice of Commencement to First Nations Communities

From:	Tracy Manolakakis		
Sent:	October 4, 2022 1:22 PM		
То:	consultation@alderville.ca		
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto		
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study		
	Commencement Newtonbrook FinalAODA.pdf		

Good afternoon,

I wanted to share with you that the City of Toronto has started two separate Geomorphic Systems Master Plan studies, following the requirements of the Municipal Class Environmental Assessment process.

The studies include:

- Newtonbrook & Blue Ridge Creeks Geomorphic Systems Master Plan
- German Mills Geomorphic Systems Master Plan

The attached notice include more details about each study, along with the location of the study area and process. Further notice will be provided on the evaluation and recommendations of solutions for the area. A draft report on the Stage 1 archaeological assessment will be shared with you in the near future for review.

If you have any questions, please feel free to reach out to me.

Thank-you, Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



From:	Tracy Manolakakis		
Sent:	October 4, 2022 1:23 PM		
То:	bfnchief@chimnissing.ca; consultations@chimnissing.ca		
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto		
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study		
	Commencement_Newtonbrook_FinalAODA.pdf		

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Thank-you, Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



Гиене	Tracy Manalakakia		
From:			
Sent:	October 4, 2022 1:24 PM		
То:	sylvia.mccue@georginaisland.com; nancy.carr@georginaisland.com		
Subject:	Geomorphic Systems Master Plan studies - City of Toronto		
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study		
	Commencement_Newtonbrook_FinalAODA.pdf		

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Thank-you, Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



From:	Tracy Manolakakis		
Sent:	October 4, 2022 1:25 PM		
То:	tedw@ramafirstnation.ca; shardayj@ramafirstnation.ca		
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto		
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study		
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Thank-you, Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



F			
From:			
Sent:	October 4, 2022 1:25 PM		
To:	KaitlinH@curvelake.ca; JulieK@curvelake.ca; TiffanyM@curvelake.ca		
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto		
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study		
	Commencement_Newtonbrook_FinalAODA.pdf		

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Thank-you, Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



From:	Tracy Manolakakis
Sent:	October 4, 2022 1:28 PM
То:	dominic.sainte-marie@wendake.ca; lori-jeanne.bolduc@wendake.ca;
	maxime.picard@cnhw.qc.ca
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study
	Commencement_Newtonbrook_FinalAODA.pdf

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Thank-you, Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



From:	Tracy Manolakakis		
Sent:	October 4, 2022 1:26 PM		
То:	1749 resource@gmail.com		
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto		
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study		
	Commencement Newtonbrook FinalAODA.pdf		

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Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



From:	Tracy Manolakakis		
Sent:	October 4, 2022 1:29 PM		
То:	tcowie@hiawathafn.ca; sdavison@hiawathafn.ca; mmcgonigle@hiawathafn.ca		
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto		
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study		
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Thank-you, Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



From:	Tracy Manolakakis		
Sent:	October 4, 2022 1:27 PM		
То:	consultation@scugogfirstnation.com; msanford@scugogfirstnation.com		
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto		
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study		
	Commencement_Newtonbrook_FinalAODA.pdf		

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Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



From:	Tracy Manolakakis	
Sent:	October 4, 2022 1:27 PM	
То:	Abby.LaForme@mncfn.ca; doca@mncfn.ca; Darin.Wybenga@mncfn.ca	
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto	
Attachments:	Notice of Study Commencement-FinalAODA.pdf; Notice of Study	
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Thank-you, Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



From:	Tracy Manolakakis		
Sent:	October 4, 2022 1:22 PM		
To:	lonnybomberry@sixnations.ca; tanyahill-montour@sixnations.ca		
Subject:	Geomorphic Systems Master Plan Studies - City of Toronto		
Attachments:	Notice of Study Commencement_Newtonbrook_FinalAODA.pdf; Notice of Study		
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Thank-you, Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto



Response from Mississaugas of the Credit First Nation



October 5, 2022

Tracy Manolakakis Manager, Public Consultation Unit City of Toronto

Dear Tracy,

We are the Mississaugas of the Credit First Nation (MCFN), the descendants of the Mississaugas of the River Credit. Our traditional territory extends from the Rouge River Valley in the east, across to the headwaters of the Thames River, down to Long Point on Lake Erie, and back along the shores of Lake Erie, the Niagara River, and Lake Ontario to the Rouge River Valley. It encompasses present-day London, Hamilton, and Toronto, as well as our communal lands. Our traditional territory has defined and sustained us as a First Nation for countless generations, and must continue to do so for all our generations to come.

Thank you for your notification on *German Mills Creek, Geomorphic Systems Master Plan,* dated *September 2022*. The MCFN has treaty rights across its traditional territory, including the area contemplated by your project. For further information, please see our website, http://www.newcreditfirstnation.com/. MCFN continues to exercise treaty rights which include, but are not limited to, rights to harvest, fish, trap and gather species of plants, animals and insects for any purpose including food, social, ceremonial, trade and exchange purposes. The MCFN also has the right to use the water and resources from the rivers, creeks and lands across the MCFN traditional territory.

At this time, MCFN *does not* have a high level of concern regarding the proposed project and therefore, by way of this letter, approves the continuation of this project. However, MCFN requests that you continue to notify us about the status of the project. **In addition, we respectfully ask you to immediately notify us if there are any changes to the project as they may impact MCFN's interests and that you please provide us with a copy of all associated environmental and archaeology reports.** This includes, but is not limited to changes related to the scope of work and expected archaeological and environmental impacts.

Additionally, MCFN employs Field Liaison Representatives ("FLRs") to act as official representatives of the community and who are answerable to MCFN Chief and Council through the Department of Consultation and Accommodation. The FLRs' mandate is to ensure that



Phone: (905) 768-4260

MCFN's perspectives and priorities are considered in the field and to enable MCFN to provide timely, relevant, and meaningful comment on the Project. Therefore, it is MCFN policy that FLRs are on location whenever any fieldwork for environmental and/or archaeological assessments are undertaken. It is expected that the proponent will cover the costs of this FLR participation in the fieldwork. Please also provide the contact information of the person, or consultant, in charge of organizing this work so they may facilitate the participation of the MCFN FLRs.

Nothing in this letter shall be construed as to affect the Aboriginal or Treaty rights and hence shall not limit any consultation and accommodation owed to MCFN by the Crown or any proponent, as recognized by section 35 of the Constitution Act, 1982.

MCFN reserves the right in relation to any development project or decision, to decide whether it supports a project and to: comment to regulators, participate in regulatory processes and hearings, seek intervener funding or status, or to challenge and seek remedies through the courts.

MCFN expects the Crown and all proponents to act according to the following best practices:

- Engage early in the planning process, before decisions are made
- Provide information in meaningful and understandable formats.
- Convey willingness to transparently describe the project and consider MCFN concerns.
- Recognize the significance of cultural activities and traditional practices of the MCFN
- Demonstrate a respect for MCFN knowledge and uses of land and resources.
- Understand the importance of youth and elders in First Nation communities.
- Act with honour, openness, transparency and respect. •
- Be prepared to listen and allow time for meaningful discussion. •

Sincerely,

filly Laforme

Abby LaForme Acting Consultation Coordinator MCFN Department of Consultation and Accommodation

cc – Mark LaForme; Director, Department of Consultation and Accommodation



Comment Responses from Indigenous Communities

Date	Indigenous Community	Name	Response Method	Message	Response
08/18/2023	Hiawatha First Nation	Tom Cowie <tcowie@hiawathafn.ca></tcowie@hiawathafn.ca>	email	Chi miigwech for the information regarding this project. At this moment we have no questions or concerns. If any should arise we will not hesitate to contact your office.	
12/07/2023	Huronne - Wendat	Marie-Sophie Gendron <marie- Sophie.Gendron@wendak e.ca></marie- 	email	Thank you for contacting the Huron-Wendat Nation about this project. I would like to introduce myself, Marie-Sophie, I am an archaeologist working for the Huron-Wendat Nation. We would like to review and comment the Stage 1 AA. Please find attached a quote for our participation on this project. Let me know if you have any questions.	 Thank-you for the follow-up. I have a few notes to share so I will bullet them. The City of Toronto does not currently have a process in which we pay for the review of Stage 1 archaeological reports which are part of an EA process. In my notes from the MECP I see that the Huronne-Wendat are only 'required' to be notified "if there are potential archaeological impacts". Because the Huron-Wendat are on the list for the area I included you in the circulation, perhaps I should make this clear in the future – please advise if I should be more diligent in adhering to the conditions for circulation. (The information may or may not be of interest.) I reviewed the archaeological report: "Three previous archaeological assessments were identified within the study area based on TRCA project records (p.20). These are CIF 1996-034, PIF P019-123-2008 and PIF P338-041-2012. Nothing of significant cultural heritage value or interest was recorded and no further archaeological assessments were recommended.
12/04/2023	Chippewas of Rama	Community Consultation <consultation@ramafirstna tion.ca></consultation@ramafirstna 	email	Thank you for your call earlier today, after review of the report I would ask that you include our history in it and any other future reports going forward. Other than that, we have no concerns.	
12/01/2023	Six Nation	Tanya Hill-Montour <tanyahill- montour@sixnations.ca></tanyahill- 	email	SNGREC has interest in the project and have reviewed the Stage 1 Archaeology Report for German Mills Creek. At this time upon review we do not have any concerns with the draft stage 1 report. Our only recommendation is that we have participation in the stage 2.	Thank-you for your response, it has been included in the project record.
12/20/2023	Mississaugas of Scugog Island First Nation	Don Richardson <drichardson@scugogfirst nation.com></drichardson@scugogfirst 	email	Thank you for the Stage 1 Archaeology Report for German Mills Creek, as part of the German Mills Creek Study for the German Mills Geomorphic Systems Master Plan. MSIFN has no concerns with the recommendations contained in the Report, and we look forward to receiving future Stage 2 assessment reports for review and comment, along with the German Mills Geomorphic Systems Master Plan when it is available. At some point in the new year, we would appreciate a conversation with you about the City of Toronto's Reconciliation Action Plan and opportunities for Indigenous procurement with respect to land preparation, construction and habitat improvement activities associated with the German Mills Geomorphic Systems Master Plan and other similar projects.	
12/21/2023	Mississaugas of the Credit First Nation (MCFN)	∣Adrian Blake <adrian.blake@mncfn.ca></adrian.blake@mncfn.ca>	email	I nank you for providing this Stage 1 Archaeological Assessment to us at MCFN-DCOA for the German Mills Creek Geomorphic Systems Master Plan EA. I have reviewed this report on behalf of the Nation and do not have any comments or concerns about this assessment. Please keep us apprised of any planned field work that may be undertaken in association with this project.	

Date	Subject	Recipent	To / Cc / BCC
August 17 2023	German Mills Geomorphic Systems Master Plan Public Consultation	bulk mail 17 receipients	dmowat@alderville.ca; consultation@alderville.ca; bfnchief@chimnissing.ca; consultations@chimnissing.ca; lands@chimnissing.ca; sylvia.mccue@georginaisland.com; nancy.carr@georginaisland.com; tedw@ramafirstnation.ca; shardayj@ramafirstnation.ca; EmilyW@curvelake.ca; KaitlinH@curvelake.ca; JulieK@curvelake.ca; TiffanyM@curvelake.ca; 1749resource@gmail.com; chiefcarr@hiawathafn.ca; toowie@hiawathafn.ca; sdavison@hiawathafn.ca; mmcgonigle@hiawathafn.ca; toowie@hiawathafn.ca; sdavison@hiawathafn.ca; mmcgonigle@hiawathafn.ca; dominic.sainte- marie@wendake.ca; lori-jeanne.bolduc@wendake.ca; maxime.picard@cnhw.qc.ca; klarocca@scugogfirstnation.com; jcoons@scugogfirstnation.com; don@ibabraiding.com; wbirch@ibabraiding.com; consultation@scugogfirstnation.com; msanford@scugogfirstnation.com; Stacey.LaForme@mncfn.ca; Mark.LaForme@mncfn.ca; Abby.LaForme@mncfn.ca; markhill@sixnations.ca; lonnybomberry@sixnations.ca; tanyahill- montour@sixnations.ca
November 28 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Alderville	dmowat@alderville.ca' , 'consultation@alderville.ca'
November 28 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Beuasoleil	msmith@chimnissing.ca'; 'danamonague@chimnissing.ca'; 'executiveassistant@chimnissing.ca'; 'council@chimnissing.ca'; 'consultations@chimnissing.ca'; 'lands@chimnissing.ca', 'bfnchief@chimnissing.ca'
November 28 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Chippewas	'jl.porte@georginaisland.com'
Nov 29 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Rama	shardayj@ramafirstnation.ca'; 'evelynb@ramafirstnation.ca'; 'consultation@ramafirstnation.ca', tedw@ramafirstnation.ca
Nov 29 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Curve Lake	KaitlinH@curvelake.ca'; 'JulieK@curvelake.ca'; 'TiffanyM@curvelake.ca', KeithK@curvelake.ca
Nov 29 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Haudenaunee	'1749resource@gmail.com'
Nov 29 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Hiawatha	tcowie@hiawathafn.ca'; 'sdavison@hiawathafn.ca'; 'mmcgonigle@hiawathafn.ca', 'chiefcarr@hiawathafn.ca'
Nov 29 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Hruon Wendat	'dominic.sainte-marie@wendake.ca'; 'lori-jeanne.bolduc@wendake.ca'; 'thiefaine.terrier@wendake.ca'; 'naomi.leduc@wendake.ca'
Nov 29 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Scugog	drichardson@scugogfirstnation.com'; 'tturoczi@scugogfirstnation.com'; 'consultation@scugogfirstnation.com'; 'msanford@scugogfirstnation.com'; 'don@ibabraiding.com', 'klarocca@scugogfirstnation.com'
Nov 29 2023	RE: Stage 1 Archaeology Report for German Mills Creek	MCFN	Mark.LaForme@mncfn.ca'; 'Abby.LaForme@mncfn.ca'; 'doca@mncfn.ca'; 'Darin.Wybenga@mncfn.ca'; 'Adam.LaForme@mncfn.ca', Stacey.LaForme@mncfn.ca
Nov 29 2023	RE: Stage 1 Archaeology Report for German Mills Creek	Six Nations	markhill@sixnations.ca, tanyahill-montour@sixnations.ca

APPENDIX G4 Agency Consultation



Ministry of the Environment, Conservation and Parks Ministère de l'Environnement, de la Protection de la nature et des Parcs

Environmental Assessment Branch

1# Floor 135 St. Clair Avenue W Toronto <u>ON_M</u>4V 1P5 TeL: 416 314-8001 Fax:: 416 314-8452 Rez-de-chaussée 135, avenue St. Clair Ouest Toronto ON M4V 1P5 Tél: 416 314-8001

Téléc.: 416 314-8452

Direction des évaluations environnementales



October 14, 2022

File No.: EA 01-06-03

BY EMAIL ONLY Tracy Manolakakis Manager, Public Consultation Unit Metro Hall, 19th Floor, 55 John Street Toronto, ON M5V 3C6 Tel: 416-392-2990 Email: germanmills@toronto.ca

Re: German Mills Creek Master Plan City of Toronto Municipal Class Environmental Assessment Response to Notice of Commencement

Dear Tracy Manolakakis,

This letter is in response to the Notice of Commencement for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the City of Toronto (proponent) has indicated that the study is following the approved environmental planning process for a Master Plan project under the Municipal Class Environmental Assessment (Class EA) (https://municipalclassea.ca/manual/index.html).

The attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please address all areas of interest in the EA documentation at an appropriate level for the EA study. Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule. Further information is provided at the end of the Areas of Interest document relating to recent changes to the Environmental Assessment Act through Bill 197, Covid-19 Economic Recovery Act 2020.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

The proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to the proposed project, **the MECP is delegating the procedural aspects of rights-based consultation to the proponent through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit. The project is located within Treaty 13, 1805 w/Mississaugas and within the Traditional Territory of both the Mississaugas of the Credit and Williams Treaties First Nations (WTFN). The project aim is to identify sewer and watermain infrastructure located within the German Mills Creek that is at risk from erosion due to high water flow and snow melt. Given the project location, there are a number of communities that may have an interest within the project:

- Mississaugas of the Credit First Nation
- Curve Lake First Nation
- Hiawatha First Nation
- Alderville First Nation
- Mississaugas of Scugog Island First Nation
- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation
- Beausoleil
 - o A copy to Karry Sandy Mackenzie- WTFN

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed project are outlined in the "<u>Code of Practice for Consultation in Ontario's Environmental Assessment</u> <u>Process</u>". Additional information related to Ontario's Environmental Assessment Act is available online at: <u>www.ontario.ca/environmentalassessments</u>.

Please also refer to the attached document "A Proponent's Introduction to the Delegation of Procedural Aspects of consultation with Aboriginal Communities" for further information, including the MECP's expectations for EA report documentation related to consultation with communities. Nothing in this guidance should prevent the Municipality from reaching out to Indigenous communities with whom they have an established relationship or with whom they are seeking to develop a relationship to get their input/ideas associated with the projects.

The proponent must contact the Director of Environmental Assessment Branch (EABDirector@ontario.ca) under the following circumstances subsequent to initial discussions with the communities identified by MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right
- Consultation with Indigenous communities or other stakeholders has reached an impasse
- An Order request is expected on the basis of impacts to Aboriginal or treaty rights

The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play should additional steps and activities be required.

Should you or any members of your project team have any questions regarding the information provided, please contact me at <u>chunmei.liu@ontario.ca</u>.

Yours truly,

Regional Environmental Planner (REP) – Central Region

cc Solange Desautels, Supervisor, Environmental Assessment Services, MECP Jimena Caicedo, Manager, Toronto District Office, MECP Demetra Koros, Water Compliance Supervisor, Toronto District Office, MECP

Attach: Areas of Interest

A Proponent's Introduction to the Delegation of Procedural Aspects of Consultation with Aboriginal Communities The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019)

AREAS OF INTEREST (v. August 2021)

It is suggested that you check off each section after you have considered / addressed it.

- Planning and Policy
- Projects located in MECP Central Region are subject to <u>A Place to Grow: Growth Plan for the</u> <u>Greater Golden Horseshoe</u> (2020). Parts of the study area may also be subject to the <u>Oak Ridges</u> <u>Moraine Conservation Plan</u> (2017), <u>Niagara Escarpment Plan</u> (2017), <u>Greenbelt Plan</u> (2017) or <u>Lake</u> <u>Simcoe Protection Plan</u> (2014). Applicable plans and the applicable policies should be identified in the report, and the proponent should <u>describe</u> how the proposed project adheres to the relevant policies in these plans.
- Additionally, if the project is located within the boundaries of the Lake Simcoe Protection Plan, we
 also strongly recommend that the project team review the information and resources available on the
 province's website related to protecting Lake Simcoe found
 here: <u>https://www.ontario.ca/page/protecting-lake-simcoe</u>, including the Lake Simcoe phosphorus
 reduction strategy.
- The <u>Provincial Policy Statement</u> (2020) contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the report, and the proponent should <u>describe</u> how the proposed project is consistent with these policies.
- In addition to the provincial planning and policy level, the report should also discuss the planning context at the municipal and federal levels, as appropriate.

□ Source Water Protection

The *Clean Water Act*, 2006 (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems). MEA Class EA projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- In October 2015, the MEA Parent Class EA document was amended to include reference to the Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. Given this requirement, please include a section in the report on source water protection.
 - The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.
 - If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.
- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.
- In order to determine if this project is occurring within a vulnerable area, proponents can use this mapping tool: <u>http://www.applications.ene.gov.on.ca/swp/en/index.php</u>. Note that various layers (including WHPAs, WHPA-Q1 and WHPA-Q2, IPZs, HVAs, SGRAs, EBAs, ICAs) can be turned on through the "Map Legend" bar on the left. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.
- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.

More Information

For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to <u>Conservation Ontario's</u> <u>website</u> where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in <u>section 1.1 of Ontario Regulation 287/07</u> made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as approved by the MECP.

Climate Change

The document "<u>Considering Climate Change in the Environmental Assessment Process</u>" (Guide) is now a part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. Proponents should review this Guide in detail.

• The MECP expects proponents of Class EA projects to:

- 1. Consider during the assessment of alternative solutions and alternative designs, the following:
 - a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
 - b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
- 2. Include a discrete section in the report detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered.

 The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "<u>Community Emissions Reduction Planning: A</u> <u>Guide for Municipalities</u>" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

Air Quality, Dust and Noise

- If there are sensitive receptors in the surrounding area of this project, a quantitative air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.
- If a quantitative Air Quality Impact Assessment is not required for the project, the MECP expects that the report contain a qualitative assessment which includes:
 - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
 - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
 - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
 - A discussion of potential mitigation measures.
- As a common practice, "air quality" should be used an evaluation criterion for all road projects.

- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.
- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to <u>Cheminfo Services Inc.</u> <u>Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities</u> report prepared for Environment Canada. March 2005.
- The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

Ecosystem Protection and Restoration

- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.
- Natural heritage and hydrologic features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:
 - Key Natural Heritage Features: Habitat of endangered species and threatened species, fish habitat, wetlands, areas of natural and scientific interest (ANSIs), significant valleylands, significant woodlands; significant wildlife habitat (including habitat of special concern species); sand barrens, savannahs, and tallgrass prairies; and alvars.
 - Key Hydrologic Features: Permanent streams, intermittent streams, inland lakes and their littoral zones, seepage areas and springs, and wetlands.
 - Other natural heritage features and areas such as: vegetation communities, rare species of flora or fauna, Environmentally Sensitive Areas, Environmentally Sensitive Policy Areas, federal and provincial parks and conservation reserves, Greenland systems etc.

