

TRCA's

Beverley Acres German Mills Creek Erosion Control

Meeting: Community Liaison Committee #2

Date/Time: March 27th, 2024; 4:00 pm – 6:00 pm
Location: Microsoft Teams
Procurement No. 10039108
Aquafor Ref: 67343
Consultant: Aquafor Beech Limited

Prepared by: Aquafor Beech (Rob Amos)
Hosted by: Toronto and Region Conservation Authority (Phil Wolfrain)

Attendees

Name	Company	Telephone	Email
Phil Wolfrain (Lead Contact)	TRCA	416.902.3709	Phil.Wolfrain@trca.ca
Iris Yan	TRCA	437.552.8438	Iris.yan@trca.ca
Rob Amos	Aquafor Beech	416.705.2367	amos.r@aquaforbeech.com
Terrance Singh	Aquafor Beech	-	-
Jacob Ursulak	Aquafor Beech	-	-
Chad Cota	Aquafor Beech	-	-
Kevin Rustan	York Region	-	-
Jeremy Wychreschuk	City of Richmond Hill	-	-
Kristina Delidjakova	City of Richmond Hill	-	-
Karen Cilevitz	City of Richmond Hill		
David Gingerich	TRCA	-	-
Residents adjacent to German Mills Creek and Interested Parties	N.A	-	-

Objective of Meeting: Project Introduction and Outline of Design Alternatives

Items of Discussion

1. Welcome & Introductions - Phil Wolfrain
2. PowerPoint Presentation - Rob Amos
3. Next Steps - Rob Amos
4. Frequently Asked Questions
5. Questions - Phil Wolfrain & Rob Amos
6. Action Items

Item	Topic/Comments	Action By:
1	<p><u>Welcome & Introductions - Phil Wolfrain</u></p> <p>Phil Wolfrain (Phil) started the meeting by welcoming everybody to the meeting and gave a brief overview of the meeting format.</p> <p>Phil specified that the Community Liaison Committee (CLC) is formed from members of Aquafor Beech (Aquafor), Toronto Region Conservation Authority (TRCA), York Region, the City of Richmond Hill, and members from the community.</p> <p>Attendees (names in Microsoft Teams meeting) include:</p> <p><u>TRCA Project Manager and Coordinator</u></p> <ul style="list-style-type: none"> • Phil Wolfrain (Lead Contact) • Iris Yan <p><u>Aquafor Beech Limited</u></p> <ul style="list-style-type: none"> • Rob Amos (Aquafor's Project Manager) • Terrance Singh • Jacob Ursulak • Chad Cota <p><u>York Region</u></p> <ul style="list-style-type: none"> • Kevin Rustan <p><u>TRCA Staff</u></p> <ul style="list-style-type: none"> • David Gingerich <p><u>City of Richmond Hill</u></p> <ul style="list-style-type: none"> • Kristina Delidjakova • Jermy Wychreschuk • Karen Cilevitz <p><u>Community Members and Interested Parties</u></p> <ul style="list-style-type: none"> • Anna Lockstein • Bert Grant • Orhan Danis • Greg Shannon • Tony Pulla • Monique Bisgould • Vivian • YRCC #641 represented by Vilius Zigmantas <p>Phil provides the following land acknowledgement:</p> <p>We respectfully acknowledge the lands we are situated on are Traditional Territories and Treaty Lands, in particular those of the Mississaugas of the Credit, as well as the Anishinaabeg of the Williams Treaty First Nations, the Huron-Wendat, the Haudenosaunee, and are now home to many diverse First Nations, Inuit and Métis peoples. Toronto and Region Conservation Authority appreciates and respects the history and diversity of the land and is grateful to have the opportunity to work and meet in this territory.</p> <p>Phil introduced Rob Amos (Rob) and informed that Rob will be leading the meeting.</p>	