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, you may consider the provisions of the Rouge Park Management Plan if applicable.

□ Species at Risk

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. Information, standards, guidelines, reference materials and technical resources to assist you are found at https://www.ontario.ca/page/species-risk.
- The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for next steps.
- For any questions related to subsequent permit requirements, please contact <u>SAROntario@ontario.ca</u>.

Surface Water

• The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.

- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's <u>Stormwater</u> <u>Management Planning and Design Manual (2003)</u> should be referenced in the report and utilized when designing stormwater control methods. A Stormwater Management Plan should be prepared as part of the Class EA process that includes:
 - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
 - Watershed information, drainage conditions, and other relevant background information
 - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
 - Information on maintenance and monitoring commitments.
- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If the proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.
- Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation O. Reg. 63/16. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the <u>Water Taking User Guide for EASR</u> for more information. Additionally, an Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

Groundwater

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.
- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.
- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.
- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation *O. Reg. 63/16.* These prescribed water-taking activities
require registration in the EASR instead of a PTTW. Please review the <u>Water Taking User Guide for</u> <u>EASR</u> for more information.

 Consultation with the railroad authorities is necessary wherever there is a plan to use construction dewatering in the vicinity of railroad lines or where the zone of influence of the construction dewatering potentially intercepts railroad lines.

Excess Materials Management

- In December 2019, MECP released a new regulation under the Environmental Protection Act, titled "<u>On-Site and Excess Soil Management</u>" (O. Reg. 406/19) to support improved management of excess construction soil. This regulation is a key step to support proper management of excess soils, ensuring valuable resources don't go to waste and to provide clear rules on managing and reusing excess soil. New risk-based standards referenced by this regulation help to facilitate local beneficial reuse which in turn will reduce greenhouse gas emissions from soil transportation, while ensuring strong protection of human health and the environment. The new regulation is being phased in over time, with the first phase in effect on January 1, 2021. For more information, please visit https://www.ontario.ca/page/handling-excess-soil.
- The report should reference that activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP's current guidance document titled "<u>Management of Excess Soil – A Guide for Best Management Practices</u>" (2014).
- All waste generated during construction must be disposed of in accordance with ministry requirements

Contaminated Sites

- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites. We recommend referring to the <u>MECP's D-4 guideline</u> for land use considerations near landfills and dumps.
 - Resources available may include regional/local municipal official plans and data; provincial data on large landfill sites and small landfill sites; Environmental Compliance Approval information for waste disposal sites on <u>Access Environment</u>.
- Other known contaminated sites (local, provincial, federal) in the study area should also be identified in the report (Note – information on federal contaminated sites is found on the Government of Canada's <u>website</u>).
- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.
- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.

Servicing, Utilities and Facilities

- The report should identify any above or underground utilities in the study area such as transmission lines, telephone/internet, oil/gas etc. The owners should be consulted to discuss impacts to this infrastructure, including potential spills.
- The report should identify any servicing infrastructure in the study area such as wastewater, water, stormwater that may potentially be impacted by the project.
- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with MECP's Environmental Permissions Branch to determine whether a new or amended ECA will be required for any proposed infrastructure.
- We recommend referring to the ministry's <u>environmental land use planning guides</u> and <u>proposed land</u> <u>use compatibility guidelines</u> to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

Mitigation and Monitoring

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.
- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.
- The proponent's construction and post-construction monitoring plans must be documented in the report, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

□ Consultation

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and <u>describes how they have been addressed by the proponent</u> throughout the planning process. The report should also include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments (as directed by the Class EA to include full documentation).
- Please include the full stakeholder distribution/consultation list in the documentation.

Class EA Process

• If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. **The Master Plan should clearly indicate the selected approach for conducting the plan**, by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to a Section 16 Order request under the *Environmental Assessment Act*, although the plan itself would

not be. Please include a description of the approach being undertaken (use Appendix 4 as a reference).

- If this project is a Master Plan: Any identified projects should also include information on the MCEA schedule associated with the project.
- The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.
- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment (including planning, natural, social, cultural, economic, technical). The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments, cultural heritage assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the report.
- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, MTO permits and approvals under the *Impact Assessment Act*, 2019.
- Ministry guidelines and other information related to the issues above are available at <u>http://www.ontario.ca/environment-and-energy/environment-and-energy</u>. We encourage you to review all the available guides and to reference any relevant information in the report.

Amendments to the EAA through the Covid-19 Economic Recovery Act, 2020

Once the EA Report is finalized, the proponent must issue a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the proponent. The Notice of Completion must be sent to the appropriate MECP Regional Office email address (for projects in MECP Central Region, the email is <u>eanotification.cregion@ontario.ca</u>).

The public has the ability to request a higher level of assessment on a project if they are concerned about potential adverse impacts to constitutionally protected Aboriginal and treaty rights. In addition, the Minister may issue an order on his or her own initiative within a specified time period. The Director (of the Environmental Assessment Branch) will issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent. Once the requested information has been received, the Minister will have 30 days within which to make a decision or impose conditions on your project.

Therefore, the proponent cannot proceed with the project until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, the proponent may not proceed after this time if:

- an order request has been submitted to the ministry regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, or
- the Director has issued a Notice of Proposed order regarding the project.

Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, the order request(s) on those matters should be addressed in writing to:

Minister Ministry of the Environment, Conservation and Parks 777 Bay Street, 5th Floor Toronto ON M7A 2J3 minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch Ministry of Environment, Conservation and Parks 135 St. Clair Ave. W, 1st Floor Toronto ON, M4V 1P5 EABDirector@ontario.ca

The s.16 order request information has officially been updated on the Ontario Class EA Website: <u>https://www.ontario.ca/page/class-environmental-assessments-section-16-order</u> This should help provide greater clarity on the s.16 order request processes and scope.

A PROPONENT'S INTRODUCTION TO THE DELEGATION OF PROCEDURAL ASPECTS OF CONSULTATION WITH ABORIGINAL COMMUNITIES

DEFINITIONS

The following definitions are specific to this document and may not apply in other contexts:

Aboriginal communities – the First Nation or Métis communities identified by the Crown for the purpose of consultation.

Consultation – the Crown's legal obligation to consult when the Crown has knowledge of an established or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. This is the type of consultation required pursuant to s. 35 of the *Constitution Act, 1982.* Note that this definition does not include consultation with Aboriginal communities for other reasons, such as regulatory requirements.

Crown - the Ontario Crown, acting through a particular ministry or ministries.

Procedural aspects of consultation – those portions of consultation related to the process of consultation, such as notifying an Aboriginal community about a project, providing information about the potential impacts of a project, responding to concerns raised by an Aboriginal community and proposing changes to the project to avoid negative impacts.

Proponent – the person or entity that wants to undertake a project and requires an Ontario Crown decision or approval for the project.

I. PURPOSE

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that may adversely impact that right. In outlining a framework for the duty to consult, the Supreme Court of Canada has stated that the Crown may delegate procedural aspects of consultation to third parties. This document provides general information about the Ontario Crown's approach to delegation of the procedural aspects of consultation to proponents.

This document is not intended to instruct a proponent about an individual project, and it does not constitute legal advice.

II. WHY IS IT NECESSARY TO CONSULT WITH ABORIGINAL COMMUNITIES?

The objective of the modern law of Aboriginal and treaty rights is the *reconciliation* of Aboriginal peoples and non-Aboriginal peoples and their respective rights, claims and interests. Consultation is an important component of the reconciliation process.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. For example, the Crown's duty to consult is triggered when it considers issuing a permit, authorization or approval for a project which has the potential to adversely impact an Aboriginal right, such as the right to hunt, fish, or trap in a particular area.

The scope of consultation required in particular circumstances ranges across a spectrum depending on both the nature of the asserted or established right and the seriousness of the potential adverse impacts on that right.

Depending on the particular circumstances, the Crown may also need to take steps to accommodate the potentially impacted Aboriginal or treaty right. For example, the Crown may be required to avoid or minimize the potential adverse impacts of the project.

III. THE CROWN'S ROLE AND RESPONSIBILITIES IN THE DELEGATED CONSULTATION PROCESS

The Crown has the responsibility for ensuring that the duty to consult, and accommodate where appropriate, is met. However, the Crown may delegate the procedural aspects of consultation to a proponent.

There are different ways in which the Crown may delegate the procedural aspects of consultation to a proponent, including through a letter, a memorandum of understanding, legislation, regulation, policy and codes of practice.

If the Crown decides to delegate procedural aspects of consultation, the Crown will generally:

- Ensure that the delegation of procedural aspects of consultation and the responsibilities of the proponent are clearly communicated to the proponent;
- Identify which Aboriginal communities must be consulted;
- Provide contact information for the Aboriginal communities;
- Revise, as necessary, the list of Aboriginal communities to be consulted as new information becomes available and is assessed by the Crown;
- Assess the scope of consultation owed to the Aboriginal communities;
- Maintain appropriate oversight of the actions taken by the proponent in fulfilling the procedural aspects of consultation;
- Assess the adequacy of consultation that is undertaken and any accommodation that may be required;
- Provide a contact within any responsible ministry in case issues arise that require direction from the Crown; and
- Participate in the consultation process as necessary and as determined by the Crown.

IV. THE PROPONENT'S ROLE AND RESPONSIBILITIES IN THE DELEGATED CONSULTATION PROCESS

Where aspects of the consultation process have been delegated to a proponent, the Crown, in meeting its duty to consult, will rely on the proponent's consultation activities and documentation of those activities. The consultation process informs the Crown's decision of whether or not to approve a proposed project or activity.

A proponent's role and responsibilities will vary depending on a variety of factors including the extent of consultation required in the circumstance and the procedural aspects of consultation the Crown has delegated to it. Proponents are often in a better position than the Crown to discuss a project and its potential impacts with Aboriginal communities and to determine ways to avoid or minimize the adverse impacts of a project.

A proponent can raise issues or questions with the Crown at any time during the consultation process. If issues or concerns arise during the consultation that cannot be addressed by the proponent, the proponent should contact the Crown.

a) What might a proponent be required to do in carrying out the procedural aspects of consultation?

Where the Crown delegates procedural aspects of consultation, it is often the proponent's responsibility to provide notice of the proposed project to the identified Aboriginal communities. The notice should indicate that the Crown has delegated the procedural aspects of consultation to the proponent and should include the following information:

- a description of the proposed project or activity;
- mapping;
- proposed timelines;
- details regarding anticipated environmental and other impacts;
- details regarding opportunities to comment; and
- any changes to the proposed project that have been made for seasonal conditions or other factors, where relevant.

Proponents should provide enough information and time to allow Aboriginal communities to provide meaningful feedback regarding the potential impacts of the project. Depending on the nature of consultation required for a project, a proponent also may be required to:

- provide the Crown with copies of any consultation plans prepared and an opportunity to review and comment;
- ensure that any necessary follow-up discussions with Aboriginal communities take place in a timely manner, including to confirm receipt of information, share and update information and to address questions or concerns that may arise;
- as appropriate, discuss with Aboriginal communities potential mitigation measures and/or changes to the project in response to concerns raised by Aboriginal communities;
- use language that is accessible and not overly technical, and translate material into Aboriginal languages where requested or appropriate;
- bear the reasonable costs associated with the consultation process such as, but not limited to, meeting hall rental, meal costs, document translation(s), or to address technical & capacity issues;
- provide the Crown with all the details about potential impacts on established or asserted Aboriginal or treaty rights, how these concerns have been considered and addressed by the

proponent and the Aboriginal communities and any steps taken to mitigate the potential impacts;

- provide the Crown with complete and accurate documentation from these meetings and communications; and
- notify the Crown immediately if an Aboriginal community not identified by the Crown approaches the proponent seeking consultation opportunities.

b) What documentation and reporting does the Crown need from the proponent?

Proponents should keep records of all communications with the Aboriginal communities involved in the consultation process and any information provided to these Aboriginal communities.

As the Crown is required to assess the adequacy of consultation, it needs documentation to satisfy itself that the proponent has fulfilled the procedural aspects of consultation delegated to it. The documentation required would typically include:

- the date of meetings, the agendas, any materials distributed, those in attendance and copies of any minutes prepared;
- the description of the proposed project that was shared at the meeting;
- any and all concerns or other feedback provided by the communities;
- any information that was shared by a community in relation to its asserted or established Aboriginal or treaty rights and any potential adverse impacts of the proposed activity, approval or disposition on such rights;
- any proposed project changes or mitigation measures that were discussed, and feedback from Aboriginal communities about the proposed changes and measures;
- any commitments made by the proponent in response to any concerns raised, and feedback from Aboriginal communities on those commitments;
- copies of correspondence to or from Aboriginal communities, and any materials distributed electronically or by mail;
- information regarding any financial assistance provided by the proponent to enable participation by Aboriginal communities in the consultation;
- periodic consultation progress reports or copies of meeting notes if requested by the Crown;
- a summary of how the delegated aspects of consultation were carried out and the results; and
- a summary of issues raised by the Aboriginal communities, how the issues were addressed and any outstanding issues.

In certain circumstances, the Crown may share and discuss the proponent's consultation record with an Aboriginal community to ensure that it is an accurate reflection of the consultation process.

c) Will the Crown require a proponent to provide information about its commercial arrangements with Aboriginal communities?

The Crown may require a proponent to share information about aspects of commercial arrangements between the proponent and Aboriginal communities where the arrangements:

- include elements that are directed at mitigating or otherwise addressing impacts of the project;
- include securing an Aboriginal community's support for the project; or
- may potentially affect the obligations of the Crown to the Aboriginal communities.

The proponent should make every reasonable effort to exempt the Crown from confidentiality provisions in commercial arrangements with Aboriginal communities to the extent necessary to allow this information to be shared with the Crown.

The Crown cannot guarantee that information shared with the Crown will remain confidential. Confidential commercial information should not be provided to the Crown as part of the consultation record if it is not relevant to the duty to consult or otherwise required to be submitted to the Crown as part of the regulatory process.

V. WHAT ARE THE ROLES AND RESPONSIBILITIES OF ABORIGINAL COMMUNITIES' IN THE CONSULTATION PROCESS?

Like the Crown, Aboriginal communities are expected to engage in consultation in good faith. This includes:

- responding to the consultation notice;
- engaging in the proposed consultation process;
- providing relevant documentation;
- clearly articulating the potential impacts of the proposed project on Aboriginal or treaty rights; and
- discussing ways to mitigates any adverse impacts.

Some Aboriginal communities have developed tools, such as consultation protocols, policies or processes that provide guidance on how they would prefer to be consulted. Although not legally binding, proponents are encouraged to respect these community processes where it is reasonable to do so. Please note that there is no obligation for a proponent to pay a fee to an Aboriginal community in order to enter into a consultation process.

To ensure that the Crown is aware of existing community consultation protocols, proponents should contact the relevant Crown ministry when presented with a consultation protocol by an Aboriginal community or anyone purporting to be a representative of an Aboriginal community.

VI. WHAT IF MORE THAN ONE PROVINCIAL CROWN MINISTRY IS INVOLVED IN APPROVING A PROPONENT'S PROJECT?

Depending on the project and the required permits or approvals, one or more ministries may delegate procedural aspects of the Crown's duty to consult to the proponent. The proponent may contact individual ministries for guidance related to the delegation of procedural aspects of consultation for ministry-specific permits/approvals required for the project in question. Proponents are encouraged to seek input from all involved Crown ministries sooner rather than later.

Ministry of Citizenship and Multiculturalism

Heritage Planning Unit Heritage Branch Citizenship, Inclusion and Heritage Division 5th Flr, 400 University Ave Tel.: 416-660-1027

Ministère des Affaires civiques et du Multiculturalisme



Unité de la planification relative au patrimoine Direction du patrimoine Division des affaires civiques, de l'inclusion et du patrimoine Tél.: 416-660-1027

October 4, 2023

EMAIL ONLY

Aadila Valiallah Senior Coordinator City of Toronto, Public Consultation Unit Metro Hall, 19th Floor, 55 John Street Toronto, ON M5V 3C6 Email: <u>germanmills@toronto.ca</u>

MCM File	:	0017255
Proponent	:	City of Toronto
Subject	:	Notice of Commencement and Public Consultation - Master Plan– Municipal Class Environmental Assessment
Project	:	German Mills Creek Geomorphic Systems Master Plan
Location	:	City of Toronto

Dear Aadila Valiallah:

Thank you for providing the Ministry of Citizenship and Multiculturalism (MCM) with the Notice of Commencement and Notice of Public Consultation for this project.

MCM's interest in this master plan relates to its mandate of conserving Ontario's cultural heritage, which includes archaeological resources, built heritage resources and cultural heritage landscapes.

MCM understands that master plans are long range plans which integrate infrastructure requirements for existing and future land use with environmental assessment planning principles. The Municipal Class Environmental Assessment (MCEA) outlines a framework for master plan and associated studies which should recognize the planning and design Process of this Class EA, and should incorporate the key principles of successful environmental assessment planning identified in Section A.1.1. The master planning process will, at minimum, address Phases 1 and 2 of the Planning and Design Process of the MCEA.

This letter provides advice on how to incorporate consideration of cultural heritage in the abovementioned master planning process by outlining the technical cultural heritage studies and the level of detail required to address cultural heritage in master plans. In accordance with the MCEA, cultural heritage resources should be identified early in the process in order to determine known and potential resources and potential impacts.

Master Plan Summary

The City of Toronto has initiated a study to identify sewer and watermain infrastructure within German Mills Creek that are at risk of erosion from high flows due to storms and snow melt.

The study area is the two-kilometer length of German Mills Creek from Steeles Avenue East to where it meets the East Don River in the west.

It is unclear what approach is being taken in accordance with the Master Planning Process outlined in the Municipal Class Environmental Assessment (MCEA). We recommend you clearly identify your proposed study approach. Any individual undertakings proceeding as part of this master plan should be screened for impacts to cultural heritage resources.

Identifying Cultural Heritage Resources

MCM understands that the final public notice for the master plan could become the notice of completion for the Schedule B and C MCEAs within it and that this approach would likely result in extensive documentation should the master plan include numerous Schedule C MCEA undertakings. In regards to cultural heritage resources, the Master Plan document should:

- identify existing baseline environmental conditions,
- identify expected environmental impacts and,
- Include measures to mitigate potential negative impacts.

Archaeological Resources

Any undertakings included as part of the master plan should be screened using the Ministry's <u>Criteria for Evaluating Archaeological Potential</u> and <u>Criteria for Evaluating Marine Archaeological</u> <u>Potential</u> to determine if an archaeological assessment is needed. If the EA project area exhibits archaeological potential, then an archaeological assessment (AA) should be undertaken by an archaeologist licensed under the Ontario Heritage Act and submitted for MCM review prior to the completion of the master plan.

Built Heritage Resources and Cultural Heritage Landscapes

A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment will be undertaken for the entire study area during the planning phase and will be summarized in the EA Report. This study will:

- <u>Describe the existing baseline cultural heritage conditions</u> within the study area by identifying all known or potential built heritage resources and cultural heritage landscapes, including a historical summary of the study area. The Ministry has developed screening criteria that may assist with this exercise: <u>Criteria for Evaluating for Potential Built Heritage Resources and Cultural Heritage Landscapes</u>.
- 2. <u>Identify preliminary potential project-specific impacts</u> on the known and potential built heritage resources and cultural heritage landscapes that have been identified. The report should include a description of the anticipated impact to each known or potential built heritage resource or cultural heritage landscape that has been identified.
- 3. <u>Recommend measures to avoid or mitigate potential negative impacts</u> to known or potential built heritage resources and cultural heritage landscapes. The proposed mitigation measures are to inform the next steps of project planning and design.

Given that this project covers a large study area, MCM recommends that the Cultural Heritage Report is carried out so that step 1 described above is undertaken early in the planning process. Then, steps 2 and 3 can be undertaken once the preferred alternatives have been selected.

MCM Letter

Where a known or potential built heritage resource or cultural heritage landscape may be directly and adversely impacted, and where it has not yet been evaluated for Cultural Heritage Value or Interest (CHVI), completion of a Cultural Heritage Evaluation Report (CHER) is required to fully understand its CHVI and level of significance. The CHER must be completed as part of the final EA report. If a potential resource is found to be of CHVI, then a Heritage Impact Assessment (HIA) will need to be undertaken and included in the final EA report. Our Ministry's <u>Info Sheet #5:</u> <u>Heritage Impact Assessments and Conservation Plans</u> outlines the scope of HIAs. Please send the HIA to MCM for review and make it available to local organizations or individuals who have expressed interest in review.

While some cultural heritage landscapes are contained within individual property boundaries, others span across multiple properties. For certain cultural heritage landscapes, it will be more appropriate for the CHER and HIA to include multiple properties, in order to reflect the extent of that cultural heritage landscape in its entirety.

Community input should be sought to identify locally recognized and potential cultural heritage resources. Sources include, but are not limited to, municipal heritage committees, community heritage registers, historical societies and other local heritage organizations.

Cultural heritage resources are often of critical importance to Indigenous communities. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them.

Environmental Assessment Reporting

Technical cultural heritage studies are to be undertaken by a qualified person who has expertise, recent experience, and knowledge relevant to the type of cultural heritage resources being considered and the nature of the activity being proposed. Please advise MCM whether any technical cultural heritage studies will be completed for this master plan and provide them to MCM before issuing a Notice of Completion.

Please note that the responsibility for administration of the *Ontario Heritage Act* and matters related to cultural heritage have been transferred from the Ministry of Tourism, Culture and Sport (MTCS) to the Ministry of Citizenship and Multiculturalism (MCM). Individual staff roles and contact information remain unchanged. Please continue to send any notices, report and/or documentation via email only to me.

Thank you for consulting MCM on this project. Please continue to do so through the master plan process and let me know if you have any questions or require further clarification.

Sincerely,

Karla Barboza Team Lead, Heritage Karla.barboza@ontario.ca

Copied to: Dan Minkin, Heritage Planner, MCM

accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MCM be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with Ontario Regulation 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the Ontario Heritage Act.



Hydro One Networks Inc.

483 Bay Street 8th Floor South Tower Toronto, Ontario M5G 2P5

HydroOne.com

Re: German Mills Creek Geomorphic Systems Master Plan

Attention: Aadila Valiallah, Senior Coordinator Public Consultation Unit

August 30, 2023

Thank you for sending us notification regarding (German Mills Creek Geomorphic Systems Master Plan). In our preliminary assessment, we have confirmed that Hydro One has existing distribution assets within your study area.

At this time we do not have sufficient information to comment on the potential resulting impacts that your project may have on our infrastructure. As such, we must stay informed as more information becomes available so that we can advise if any of the alternative solutions present actual conflicts with our assets, and if so; what resulting measures and costs could be incurred by the proponent. Note that this response does not constitute approval for your plans and is being sent to you as a courtesy to inform you that we must continue to be consulted on your project.

Hydro One must be consulted during all stages of your project. Please ensure that all future communications about this and future project(s) are sent to us electronically to <u>secondarylanduse@hydroone.com</u>

Sent on behalf of,

Secondary Land Use Asset Optimization Strategy & Integrated Planning Hydro One Networks Inc.







German Mills Creek Geomorphic Systems Master Plan EA (GSMP)

May 19, 2023

Microsoft Teams Teleconference

Meeting with TRCA



Agenda

- 1. Introductions City, Matrix, TRCA
- 2. Project Overview and Study Area
- 3. Site Characterization
- 4. Geomorphic Risk Assessment
- 5. Erosion Sites and Project Rankings
- 6. Detailed Alternative Concepts
- 7. Discussion





Project Overview

- Following the Municipal Class Environmental Assessment (EA) and Master Plan processes the German Mills Creek Geomorphic Systems Master Plan (GSMP) follows a four-phase process to:
 - 1. Identify the problem,
 - 2. Develop alternative solutions,
 - 3. Evaluate the alternatives, and
 - 4. Select the preferred solution.
- The primary goal of the project is to reduce the risks of erosion threatening Toronto Water infrastructure within the study area of German Mills Creek, between Steeles Ave and East Don River
- This reach has been impacted by past storm events that have caused substantial damage to the stream bed, banks, and existing erosion control works.
- Secondary goals are to:
 - Enhance local aquatic and riparian ecosystems using natural channel design principles and:
 - Ensure climate change resiliency in the erosion mitigation strategies is used to protect infrastructure over aneffective design life.







Detailed Workplan

Combined Class Environmental Assessment and Adaptive Management Process for the Geomorphic Systems Master Plan

Municipal Class Environmental Assessment	Ministry of Natural Resources and Forestry Adaptive Management of Stream Corridors in Ontario	Combined Geomorphic Systems Master Plan Approach				
Environmental Assessment Phase 1: Problem and/or Opportunity						
Identify Problem or Opportunity	Steps 1 and 2: Issue Assessment	Phase 1: Issue Assessment and Problem Confirmation				
Environmental Assessment Phase 2: Alternative Solutions						
Inventory of Natural, Social, and Economic Conditions	Step 3: Past/Future Trend Disturbances Step 4: Assessment of Channel Response Step 5: Present Stream Functions Step 6: Forecast Ultimate Configuration	Phase 2: Development of Alternative Solutions				
Identify Alternative Solutions	Step 7: Feasibility of Intervention Step 8: Define/Evaluate Alternatives	Phase 3: Define and Evaluate Alternative Solutions				
Evaluation of Alternatives - Identify Impacts of Alternative Solutions and Mitigation Measures	Step 8: Define/Evaluate Alternatives					
Select Preferred Solutions Review and Confirm Choice of Project Schedules	Step 9: Final Selection Plan or Design	Phase 4: Selection of Preferred Solution(s)				





Detailed Workplan

- Phase 1: Issue Assessment and Problem Confirmation
 - + Task 1 Background Review, Data Management, and Data Gap Assessment
 - + Task 2 Confirmation of Goals and Objectives
 - Task 3 Phase 1 Issue Assessment and Problem Confirmation Technical Memorandum No. 1 (comments on draft report received from the City, to be addressed and finalized through Phase 2)
- Phase 2: Development of Alternative Solutions
 - + Task 4 Baseline Technical Assessments to Define Existing Conditions
 - ✤ Task 5 Infrastructure Engineering Review
 - Task 6 Stage 1 Archaeology Assessment
 - + Task 7 Hydrology and Hydraulics (to be revisited in Phase 3)
 - + Task 8 Geomorphic Past and Present Interim Technical Memorandum
 - Task 9 Climate Change Assessment (to be issued in separate report)
 - + Task 10 Geomorphic Risk and Erosion Hazard Assessment
 - + Task 11 Geomorphic Futures Interim Technical Memorandum
 - + Task 12 Phase 2 Development of Alternative Solutions Technical Memorandum No. 2
- Phase 3: Define and Evaluate Alternative Solutions
 - + Task 13 Development of Alternative Solutions
 - + Task 14 Develop Methodology and Evaluation Criteria
 - Task 15 Phase 3 Defining Alternative Solutions Technical Memorandum No. 3

- Phase 4: Selection of Preferred Solution(s)
 - + Task 16 Implementation Plan
 - + Task 17 Development of Conceptual Plans
- Additional Short-Term Monitoring Supporting Phase 2
 - + Task 18 Field Data Collection in 2021 and 2022
 - + Task 19 Monitoring Reporting
- Master Plan Report and Project File
 - + Task 20 Draft Master Plan Report and Project File
 - Task 21 Final Master Plan Report and Project File
- Conceptual Plans and Design Briefs to Support City in Design Implementation
 - + Conceptual Plans and Design Briefs of High Priority Projects



Study Area

- German Mills Creek is a tributary of the Don River
- The entirety of the German Mills Creek channel extends 26 km in length and contains a drainage area of approximately 41.7 km²
- German Mills Creek originates in the southern slope of the Oak Ridges Moraine, eventually draining into the East Don River.
- Well-defined meandering channel and floodplain set within an incised glacial outwash valley
- The focus of this study is on the lower-most reaches within the City of Toronto from Steeles Avenue to the confluence with the East Don River ~ 2km in length
- Highly urbanized watershed, with approximately 47% impervious cover
- SWM limited to more recent developments in the upper watershed
- Urban development encroaches to the top of the valley, while infrastructure crosses and follows the valley, with the a trunk sanitary sewer and its lateral sewer network having the most intimate relationship with the active channel (LOL)
- SWM outfalls discharge to the creek throughout the study area
- Corridor includes a multi-purpose trail and other park features





Site Characterization

- Historical analyses
- Archaeological assessment
- Geomorphic Characterization and Monitoring
 - Reach delineation \rightarrow
- Erosion Hazards and Erosion Site identification
- Hydrology and Hydraulics
- Biotic Community Characterization





Historical Perspective for German Mills Creek

- Urbanized creek, with typical interventions of mid-century development – channelization, infrastructure (sewer) construction
- Channel, floodplain, and valley modification greatest from 1969-1981
 - Sewer construction, development, and slope stability/valley encroachment
- Loss of ~500m (25%) channel length within the study area
- Typical urban channel response to increased flow regime, through enlargement and migration
- Reach-scale solutions relatively recent, and has been applied locally through Duncan Creek and within Reach 4.





Archaeological Assessment

- TRCA completed a Stage 1 archaeological assessment for the study area
- Archaeological potential was evaluated for the study area with respect to historic periods of area settlement including pre-contact/post-glaciation (12,000 years BP to 1650 AD), post-contact (1650 AD to 1778), and Euro-Canadian settlement (1778 to Present).
- Very high potential for encountering pre-contact Indigenous sites and historical Euro-Canadian sites.
- Four archaeological sites are registered within 1 km of the study area and one heritage property is registered within 50 m (James Cummer House)
- Stage 2 archaeological assessments are recommended for all areas within the immediate study area with the exception of the footprint of the multi-use trail, and recent trail and watercourse construction in the vicinity of Steeles Avenue and Leslie Street





Channel Characterization and Monitoring

- Desktop analysis included reach delineation, historical channel traces and migration rates, air photo interpretation and timing of interventions. Field investigations confirmed/updated results of the desktop analysis
- Four reaches delineated along German Mills Creek, and Bestview Tributary treated as single reach
- Cursory Level Field Reconnaissance included:
 - reach characterization of channel morphology and bed/bank substrate with photographs
 - RGA and Rapid Stream Assessment Technique (RSAT)
 - bank condition scoring in 20 m segments
 - identification of geomorphic erosion risk sites
- Detailed surveys included
 - Topographic survey of German Mills Creek and proximal TW infrascructure (i.e., maintenance holes, sewer alignment, outfalls, etc.) to update existing conditions surface, characterize channel geometry and material composition, and to capture an accurate depth of cover over sewer crossings
 - Profile and cross-sections surveyed from Steeles to East Don Confluence (extending partially downstream)
 - 23 cross-sections were surveyed in total. 18 of which were monumented for repeat measurement (geomorphic monitoring), divided evenly through three monitoring sites



Channel Characterization and Monitoring

- RGAs determined that the study area is in various degrees of stability. With Reaches GM-2 and 3 as unstable (in-adjustment), while reaches GM-1 and 4 are trending towards being unstable (high transitional scores). Adjustment primarily occurring through degradation (incision) and widening.
- Bankfull geometry (all monitoring cross-sections)
 - Bankfull widths ranged from 7.07 to 15.10 m with an average of 11.27 m
 - Mean bankfull depth among all sites ranged from 0.53 to 2.01 m with an average of 0.83 m.
 - Max bankfull depth was 2.32 m, with an average maximum bankfull depth of 1.26 m.
 - Average cross-sectional area was 13.01 m²





Channel Characterization and Monitoring

Entrenchment Ratio (floodplain connectivity): A channel with a wide, well-developed floodplain has a larger entrenchment ratio, while an incised, confined channel has an entrenchment ratio closer to 1.

- Ratio of 1.0 to 1.4 "Entrenched"
- Ratio of 1.41 to 2.2 "Moderately Entrenched"
 - Ratios for GM as low as 1.03, with majority of cross-sections <2.2 only 4 out of 18 XS not entrenched.
- Profile surveys revealed riffle-pool bedform morphology, however riffle spacing rather irregular. Consequence of channel modification and current, rapid adjustment
- Coarse particles characterized at riffles, 300 pebbles of 0.5cm or larger were measured.
- Median particle size coarse gravel at Mon 1 and small cobble at Mon 2.
- Coarser material included gravels/cobbles/boulders, and is sourced from glacial till, failed treatments (gabions), and concrete



Site	Percentile	Diameter (cm) Year 1 - Fall 2021
MON1	D10	1.06
	D50	2.99
	D90	9.20
MON2	D10	2.47
	D50	7.78
	D90	18.10
MON3	D10	2.74
	D50	7.58
	D90	15.99



Erosion Hazards & Erosion Sites

- Horizontal (lateral migration) and vertical (scour) risk estimated with respect to TW infrastructure, other public infrastructure and private property
- Horizontal Erosion Hazard Meander belt width
 - Confirms the extent of features at risk to erosion over the longer term
 - Recommendations for detailed geotechnical studies identified at valley contacts with active channel, or slope erosion not in the immediate vicinity of the creek.



Erosion Hazards & Erosion Sites

• 100-year Scour Hazard Limit (SHL)

Eq 2: $SHL = G_s + N_s$

Where G_s is general scour evaluated using the maximum pool depth below the riffle-grade elevation within the study area and N_s is natural scour calculated based on historical rates of channel degradation.

- G_s = 1.6m max pool depth below riffle grade
- N_s = 1.6 cm/yr STS drawings vs current surveyed channel bed

Recommended scour 100-year SHL for the German Mills Creek within the study area is 3.2 m below the average riffle grade, based on a maximum general scour of 1.6 m and an average natural scour of 1.6 m

Based on the erosion hazard assessments, nearly all of Toronto Water infrastructure within the valley of German Mills Creek within the study area is considered to be within the long-term horizontal and vertical erosion hazards.



Source: Fluvial Geomorphic Guidelines: Factsheet VI Scour Analysis (CVC, 2019)



Erosion Risk Sites (Vertical and Lateral)

- Erosion risk sites were identified through desktop analysis in terms of their lateral and vertical erosion hazards with respect to property and infrastructure, v a specific focus on Toronto Water sewer infrastructure
- Focus on TW infrastructure
- Bank Condition Scoring
 - 20m intervals along thalweg, banks scored on either side. Bank lengths vary per segment.
 - Different scoring natural v engineered bank
- Risk Type
 - Vertical Risks Sewer Crossings
 - Horizontal Risks sewers, watermains, outfalls, maintenance holes
- ossings s, watermains, outfalls,
- 56 Erosion Sites identified





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3 - Moderate Bank Erosion

4 – Major Bank Erosion

5 - High Rate/Risk Major Bank Erosion

Condition of Bank Structures

Gabion Baskets, Amourstone, Rip-Rap, Round Stone, Various Concrete Applications



Condition Scores



1-Good (Amourstone)



2 - Fair (Armourstone)



3 - Poor (Armourstone Slump)



4 - Failure on Bank (Armourstone)



5 – Failure into Channel (Amourstone)

Erosion Risk Sites (Vertical and Lateral)

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 - Focus on TW infrastructure

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- Vertical Risks Sewer • Crossings
- Horizontal Risks • sewers, watermains, outfalls, maintenance holes
- 56 Erosion Sites identified



Hydrology & Hydraulics

- TRCA provided the following hydrologic and hydraulic information and models:
 - Updated PCSWMM for Don River Hydrology Update(AECOM 2018), most up to date.
 - 1D steady-state HEC-RAS model for Don River System (Phase 1 Pottery Rd to Steeles Ave) and reporting (KGS Group 2020). Peak flows from the 2018 PCSWMM model have been included in HEC-RAS 2020 model
 - 1D steady-state HEC-RAS model for Don River and Tributaries (Phase 2 North of Steeles Ave) and associated reporting by WSP in 2020.
- Peak Flows from Don River Hydrology Update (AECOM 2018). Design storms include the 2-, 5-, 10-, 25-, 50-, 100-, 350-year, and the Regional storm. For each event, peak flow values were extracted at selected locations from the hydrologic model and applied as steady-state flow values located at cross sections nearest to each hydrologic model node.
- Matrix Solutions updated 2020 HEC-RAS model with additional structure geometry
 - Extending model upstream by 90 m to incorporate Steeles Ave Crossing
 - Pedestrian bride downstream of Steeles Ave









Hydrology & Hydraulics


Hydrology & Hydraulics

- Bankfull and top of bank hydraulics were estimated for each erosion monitoring site
- Estimated bankfull flows (survey based) are 38% to 74% of the 2-year flow for corresponding river stations.
- Top of bank flows for monitoring sites 1 and 2 exceed the 100-year event, while the same flow in monitoring site 3 falls between the 25- and 50-year event discharges.
- Cross-sectional plots in HEC-RAS suggest that the cross-section, in several cases contain up to the 100-year event prior to spilling into the floodplain, with many in the 25- to 50-year range at the floodplain elevation

	MON-1 (Re	each GM-3)	MON-2 (Re	each GM-2)	MON-3 (Re	MON-3 (Reach GM-1)	
Average Estimated Hydraulics	Bankfull	Top of Bank	Bankfull	Top of Bank	Bankfull	Top of Bank	
Slope (m/m)	0.005	0.005 (1)	0.004	0.006 (1)	0.0015	0.002 (1)	
Manning's Roughness	0.035	0.035	0.035	0.035	0.035	0.035	
Maximum Depth (m)	1.06	2.45	1.04	2.19	1.10	2.12	
Area (m²)	8.74	26.56	7.45	20.59	10.45	29.49	
Wetted Perimeter (m)	12.16	16.41	10.33	14.92	14.62	23.22	
Total Width (m)	11.54	14.17	9.54	13.20	13.85	21.20	
Hydraulic Radius (m)	0.72	1.62	0.73	1.39	0.72	1.29	
Velocity (m/s)	1.62	2.78	1.46	2.75	0.89	1.51	
Discharge (m ³ /s)	14.36	74.00	10.95	56.65	9.28	44.43	
Average Bed Shear Stress (N/m ²)	35.32	79.28	28.66	81.61	10.58	25.27	
Stream Power (W/m)	704.10	3628.24	429.69	3333.00	136.48	871.37	
Stream Power per Unit Width (W/m ²)	61.14	256.42	46.89	257.80	9.95	42.32	

Note:

(1) HEC-RAS derived energy gradients were used for the 100-year event rather than the field-measured floodplain slope. The field-based slopes overestimated flows considerably compared to the HEC-RAS flood frequency tables.



Erosion Thresholds

- A preliminary erosion threshold analysis was completed for the median particle size reported for each monitoring site
- Erosion thresholds are used to determine the hydraulic conditions (i.e., discharge, channel depth, average channel velocity, etc.) that would entrain bed and/or bank materials of a given particle size
- The Komar (1987) approach for critical velocity was applied in this instance as it is suitable for gravel bed streams.
- The results reveal that the median particle may be expected to mobilize within reaches GM-3 and GM-2 relatively frequently with the critical discharge at 20% of the estimated bankfull discharge, or close to bankfull, respectively
- Based on the preliminary calculations, considerably larger events, perhaps exceeding the 100-year flood, would be expected before the median particle size on the bed is entrained for Reach GM-1

	MON-1 (Reach GM- 3)	MON-2 (Reach GM-2)	MON-3 (Reach GM-1)
D ₅₀ (mm)	29.9	77.8	75.8
Critical Velocity (m/s): Komar (1987)	0.94	1.46	1.45
Bankfull Slope (m/m)	0.0050	0.004	0.0015
Average T	hreshold Hydraulic	S	
Maximum Depth (m)	0.52	1.02	2.70
Area (m²)	3.17	7.66	46.79
Wetted Perimeter (m)	9.94	10.49	31.28
Total Width (m)	9.69	9.73	28.94
Hydraulic Radius (m)	0.32	0.73	1.50
Velocity (m/s)	0.94	1.47	1.45
Critical Discharge (m ³ /s)	2.99	11.23	67.71
Critical:Bankfull Discharge (%)	20%	102%	730%
Average Bed Shear Stress (N/m²)	15.64	28.64	22.00
Stream Power (W/m)	146.68	440.32	996.01
Stream Power per Unit Width (W/m ²)	15.12	45.70	34.72





		Category	whalle habitat reature	
-	Terrestrial and Aquatic Resources characterized based on	Seasonal Concentration Areas of Animals	Raptor Wintering Area	Candidate - Upland and forested areas are within the study site
	background review and field surveys		Bat Maternity Colonies	Candidate - FOD and SWD communities are present.
•	 Vegetation Communities: One provincially rare and one locally rare. Six 	Rare Vegetation Communities and Specialized Habitat for	Other Rare Vegetation Communities Bald Eagle and Osprey	Confirmed - FOD7-4 (S2S3) present. Candidate - Woodland
	considered conservation concern within urban matrix	Wildlife	Nesting/Foraging/Perching	communities are directly adjacent to riparian areas.
•	 Flora 94 plant species recorded during field surveys No SAR or provincially ranked S1, S2, S3 observed TRCA Local rankings, No L1 species, but three of each L2 and L3 Eleven invasive species recorded Incidental Wildlife Two species of special concern – Eastern Wood Peewee, and Monarch Two Invasive – Goldish and Japanese Beetle Significant Wildlife Habitat Assessment Summary 		Amphibian Breeding Habitat (Woodland)	Candidate - vernal pooling may be present within the FOD, FOM, FOC, and SWD communities.
		Habitat for Species of Conservation Concern	Marsh Breeding Bird Habitat	Candidate - Wetland habitat with shallow water and emergent aquatic vegetation is present.
•			Terrestrial Crayfish	Candidate - MAM, MAS, and SWD habitat communities present.
•			Special Concern and Rare Wildlife Species	Confirmed - Eastern Wood-Pewee Candidate - Monarch Butterflies, Northern Map Turtle, and Snapping Turtle.
		Animal Movement Corridors	Amphibian Movement Corridor	Candidate - Ecosites associated with water (i.e., SWD, MAM, etc.) are present but significant breeding habitat is unconfirmed at this time.
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- Fish habitat features mapped included: undercut banks woody debris, backwater areas of refuge, overhanging vegetation and instream vegetation (limited)
 - There are many opportunities for fish to spawn, feed, and find refuge throughout the watercourse

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- Complete shading of channel limited; majority of study area will have direct sun for at least a portion of the day
- Two areas noted to be potential barriers to fish movement, particularly small bait fish.