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2	<p><u>PowerPoint Presentation - Rob Amos</u></p> <p>Rob walked through a PowerPoint Presentation outlining the project, roles of the project team, existing conditions, Municipal Class Environmental Assessment (MCEA) process and problem statement, planned technical assessments, identified preliminary alternative solutions, and planned public consultation.</p> <p><u>Project Overview</u></p> <ul style="list-style-type: none"> • German Mills Creek and Protection of York Region's Sanitary Sewer, between Major Mackenzie Drive East and Palmar Avenue, is the primary focus of the project. • Erosion and natural hazards are placing six (6) sanitary sewer sites at risk, noted with the stars in the presentation slide deck. • TRCA, in partnership with York Region, have retained Aquafor to complete a MCEA and detailed design to address risks to York Region infrastructure. <p><u>Project Team Roles</u></p> <ul style="list-style-type: none"> • Aquafor specializes in projects of this nature and the project will be led by Rob Amos. • Phil Wolfrain is TRCA's Project Manager who will be supported by Iris Yan. <p><u>Existing Conditions</u></p> <ul style="list-style-type: none"> • A York Region sanitary sewer is located adjacent to and crosses German Mills Creek. • Common bank protection measures found in the study area include wooden retaining walls, gabion baskets, and timber channel lining. • Wooden retaining walls are pieces of lumber / timber which are constructed in the form of a wall to keep soil from falling into the watercourse. • Gabion baskets are an older type of bank protection which involve weaving metal into a basket shape and filling the wire mesh basket with rock. • Timber channel linings are pieces of lumber / timber that are positioned along the bottom of the channel which form a conveyer belt like structure. • Most bank protection measures have failed and contribute to local erosion. • Channel erosion around the wooden retain wall caused the wall to lean and overtime fall into the channel. • Corrosion of the gabion basket's mesh caused the stones to fall out of the basket. • The timber lining was placed on the bottom of the channel and is more resistant to erosion than the adjacent soil banks. Overtime the watercourse has eroded the soil banks, expanding the width of the channel, and the timber lining has not been able to protect the channel bed. • Failed bank measures can quicken local erosion and have placed the sanitary sewer at risk of exposure. • Exposure of the sanitary sewer can result in a breach of the sanitary sewer which would cause health and safety hazards. • German Mills Creek was initially altered in the early 1980's to accommodate the sewer and development of the neighbourhood; however, the creek has naturally realigned and widened. 	

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	<ul style="list-style-type: none"> German Mills Creek is more confined with bank protection measures at the upstream areas. The downstream areas don't have as many bank protection measures which has allowed German Mills Creek to widen. During construction of the sanitary sewer, the downstream end was parallel to German Mills Creek. Following creek widening, the sanitary sewer is currently located under the creek bed at the downstream section of the study area. Channel widening has also caused several outfalls to become perched and contributed to local scouring. The silty and soft channel material exacerbates local erosion and susceptibility to widespread erosion. The bank material contains engineering fill material which is highly susceptible to erosion. <p><u>MCEA Process and Statement</u></p> <ul style="list-style-type: none"> Beverley Acres German Mills Creek Erosion Control will follow a Schedule B project under the MCEA process. Phase 1 and 2 of the MCEA Process will be completed and followed up with a detailed design. Below is the MCEA Statement: <p>Toronto and Region Conservation Authority, in partnership with the Regional Municipality of York is initiating a Municipal Class Environment Assessment to identify erosion control solutions for sanitary infrastructure protection. The study area includes municipal lands and easements along German Mills Creek between Major Mackenzie Drive East and Palmer Avenue, in the City of Richmond Hill.</p> <p><u>Ongoing/Completed Technical Assessments</u></p> <ul style="list-style-type: none"> <i>Topographical Survey</i> from Major Mackenzie Dr E to Palmer Ave was completed by TRCA and is used to make the engineering drawings. <i>Geomorphic Analysis</i> was completed by Aquafor which will be used to define historic changes in land use and estimate rates of erosion. <i>Tree Inventory and Arborist Report</i> will define key features and identify high value trees to be protected and invasive species that may be removed for construction access into the area. <i>Terrestrial and Aquatic Ecological Inventories Including SAR Screening</i> will define vegetation communities and determine types of ecological enhancement measures to incorporate into the design. <i>Hydraulic Modelling Investigation</i> will evaluate storm flow conditions and optimize the design for erosion protection, while also looking into achieving flood reduction benefits. <i>Geotechnical Investigation</i> will define soil parameters, inform the detailed design, and provide recommendation for disposal of excess material. <p><u>Preliminary Alternative Solutions</u></p> <p>Alternatives to be assessed include Do Nothing, Localized Channel Restoration, Extended Naturalized Channel Restoration, and Extended Hardscaped Channel Restoration.</p> <p><u>Alternative 0 - Do Nothing</u></p> <p>This alternative would involve continued monitoring of the study area, and the continued erosion of German Mills Creek.</p> <p>Alternative 0 - Advantages</p> <ul style="list-style-type: none"> No construction disturbance 	