Species at Risk Assessment

- A total of 14 SAR was identified as potentially occurring within the study area based on the background review and site investigations
- Eight species were identified as potentially occurring within the study area based on the habitat criteria of that species and the availability of habitat observed in the study area

Potential SAR

- 1. Butternut
- 2. Redside dace (historically 1948)
- 3. Bank Swallow
- 4. Barn Swallow
- SAR Bats
- 5. Little Brown Myotis
- 6. Northern Myotis
- 7. Tri-Coloured Bat
- 8. Eastern Small-footed Myotis







German Mills Geomorphic Systems Master Plan - Risk Assessment Methodology

Erosion Risk Inventory

Each of 56 risk sites were evaluated as an isolated location, with channel thalweg and cross-section surveyed in proximity to each risk site to determine depth of cover/distance to infrastructure, and evaluate rates of adjustment

Horizontal Risk:

- Toronto Water infrastructure, private infrastructure, and private property was assessed where proximal to the active channel and considered at risk over the next 100 years
- Combination of base mapping, engineering drawings, and detailed field surveys determine distance from active channel to infrastructure (or other feature).
- Time to exposure (TTE) calculated using erosion rates determined at a site or reach scale from historical planform analysis.
- Available Imagery: 1954, 1965, 1978, 2005, 2009, 2011, 2021, 2014, 2016, and 2018. The historic channel alignments revealed a significant reduction of channel length, approximately 500 m, which has been interpreted to be primarily the result of artificial channel realignments associated with construction of the sewers.
- The majority of this loss occurred between 1965 and 1978, coincident with valley modification for development, and sewer construction.
- Rates measured between years and overall.
- Different rates determined, with higher migration rates forming more conservative estimates. The selected rate to determine TTE varied depending on risk at each site.
- Rates in table utilized to determine 25-year erosion limit as a refined understanding on nearer-term risk

Reach	Rate (m/year)	Explanation
	0.2	Average migration rate at specific risk site in GM-1
GM-1	0.3	Post-sewer realignment average migration; applied to risk sites affected by realignment from sewer
Givi-1	0.6	Highest migration rate of all migration sites in GM-1; applied to risk sites on a meander and at high risk of migration
	0.2	Average migration rate between historically straightened sections; applied to risk sites not at high risk of migration
GM-2	0.3	Post-sewer realignment average migration rate; applied to risk sites affected by realignment from sewer
	0.5	Average migration rate for entire reach based off of migration sites at bends; applied to risk sties at high risk of migration
	0.3	Average migration rate at specific risk site in GM-3
GM-3	0.5	Average migration rate for entire reach based off of migration sites at bends; applied to risk sties at high risk of migration
	0.2	Lower end of calculated migration rate for entire reach; applied to risk sites not at high risk of migration (i.e., straight segment of reach, on inside bend of meander)
GM-4	0.3	Highest migration rate of all migration sites in GM-1; applied to risk sites on a meander and at high risk of migration OR post-sewer realignment average migration rate; applied to risk sites affected by realignment from sewer





Erosion Risk Inventory

Vertical Risk:

- Vertical erosion hazard assessment has been completed to predict the maximum scour depth below the creek bed and associated risk to Toronto Water infrastructure where the sewer pipe crosses below or is adjacent to the creek
- Channel profile analysis to delineate average riffle grade relative to riffle crests and pool inverts
- Applied CVC (2019) approach. 100-year SHL calculated using 0.016 m/yr natural scour rate (1.6m/100-yrs)
- The total SHL recommended in Section is 3.2 m offset from the riffle grade line which combines the 100-year channel degradation limit (natural scour, 1.6 m) with the maximum potential pool depth (general scour, 1.6 m).
- One lateral pipe currently exposed, three pipe crossings within 100-year natural scour limit, and five pipe crossings within SHL.
- Additionally, six sections of lateral sewer pipe identified where further migration may generate new channel/sewer crossings. Which are also within the SHL.

Credit for erosion control on the bed or banks not accounted for in horizontal and vertical risk analysis but are provided in the calculation of TTE.







Erosion Site Prioritization and Project Rankings

TTE calculated using vertical and horizontal erosion rates, then adding an erosion control credit in years

Risk Type	Time to Exposure (TTE, Years)
Horizontal (Lateral) Erosion Hazard Limit	$TTE = \left(\frac{\text{Distance}^* (m)}{\text{Erosion Hazard Rate (m/year)}}\right) + \text{Erosion Control}$ Credit (year)
Vertical (Crossing) Scour Hazard Limit	$TTE = \left(\frac{\text{Depth of Cover (m)}}{\text{Scour Hazard Rate (m/year)}}\right) + \text{Erosion Control Credit}$ (year)

Life Expectancy of Erosion Control Works

- 50 to 60 years life expectancy (0 to 10 years old) immediate post-construction phase, when some monitoring and maintenance may be required over the vegetation stabilization period.
- 25 to 50 years life expectancy (10 to 35 years old) main functional phase of works, when likely little to no monitoring or maintenance required unless subjected to a rare flooding event.
- 5 to 25 years life expectancy (35 to 55 years old) terminal phase of functional life, when monitoring and maintenance are expected to support continued functions and/or to potentially extend the design life.
- 0 to 5 years life expectancy (55 to 60+ years old) end of life phase, when probability of failure is high or failure has already occurred, and when the final phase of planning, design, and (re)construction is required.



Erosion Site Prioritization and Project Rankings

Erosion Control Credit

- Life-cycle framework was applied to erosion control structures on German Mills Creek using the bank conditions scores as documented in the field assessment 25 to 50 years life expectancy (10 to 35 years old) main functional phase of works, when likely little to no monitoring or maintenance required unless subjected to a rare flooding event.
- Only bank or bed erosion control structures were assigned an erosion control credit, with all other natural banks assigned no credit (i.e., credit = zero).

Bank Condition Classification	Erosion Control Credit (Years)	Description		
All Classifications *	0	*Natural bank or high risk to erosion at meander apex		
Failure	10	Bank or bed structures in failed into channel but still present		
Continuing to fail	20	Bank or bed structures locally failing or in poor to very poor condition		
Starting to fail	30	Bank or bed structures in functional state, fair to poor condition		
Minor instability (erosion)	40	Bank or bed structures in stable state, good to fair condition		
Stable	50	Bank or bed structures in stable state, good condition		
Stable**	60	**Recently constructed armourstone structures within last ~10 years		
Note: Field scoring for 20 m sections of bank reinterpreted for local bank conditions for some erosion sites				



Erosion Site Prioritization and Project Rankings

Erosion Sites and Local Project Prioritization

- Erosion risk sites were each assigned an individual site ranking (1 to 56) based on a total risk assessment score
- The total risk assessment score is the product of the risk probability (TTE = 1 to 5) and the risk severity (asset ranking 1 to 5, with Toronto Water sewers and watermains scoring 5) with final values ranging from 1 to 25
- Based on the top 12 erosion risk sites (primary), the remaining sites (secondary) were grouped with the primary sites in close proximity to generate local scale erosion mitigation projects.
- Project Site 12 is located along the Bestview Tributary. Currently it is not a priority site for remediation, and any TW infrastructure is currently in stable condition. Erosion Monitoring is recommended, and detailed design concepts have not been developed as a result.



Risk Assessment – Low and Medium Risk

Very Low and Low Risk Sites



Risk Assessment – High Risk

Pueromotion of the second seco	Sewer behind bank	
Site (ref#)	#5.3	#7.2
Infrastructure type	Sanitary trunk sewer adjacent to pathway	Sanitary trunk sewer adjacent to pathway
Description of	• Sewer within 1 m from edge of creek	• Sewer within 1 m from edge of creek
conditions	Sewer runs parallel to pathway and creek	Sewer runs parallel to pathway and creek
	 Vertical banks against sewer in several locations 	 Bank is actively eroding and near confluence with Bostviow Tributary
		with destriew mouthly
Risk level	High	High



Risk Assessment – High Risk

анис лас		
Site (ref#)	#12.2	#21.3
Infrastructure type	Sanitary trunk sewer adjacent to pathway and railway	Second maintenance hole behind exposed maintenance hole for sanitary sewer
Description of conditions	 Sewer within 1 m from edge of creek Railway footings to consider Riprap still somewhat stable 	 Maintenance hole 9 m from edge of creek Bank is continuing to erode rapidly
Risk level	High	High



Risk Assessment – Imminent and High Risk

21.1 Composition of the second		
Site (ref#) Infrastructure type	#21.1 Sanitary sewer maintenance hole	#5.2 Lateral sewer pipe adjacent
Description of conditions	 0.92 m and 1.54 m depth over pipe crossings 1 maintenance hole is fully exposed Severe and ongoing bank erosion 	 1 m to sewer adjacent to creek At apex of large, eroding meander migrating in direction of infrastructure Deep pool at bend
Risk level	Imminent	High



Risk Assessment – Imminent Risk

18.1 18.1 16.1 7 aautaippes James James		
Site (ref#)	#16.1	#18.1
Infrastructure type	Sanitary sewer maintenance hole and lateral sewer connection	Sanitary sewer maintenance hole
Description of	Exposed maintenance hole and pipe	1 maintenance hole fully exposed
conditions	• Other 2 pipes 1.2 m and 0.16 m depth of	 1.3 m depth of cover remaining at sewer crossing Severe and ongoing bank erosion occurring
	At an actively eroding large meander	
Risk level	Imminent	Imminent



Project Sites and Rankings

Project	Priority Site ID	Risk (Priority Site)	Distance to Structure (m)	Erosion/Scou r Rate (m/year)	Erosio n Credit (Years)	TTE Priority Site (Years)	Secondary Site IDs
1	16.1	Maintenance Hole	0	0.5	0	0	15.1, 15.2, 15.3, 16.2, 16.3, 16.4, 16.5, 17.2
2	18.1	Maintenance Hole	0	0.5	0	0	17.1, 18.2, 19.1
3	21.1	Maintenance Hole	0	0.5	0	0	20.1, 21.2, 21.3, 21.4, 21.5, 21.6
4	5.2	Pipe Adjacent	1	0.6	0	2	5.1, 5.3
5	7.1	Pipe Adjacent	1	0.6	0	2	6.1, 7.2
6	11.1	Maintenance Hole	1	0.3	0	3	12.1, 12.2, 12.3, 13.1
7	8.2	Pipe Crossing	0.37*	0.016	0	23	8.1, 8.3, 8.4, 9.1, 9.2
8	1.1	Maintenance Hole	5	0.3	10	27	1.2, 1.3
9	3.1	Pipe Crossing	1.22*	0.016	0	76	2.1, 4.1
10	24.2	Pipe Adjacent	10	0.2	30	80	22.1, 23.1, 24.1, 25.1
11	26.1	Maintenance Hole	4	0.2	60	80	26.2, 26.3, 27.1, 27.2, 27.3
12	28.1	Property	20	0.2	0	100	
*Depth o	of cover fro	m existing channel gr	ade				

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Brief Overview of Remediation Alternatives

- Alternative 1 Do Nothing: leaving existing conditions as-is with no design mitigation, resulting in further channel degradation and erosion, exposing and/or undermining Toronto Water infrastructure; could consist of continued erosion monitoring where priority sites are already exposed and are likely to require emergency works.
- Alternative 2 Local Works and Protection (< 200m length): local erosion mitigation project sites of less than 200 m in channel length, including adjustments to both the channel bed and banks, to address high-priority sites and nearby secondary sites, with a range of design options to be considered.
- Alternative 3 Local Works and Protection with Floodplain Connection: local works (Alternative 2, bed and bank modifications, less than 200 m) and enhancing floodplain connectivity with bank modifications in between the local works sites to strategically increase floodplain conveyance, balancing proposed works with tree removals.
- Alternative 4 Sub-Reach Based Works (> 200m length): reach-scale channel works of greater than 200 m in channel length to realign/restore the channel and floodplain connectivity in a new configuration, including some level of erosion control, with a range of design options to be considered to address a collection of local erosion mitigation project sites

Refer to PIC slide deck for schematic examples for the above alternatives. Detailed drawings for each alternative can be provided separately.



Evaluation Criteria

The following 5 categories of criteria will used to evaluate alternative solutions

Physical/Natural Environment

Benefits form and function, stability of stream and valley walls, aquatic and terrestrial habitat, water quality, groundwater, vegetation, flood conveyance and at-risk species

Economic Environment

Evaluate capital costs, lifecycle cost consideration, cost effectiveness

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Protect City Water Infrastructure

Effectiveness at mitigating risk to City's water and sewer infrastructure

Social/Cultural Environment

Evaluate climate change impacts, landowner and public impacts, short- and long-term impacts to community, cultural heritage and aesthetic and recreational values

Technical & Engineering

Evaluate regulatory agency approvals and resource effectiveness

Evaluation Criteria

Category	Criteria		Indicator
Physical	Risk Assessment	•	Ability to reduce the immediate risk to Toronto Water infrastructure caused by watercourse erosion.
Environment and	Erosion Hazard	•	Ability to reduce long-term erosion hazard risks (including slope stability) within the channel.
Toronto Water Infrastructure	Flood Hazard	•	Ability to reduce adverse impacts of flooding in an urban environment, minimizing risk to infrastructure. In particular in the overbank zone of the creek, where increased flooding may limit access required to maintain the sites.
Natural Environment	Geomorphic Form and Function	•	Ability to improve geomorphic stability and natural components of watercourse function.
	Improvements to Aquatic Habitat/Community	•	Greater improvements to fish and aquatic habitat/community including substrate, overhanging vegetation, turbidity (water quality), and passage/connectivity.
	Minimize Impacts to Aquatic Habitat/Community	•	Limit disturbance to fish and aquatic habitat/populations (temporary or permanent loss) including species at risk.
	Improvements to Water Quality and Groundwater Connectivity	•	Ability to adapt to, and be resilient to a changed hydrological flow regime and accompanied geomorphic response, including due to climate change.
	Improvements to Terrestrial Habitat	•	Ability to improve connectivity, diversity and sustainability of terrestrial habitat.
	Minimize Impacts to Terrestrial Habitat	•	Ability to limit disturbance to existing woodlots/other terrestrial habitat and natural heritage features and vegetation by type, including Environmentally Significant Areas, Areas of Natural and Scientific Interest, wildlife corridors, species at risk, and others. Ability to balance tree removals against flood hazards. Evaluated through a comparison of area of disturbance in ha based on conceptual grading limits (18 to 24 m wide corridor).
	Climate Change Resiliency	•	Ability to adapt to, and be resilient to a changed hydrological flow regime and accompanied geomorphic response due to climate change.



Evaluation Criteria - Continued

Category	Criteria		Indicator
Social and Cultural Environment	Landowner and Public Acceptance	•	Ability to be accepted by landowners and community including First Nations and Indigenous consultation. This includes acceptance of impacts to trees.
	Short-term Impacts to Community	•	Ability to limit short-term (2 to 5 years) negative impacts, such as erosion damage, closures and noise, on the community. Impacts relate to doing nothing or during construction.
	Long-term Impacts to Community	•	Ability to produce long-term positive impacts, such as improved environment, education, amenities, and aesthetics, on the community. Impacts relate to doing nothing or following construction (including climate change sustainability).
	Flood Hazard to Public	•	Ability to reduce impacts to private and public property (i.e., dwellings, pathways, etc.) resulting from flooding.
	Cultural Heritage and Archaeological Resources	•	Ability to protect built heritage resources, cultural heritage landscapes and archaeological resources.
Economic Environment	Capital Cost	•	Estimated capital costs for implementing the alternative solution.
		•	Includes consideration for tree removals and restoration (including off-site plantings), based on a relative comparison of the area of disturbance, and potential for restoration based on a 3:1 planting to removal ratio, and a spacing of 2.5 m on centre for plantings.
		•	Includes consideration for excess soils based on a relative comparison of the area of disturbance/volume of excavated material.
		•	Capital costs determined at the evaluation stage based on a rate of \$5,000/linear metre for natural channel design sections, and \$1,000/linear metre for floodplain connections.
	Lifecycle Cost Consideration	•	Ability to limit the long-term reoccurring costs of intervening to address chronic erosion issues, such as reoccurring erosion over a span of 30 years.
	Cost Effectiveness (Economy of Scale)	•	Ability to provide multiple improvements, such as more infrastructure protection and less environmental and social disturbances, at a cost less than the total of completing all the improvements separately. Includes the ability for Toronto Water to partner and share costs with other infrastructure owners with infrastructure at risk of erosion.
	Climate Change Risk	•	Ability to buffer against financial uncertainties of climate change.

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Evaluation Criteria - Continued

Category	Criteria		Indicator
Technical and Engineering Considerations	Regulatory Agency Acceptance	•	Ability to satisfy regulatory agency (City of Toronto, Toronto and Region Conservation Authority, Fisheries and Oceans Canada, Urban Forestry, provincial) mandates.
	Ease of Implementation/Con structability	•	Potential impacts to surrounding infrastructure during and after construction. Ability to limit tree removals and excess soils. Soils estimated based on an assumed mean depth of 1.5 m.
	Resource Effectiveness	•	Ability to provide multiple improvements, such as more infrastructure protection, using less operational resources than if the improvements were completed separately. Includes the ability to reduce engineering, permitting and administration services to free up resources for other priority work.
	Climate Change Adaptation	•	Ability to satisfy regulatory mandates in response to climate change. This includes to support habitat restoration benefits, long-term generational benefits, and resiliency and sustainability benefits that may still be in development stages with reference to existing policies and mandates.



Preliminary Preferred Alternatives

Alternative 2 (local works) : Project Sites 4, 5, 6, 7, 10, and 11.

Floodplain connectivity enhancements between sites in Alternative 3 are not as essential.

- Relatively accessible floodplain through Project Sites 4 and 11, including connectivity upstream and/or downstream.
- Project Site 10 has connected floodplain through design stretch upstream, while downstream heavily confined between Leslie Street and valley slope, and has undergone armouring through retaining wall (armourstone) along Leslie Street embankment.
- Project Sites 4 and 5 has accessible floodplain locally, and extending upstream and/or downstream. Realignment within existing footprint can address erosion risk, laterally.

Site constraints limit the amount of grading through immediate site and/or upstream/downstream.

- Project Site 6 is located within a narrow corridor associated with Canadian National Railway (CN) rail crossing, sanitary sewer and maintenance hole, and multi-use trail. Downstream sites are better connected to floodplain, as are upper sties (bars, benches, lower banks). Degradation occurs mostly through Project Site 6 itself.
- Project Site 10 is situated between the valley wall and Leslie Street embankment but is well connected to a stable channel upstream and downstream.

In general, erosion issues less severe in these projects (i.e., no immediate exposure). Issues can be addressed through local treatments, without major corridor realignment and grading. Therefore, these have a greater life cycle cost consideration.

Landowner and public acceptance scores higher for Alternative 2.

Alternative 2 has less construction impacts, less tree removals, less bulk excavation and grading, better cost effectiveness, and these address climate change risk with respect to Toronto Water infrastructure.

Multiple improvements can be made with local works (erosion mitigation, aquatic and riparian enhancements), and sites can be clustered into single projects (e.g., Project Sites 5 and 7).



Preliminary Preferred Alternatives

Alternative 3 (local works with floodplain connections) : Project Sites 1, 2, 3, 8. and 9

Addresses erosion risk and sustainability of sewer protection works

Combined realignment and floodplain connectivity will reduce flooding impacts; the channel will be able to convey higher flows in floodplain, reducing overall erosion, which can be significant under extreme events (that are becoming more common), resulting in a longer lifespan of proposed concept designs.

Allows for strategic restoration and tree preservation plans to be balanced between areas of grading within local works and those associated with floodplain connections (longitudinally) to maintain the overall flood hazard reduction and in-stream erosion reduction

- There is potential for terrestrial habitat improvements along connecting reaches while minimizing tree impacts with floodplain regrading objectives. Detailed tree surveys can be used direct floodplain grading to minimize damage or removal of trees.

Cost effectiveness: ability to provide multiple improvements by completing single projects for multiple sites, with the ability to cost share with other Toronto department (e.g., Parks and Forestry, Transportation).

- Grouping projects into one construction period, creates efficiencies in design costs (one contract, one drawing set), construction costs (mobilization, access, staging, bulk materials), and permitting/approvals costs (Fisheries and Oceans Canada, TRCA, Ontario Ministry of Natural Resources and Forestry), for example.
- Provides adequate protection for exposed or near-exposed Toronto Water infrastructure, but at a lesser cost than reach works (Alternative 4), and with less disturbance and materials requirements as profile modifications not proposed throughout.

Resource effectiveness: ability to provide multiple improvements with greater efficiency and less permitting

Projects are proximal to each other or address several existing or imminent risk sites; therefore, by connecting local work sites, there is a greater efficiency in permitting and approvals and will be better phased than Alternatives 2 and 4. Projects may be awarded through single RFPs (depending on phasing), allowing for better scope and cost controls with design consultants.

Alternative 1 (monitoring, do nothing): Project Site 12























German Mills Creek Geomorphic Systems Master Plan EA (GSMP)

Project Site 12 – Bestview Tributary





GSMP Overview

- Geomorphic Systems Master Plan (GSMP) aims to identify and prioritize erosion sites for at-risk Toronto Water (TW) infrastructure within German Mills Creek from Steeles Avenue to the East Don River, including concept design plans
- Channel incision, widening, and migration has exposed three (3) sanitary sewer ۲ maintenance holes and is threatening TW infrastructure throughout the study area, while also undermining or destabilizing existing erosion protection measures
- Twelve (12) project sites have been identified and ranked based on erosion risk from a larger inventory of erosion risk sites.
- The GSMP study is currently in Phase 3 to evaluate alternative solutions for each of the project sites
- The subject of this presentation is Project Site 12 (Bestview Tributary) that may ٠ be of interest to TRCA's erosion monitoring program
 - No TW infrastructure at risk, but included in GSMP due to highly active channel along toe of slope adjacent to residential properties.






GSMP Project Sites – Project 12



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Project Site 12 – Bestview Tributary

- Bestview Tributary has been identified as a single Project Site in the GSMP, with an upper and a lower reach, and extends from a stormwater outfall to its confluence with German Mills Creek
- Two reaches have been delineated for this tributary as it transitions from an ۲ armourstone channel to natural gully-type system.
 - Upper reach an armourstone channel (bank and bed treatments), but transitions into valley-toe protection (armourstone wall) along the right bank (looking upstream)
 - Overall, upper, armoured segments appear stable with minor settlement of the armourstone treatments.
 - Lower reach very active with potential over long-term to pose risk to adjacent properties along the top of valley.
 - Wood debris, valley slope processes, channel enlargement and lateral channel adjustment observed



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Project Site 12 – Bestview Tributary

- Property lines located along top of slope (pink in image, right).
- Channel traces for the lower ~200m reveal that channel banks have been in proximity to toe of slope over past 15 years, but significant cutoffs resulted in the loss of two meanders.
- Given this activity over a relatively brief period of time, ٠ and potential for cutoffs to come online again or new meanders develop as blockages may occur (wood debris and slope/bank failures), Bestview Tributary has been considered as a Project Site in the GSMP, but of the lowest priority with respect to TW infrastructure.
- Recommend that TRCA monitor site and consider future restoration and erosion mitigation works should the toe erosion and slope instability worsen in the future.







Additional Photos – Bestview Tributary Upper Reach (August 2021)



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Additional Photos – Bestview Tributary Lower Reach (August 2021)



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Responses to Notices of Commencement



November 23, 2022

BY E-MAIL ONLY (germanmills@toronto.ca)

Tracy Manolakakis City of Toronto Metro Hall, 19th Floor 55 John Street, Toronto, ON, M5V 3C6

Dear Tracy Manolakakis,

Re: Notice of Study Commencement German Mills Creek Geomorphic Systems Master Plan Don River Watershed; North York Community Council Area; City of Toronto

Toronto and Region Conservation Authority (TRCA) staff received the Notice of Study Commencement for the above noted Master Plan (MP), on October 3, 2022. As a recognized commenting agency under the Ontario Environmental Assessment Act, TRCA has interests in this project.

PROJECT OVERVIEW

It is TRCA staff's understanding that the City of Toronto is undertaking a Municipal Class Environmental Assessment (MCEA) that involves identifying at-risk sewer and watermain infrastructure located within German Mills creek. Due to high flows from storms and snow melt runoff, significant erosion has taken place within the study area. To encompass how natural and human factors have shaped its form and function over time, 2 km of German Mills Creek will be assessed which connects to East Don River downstream.

The study will focus on:

- Identifying sewers, watermains and outfalls located within the creek that are at risk from erosion caused by flows from storms and snow melt runoff
- Developing, evaluating and recommending solutions to reduce erosion impacts on the infrastructure, while improving aquatic and terrestrial habitats

The proposed study will be undertaken as a Master Plan under the Municipal Class Environmental Assessment Study process under the Ontario Environmental Assessment Act. Public and agency participation will be a key component of the study. Trail conditions or trail improvements, forestry or ravine amenities are not part of this study but may be undertaken by the City of Toronto in the future.

TRCA COMMENTING ROLES

As detailed in TRCA's 2014 <u>The Living City Policies</u> (LCP), TRCA has a number of commenting roles relative to its review of this environmental assessment, including:

1. Regulatory Authority

- 2. Delegated Provincial Interests
- 3. Public Commenting Body
- 4. Resources Management Agency
- 5. Service Provider
- 6. Land Owner
- 7. Source Protection Authority under the Clean Water Act

These are further detailed in Appendix A: TRCA Commenting Roles.

TRCA AREAS OF INTEREST

In relation to this application, TRCA staff has identified a number of areas of interest within the study area related to these various commenting roles, including:

- 1. TRCA Program and Policy Areas
 - a. Natural System Programs and Policies
 - b. Sustainability Programs and Policies
- 2. Provincial Program Areas
- 3. Federal Program Areas

Further details are provided in Appendix B: TRCA Areas of Interest.

In relation to these areas of interest, please be advised that TRCA has select digital data available through an open data platform on the <u>TRCA website</u> that should be used to supplement the existing conditions analysis in the development of the environmental assessment. Upon request, TRCA can provide additional data for areas of interest not available on the web. Please contact the undersigned as needed.

ASSESSMENT OF ALTERNATIVES

In developing, evaluating and selecting alternatives, staff require the LCP policies be considered. TRCA staff recommends the preferred alternative meets the policies of Section 7. In particular, impacts to and opportunities for the following should be addressed:

- 1. Flooding, erosion or slope instability
- 2. Existing landforms, features and functions
- 3. Aquatic and terrestrial habitat and functions, including connectivity
- 4. TRCA property and heritage resources
- 5. Environmental best management practices that support climate change mitigation and adaptation
- 6. Community and public realm benefits

TRCA requires that the preferred alternative considers avoiding, minimizing, mitigating, and compensating impacts to the ecosystem, and avoid, mitigate or remediate hazards, in that order. In order to fulfil requirements of Ontario Regulation 166/06 at the detailed design stage, staff also requires that the preferred alternative meets LCP policies in Section 8.

In order to ensure TRCA concerns are addressed early in the review process, it is recommended that the TRCA planner be contacted when key project milestones are reached, as detailed in **Appendix C: Recommended Contact Points.** Prior to selecting any preferred alternative solutions and design, please arrange a meeting to discuss issues that relate to our program and policy concerns. Please also contact the planner to discuss the appropriate time for a site visit; please ensure the TRCA planner is included in the technical advisory committee; and please add Johanna Kyte, Government and Community Relations Specialist to the project mailing list to receive any public information updates.

SUBMISSION REQUIREMENTS

As this project proceeds through the various stages of the Master Plan process, please ensure the following is provided to TRCA for review and comment as the appropriate time:

Digital Submissions

- 1. All technical advisory committee meeting agendas, as well as draft and final meeting minutes
- 2. All TRCA technical meeting agendas, as well as draft and final meeting minutes
- 3. Draft public information boards, prior to public review
- 4. Notices of public meetings, including final display material and handouts
- 5. Draft Phase 1 and 2 Report, if applicable
- 6. Draft technical reports and associated materials, including a covering letter that outlines the project purpose and lists the reports enclosed for review
- 7. Draft evaluation criteria and matrices, including a summary that details how the criteria and weighting (if applicable) were established
- 8. Draft MP document, including a covering letter that outlines how previous TRCA comments have been addressed
- 9. Final MP document, including a covering letter that outlines how previous TRCA comments have been addressed
- 10. Ensure all materials are submitted in PDF format, with drawings pre-scaled to print on 11"x17" pages.
- 11. Materials submitted through e-mail must be less than 5 MB.
- 12. Materials submitted through a file transfer protocol (FTP) site must be posted a minimum of two weeks.

Please note, prior to submitting the technical reports and materials, as well as appendices related to the draft and final EA documents, it is recommended that the project manager be contacted so that review requirements can be scoped to the TRCA areas of interest.

REVIEW FEES

Please be advised that this application is subject to a \$19,465.00 (Master Plan, Standard) application review fee as per our *Fee Schedule*. Please note:

- 1. To ensure accurate processing of your fee, <u>please ensure your accounting department references</u> <u>CFN 68044</u> when making any payments.
- 2. Payment method and timing must be noted in your covering letter response.
- 3. Additional fees are applied as per the fee schedule for reviews beyond two (2) three (3) submissions, including the final.

- 4. Payments can be made by:
 - a. Cheque: please attach the cheque to your resubmission. Alternatively, if sending separately through your accounting department, please request your accounting department submit the cheque to the attention of Oxana Stanislavskaya - Accounting Clerk, Finance Corporate Services, TRCA.
 - b. <u>Credit Card</u>: please contact Oxana Stanislavskaya at (437)-880-2342 for payments made over the phone.
 - c. Electronic Fund Transfer: this option may be available through your accounting department.

Should you have any questions, please contact me at (413)-880-2392 or at Justin.LeePack@trca.ca.

Regards,

Hand

Justin Lee Pack Planner, Infrastructure Planning and Permits **Development and Engineering Services**

/JLP

Attached:	Appendix A: TRCA Commenting Roles
	Appendix B: TRCA Areas of Interest
	Appendix C: Recommended TRCA Contact Points

BY E-MAIL

cc: TRCA: Beth Williston, Associate Director, Infrastructure Planning and Permits Sharon Lingertat, Senior Manager, Infrastructure Planning and Permits Zack Carlan, Senior Planner, Infrastructure Planning and Permits Johanna Kyte, Government and Community Relations Specialist Don Ford, Senior Manager, Hydrogeology and Source Water Protection Ashour Rehana, Project Manager, Erosion Risk Management Edlyn Wong, Senior Property Agent, Property Management

APPENDIX A: TRCA COMMENTING ROLES

TRCA COMMENTING RC	DLES				
Public Commenting Body					
Environmental Assessment Act	Pursuant to the federal and provincial Environmental Assessment (EA) Acts , conservation authorities are a commenting body. Conservation authorities are also responsible for comments made under environmental assessment (EA) exemption regulations, and the Ontario and National Energy boards. TRCA reviews and comments on environmental assessment that occur within TRCA's jurisdiction under these various forms of legislation.				
Delegated Provincial Int	erests				
Hazard Lands	As outlined in the Conservation Ontario/ Ministry of Natural Resources and Forestry/ Ministry of Municipal Affairs and Housing Memorandum of Understanding on CA Delegated Responsibilities, CAs have been delegated the responsibility of representing the provincial interest on natural hazards encompassed by Section 3.1 of the PPS 2020.				
Conservation Authoritie	es Act				
Regulatory Authority					
Ontario Regulation 166/06 , Development, Interference with Wetlands and Alterations to Shorelines and Watercourses	In accordance with Ontario Regulation 166/06 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses), a permit is required from the TRCA prior to any development (e.g. construction) if, in the opinion of TRCA, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land may be affected. The Regulation Limit defines the greater of the natural hazards associated with Ontario Regulation 166/06 (listed below). NOTE: The Regulation Limit provides a geographical screening tool for determining if Ontario Regulation 166/06 will apply to a given proposal. Through site assessment or other investigation, it may be determined that areas outside of the defined Regulation Limit require permits under Ontario Regulation 166/06. In these instances, it is the text of the regulation that will prevail; modifications to the regulation line may be required. Any development within the Regulation Limit must comply with the applicable sections of The Living City Policies (2014).				
Resources Management	t Agency				
TRCA Programs	In accordance with Section 20 and 21 of the Conservation Authorities Act , CAs are local watershed-based natural resource management agencies that develop programs that reflect local resource management needs within their jurisdiction. TRCA has developed programs and policies related to our role as a resource management agency that include, but are not limited to, watershed plans, fisheries management plans, land management plans, ecosystem restoration programs, and The Living City Policy (2014), which are approved by the TRCA Board.				

	Please confirm that the preferred alternative design for this project addresses
	TRCA concerns related to its program areas. These will be further defined through
	the EA review process.
Landowner	
	TRCA is a major landowner in the GTA, owning close to 18,000 hectares of land.
TRCA Property	TRCA comments provided as a landowner are separate from comments provided
	under a technical, advisory or regulatory role.
	If TRCA property land transfer or easement is required for the implementation of
	the preferred alternative, permission and approval from TRCA and the Minister of
	Natural Resources and Forestry are required. The design must demonstrate that
Acquisition and	TRCA program and policy objectives are met. Formal approval typically takes 12
Fasement	to 18 months from the completion of the FA document
	Please Edlyn Wong, Senior Property Agent/Property Agent at
	Edlyn Wong@trca ca for additional information
	If TRCA property access is required for the purpose of completing technical
	studies associated with this project, a Permission To Enter (PTE) must be
	obtained from TRCA Property staff prior to entry.
Permission to Enter	
	Please contact Stella Ku, Property Coordinator at Stella Ku@trca.ca for additional
	information.
	An archaeological review by TRCA's archaeological staff must precede any
	disturbance to TRCA property. If an archaeological assessment is required.
	scheduling will be subject to weather, seasonal programs and other field work
Archaeological	and are at additional cost to the proponent.
Resources	
	Please contact Alistair Jolly. Archaeologist at alistair.jolly@trca.ca for additional
	information.
Service Provider	
	Service Level Agreements: TRCA has service level agreements to provide EA
	Review services to various partners within specific service delivery timelines. Fees
	are charged as per agreement stipulations: review fees are not charged for
	individual files.
Service Level	
Agreements and	Memorandum of Understandings: The provision of planning advisory services to
Memorandum of	municipalities is implemented through a Memorandum of Understandings (MOU)
Understandings	with participating municipalities or as part of a CA's approved program activity. In
	this respect, the CA is essentially acting as a technical advisor to municipalities.
	The agreements cover the CA's areas of technical expertise such as water
	management, natural hazards, and natural heritage.
	TRCA requires that the preferred alternative considers avoiding, minimizing.
Restoration	mitigating, and compensating impacts to ecosystems in that order. In areas
Opportunities	where impacts are unavoidable, mitigation or compensation will be required. It is

	recommended that the costs associated with these impacts be factored into
	decisions made during the EA.
	TRCA has identified opportunities for habitat restoration and enhancement on
	TRCA property and some privately owned lands, targeted to improve natural
	form and function based on goals in the watershed strategies. Should ecosystem
	restoration or compensation be required for this project, TRCA may be able to
	provide both restoration opportunities and restoration field services on a project
	specific basis. This will be further discussed through the EA review process.
	TRCA understands that the purpose of providing project-based community
	benefits is to provide measurable economic benefits to the local community, and
	that the purpose of providing public realm benefits is to support local
	opportunities for social and environmental improvements.
	As part of the 2013-2022 <u>TRCA Strategic Plan</u> (updated), TRCA has identified the
Community and	need to achieve measurable positive impacts on the health of our watersheds
Public Realm Benefits	and has developed a number of programs that actively engage with local
	communities to support a green, local economy. These programs include but are
	not limited to, <u>Sustainable Neighbourhood Retrofit Action Plans</u> , <u>TRCA</u>
	Conservation Land Care Program, Partners in Project Green.
	It is recommended that commitment be made to work with TRCA and other
	partners to develop a Community and Public Realm Benefits Strategy for this
	project. This will be further discussed through the EA review process.

APPENDIX B: TRCA AREAS OF INTEREST

TRCA PROGRAM	AND POLICY AREAS
Note: Additional p	program and policy information may be available at <u>www.trca.ca</u> , or by request.
Natural System P	rograms and Policies
Systems Approach	TRCA follows a systems approach in which the natural features and water resources are considered in relation to each other and the broader landscape in which they occur. The systems approach recognizes the role that linkages and connectivity within the natural system has in supporting ecological and hydrologic processes and functions that are vital to maintaining a healthy and robust natural system that is resilient against the impacts of urbanization and climate change. TRCA may require an assessment of the existing systems, together with an evaluation as to how the proposal may impact the systems.
Aquatic	The aquatic system includes watercourses, wetlands, and flora and fauna species. Aquatic species and habitat should be assessed based on their conservation status according to sensitivity to disturbance and specialized ecological needs, as well as rarity.
Systems, Species and Habitat	TRCA has prepared watershed plans or strategies, as well as fisheries management plans for some watersheds. The proposal must prevent negative impacts to the aquatic system, and as such, TRCA may require an assessment of the existing aquatic system, an evaluation as to how the proposal will meet the objectives articulated in the watershed plan or strategy, and/or an evaluation as to how the proposal will meet the objectives of the fisheries management plan.
	The terrestrial system includes landscape features, vegetation communities, and flora and fauna species. Terrestrial species and habitat should be assessed based on their conservation status according to sensitivity to disturbance and specialized ecological needs, as well as rarity.
Terrestrial System, Species and Habitat	TRCA has identified the need to improve both the quality and quantity of terrestrial habitat. TRCA's Terrestrial Natural Heritage System Strategy sets measurable targets for attaining a healthier natural system by creating an expanded and targeted land base. It includes strategic directions for stewardship and securement of the land base, a land use policy framework to help achieve the target system, and other implementation mechanisms.
	TRCA may require an assessment of the existing terrestrial species and habitat, together with an evaluation as to how the proposal will meet the objectives articulated in the watershed plan or terrestrial natural heritage strategy, as well as prevent negative impacts to the terrestrial system.
Groundwater Syst	tems
Aquifers and Hydrogeological	Groundwater systems include aquifers and their functional connections to surface water. The extraction and discharge of groundwater has the potential to negatively impact surrounding natural features and their functions. Even small amounts of

Features and	groundwater extraction may reduce contributions to groundwater dependent features
Functions	such as wetlands, springs, or fish spawning habitat. In addition, the discharge of
	groundwater must be controlled to avoid impacts to watercourses and fish habitat from
	temperature, erosion and sedimentation, as well other water quantity and quality
	issues.
	TRCA may require geotechnical or hydrogeological investigations to confirm dewatering
	and discharge requirements, and to identify appropriate mitigation measures with
	respect to potential impacts to natural features and functions.
Surface Water Sys	stems
	Typically, watercourses are associated with aquatic species, and direct or indirect
	habitat. Any alteration or interference to a watercourse (e.g., straightening, diverting,
	realigning, altering baseflow) has the potential to impact fish communities, but may
Watercourses	also affect the Regulatory Flood Plain, erosion or other natural channel processes.
	TRCA may require an environmental study or site confirmation of watercourse
	locations.
	Channel migration has a significant impact on infrastructure, structures and property
	located near river systems. Determining channel stability is important to ensure that
Meander Belt	damage from erosion, down-cutting of other natural channel processes is avoided.
	TRCA may require a meander belt delineation study or fluyial geomorphology analysis
	to confirm that any development does not conflict with natural channel processes.
	The Regulatory Flood Plain is the approved standard used in a particular watershed to
	define the limit of the flood plain for regulatory purposes. Within TRCA's jurisdiction,
	the Regulatory Flood Plain is based on the greater of the regional storm, Hurricane
Regulatory	Hazel, and the 100-year flood. TRCA's framework for Flood Plain Management is the
Flood Plain	LCP.
	TRCA may require a flood study or hydraulic update to confirm that there will be no
	impacts to the storage or conveyance of flood waters.
	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 of drinking water at its source.
	TRCA requires all development infrastructure and site alteration meet the criteria in
Storm Water	the TRCA 2012 Stormwater Management Criteria document for water quantity, water
Management.	quality, erosion control, discharge water temperature, and water balance for
including Green	groundwater recharge and natural features.
Infrastructure	
	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.

Flood or Erosion Control Structures Valley Slopes	For further information, please refer to the <u>TRCA Introduction to Green Infrastructure</u> , the Sustainable Technologies Evaluation Program (STEP) – <u>Urban Runoff Green</u> <u>Infrastructure</u> and the STEP 2010 <u>Low Impact Development Stormwater Management</u> <u>Planning and Design Guide</u> . There is an existing flood or erosion control structure (e.g., dam, weir, berm, channel) located in the project vicinity that must be considered as the project proceeds. A meeting with TRCA should be arranged as early as possible. Valley and stream corridors are dynamic systems that provide important natural
Crest of Slope	functions and linkages for the physical, chemical and biological processes of wildlife, watercourses, and other natural features. The crest of slope identifies the physical limit of these corridors; however, due to ecological sensitivities, development restrictions typically extend beyond the actual crest of slope. TRCA may require the determination of the long term stable crest of slope (or toe of slope) through a staking with TRCA staff, as well as a geotechnical assessment.
Sustainability Pro	grams and Policies
Climate Change	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 2020 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, as further described below. It is recommended that a completed <u>Sustainable</u> <u>Technologies for Green Building, Green Infrastructure, and Sustainable Energy Design in</u> <u>Evaluation Matrix</u> be included in the EA document.
Sustainable Infrastructure & Buildings	The sustainability of infrastructure and buildings determined through a variety of factors through planning, design, construction, operation, maintenance and decommissioning. Sustainability factors include the efficiency environmental impact of project inputs through all phases, including energy, water and natural resources/materials. The type and amount of energy used in construction and operation is one of the most significant factors affecting climate change, the ecological footprint of our communities, and ultimately our ability to create sustainable communities.
	TRCA advocates that proponents consider the use of appropriate sustainable energy

	networking (e.g., community energy project), technologies (e.g., solar lights, etc.) and practices (e.g., selection of materials, transportation of materials, energy efficiency.
	passive solar energy) in their projects.
	Various sustainability best management practices include sustainable procurement, reusing resources, using recyclable/recycled resources, protecting natural systems, eliminating toxics, applying life-cycle costing and ensuring a high quality of construction. If designed appropriately, sustainable infrastructure or buildings generally cost less to operate, are more resilient and adaptable as comparted to standard designs and are an aesthetic and environmental benefit to the community.
	TRCA recommends that a commitment to sustainable infrastructure or buildings through all project phases be made in the EA document. Please consider using a rating system such as Envision or LEED to guide the EA and detailed design.
Sustainable Communities	The TRCA Living City vision is based on a foundation that includes Sustainable Communities. Planning for community sustainability requires the identification of the complex and inter-related social, economic and ecological systems involved; TRCA supports a systems approach to developing integrative and adaptive solutions to improve community sustainability. Key socio-economic systems include: transportation facilities (including trails, sidewalks & multi-use pathways), community greenspaces (including parks), urban forests, cultural heritage resources, and the local economy. For transportation projects, a context sensitive design/solutions framework are encouraged.
Archaeological and Heritage Resources	TRCA watershed strategies include recommendations for the management of archaeological and heritage resources in accordance with Ministry of Culture and Municipal standards. The project should aim to preserve, protect and celebrate archaeological and heritage resources where possible.
PROVINCIAL PRO	GRAM AREAS
Greenbelt Plan	The Greenbelt consists of more than 809,000 hectares of environmentally sensitive land, urban river valleys and agricultural land in the Golden Horseshoe. The Greenbelt Plan identifies limits to urbanization to provide permanent protection to the agricultural land base and the ecological features and functions occurring within this landscape. Contact the Ministry of Municipal Affairs and Housing for more details. Please confirm that the preferred alternative design for this project conforms with Section 4.2 Infrastructure Policies and Section 6. Urban Biver Valley Policies of the
	Greenbelt Plan.
	The Clean Water Act, 2006 ensures communities protect their drinking water supplies
Credit Valley -	through prevention by developing collaborative, watershed-based source protection
Toronto &	plans that are locally driven and based on science.
Region - Central	
Lake Ontario	Please be advised that the subject property appears to fall within the Highly Vulnerable
(CTC) Source	Aquifers (HVA) as described in the Toronto and Region Source Protection Authority
Protection Plan	(TRSPA) Assessment Report. Please confirm that actions undertaken for this project
	conform with the policies contained within the <u>Credit Valley - Toronto and Region -</u>

<u>Central Lake Ontario Source Protection Plan</u> (CTC SPP). Please note that vulnerable areas identified under the Clean Water Act are documented in the <u>Ontario Source</u> <u>Protection Information Atlas</u>.