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	<ul style="list-style-type: none"> No immediate cost <p>Alternative 0 - Disadvantages</p> <ul style="list-style-type: none"> Sanitary sewer and private properties at continued risk of erosion No reduction of flood levels to surrounding properties Future emergency works/maintenance likely required if infrastructure becomes damaged <p><u>Alternative 1 - Localized Channel Restoration</u> This alternative would consist of localized bank protection and channel restoration works. The design consists of a combination of armourstone walls, vegetated buttresses, and roundstone bed treatment.</p> <p>Alternative 1 Advantages</p> <ul style="list-style-type: none"> Critical sewer and private property protection in localized areas Comparatively low cost and minimal construction disturbance <p>Alternative 1 Disadvantages</p> <ul style="list-style-type: none"> Continued erosion risk to sewer and private properties at some locations Does not include upstream channel widening by Major Mackenzie No reduction in modelled flood elevations <p><u>Alternative 2 - Extended Naturalized Channel Restoration</u> This alternative would consist of restoration works for the entire study area. The design would consist of vegetated buttress bank protection and roundstone bed protection along entire length of channel.</p> <p>Alternative 2 Advantages</p> <ul style="list-style-type: none"> Critical erosion protection to sanitary sewer and adjacent private properties along entire study area General widening of channel resulting in minor reduction to flood levels Enhanced aquatic and riparian habitat <p>Alternative 2 Disadvantages</p> <ul style="list-style-type: none"> Significant tree removals required Wider channel form requires more space, leading to potential private property impacts <p>Community Poll #1 Question: Would you be supportive of voluntarily moving your fence line back to create a wider meandering channel?</p> <p>a) Yes b) No</p> <p>Community Poll #1 Results: There were two responses to the poll, one resident voted yes, and one resident voted no.</p> <p><u>Alternative 3 - Extended Hardscaped Channel Restoration</u> This alternative would consist of remediation of the entire length of channel using "hard" erosion controls. The design would consist of armourstone wall bank protection and roundstone bed treatment along the entire length of channel.</p> <p>Alternative 3 Advantages</p> <ul style="list-style-type: none"> Critical sewer and adjacent private property protection along entire study area General widening of channel resulting in minor reduction in flood levels 	

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	<ul style="list-style-type: none"> Relative to Alternative 2, a more confined channel width, minimizing private property impacts <p>Alternative 3 Disadvantages</p> <ul style="list-style-type: none"> “Hard” engineering approach has reduced habitat restoration potential Significant tree removals required Highest cost <p><u>Preliminary Hydraulic Modelling Results</u></p> <p>A coarse high-level hydraulic modelling assessment has been completed for each of the proposed design alternatives to guide and inform the evaluation process. The proposed design for each alternative was incorporated into the hydraulic model, and the following preliminary results were observed:</p> <p>Alternative #1: Localized Channel Restoration</p> <ul style="list-style-type: none"> No significant improvement to flooding reduction within the study area <p>Alternative #2: Extended Naturalized Channel Restoration</p> <ul style="list-style-type: none"> Moderate improvement to flooding reduction of up to 0.25 metres within the study area for the 100-year storm event <p>Alternative #3 – Extended Hardscaped Channel Restoration</p> <ul style="list-style-type: none"> Moderate improvement to flooding reduction of up to 0.20 metres within the study area for the 100-year storm event <p><u>Evaluation of Alternatives</u></p> <p>Each reach was specifically evaluated to determine the preferred method for rehabilitation on a reach-by-reach basis. The evaluation used a ranking scheme which accounts for York Region Infrastructure Risk, Physical and Natural Environment, Social and Cultural Environment, Technical Considerations, Constructability, Financial Considerations, and Public Safety.</p> <p>A preliminary ranking has been applied to each alternative for each reach. The alternative with the highest score will define which alternative is preferred for each reach. The ranking score has been normalized to provide equal weighting for each category of evaluation criteria.</p> <p>The ranking will be finalized once public input has been incorporated.</p> <p>Using this evaluation methodology, the following are the preliminary preferred alternatives for each reach:</p> <p>Sub-Reach #1A - Extended Naturalized Channel Restoration</p> <p>Sub-Reach #1B - Extended Hard-Scaped Channel Restoration</p> <p>Reach #2 - Extended Naturalized Channel Restoration</p> <p>Community Poll #2: For Sub-Reach #1A - What alternative do you prefer?</p> <ol style="list-style-type: none"> Alternative 1 – Localized Channel Restoration Alternative 2 – Extended Naturalized Channel Restoration Alternative 3 – Extended Hardscaped Channel Restoration 	