For additional support, please consult the Regional Risk Management Office/Official as copied on this letter.

Please note that in accordance with Ontario Regulation 166/06, permits from TRCA may be required for mitigation solutions that are designed to ensure conformity with the CTC SPP.

PROVINCIAL PROGRAM AREAS

Please contact the Ministry of Natural Resources and Forestry to confirm if there are program interests related to this project for:

- Areas of Natural and Scientific Interest (ANSI)
- Provincially Significant Wetlands (PSW)
- Provincially Endangered Species under the Species at Risk Act (SARA)

Please be advised that this list is not inclusive and the onus is on the proponent and it consultants to consult with other provincial agencies, as required, to ensure that requirements of their respective legislation is met.

FEDERAL PROGRAM AREAS

Please contact the relevant federal agency to confirm if there are issues related to:

- Asian Long-horned Beetle Regulated Area
- Federally Endangered Species under the Endangered Species Act (ESA)
- The Fisheries Act

Please be advised that this list is not inclusive and the onus is on the proponent and it consultants to consult with other provincial agencies, as required, to ensure that requirements of their respective legislation is met.



Appendix C: Recommended TRCA Contact Points in the Municipal Class EA Process

Toronto and Region Conservation Authority | 13



August 22, 2024

CFN 68044

BY E-MAIL ONLY (Tracy.Manolakakis@toronto.ca)

Tracy Manolakakis City of Toronto Metro Hall, 19th Floor 55 John Street, Toronto, ON M5V 3C6

Dear Tracy,

Re: Response to Draft Environmental Assessment File Report City of Toronto German Mills Creek Geomorphic Master Plan Municipal Class Environmental Assessment – Master Plan Don River Watershed; City of Toronto; North York Community Council Area

These comments respond to the draft Environmental Assessment File Report received by Toronto and Region Conservation Authority (TRCA) for the above-noted project on May 31, 2024.

PROJECT OVERVIEW

TRCA staff understand that the City of Toronto is currently undertaking the German Mills Creek Geomorphic Systems Master Plan (GMCGSMP) which comprises a comprehensive investigation of the factors that have contributed to stream bed, bank, and erosion control infrastructure damage within the German Mills Creek system in the City of Toronto. The study area is located within the German Mills Creek sub watershed, which comprises a portion of the larger Don River watershed. The entirety of German Mills Creek extends 26 km in length and contains a drainage area of approximately 41.7 km². Its headwaters originate on the southern slope of the Oak Ridges Moraine, eventually draining into the Don River East Branch. The German Mills Creek sub watershed is highly urbanized, and the creek has undergone historic channel realignments and straightening.

The Master Plan allows for an integrated planning approach for German Mills Creek within the City of Toronto, and a methodology for implementing the necessary rehabilitation efforts. In evaluating options, a broad-based process is used including functional performance, environmental, social, and economic considerations. The Master Plan uses the MNR (2001) guide, "The Adaptive Management of Stream Corridors in Ontario," as the foundation for defining the appropriate content for EA purposes at different study stages. The assessment integrates information including hydraulic and hydrologic modeling, existing infrastructure, terrestrial, vegetative, and aquatic habitat, land use changes within the watershed, historical adjustments to channel planform, geomorphic conditions, and geologic data which allows for a comprehensive evaluation of the preferred alternatives to be presented.

Work on the GMCGSSMP will take into consideration past and concurrent erosion control projects, assessments, and designs. The study will be completed within the framework of the Municipal Class Environmental Assessment process for Schedule B projects, with the integration of methodologies from the MNR *Adaptive Management of Stream Corridors* (2002) protocol.

The assessments and investigations conducted as part of the GMCGSMP will identify Toronto Water infrastructure locations that cross beneath the channel, run parallel to the channel, or are within an eroding bank, to determine the amount of protection (depth of cover, lateral distance, toe protection, extent of exposure), the rate of change, and forecast how much time will elapse before the current degree of protection is lost and the infrastructure will either be exposed and/or potentially fail. The goal of the assessment is to identify high risk sites along the study watercourse and prioritize the sites for restoration. Based on the results, conceptual restoration plans for high priority sites will be developed.

The Phase 1 report established a problem/opportunity statement and summarized all of the reviewed background information for the site. The purpose of the Phase 2 Development of Alternative Solutions report is to further document the existing conditions, summarize the geomorphic, aquatic, and terrestrial assessments, evaluate the hazards to Toronto Water infrastructure, and assign a risk priority to identified sites.

PROJECT REVIEW

TRCA staff have reviewed the Draft Report as part of the Master Plan process and have provided comments in line with TRCA's commenting role under the Environmental Assessment Act. It is understood that the City of Toronto will progress through Phases 1, 2 and 5 of the Master Plan process which does not include the Final Master Plan Report. City staff will continue to contact TRCA and consult with TRCA as the process moves forward to receiving comments that are in line with the noted TRCA commenting roles. At this time, staff have provided the following comments as per **Appendix B**.

It is worth noting that TRCA Erosion Risk Management (ERM) staff have also provided comments/updates with respect to the TRCA proposed works that are currently underway within the German Mills Creek study area. TRCA IPP staff (as lead contact for this EA) and ERM staff will continue to coordinate as this Master Plan process moves forward.

COMMENTING ROLE

Staff have reviewed the study area associated with this project in accordance with the Conservation Authorities Act, including mandatory commenting on Planning Act and Environmental Assessment Act applications. TRCA undertakes review and commenting functions in accordance with <u>The Living City Policies</u>.

RESUBMISSION REQUIREMENTS

- Follow the TRCA Digital Submission Requirements for Environmental Assessment Documents to ensure all required information is provided in future submissions.
- Please ensure the Final Report as part of the Master Plan, responses to TRCA comments and all updated reports part of the Master Plan are provided to TRCA staff for review.
- This application is subject to a \$18,000.00 application review fee as per our <u>Fee Schedule</u>. For payment options, refer to <u>How to Pay TRCA Review Fees</u>. Ensure your accounting department references CFN 68044 when making payment.

Should you have any questions or comments, please contact the undersigned.

Regards,

Sabriya Jahangir

Sabriya Jahangir Planner, Infrastructure Planning and Permits Development and Engineering Services Telephone: 437-880-2343 Email: <u>sabriya.jahangir@trca.ca</u>

Attached: Appendix A: Documents Reviewed by TRCA

Appendix B: TRCA Comments and Proponent Responses

Enclosed: Appendix B: TRCA Comments and Proponent Responses, WORD digital file for consultant/proponent response purposes

BY E-MAIL

cc: Matrix Solutions Inc.: TRCA:

Roger Phillips, Senior Geomorphologist Zack Carlan, Senior Planner, Infrastructure Planning and Permits Sharon Lingertat, Senior Manager, Infrastructure Planning and Permits Ashour Rehana, Manager, Erosion Risk Management

APPENDIX A: DOCUMENTS REVIEWED BY TRCA

DOCUMENTS REVIEWED

- 1. German Mills Creek Geomorphic Systems Master Plan, Draft Environmental Assessment File Report; prepared by Matrix Solutions Inc.; dated May 2024; received by TRCA on May 31, 2024;
- 2. German Mills Creek Geomorphic Systems Master Plan, Appendix A: Master Class Environmental Assessment; prepared by Matrix Solutions Inc.; dated May 2024; received by TRCA on May 31, 2024;
- 3. German Mills Creek Geomorphic Systems Master Plan, Appendix B: Background, Data Gaps and Problem Confirmation (Phase 1); prepared by Matrix Solutions Inc.; dated May 2024; received by TRCA on May 31, 2024;
- 4. German Mills Creek Geomorphic Systems Master Plan, Appendix C: Characterization and Development of Alternatives (Phase 2); prepared by Matrix Solutions Inc.; dated May 2024; received by TRCA on May 31, 2024;
- 5. German Mills Creek Geomorphic Systems Master Plan, Appendix D: Climate Change Assessment; prepared by Matrix Solutions Inc.; dated May 2024; received by TRCA on May 31, 2024;
- 6. German Mills Creek Geomorphic Systems Master Plan, Appendix E: Short-Term Erosion Monitoring Report; prepared by Matrix Solutions Inc.; dated May 2024; received by TRCA on May 31, 2024;
- 7. German Mills Creek Geomorphic Systems Master Plan, Appendix F: Evaluation of Alternatives (Phase 3); prepared by Matrix Solutions Inc.; dated May 2024; received by TRCA on May 31, 2024;
- 8. German Mills Creek Geomorphic Systems Master Plan, Appendix G: Record of Consultation; prepared by Matrix Solutions Inc.; dated May 2024; received by TRCA on May 31, 2024;
- 9. German Mills Creek Geomorphic Systems Master Plan, Appendix H: Consideration of Detailed Design; prepared by Matrix Solutions Inc.; dated May 2024; received by TRCA on May 31, 2024.

ITEM	TRCA COMMENTS (August 22, 2024)	PROPONENT/CONSULTANT RESPONSE
Plannii	ng Comments	
1.	Staff acknowledge that the Master Plan falls under Schedule B of the Municipal Class Environmental Assessment process which includes Phases 1 and 2 including identification of the preferred solution and mandatory public consultation and documentation, before moving to Phase 5 (Implementation) and does not include the final Environmental Assessment Report.	
	Staff look forward to reviewing the Final Master Plan Report. We recommend that the City continue to involve TRCA staff and consult TRCA Living City Policies with respect to TRCA's policies and their incorporation into an important study such as the GMCGSMP.	
2.	As German Mills Creek is regulated by TRCA, implementation of the preferred alternatives will be subject to the requirements of the Conservation Authority Act. Staff will confirm requirements for each component of the implementation going forward. It is required that in the Final EA it is mentioned that permits are required for all implementation of the German Mills Creek GSMP as the entire area is regulated by TRCA.	
'n	Please note that the study area traverses one of the City's Basement Flooding study areas (29) that completed the EA process. We encourage the City to discuss project options with the applicable Basement Flooding project managers to ensure that the Master Plan studies are coordinated to avoid duplication of efforts, institute improvements to the system, and minimize impacts to the natural system to the extent possible.	
4.	Staff are pleased a section on climate change and climate change assessment has been included in the Master Plan Phase 1 and 2 Reports. Staff recommend that additional phases (and final) of the master plan process continue to incorporate climate change impacts and address promoting mitigation and adaptation through the implementation of the German Mills Creek GSMP.	
ъ.	It is recommended that the City explore the existing conditions of the German Mills Creek study to assess options that look to generally avoid locating any new infrastructure within the natural system (watermains, sanitary, etc.) and if infrastructure is required to be moved or relocated due to associated risks/damage, that the City assess opportunities for moving the subject infrastructure outside the natural system of German Mills Creek. It is understood, considering the system, that there are constraints in some instances with full relocation, but it is recommended by TRCA staff for the City to explore this. If not possible, please add a section to the Draft Master Plan indicating this. Please ensure to provide detailed justification in the EA document indicating why this is not an alternative that is being considered, especially considering it potentially has the least amount of impact on the natural system.	

APPENDIX B: TRCA COMMENTS AND PROPONENT RESPONSES

ا ف	Based on the proposed solutions, intervention into the natural system will be required to remediate infrastructure throughout the watercourse system. Given intervention will be required, and the City is at the planning phase, it is a good time to identify potential improvements/enhancements to the natural system that may be within the vicinity or adjacent to the proposed infrastructure projects. Please look to enhance or improve the natural system at any of the project sites through such initiatives as additional plantings to improve the natural system/hazard lands, wetland enhancements, etc. A section could be added in the detailed design commitment section with regards to this.	
7.	Please confirm if there will be any further EA's for the project sites identified in the Master Plan.	
œ.	Please note that the majority of the German Mills Creek solutions are located on TRCA property under management agreement with the City. TRCA property consultation is required for future works during detailed design phases to address property requirements.	
б	As noted in the Stage 1 Archaeological Assessment Report, a Stage 2 archaeological assessment is required in all of the areas identified as holding potential prior to any ground disturbing activities within the boundaries of the study area. Please ensure that the Stage 2 Archaeological Assessment is completed before the permit issuance process.	
Water	er Resources Comments	
10.	TRCA water resources comments were provided during the Public Information Consultation (PIC) reform, preliminary information and presentation materials on June 7th, 2024, appear to be noted with responses in Appendix G of the draft GMCGSMP received in June 2024. Comment responses are satisfactory, and all water resources comments can be deferred to the earliest stage of detailed design. Additional or new comments on the first submission of the draft GMCGSMP received in June 2024 are provided below.	
11.	Please provide examples of the types of stream restoration techniques that will reduce future channel entrenchment and increase floodplain connectivity within the proposed project site designs.	
12.	Please clarify if the erosion hazard limits (100-year) were interpolated using the 30-year interval preceding the most recent historical data that is available with supporting calculations.	
Geote	echnical Comments	
13.	Depending on the proposed design, geotechnical studies may be required to inform the detailed design of retaining walls and stabilization works. The review will be continued at the detailed design stage.	
Planni	ning Ecology Comments	
14.	Design alternatives should be assessed with regards to minimizing the impacts to adjacent regulated features. Where direct or indirect impacts are anticipated they should follow TRCA's criteria to avoid, mitigate and then compensate. Please add to the document.	
15.	Identify regulated features in each area. Assess and quantify anticipated direct and indirect impacts such that restoration, stabilization, and compensation can be further discussed. Impacts should include any disturbances and/or removals associated with access, grading, excavation, and staging and stockpiling.	



UTILITY CIRCULATION RESPONSE (FOR INFORMATION ONLY) NOT TO BE USED FOR FULL-STREAM PERMIT APPLICATION TO THE CITY OF TORONTO

APPLICANT NAME: THE CITY OF TORONTO

TORONTO HYDRO FILE NUMBER: THU2023-01639CT

CLIENT'S PROJECT NUMBER: German Mills Creek from Steeles Avenue East to East Don River in the west

CLIENT'S DRAWING(S) REVIEWED: EA Public Consultation Notice_EngFINAL.pdf

REPLY DATE: August 21, 2023

RESPONSE:

INFORMATION ONLY

Toronto Hydro is in receipt of your email sent to <u>utility.circulations@torontohydro.com</u>. The information and comments provided herein are for **INFORMATION PURPOSES ONLY** and may **NOT** be used for the purposes of a Full-Stream Permit Application pursuant to the City of Toronto's Municipal Consent Requirements.

The drawing attached hereto is being provided for the purposes of planning only, and must not be used for construction. The Applicant shall be liable for and shall indemnify and hold harmless Toronto Hydro for any damages, losses, liabilities, costs, expenses, including legal fees and consequential damages relating to any act or omission by the Applicant in the use of the attached drawing(s) for any purposes apart from planning on behalf of the Applicant.

NOTICE TO CITY OF TORONTO: Toronto Hydro has **NOT** provided its sign-off pursuant to the Municipal Consent Requirements as of the date written above. Do **NOT** grant a Full-Stream Permit to the Applicant at this time.

In order to identify Toronto Hydro infrastructure in the drawing, locates must be completed in the field.

All proposed work must maintain the minimum horizontal and vertical clearances as per Toronto Hydro Construction Standard 31-0100 & 31-0700, attached hereto. Clearance measurements are taken from the edge of the hydro plant to the edge of the proposed work.

Once the Applicant's planning is complete, the Applicant must submit its drawings to Toronto Hydro once again pursuant to the Circulation and Sign-Offs procedure under the City of Toronto's Municipal Consent Requirements in order to receive Toronto Hydro's sign-off for the purposes of a Full-Stream Application.



Prior to construction

Request locates from Ontario One Call at 1-800-400-2255 or online at http://www.on1call.com.

Review the ESA/TSSA Guideline for Excavation in the Vicinity of Utility Lines, available on the ESA Electrical Distribution Safety website: <u>https://esasafe.com/assets/files/esasafe/pdf/Utilities/Guideline-for-Excavating-Proximity-of-Underground-Distribution-Lines.pdf</u>

Please contact our Customer Offers and Sustainment (COS) Dept. at 416-542-2533 for disconnecting power or Toronto Hydro plant removal before any demolition.

Relocations

Toronto Hydro assets can be relocated at the expense of the Applicant.

If the relocation of Toronto Hydro assets is necessary, please contact Utility Relocations group at <u>utility.relocations@torontohydro.com</u> to begin a relocation request.

After sufficient information has been received to process a relocation request, Toronto Hydro relocation projects typically require 12 to 18 months to be completed.

Toronto Hydro will require a deposit or full payment in advance of doing the work.

Overhead Toronto Hydro Assets – General Guidelines:

Mechanical equipment such as crane and hoist shall not be operated within 3 m of lines or equipment.

No awning, billboard, antenna mast, flag, roof or similar structure shall be installed on the public allowance or immediately adjacent to private property that is within 5 m of lines or equipment.

Underground Toronto Hydro Assets – General Guidelines:

For heavy equipment operation in the vicinity of Toronto Hydro underground plant, ensure the requirements from Toronto Hydro Distribution Construction Standard 31-0500 are met.

Breaking into, or accessing, cable chambers, vaults and handwells is not permitted without consent from the relevant Toronto Hydro Dept., and anyone found to have so done will be prosecuted to the fullest extent of the law and pursued civilly for any damage.

Tunneling within 3m is deemed a conflict that requires a Professional Engineering report to resolve.



N		UNDERGRO	UND	CLEARANCES AS PER C (EDGE TO EDGE)	ITY OF TO	DRONTO	MCR		
		Utilities or	Plan	t	Ver	(feet)	Horizon mm (fee	tal et)	
Daihua		He	avy F	Rail (CN/CP/GO)	Refer to STD		TD. 31-1310		
Railwa	ys	Light I	Rail (TTC/LRT/Metrolinx)	Refer to STD. 31-1200				
Hydro C	ne		All I	nfrastructure	1000	(3'-4")	1000 (3'-	4")	
× 1				Manholes	1000	(3'-4")	1000 (3'-	4*)	
Communic	ation	Canada	С	oncrete Encased Ducts	600	(2'-0")	600 (2'-0)°)	
Communic	auon	Canada		Direct Buried Ducts	300	(1'-0")	600 (2'-0	0")	
		Others		All Infrastructure	300	(1'-0")	600 (2'-0	0")	
Enwave En	nergy	23	St	eam Pipes	600	(2'-0")	600 (2'-0	0")	
Corporat	tion	(Chille	d Water Pipes	300	(1'-0")	300 (1'-0	07)	
A		≤ NPS 3	00 m	m (12") (Open Trench)	300	(1'-0")	600 (2'-0	D")	
Enbridge	Gas	CER Regul	ated (O	Pipelines and Vital Mains pen Trench)	600	(2'-0")	1000 (3-	4")	
National E	nergy	ALL Pipelin	nes D	irectional Drilling/Boring	1000	(3'-4")	1000 (3'-	4")	
Doard			Regu	lator Stations	Consult	with City	1000 (3'-	4")	
	1	1	00.082	Tress	See	Note 1 an	nd Std. 31-0400)	
			Ca	atch Basins	Consult	with City	500 (1'-	3")	
			Traffi	c Signal Ducts	300	(1'-0")	600 (2'-0	27)	
				< 150 (6") Dia.	150	0 (6")	600 (2'-0	0")	
		Storm	15	50 (6°) < 750 (2'-6") Dia.	300	(1'-0")	750 (2'-6	5")	
		Sewer		≥ 750 (2'-6") Dia.	500	(1'-8")	900 (3'-0	0")	
				Maintenance Hole		-	600 (2'-0")		
City of Toronto				< 100 (4") Dia.	150	0 (6")	600 (2'-0)°)	
		Sanitary/	10	00 (4") < 375 (1'-3") Dia.	300	(1'-0")	750 (2'-6	5")	
		Sewer		≥ 375 (1'-3") Dia.	500	(1'-8")	900 (3'-0	0")	
		Sewer		Maintenance Hole		- 600 (2'-0")")	
				< 100 (4") Dia.	150	150 (6") 600 (2'-0		07)	
		Water 2		00 (4") < 400 (1'-4") Dia.	300	(1'-0")	750 (2'-6	5")	
2022/01	/10	Water		≥ 400 (1'-4") Dia.	500	(1'-8")	900 (3'-(0")	
		Mains		Water Valve Chamber	See	Note 5	600 (2'-0")		
		/8		Fire Hydrant	400	400 (1'-4") 1500 (4		11"	
Toronto Hydro (This to be used when other Utilities are installing their plant close to THESL infrastructure)		Poles (Direct Buried)			See Std's. 03-2400, 04-4100 and 04 5100				
		Base M Reinforce		Mounted Poles/ ed Sidewalk Bays	See No		Note 3	xte 3	
		Cable Cham (No Groundin		nber/Vault/Tap Boxes ng Outside Structures)	- 600 (2'-		0")		
		Padmounts/S (Grounding Ducts		outside Structure)	Refer to STD. 31-4100 300 (1'-0") 600 (TD. 31-4100		
				s/Duct Banks			600 (2'-0	5)	
ISTRIBUTION Civ	CONSTRU	CTION STANDA	RD	UNDERGR		CLEAR	ANCES		
TORONTO	Approved b	2022/0	1/10	Original leaves	Conta	Rev		-	
HYDRO	J.D.	B.D.		J.D. 2000-12-28	N.T.S.	8	31-0100	1	