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	<p>Poll #2 Results: There were four responses to the poll, all respondents specified that they prefer Alternative 3 – Extended Hardscaped Channel Restoration for Sub-Reach #1A.</p> <p>Community Poll #3: For Sub-Reach #1B - What alternative do you prefer?</p> <p>a) Alternative 1 – Localized Channel Restoration</p> <p>b) Alternative 2 – Extended Naturalized Channel Restoration</p> <p>c) Alternative 3 – Extended Hardscaped Channel Restoration</p> <p>Poll #3 Results: There were two responses to the poll, one respondent specified that they prefer Alternative 2 - Extended Naturalized Channel Restoration for Sub-Reach #1B and one respondent specified that they prefer Alternative 3 – Extended Hardscaped Channel Restoration for Sub-Reach #1B</p> <p>Community Poll #4: For Sub-Reach #2 - What alternative do you prefer?</p> <p>a) Alternative 1 – Localized Channel Restoration</p> <p>b) Alternative 2 – Extended Naturalized Channel Restoration</p> <p>c) Alternative 3 – Extended Hardscaped Channel Restoration</p> <p>Poll #4 Results: There was one response to the poll, the respondents specified that they prefer Alternative 2 - Extended Naturalized Channel Restoration for Sub-Reach #2.</p> <p><u>Public Consultation</u></p> <p>The following key consultation activities are Completed:</p> <ul style="list-style-type: none"> • Issue Notice of Commencement (October 2023) • x1 Technical Advisory Committee (TAC) meeting (October 2023) • x1 Community Liaison Committee (CLC) meeting (October 2023) • x1 Technical Advisory Committee (TAC) meeting (March 2024) • x1 Community Liaison Committee (CLC) meeting (March 2024) <p>The following key consultation activities are Planned:</p> <ul style="list-style-type: none"> • x1 Public Information Centre (PIC) (April 2024) • Issue Notice of Completion (Summer 2024) 	
3	<p><u>Next Steps - Rob Amos</u></p> <p>Rob concluded the PowerPoint Presentation and outlined the following key dates below:</p> <ul style="list-style-type: none"> • Final MCEA Project File and MCEA Concept Evaluation Report - June 2024 • TRCA to approach impacted landowners with design & agreements - 2025 • Commencement of Construction - Winter 2026 	
4	<p><u>Frequently Asked Questions</u></p> <p>FAQ #1: What impact will each alternative have on flood lines?</p>	

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	<p>Answer #1: Preliminary hydraulic modelling indicates Alternative 1 will have no significant changes to existing flood lines. Alternative 2 and 3 will lower flood lines. Alternative 2 has the greatest benefit with the reduction of up to 0.25m at the 100-year storm event. Alternative 3 is estimated to provide a reduction of up to 0.20m at the 100-year storm event.</p> <p>FAQ #2: How does this project consider existing and future developments upstream of the Project Area?</p> <p>Answer #2: Development outside the study limits are subject to regulatory and municipal standards that are distinct from this environmental assessment process. New developments must obtain independent regulatory and municipal approvals, including in such areas as stormwater control. The analysis and modelling for this study include factors of safety and conservative estimates for future hydrologic and hydraulic changes that could arise through both landscape and climatic changes throughout the design life of this proposed work.</p> <p>FAQ #3: Will there be any disruption to existing roads, parks, recreational areas, water service and other services during the construction phase?</p> <p>Answer #3: Water, wastewater and stormwater services will not be impacted during construction. The parkette on Cedar Ave will be closed for construction access for the duration of the implementation. The exact location of road closures will be determined during detailed design; however, shortterm duration lane closures on Major Mackenzie Drive East, Cedar Avenue, and Palmer Ave can be expected during construction.</p> <p>FAQ #4: What is the proposed construction timeline?</p> <p>Answer #4: Construction is expected to commence in the fall of 2026 with final restoration in 2027, pending the receipt of all approvals. Construction is anticipated to take approximately 6 months, as weather conditions permit.</p> <p>FAQ #5: The preliminary preferred alternative indicates restoration work will be conducted on my property. What are the next steps?</p> <p>Answer #5: The Project Team will be undertaking detailed design confirming the treatment limits and methods in 2024 following the completion of the MCEA. TRCA will be reaching out to impacted landowners in early 2025 to review the detailed designs and proposed changes to your property. A Works and Access Agreement will be executed with impacted landowners prior to construction beginning in 2026.</p>	
5	<p><u>Questions - Phil Wolfrain & Rob Amos</u></p> <p><u>Question #1: How many properties would be impacted by Alternative #2 - Extended Naturalized Channel Restoration?</u></p> <ul style="list-style-type: none"> • Rob - the number of affected properties impacted by this alternative varies on a reach-by reach basis, and each property will be affected differently. • Phil - These private property impacts were incorporated into the evaluation of alternative designs in support of selecting the preliminary preferred alternative, and will play a significant role in the detailed design process following the completion of the environmental assessment study. 	

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	<p><u>Question #2: I believe there were 3 or 4 properties that had their properties lines changed by around 7 or 8 metres recently. Is TRCA aware of this?</u></p> <ul style="list-style-type: none"> Phil - I believe that you may be referring to some of the encroachments that have occurred within the study area, and the drawings we've presented represent the most accurate property lines TRCA is aware of, based on a 2021 legal survey. <p><u>Question #3: Would any of these alternatives require our backyards to have two fences? One close to where they are now, and one right at the top of the creek bank?</u></p> <ul style="list-style-type: none"> Rob - You wouldn't be required to have two fences, we would give detailed consideration to the proposed changes on each of the properties as part of the detailed design process Phil - We will also give consideration to alternatives to a fence, such as a railing, or other safety feature <p><u>Question #4: How will the stones installed as part of the erosion control solution hold-up against the high velocity flows of German Mills Creek?</u></p> <ul style="list-style-type: none"> Rob - As part of this study, we have given detailed consideration to all key hydraulic conditions within German Mills Creek, including stream power and flow velocity, under a range of return frequencies. As such, the channel substrate selected for the preferred solution will be sized accordingly, to withstand these flow conditions. <p><u>Question #5: I am not willing to give up any of my property at this time. Why does the design show the proposed works taking up more of my property, when there is room for the channel on the other side of the easement?</u></p> <ul style="list-style-type: none"> Rob - The design development considered a variety of factors. The primary goal of the project as defined by the problem statement is to protect sanitary infrastructure within German Mills Creek. However, the project team has considered private property impacts when developing and evaluating the alternatives. Rob - In this instance, we want to maintain a reasonable horizontal distance from the sanitary sewer that runs parallel to the channel across from your property. As such, we are unable to center the watercourse within the City owned easement. <p><u>Question #6: Would the preferred alternative for Reach #2 stay within the existing fence limits?</u></p> <ul style="list-style-type: none"> Phil - Yes, the preliminary preferred alternative for Reach #2 is Alternative 2 – Extended Naturalized Channel Restoration. Based on the width of the existing easement in this location, the primary preferred alternative would maintain the existing fence lines within Reach #2. <p><u>Question #7: When are you planning on completing this work?</u></p> <ul style="list-style-type: none"> Phil - TRCA is currently planning for construction to take place in Winter 2026, with post-construction restoration occurring in Spring 2027. <p><u>Question #8: What is the benefit of the increased meandering in Reach #1A?</u></p> <ul style="list-style-type: none"> Rob - Alternative 2, the extended naturalized channel restoration solution, includes an increased sinuosity compared to the other alternatives. This increased sinuosity will return the watercourse to a 	