Notes:

- Any construction activity in the vicinity of trees shall be carried out in compliance with latest City of Toronto's "Tree Protection Policy and Specification for Construction Near Trees" document.
- If the minimum clearances shown cannot be met, the subject utilities approval may be obtained for reduced clearances.
- 3. Horizontal clearance shall be from edge of reinforced sidewalk bay or pole base to edge of proposed plant. Contractor shall at no time cut into reinforced sidewalk bays and pole bases. Sidewalk bays and pole bases provide loading support for the pole. Plant can be installed under reinforced sidewalk bays by tunneling at a minimum vertical clearance of 600 mm (2'-0"). Plant shall not be installed under pole bases.
- If the minimum horizontal clearance for utilities installing plant close to THESL plant cannot be met due to existing field condition, clearance can be reduced to 300mm (1'-0") with the Contractor/Customer providing the following to Toronto Hydro:
 - a) A letter stamped and signed by a Professional Engineer of Ontario, outlining:
 - That the Contractor/Customer is responsible for all costs associated with support and inspection, as well as any damages and associated costs;
 - That the achievable clearance is not less than 300 mm (1'-0");
 - The method of protection and/or support. Support is required if Toronto Hydro plant is undermined;
 - That this is a unique scenario that requires a deviation from typical construction standard, and identify that the deviation is also from the typical clearances set out by Toronto Hydro and the City of Toronto.
 - b) Drawing which shall include:
 - Stamp and signature of a Professional Engineer in the Province of Ontario;
 - Length of the plant being supported and/or protected;
 - Method of protection and/or support system in both plan and section views;
 - Maximum deflection of the plant with the support;
 - Deflection monitoring system placement if soil settlement will occur on site;
 - Backfilling procedures;
 - That the achievable clearance is not less than 300 mm (1'-0").
 - c) A purchase order for the amount of time a civil inspection from Toronto Hydro will be required on site. An estimate will be provided by Toronto Hydro.
- 5. Contact the City of Toronto for minimum vertical clearance to water valve chamber.
- 6. For above grade clearance refer to:
 - 03-2300 Building and Permanent Structures
 - 03-2400 Poles and Private Fences
 - 04-4100 Pole Location Guidelines

DISTRIBUTION	CONSTRUCTION II Construction	ON STANDARD	LINDER	GROUND		NCES	
ve	Approved by:	2022/01/10	UNDERGROUND CLEARANCES				
TORONTO HYDRO	Drafted by: J.D.	Designed by: B.D.	Original issue: J.D. 2000-12-28	Scale: N.T.S.	Rev. 8	31-0100	2/2



HEAVY EQUIPMENT OPERATION IN THE VICINITY OF THE TORONTO HYDRO UNDERGROUND PLANT

1.0 PURPOSE

- 1.1 To provide guidance to external party (contractor, developer or its agent) in the preparation of plans and proposals for the use of Heavy Equipment in the vicinity of the Toronto Hydro underground plant.
- 1.2 To maintain the electrical supply and to ensure the safety of persons, the structural integrity of the Toronto Hydro underground plant shall not be compromised whenever Heavy Equipment is used by an external party.

2.0 DEFINITIONS

2.1 Underground Plant

Cable Chamber

A reinforced concrete structure (walls, floor & roof slab) housing cables to accommodate cable connections or a change in cable direction. A cable chamber roof slab has a round lid, used for entering and exiting the cable chamber. A cable chamber roof slab is usually installed at a depth ranging from approximately 600 mm (2'-0") to 1250 mm (4'-2") below finished grade. Refer to Toronto Hydro Distribution Construction Standards, Section 31 – Cable Chambers

Conduit

A grouping of PVC ducts housing cables, either direct buried or encased in concrete, installed at a depth ranging from approximately 800 mm (2'-8") to 1000 mm (3'-4") below finished grade. Refer to Toronto Hydro Distribution Construction Standards, Section 31 – Conduits.

Vault

A cast in place reinforced concrete structure (walls, floor & roof slab) used for the purpose of housing transformers, cables, switchgears and other electrical equipment. A vault roof is constructed flush with finished grade. Refer to Toronto Hydro Distribution Construction Standards, Section 31 – Vaults.

Submersible Vault

A precast reinforced concrete structure (walls and floor), used for the purpose of housing transformers in residential sub-divisions. A Submersible vault roof is made of steel and is constructed flush with finished grade. Submersible vaults are installed in grass boulevards or sidewalks. A vault roof is constructed flush with finished grade. Refer to Toronto Hydro Distribution Construction Standard 31-5100.

Handwell or Tap/Splice Box

A fiberglass box with either fiberglass or composite lid, used for the purpose of making multiple cable connection or terminating ducts, installed in grass boulevard or sidewalk. Refer to Toronto Hydro Distribution Construction Standards, Section 31 – Splice Boxes.

Direct Buried Cables

Cable installed without any mechanical protection.

DISTRIBUTION CONSTRUCTION STANDARD Civil Construction			HEAVY EQUIPMENT OPERATION				
	Approved by:		UNDERGROUND PLANT				
HYDRO	Drafted by: H.M.	Designed by: J.D.	Original issue: J.D. 2012-08-27	Scale: N.T.S.	Rev 0	31-0500	1/3



2.2 Heavy Equipment

Any equipment (cranes, trucks, buildozers, compactors, etc.) having weights exceeding CSA-S6-06, clause A3.4.1 CL-625-ONT live truck loading.

3.0 REFERENCES

All construction work shall conform to all the latest issues of referenced codes, standards, regulations and by-laws:

- Canadian Highway Bridge Design Code CSA-S6-06;
- Occupational Health & Safety Act and Regulation for Construction Project 1990 and Ontario Regulations 213/91;
- The Electricity Act, 1998 and the Ontario Regulation 22/04 Electrical Distribution Safety Regulation and other regulations which apply under this Act.

4.0 TECHNICAL INFORMATION

- 4.1 All Toronto Hydro underground plant is designed in accordance with the Canadian Highway Bridge Design Code CSA-S6-06, clause A3.4.1 CL-625-ONT live truck loading.
- 4.2 The external party shall be responsible to confirm the depth and the location of the Toronto Hydro underground plant by having test holes excavated as necessary.
- 4.3 The external party shall assume that all underground and overhead conductors if encountered are live unless otherwise notified by Toronto Hydro.
- 4.4 The external party shall ensure that the Heavy Equipment is used in accordance with the manufacturers' instructions and all applicable regulations.
- 4.5 The external party shall ensure that all the appropriate safety measures are considered when using Heavy Equipment in the vicinity of the Toronto Hydro underground plant.
- 4.6 A minimum 2000 mm (6'-8") clearance is required between a conduit, direct buried and the Heavy Equipment. If minimum clearances cannot be met then the external party will have to submit a request to Toronto Hydro for approval as per clause 5.2 of this document.
- 4.7 A minimum 2000 mm (6'-8") horizontal clearance is required between the handwell or tap/splice box and the Heavy Equipment. Handwell and tap/splice box lids are not designed to support heavy load from equipment, vehicular traffic or Heavy Equipment. If minimum clearances cannot be met then the external party will have to submit a request to Toronto Hydro for approval as per clause 5.2 of this document.
- 4.8 A minimum 3000 mm (10'-0") horizontal clearance is required between submersible vault, cable chamber, vault, submersible vault and the Heavy Equipment. If minimum clearances cannot be met then the external party will have to submit a request to Toronto Hydro for approval as per clause 5.2 of this document.
- 4.9 No equipment including Heavy Equipment will be allowed to be placed directly on top of vault and submersible vault roofs, handwells or tap/splice box lids.

DISTRIBUTION CONSTRUCTION STANDARD Civil Construction			HEAVY EQUIPMENT OPERATION				
TOPONTO	Approved by:		UNDERGROUND PLANT				
HYDRO	Drafted by: H.M.	Designed by: J.D.	Original issue: J.D. 2012-08-27	Scale: N.T.S.	Rev. 0	31-0500	2/3



TYDRO	H.M.	J.D.	J.D. 2012-08-27	Scale: N.T.S.	Hev. 0	31-0500	3/			
TORO	NTO	Approved by:		IN THE VI	UNDERGROUN	D PLANT	r r			
STRIB	UTION	I CONSTRUC	TION STANDARD	HEAV	EQUIPMENT	OPER	ATION			
		 Be liabl 	e tor all damage	es caused to the Toront	o Hydro undergro	ound pla	nt.			
		request	request;							
		 Follow 1 Pay for 	Hydro's underground plant with as much lead time as possible (2-4 weeks). Submit follow up structural analysis/design if required; Follow the Toronto Hydro Distribution Construction Standard 31-0500; Pay for any costs associated with the use of the Heavy Equipment that Toronto Hydro may							
		Hydro's up strue								
		 Submit profess 	Submit a geotechnical report and structural analysis of the design, signed by a professional engineer licensed in Ontario, stating the added forces applied to Toronto							
		 When s followin design, Heavy 	When submitting the initial request, the external party is to provide Toronto Hydro with the following information: including type of work conducted, drawings, structural analysis of the design, and the geotechnical report and any other related information dealing with using Heavy Equipment.							
		3) Cros	Crossing over Toronto Hydro's underground plant.							
		2) With tap/s	 Within 2000 mm (6'-8") of Toronto Hydro's conduits, handwells, direct buried cables or tap/splice boxes. 							
		1) With or subr	 Within 3000 mm (10'-0") of Toronto Hydro's cable chambers, vaults, direct buried cables or submersible vaults; 							
		 Submit Equipr 	a request to the ent that will be	operated under the follo	rds and Material owing conditions:	s section	when using H	ea		
	5.2	External Pa	arty:							
		 Notify t vicinity 	Notify the external party if the Heavy Equipment is allowed or disallowed to be used in the vicinity of Toronto Hydro plant.							
		 Review structur informa 	the external p al analysis of tion dealing with	party's submission (in the design, and the nusing Heavy Equipme	cluding type of geotechnical rep nt) and provide a	work co ort and recomm	nducted, draw any other rei nendation;	ing late		
		 Field in externa 	spect/assess th I party;	e Toronto Hydro unde	rground plant an	d provide	e information to	> tł		
		 Provide 	Provide the external party with Toronto Hydro Distribution Construction Standard 31-0500							
		 Review 	the external pa	rty submission;	submission;					
				& Materials Section):						







	NOTES: 1) SHORING. WITH THI EXCAVAT DOCUMENT 2) MINIMUM TORONTO CANNOT I 300 mm A) A LE - TI UI	/EXCAVATIO E LATEST V ION IN THE T AND CSA. HORIZONTA HYDRO PLA BE MET DUE (1'-0") WI ITER, STAM HE METHOD NDERMINED;	IN IN THE V VERSION OF VICINITY C22.3 NG. VL AND VERT NT AND PRO TO EXISTI TH THE CON VPED AND SI OF PROTECT	CINITY OF TORONTO HYDRO PLANT SHALL BE CARR LECTRIC SAFETY AUTHORITY'S (ESA) DOCUMENT "(OF UTILITY LINES", TORONTO HYDRO CIVIL SPECIS 7. CAL CLEARANCES OF 600 mm (2'-O") SHALL BE MA OSED SHORING/EXCAVATION. IF THE 600 mm (2'-(IG PLANT LOCATION OR FIELD CONDITION, CLEARAN RACTOR/CUSTOMER PROVIDING THE FOLLOWING TO T NED BY A PROFESSIONAL ENGINEER OF ONTARIO. (ON AND/OR SUPPORT. SUPPORT IS REQUIRED IF TO	IED OUT IN ACCOR SUIDELINE FOR FICATION "CV-CON AINTAINED BETWEE O"I MINIMUM CLEA WCE CAN BE REDUC FORONTO HYDRO: JUTLINING: DRONTO HYDRO PLA	RDANCE -01 " NRANCES SED TO ANT IS
	H - TI PI CI - TI - TI B) DRAW - S' - LE - ME - ME - ME - DE - MI C) A PUF ON S	YDRO PLANT HAT THE CO ROTECTION DSTS: HAT THE AC HAT THIS I DRONTO CON INGS WHICH TAMP AND S ENGTH OF T ETHOD OF P AXIMUM DEF EFLECTION ACKFILLING HAT THE AC RCHASE ORD ITE. AN ES	HIEVABLE C AND/OR SUP HIEVABLE C S A UNIQUE ISTRUCTION I SHALL INC IGNATURE O HE PLANT B ROTECTION OF MONITORING PROCEDURE HIEVABLE C VER FOR THE TIMATE WIL	ISTOMER IS RESPONSSIBLE FOR ALL COSTS ASSOCI/ ORT, INCLUDING INSPECTION, AS WELL AS ANY D/ EARANCE WILL NOT BE LESS THAN 300 mm (1'-0" SCENARIO THAT REQUIRES A DEVIATION FROM TORO TANDARD CLEARANCES. UDE: A PROFESSIONAL ENGINEER IN THE PROVINCE OF ING SUPPORTED AND/OR PROTECTED: ND/OR SUPPORT SYSTEM IN BOTH PLAN AND SECTIO THE PLANT WITH THE SUPPORT: SYSTEM PLACEMENT IF SOIL SETTLEMENT WILL OCC EARANCE WILL NOT BE LESS THAN 300 mm (1'-0") AMOUNT OF TIME A TORONTO HYDRO CIVIL INSPECT BE PROVIDED BY TORONTO HYDRO.	IN DAMAGE TO TOP ITED WITH THE MAGES AND ASSOC II INTO HYDRO AND C ONTARIO: IN VIEWS: UR ON SITE: IOR WILL BE REOU	IATED ITY OF
ŀ	DISTRIBUTION CC	INSTRUCTION	I STANDARD	SHORING / EXCAVATION IN THE		F
	TORONTO	Approved By: 2016/01/27		TORONTO HYDRO UNDERGRO	OUND PLANT	
	/'HYDRO	Drafted By: F.K.	Designed By: J.D.	Driginal Issue: Scale: Rev. 0	31-0700	2/2








Carol Lee

From:	ONT Environment / Environnement ONT <enviroont@tc.gc.ca></enviroont@tc.gc.ca>
Sent:	October 3, 2022 11:48 AM
То:	Tracy Manolakakis
Cc:	Devin Coone
Subject:	RE: City of Toronto Geomorphic Systems Master Plans - Newtonbrook and Blue Ridge
-	Creeks and German Mills Creek

UNCLASSIFIED / NON CLASSIFIÉ

Greetings,

Thank you for your correspondence.

Please note Transport Canada **does not** require receipt of all individual or Class EA related notifications. We are requesting project proponents self-assess if their project:

- 1. Will interact with a federal property and/or waterway by reviewing the Directory of Federal Real Property, available at at www.tbs-sct.gc.ca/dfrp-rbif/; and
- 2. Will require approval and/or authorization under any Acts administered by Transport Canada* available at http://www.tc.gc.ca/eng/acts-regulations/menu.htm.

Projects that will occur on federal property prior to exercising a power, performing a function or duty in relation to that project, will be subject to a determination of the likelihood of significant adverse environmental effects, per Section 82 of the *Impact Assessment Act, 2019*.

If the aforementioned does not apply, the Environmental Assessment program should not be included in any further correspondence and future notifications will not receive a response. If there is a role under the program, correspondence should be forwarded *electronically* to: <u>EnviroOnt@tc.gc.ca</u> with a **brief description of Transport Canada's expected role**.

*Below is a summary of the most common Acts that have applied to projects in an Environmental Assessment context:

- Canadian Navigable Waters Act (CNWA) the Act applies primarily to works constructed or placed in, on, over, under, through, or across navigable waters set out under the Act. The Navigation Protection Program administers the CNWA through the review and authorization of works affecting navigable waters. Information about the Program, CNWA and approval process is available at: http://www.tc.gc.ca/eng/programs-621.html. Enquiries can be directed to NPPONT@tc.gc.ca or by calling (519) 383-1863.
- Railway Safety Act (RSA) the Act provides the regulatory framework for railway safety, security, and some of the environmental impacts of railway operations in Canada. The Rail Safety Program develops and enforces regulations, rules, standards and procedures governing safe railway operations. Additional information about the Program is available at: <u>https://www.tc.gc.ca/eng/railsafety/menu.htm</u>. Enquiries can be directed to <u>RailSafety@tc.gc.ca</u> or by calling (613) 998-2985.
- **Transportation of Dangerous Goods Act (TDGA)** the transportation of dangerous goods by air, marine, rail and road is regulated under the TDGA. Transport Canada, based on risks, develops safety standards and

regulations, provides oversight and gives expert advice on dangerous goods to promote public safety. Additional information about the transportation of dangerous goods is available at: <u>https://www.tc.gc.ca/eng/tdg/safety-menu.htm</u>. Enquiries can be directed to <u>TDG-TMDOntario@tc.gc.ca</u> or by calling (416) 973-1868.

Aeronautics Act – Transport Canada has sole jurisdiction over aeronautics, which includes aerodromes and all related buildings or services used for aviation purposes. Aviation safety in Canada is regulated under this Act and the Canadian Aviation Regulations (CARs). Elevated Structures, such as wind turbines and communication towers, would be examples of projects that must be assessed for lighting and marking requirements in accordance with the CARs. Transport Canada also has an interest in projects that have the potential to cause interference between wildlife and aviation activities. One example would be waste facilities, which may attract birds into commercial and recreational flight paths. The Land Use In The Vicinity of Aerodromes publication recommends guidelines for and uses in the vicinity of aerodromes, available at: https://www.tc.gc.ca/eng/civilaviation/publications/tp1247-menu-1418.htm. Enquires can be directed to tc.aviation suff.gc.ca or by calling 1 (800) 305-2059 / (416) 952-0230.

Please advise if additional information is needed.

Thank you,

Environmental Assessment Program, Ontario Region

Transport Canada / Government of Canada / 4900 Yonge St., Toronto, ON M2N 6A5 <u>EnviroOnt@tc.gc.ca</u> / Facsimile : (416) 952-0514 / TTY: 1-888-675-6863

Programme d'évaluation environnementale, Région de l'Ontario Transports Canada / Gouvernement du Canada / 4900, rue Yonge, Toronto, ON, M2N 6A5

EnviroOnt@tc.gc.ca / télécopieur: (416) 952-0514

From: Tracy Manolakakis < Tracy. Manolakakis@toronto.ca>

Sent: Monday, October 03, 2022 11:07 AM

To: robert.greene@ontario.ca; karla.barboza@ontario.ca; dan.minkin@ontario.ca; stewart.Chisholm@ontario.ca; maya.harris@ontario.ca; steven.strong@ontario.ca; Beth.Williston@trca.ca; Sharon.Lingertat@trca.ca; 'chunmei.liu@ontario.ca' <Chunmei.Liu@Ontario.ca>; troy@beanfield.com; ken.elliott@bell.ca; Bell.MOC@Telecon.ca; tara.causton@bell.ca; anthony.pejovic@bell.ca; danselmi@clc.ca; proximity@cn.ca; UtilityCirculations@aptum.com; Brad.Swant@aptum.com; josie tomei@cpr.ca; orest rojik@cpr.ca; notifications@enbridge.com; ekriarakis@enwave.com; james.scharbach@enwave.com; Tyler.Wales@HydroOne.com; kirk.t.smoke@esso.ca; bmclean@metrofibrewerx.com; Paul.Collins@metrolinx.com; susan.rapin@opg.com; GT.moc@telecon.ca; Edgar.Henriquez@rci.rogers.com; John.Lionti@rci.rogers.com; GTA.Markups@rci.rogers.com; Ralph.vonEppinghoven@rci.rogers.com; bobbi.hunter@rci.rogers.com; john.lionti@rci.rogers.com; Info@suncanadian.com; Anthony.Segreto@telus.com; telusutilitymarkups@telecon.ca; tpucc@teraspan.com; utility.circulations@torontohydro.com; vvolokitin@torontohydro.com; seedgar@tnpi.ca; landroweast@tnpi.ca; richard.ntoneepeeing@videotron.com; david.pitchforth@zayo.com; Utility.Circulations@zayo.com; Laurel Sharp <Laurel.Sharp@toronto.ca>; EMS Planning <emsplanning@toronto.ca>; Daniel Gagliotti <Daniel.Gagliotti@toronto.ca>; brett.moore@torontopolice.on.ca; Reg Ayre <Reg.Ayre@toronto.ca>; ONT Environment / Environnement ONT <EnviroOnt@tc.gc.ca>; dan.l.thompson@ontario.ca; aurora.mcallister@ontario.ca; karla.barboza@ontario.ca; dan.minkin@ontario.ca; Davor.Javorac@cn.ca; SecondaryLandUse@HydroOne.com Cc: Devin Coone < Devin.Coone@toronto.ca>

Subject: City of Toronto Geomorphic Systems Master Plans - Newtonbrook and Blue Ridge Creeks and German Mills Creek

Good morning,

Please see attached Notices of Study Commencement for two municipal class environmental assessment studies being carried out by the City of Toronto:

- Newtonbrook and Blue Ridge Creeks Geomorphic Systems Master Plan
- German Mills Geomorphic Systems Master Plan

If you have any questions or require further details, please let me know.