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	<p>more natural sinuosity, similar to what it had prior the channel realignment in the 1980s in support of the sewer instillation.</p> <ul style="list-style-type: none"> Phil - In many instances, this additional sinuosity allows for the channel to meander away from the sewer, thus enhancing the sewer protection. <p><u>Question #9 - Would TRCA consider implementing a vegetated buttress protection on one side of the channel and an armourstone wall on the other side? This could possibly reduce the channel footprint, leading to less intrusion into private properties.</u></p> <ul style="list-style-type: none"> Rob - Thank you for this great feedback. The project team will take this into consideration during future design refinement. Phil - This design configuration could allow for protection of the sanitary sewer, and minimal intrusion into the adjacent private properties. <p><u>Question #10: For the preliminary preferred alternatives, would the existing wooden retaining structures be removed entirely from the channel and riparian area?</u></p> <ul style="list-style-type: none"> Phil - Yes, the preliminary preferred solutions would involve the replacement of the existing and failed erosion control measures, including the wooden retaining walls. <p><u>Question #11: How would the Cedar Avenue properties downstream of the City Parkette be impacted by the current preliminary preferred alternative?</u></p> <ul style="list-style-type: none"> Rob - As this area is in Reach #2, the preliminary preferred solution would not impact any of the private properties beyond the existing fence line, with all of the works contained within the Region-owned right-of-way property. <p><u>Question #12: I currently have a retaining structure in my backyard. Would the preliminary preferred alternative consist of the removal of this retaining structure?</u></p> <ul style="list-style-type: none"> Rob - Yes, the preliminary preferred solutions would involve the replacement of the existing and failed erosion control measures, including the wooden retaining walls. <p><u>Question #13: Would you consider vertical drops/waterfalls as part of the proposed design?</u></p> <ul style="list-style-type: none"> Rob - As part of modern watercourse restorations, we strive to create smooth and consistent profiles along the creek, to promote habitat and fish passage. As such, any sort of vertical drop will not be considered as part of the proposed design. <p><u>Question #14: In each of the preliminary preferred alternatives, would the existing bank erosion be resolved?</u></p> <ul style="list-style-type: none"> Phil - As part of the reach based preliminary preferred alternatives, the ongoing erosion problems within the study area will be addressed, either through the instillation of vegetated buttress bank protection, or armourstone retaining walls. 	

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	<p><u>Question #15: Would TRCA consider adding concrete into the proposed design, in order to fix the erosion control structures in place? I have personally observed rocks migrating down the creek, and I am concerned this will happen to the proposed design.</u></p> <ul style="list-style-type: none"> Phil - No, concrete is typically not preferred from a creek restoration point of view. Historically concrete was used in creek restorations, but it was found to increase downstream erosion within watercourses. As such, concrete is not proposed as part of the preferred solution. Phil - The channel substrate that you have observed migrating downstream is because the channel substrate is undersized compared to the existing power of the stream. Our proposed design will take into account updated stream power and velocity, in order to adequately size the channel substrate. <p><u>Question #16: I noticed that the problem statement does not mention the ongoing flooding and erosion concerns about private properties. Could you please update the problem statement accordingly, as this is a major component of the study?</u></p> <ul style="list-style-type: none"> Phil - Our project is closely tied to the protection of regionally owned sanitary infrastructure within the study area, as reflected in the problem statement. Although the protection of private properties from erosion is a secondary objective of this project, the project is ultimately driven by infrastructure protection. 	
6	<p><u>Action Items</u></p> <p>Residents to provide any feedback on the presentation by April 9th.</p> <p>ABL to send out meeting minutes to the TRCA.</p> <p>TRCA to send the presentation and meeting minutes to participants.</p> <p>TRCA to publish the presentation on their website.</p>	<p>Residents</p> <p>ABL</p> <p>TRCA</p> <p>TRCA</p>
<p>A PIC will be held Monday, April 22nd, 2024 from 6:00 PM to 8:00 PM at Bayview Hill Community Centre & Pool - Program Room Address: 114 Spadina Road, Richmond Hill, ON L4B 2Y9</p> <p>If you notice any errors or omissions in this document, please advise TRCA or Aquafor Beech before April 22nd.</p>		