Tracy

Tracy Manolakakis (she/her) Manager, Public Consultation Unit Policy, Planning, Finance & Administration City of Toronto

Tel: 416-392-2990 Email: <u>tracy.manolakakis@toronto.ca</u>



Agency Comments to Preliminary GSMP Reporting

Date Received	Agency/ Utility	Contact Name/ Email	Response Method	Message	Response
10/03/2022	Transport Canada		email	We are requesting project proponents self-assess if their project: 1.Will interact with a federal property and/or waterway by reviewing the Directory of Federal Real Property, available at at www.tbs-sct.gc.ca/dfrp-rbif/; and 2.Will require approval and/or authorization under any Acts administered by Transport Canada* available at http://www.tc.gc.ca/eng/acts-regulations/menu.htm.	
10/14/2022	Enbridge Damage Prevention	notifications@enbridg e.com	email	Thanks for sending us notification of the study on the City of Toronto Geomorphic Systems Master Plans - Newtonbrook and Blue Ridge Creeks and German Mills Creek. As you can see from the image below, the Newtonbrook Creek crosses Enbridge Pipelines infrastructure. As such, we would like to be kept informed about the study's progress.	
10/14/2022	MOECP	<u>Chunmei.liu@ontario.</u> <u>ca</u>	email	Attached Areas of Interest letter	
10/19/2022	Telecon	Acsah Anna Chacko (Acsah- Anna.Chacko@Telec on.ca	email	Attached drawing and document for location requested	
11/23/2022	Toronto and Region Conservation Authority	justin.leepack@trca.ca	email	Please see the attached for TRCA responses to Notice of Commencement for the above-noted project.	
08/18/2023	Toronto Hydro- Electric System Ltd.	Utility Circulations <utility.circulations@t orontohydro.com></utility.circulations@t 	email	Thank you for circulation of your application. Your circulation number is THU2023-01639CT . Please quote this reference number on your future correspondence.	

Date Received	Agency/ Utility	Contact Name/ Email	Response Method	Message	Response
08/18/2023	TRCA	Zack Carlan <zack.carlan@trca.c a></zack.carlan@trca.c 	email	Confirming that I have received this. We provided our comments on July 7th on the initial consultation from this MP and I identified to Roger and Devin what our expectations were for next steps on this EA in that email. If there is any new material or consultation slides that we should file or review that is coming out of this consultation, can you please forward over?	
08/18/2023	Transport Canda		email	Please note Transport Canada does not require receipt of all individual or Class EA related notifications. We are requesting project proponents self-assess if their project: 1.Will interact with a federal property and/or waterway by reviewing the Directory of Federal Real Property, available at at www.tbs-sct.gc.ca/dfrp-rbif/; and 2.Will require approval and/or authorization under any Acts administered by Transport Canada* available at http://www.tc.gc.ca/eng/acts-regulations/menu.htm.	
09/14/2023	TRCA	Grant Wilkinson <grant.wilkinson@tr ca.ca></grant.wilkinson@tr 	email	I have just been notified of this project and would like to have some further details to ensure that our work in the area is not impacted. We operate a flow monitoring gauge in German Mills Creek close to 'Project 4' and have sensor equipment in the creek and on the stream bank. Can I get some more details as to what will be involved with this project. Will there be any issues with our staff accessing the site (via truck), will there be any	I've flagged this email for the attention of the ECS Project Manager Devin Coone, copied. Devin will be able to share more details with you. With respect to immediate action, in the very short term we are still in the study and planning phase as part of the MCEA process, to be followed by a city wide prioritisation after a series of 5 GSMPs across the City have been completed. I have also added you to the email list to ensure that you receive project updates.
10/04/2023		Karla.Barboza@ontar io.ca, Cc: Dan.Minkin@ontario. <u>ca</u>	email	disturbance to the obsensed or inscrine error? Identifying Cultural Heritage Resources •identify existing baseline environmental conditions, •identify expected environmental impacts and, •Include measures to mitigate potential negative impacts. Archaeological Resources Any undertakings included as part of the master plan should be screened using the Ministry's Criteria for Evaluating Archaeological Potential and Criteria for Evaluating Marine Archaeological Potentialr	
08/22/2023		Utility Circulations <utility.circulations@t orontohydro.com> Sagar Garikipati</utility.circulations@t 	email	Please see the attachments for the Info Only response for the above project via our FTP.	
08/22/2024	TRCA	Sabriya Jahangir <sabriya.jahangir@tr ca.ca></sabriya.jahangir@tr 	email	Please see attached for TRCA comments on the Draft Report as part of the Master Plan for the City of Toronto German Mills Creek GSMP	

Agency Comments and Proponent Responses to Draft Master Plan

APPENDIX A: TRCA COMMENTS AND PROPONENT RESPONSES

ITEM	DISCIPLINE	TRCA COMMENTS July 7, 2023	PROPONENT/CONSUL
1.	Planning	Please circulate TRCA staff on the Draft TMP document for further commenting as noted in the meeting minutes. The below comments are our high-level feedback based on the level of detail provided so far on the PIC slides. Note the Draft MP would be reviewed within our standard timelines.	The draft Master Plan will be submitted to TRCA.
2.	Planning	Note, a majority of the solutions are located on TRCA property under management agreement with the City. TRCA property consultation is required for the future works and comment will be provided on the draft master plan document regarding this. Additionally, a TRCA archaeological screening/assessment will be required to be completed. This should be completed towards the end of the EA process and into initial design when areas of disturbance are established and TRCA staff have provided comment on these areas as well.	A phase 1 archaeological assessment was completed a are outlined in the attached report in the Appendices
3.	Planning	As the EA progresses, please explore natural channel design principles/solutions for the watercourse and natural system where possible.	Natural channel design principles were considered and consideration of existing constraints and at-risk infrast
4.	Planning	Additionally, the City should avoid impacts to wetlands or look to enhance wetlands when working through this project. There are many wetlands throughout the reach as noted with a brief look at desktop mapping and there could be an opportunity to enhance the wetlands with the stream/erosion works as part of this project. See technical comments below regarding this further.	General ecological enhancements are recommended t wetlands have been identified for assessment, nor enh Appendix H - Considerations at Detailed Design include
5.	Water Resources	For floodplain connectivity designs, ensure that the main channel is only conducive of the 2-year design storm, and storm events greater than the 2-year spill over onto adjacent areas (floodplain riparian zones) which in turn reduces erosive velocities as the flow spreads over a larger ground surface area.	"In conjunction with restoration plantings in the imme opportunities to further vegetation objectives as outlin Strategy. Further, since wetland habitats are under-re below the RAP target of 10%, efforts to enhance these design stage, where these areas are within the area of
6.	Water Resources	It is noted that Alternative 2 is local works and Alternative 3 incorporates floodplain connectivity. Avoid pinch-points (where flow is confined to a smaller cross-sectional area) for Alternatives 2 and 3 to ensure that flows are not confined in-between and at certain alternative solutions, as flow confinement into either the main channel or a much smaller cross-sectional area then immediately upstream or downstream of the cross-section, may increase erosive velocities for the same flow due to confinement, rapid contraction and rapid expansion.	In the Implementation Plan, projects have been cluste in and out of floodplain connections (i.e., pinch points Project 4 was scored as Alternative 2, but floodplain co Project for to transition with Project 9 (Alternative 3). expansion and contraction are to be included at the de
7.	Water Resources	 In the early stages of conceptual detailed design, provide a comparison between updating existing conditions and proposed conditions, for the following parameters for the 2-year to 100-year and Regional design storms: a. Left bank, right bank and channel velocities, manning's n, expansion, contraction coefficients, shear stress, and stream power (velocity multiplied by shear stress); and b. Water surface elevations. 	This level of analysis has not been added to the Maste alternative evaluation. Additional hydraulic analysis in analysis and preliminary function design package, sepa
8.	Water Resources	It is noted that some of the designs may fluctuate the water surface elevations for the smaller design storms. Note that TRCA Regulatory design storm or Regional water surface elevations should not increase from the TRCA existing conditions HEC-RAS model and/or the updated existing conditions HEC-RAS model.	Noted. Given that the alternative solutions recommen flood hazard water levels are not expected. Further, a between floodplain connections and local works have Adherance to TRCA policies with respect to hyrdaulic f of the detailed design process.
9.	Water Resources	Note that there should be no net fill within the TRCA Regulatory floodplain. In addition, a cut and fill analysis is required to ensure that there is no net loss in incremental (every 0.3m horizontally) and cumulative floodplain storage volumes for the 2-year to 100-year and Regional design storms within the reach.	Noted. Also, see comment responses for 6., 7., and 8.
10.	Water Resources	Please explore the possibility of enhancing watercourse base flow and offering thermal mitigation by incorporating wetland pockets and/or vegetated low-lying areas that enhance the existing natural vegetation (with floodplain connectivity) as TRCA water resources staff are of the opinion that wetland pockets and/or low-lying naturally vegetated areas improve hydraulics by providing storage during storm events, provide	Acknowledged. It is agreed that this approach should here may be added to the detailed design consideration version (Appendix H).

LTANT RESPONSE

as part of the EA process and recommendations of the Master Plan.

d implemented to the best of our ability, with structure and property.

throughout the Master Plan. No specific hancement.

des the following recommendation: ediately affected construction area, ined within PF&R's and TRCA's Natural Heritage epresented in the Don River watershed, and well e wetlands need to be considered at detailed of the stream restoration project." ered in a way that minimizes the local transition s). For example, the preferred alternative for connectivity is recommended downstream of

connectivity is recommended downstream of Appropriate transitions to reduce impacts of letailed design stage.

er Plan reporting for the purpose of EA nformation will be part of the conceptual design parate from the Master Plan EA reporting.

nd a net cutting of the floodplain, increasing as per comment response 6., transitions been minimized in the implementation plan. flood hazards will need to be confirmed as part

be considered at the detailed design stage and a ons outlined for the Master Plan in the final

ITEM	DISCIPLINE	TRCA COMMENTS July 7, 2023	PROPONENT/CONSUL
		baseflow to the watercourse during low flow events, and help mitigate watercourse erosion by helping to	
		reduce velocities during the smaller design storms.	
11.	Geotechnic	Depending on the proposed design, geotechnical studies may be required to inform the detailed design of	Noted
	al	retaining walls and stabilization works. The geotechnical review will be continued at the detailed design	
10	Engineering	Sldge.	A proliminary access and staging plan in included in th
12.	Fology	assessing the direct and indirect impacts of construction to the surrounding environment. Reducing impacts	for invasive species management throughout the corri
	LCOIDgy	to mature vegetation has been shown to help increase soil stability and reduce erosion risks. TRCA staff	for invasive species management throughout the com
		recommend utilizing areas where there are opportunities for invasive species management.	
Erosio	n Risk Manage	ement Comments – the below comments are from TRCA ERM staff and are generally updates regarding the exist	ina/future proiects within the German Mills GSMP Mast
13.	ERM	2022-12-16 Toronto German Mills GSMP – Project 12 – Bestview Trib.pdf	Noted and for City to address at detailed design.
		• The armourstone channel at the upstream end of Bestview Tributary is a TRCA erosion control asset	
		(ID# DR44) built in 1990.	
		• TRCA also built a slope treatment (DR44.1) behind 19 and 21 Carmel Court in 1990 to protect those	
		properties.	
		• ERM has no plans to undertake remedial erosion control work or major maintenance works along this	
		tributary and we are not currently monitoring any private properties or erosion hazard sites.	
		ERM understand the GSMP identifies Bestview Creek as Project Site 12 but indicates it's the lowest	
		priority as there is no Toronto Water (TW) infrastructure. Will TW be identifying a preferred	
		alternative to address slope toe erosion along this tributary from a private property erosion risk	
		management perspective or will this have to be explored in a separate Class EA at a later date?	
		ERM is unable to commit to doing further studies or remedial works in Bestview Tributary at this	
		time. However, if private landowners express concerns of erosion affecting their properties, we will	
		perform inspections to help inform prioritization for future studies and potential remedial works.	
		• If during the Pic, private landowners express concerns about erosion affecting their property, they can submit a form at https://trca.ca/conservation/erosion_rick_management/report_erosion_bazard/	
		to request erosion hazard monitoring.	
		2023-05-19 Toronto German Mills GSMP TRCA Meeting 2023-05-19.pdf	
		• TRCA owns erosion control structures (DR45.1 and DR45.3) that will likely be impacted as part of	
		TW's proposed work in Project Site 1. Upon completion of works in this area, ERM would like to	
		receive as-built surveys from TW so that we can update our structure records in our Stream Erosion	
		and Infrastructure Database (i.e. to document any reduced footprints of our existing structures).	
		 Between Project Sites 4 and 9, TRCA owns a rip rap revetment structure (DR43.1) on the east 	
		bank. Similar to the previous comment, if this structure is proposed to be modified as part of TW's	
		works, ERM would ask that they share as-built surveys so we can update our structure records.	
		German Mills GSMP Public Presentation 2023-05-19 V0.5 TRCA DRAFT.pdf	
		• The two sites in Bestview Tributary are not identified as Project Site 12 but understand these sites are categorized as 'very low risk'.	
		As mentioned above, if members of the public express concerns about erosion affecting their	
		properties, they can submit a form via the link provided above and someone from the ERM team will	
		reach out to them to set up erosion hazard monitoring.	
1			

LTANT RESPONSE

he Implementation Plan. There are opportunities ridor.

ster Plan study area.

APPENDIX B: TRCA COMMENTS AND PROPONENT RESPONSES

ITEM	TRCA COMMENTS (August 22, 2024)	
Planning C	 Comments	
1.	Staff acknowledge that the Master Plan falls under Schedule B of the Municipal Class Environmental Assessment process which includes Phases 1 and 2 including identification of the preferred solution and mandatory public consultation and documentation, before moving to Phase 5 (Implementation) and does not include the final Environmental Assessment Report. Staff look forward to reviewing the Final Master Plan Report. We recommend that the City continue to involve TRCA staff and consult TRCA Living City Policies with respect to TRCA's policies and their incorporation into an important study such as the GMCGSMP.	Not resp
2.	As German Mills Creek is regulated by TRCA, implementation of the preferred alternatives will be subject to the requirements of the Conservation Authority Act. Staff will confirm requirements for each component of the implementation going forward. It is required that in the Final EA it is mentioned that permits are required for all implementation of the German Mills Creek GSMP as the entire area is regulated by TRCA.	Sect and (reg also
3.	Please note that the study area traverses one of the City's Basement Flooding study areas (29) that completed the EA process. We encourage the City to discuss project options with the applicable Basement Flooding project managers to ensure that the Master Plan studies are coordinated to avoid duplication of efforts, institute improvements to the system, and minimize impacts to the natural system to the extent possible.	Not Floc at re with hav
4.	Staff are pleased a section on climate change and climate change assessment has been included in the Master Plan Phase 1 and 2 Reports. Staff recommend that additional phases (and final) of the master plan process continue to incorporate climate change impacts and address promoting mitigation and adaptation through the implementation of the German Mills Creek GSMP.	Text cha Add
5.	It is recommended that the City explore the existing conditions of the German Mills Creek study to assess options that look to generally avoid locating any new infrastructure within the natural system (watermains, sanitary, etc.) and if infrastructure is required to be moved or relocated due to associated risks/damage, that the City assess opportunities for moving the subject infrastructure outside the natural system of German Mills Creek. It is understood, considering the system, that there are constraints in some instances with full relocation, but it is recommended by TRCA staff for the City to explore this. If not possible, please add a section to the Draft Master Plan indicating this. Please ensure to provide detailed justification in the EA document indicating why this is not an alternative that is being considered, especially considering it potentially has the least amount of impact on the natural system.	The wat Wat prot stre Relo stuc asse scre mai con Rea relo hole chai exis mov whi etc. late add inst the nati

PROPONENT/CONSULTANT RESPONSE

ed. The City is aware of this comment from TRCA with pect to its GSMP studies.

tion 4.3.1 of Appendix H outlines the permit requirements that a permit is required in area under jurisdiction gulated) by TRCA. A link to TRCA permitting information is provided in the appendix.

ed. GMGSMP staff will consult with the applicable Basement oding project managers and review the EA report to identify equired coordination efforts. GMGSMP staff have consulted in the applicable Basement Flooding project managers and e reviewed the public consultation presentation. At this e, no works are identified that would require coordination. t added in Section 6.2 in main Master Plan around climate inge and adaptation to be required in Detailed Design. itional text also added to Appendix H, Section 3.8.

study does not recommend the introduction of new ermains or sewers within the natural system. Toronto ter's GSMPs are "state of good repair" projects designed to tect Toronto Water underground piped-like assets where am erosional processes cause excessive risk to these assets. ocation of the trunk sewer within the German Mills GSMP dy area was considered in the early stages of the risk essment and development of alternative solutions, but was ened out. In the German Mills GSMP, realignment of the in trunk sewer system has not been recommended for sideration as a potential preferable solution. At Project #1 of ch 3 around the large migrating meander, it is proposed to cate a potion of the lateral sewer pipe and the maintenance currently exposed in the middle of the creek. The bankfull nnel and centerline are proposed to be realigned away from ting at-risk maintenance holes that have been proposed; ving the sewer as far away from the creek system as possible le balancing other impacts (i.e. cut and fill, tree removals, ..). At Project #7 of Reach 2 it is proposed to relocate the ral sewer pipe with an additional drop maintenance hole ed to lower the pipe and improved the depth of cover, ead of raising the bed profile. As such, four alternatives for German Mills GSMP focused on stream realignment, reralization, and erosion protection are evaluated: (i) do ning, (ii) local works, (iii) local works with reach-scale dplain connections, and (iv) reach works.

6.	Based on the proposed solutions, intervention into the natural system will be required to remediate infrastructure throughout the watercourse system. Given intervention will be	Sect
	required, and the City is at the planning phase, it is a good time to identify potential improvements/enhancements to the natural system that may be within the vicinity or adjacent to the proposed infrastructure projects. Please look to enhance or improve the natural system at any of the project sites through such initiatives as additional plantings to improve	deta has
	the natural system/hazard lands, wetland enhancements, etc. A section could be added in the detailed design commitment section with regards to this.	<u> </u>
7.	Please confirm if there will be any further EA's for the project sites identified in the Master Plan.	Cur
		is at
8.	Please note that the majority of the German Mills Creek solutions are located on TRCA property under management agreement with the City. TRCA property consultation is required	Sect
0.	for future works during detailed design phases to address property requirements.	on
		TRC
9.	As noted in the Stage 1 Archaeological Assessment Report, a Stage 2 archaeological assessment is required in all of the areas identified as holding potential prior to any ground	Add
	disturbing activities within the boundaries of the study area. Please ensure that the Stage 2 Archaeological Assessment is completed before the permit issuance process.	
Water Reso	urces Comments	I
10.	TRCA water resources comments were provided during the Public Information Consultation (PIC) reform, preliminary information and presentation materials on June 7th, 2024,	No
	appear to be noted with responses in Appendix G of the draft GMCGSMP received in June 2024. Comment responses are satisfactory, and all water resources comments can be	
	deferred to the earliest stage of detailed design.	
	Additional or new comments on the first submission of the draft GMCGSMP received in June 2024 are provided below.	
11.	Please provide examples of the types of stream restoration techniques that will reduce future channel entrenchment and increase floodplain connectivity within the proposed	The
	project site designs.	Dec
		stak
		opp
		sub
		and
		eva
		pret
12.	Please clarify if the erosion hazard limits (100-year) were interpolated using the 30-year interval preceding the most recent historical data that is available with supporting	Hist
	calculations.	197
		dist
		haz
		and
		to t
Geotechnica	al Comments	T
13.	Depending on the proposed design, geotechnical studies may be required to inform the detailed design of retaining walls and stabilization works. The review will be continued at the	In S
	detailed design stage.	geo
Dianning Ec	alogu Commante	and
	Design alternatives should be assessed with regards to minimizing the impacts to adjacent regulated features. Where direct or indirect impacts are anticipated they should follow	Toy
14.	TRCA's criteria to avoid, mitigate and then compensate. Please add to the document.	Tex
15.	Identify regulated features in each area. Assess and quantify anticipated direct and indirect impacts such that restoration, stabilization, and compensation can be further discussed.	lt is
	Impacts should include any disturbances and/or removals associated with access, grading, excavation, and staging and stockpiling.	rou
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tion 3.3 in Appendix H implementation plan addresses this in ail, however text to section 6.2 of main master plan report been added.

rently there are no further EA's planned, the projects will ve into the detailed design stage; however in the future this t the City's discretion.

tion 4.1 in Appendix H implementation plan addresses works private property; section 4.3 in Appendix H speaks to the CA and other permitting requirements.

ded text in Section 6.2 of main Master Plan.

comment required.

e design recommendations include the developent of a sted" bankfull channel with accessible floodplain features. sign riffle-pool sequences with a nested channel help to bilize the profile through specific issue sections, while other portunities to reconnect the floodplain are explored over the pereach scale at project sites throughout. This is all considered a proposed in the Master Plan, the development and luation of alternatives, and conceptual design of the ferred option.

torical air photos were obtained for the years 1954, 1965, 78, 2005 and present to get a widespread look at past channel curbances which helped delineate the 100-year erosion ard. This analysis is described in further detail in Appendix B I Appendix I of the Phase 2 Technical Memo completed prior the Master Plan.

Section 6.2 under supporting investigations, it is noted that otechnical studies and structural engineering may be required I will continue to be evaluated at detailed design.

t added in Section 6.1 of main Master Plan.

s understood that the German Mills GSMP projects, access tes, etc... are within TRCA's regulated area and property. ecific types of regulated areas and features that may be bacted by construction or access will need to be assessed as t of the detailed design phase. Beyond what is presented in Master Plan documents, the scope, timing, and details of ject implementation will require further definition by the City t its design consultants at detailed design to effectively assess impacts of the disturbances and/or removals associated with ess, grading, excavation, and staging and stockpiling.