



Hamilton

Ainslie Wood Neighbourhood Creek Separation Municipal Class Environmental Assessment

Public Information Centre No. 2
December 4, 2023, 6 to 8 pm

St. Mary Catholic Secondary School, Hamilton



Public Information Centre (PIC) No.2



Welcome to PIC No. 2 for the City of Hamilton's Ainslie Wood Neighbourhood Creek Separation Municipal Class Environmental Assessment (EA). The purpose of this PIC is to:

- Provide an overview of the Municipal Class EA process and project background information;
- Present the evaluation of short-listed alternatives and the recommended solution for separating Chedoke Creek flow from the City's combined sewer system; and
- Gather feedback and answer questions.

Please sign-in on the sheet provided, view the displays to learn more about the proposed project, meet the team, and get answers to your questions!

A copy of the presentation slides and comment form are also available on the project website: www.hamilton.ca/awcreekEA

Please fill out a Comment Form before you leave, or email your comments to shawn.qu@hamilton.ca, or call 905-546-2424 Ext.1731.



There is an opportunity at any time during the Class EA process to provide your input. Comments received will be collected under the authority of the *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record.

COMMENT SHEET - PIC #2

PUBLIC WORKS DEPARTMENT
Hamilton Water Division
Water & Wastewater Systems Planning

Hamilton

Municipal Class Environmental Assessment for the
Ainslie Wood Neighbourhood Creek Separation

The City of Hamilton is interested in hearing the community's comments, questions, concerns, and suggestions regarding the Ainslie Wood Neighbourhood Creek Separation Municipal Class Environmental Assessment (EA). Please take a few minutes to complete this brief comment sheet. All comments will be carefully considered during the Class EA process.

1. What is your interest in this study? Are you a:

Resident

Local Business Owner

Member of an Interest Group (please specify) _____

Agency Representative (please specify) _____

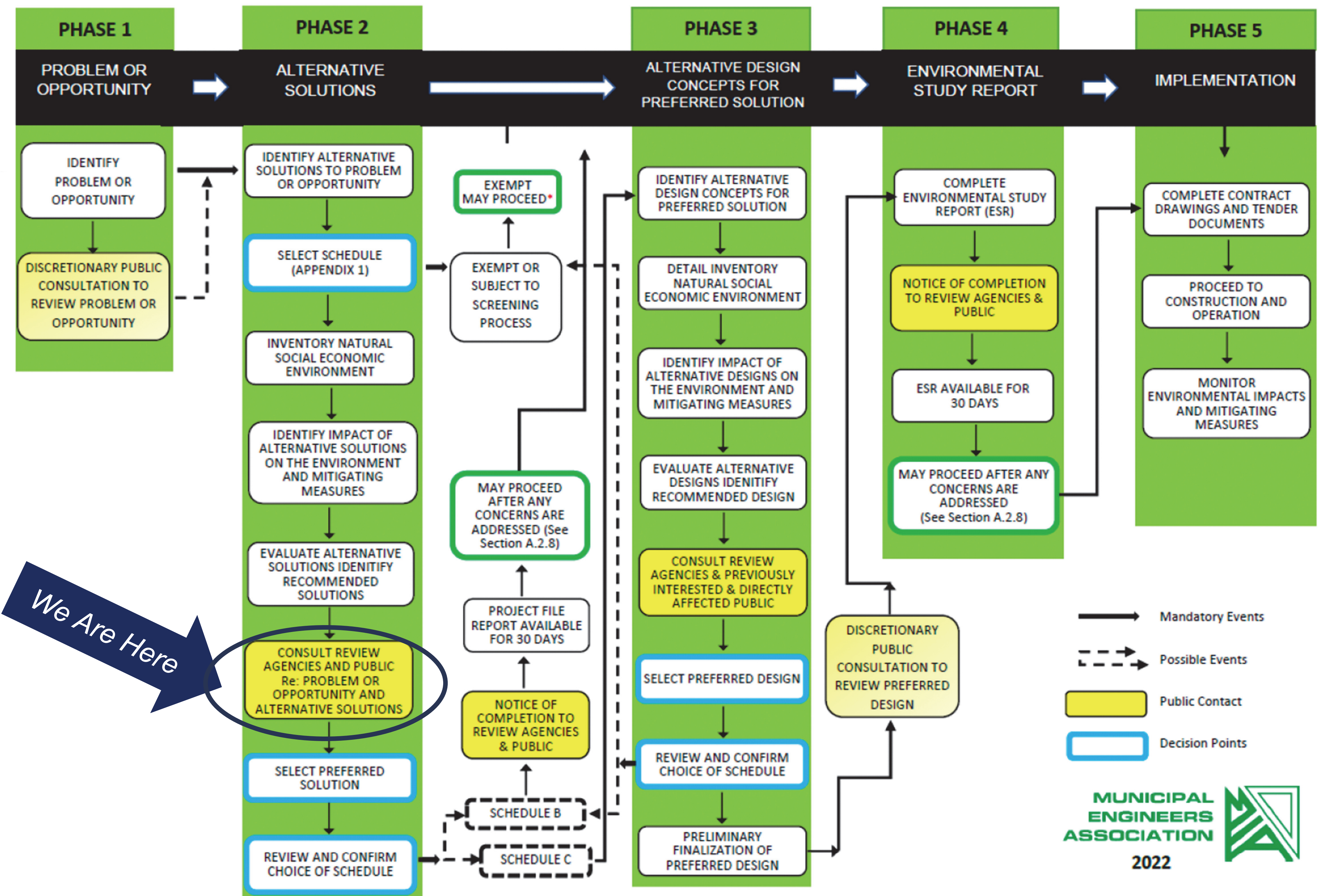
Other (please specify): _____

2. Do you have any questions or comments related to the project **short list of alternative solutions** presented?

1

Municipal Class EA Process

- A decision-making and planning process to identify and manage potential effects of a project prior to implementation.
- Requires the identification and evaluation of alternative solutions, and recommends the best approach based on comparative evaluation.
- Undertaken in accordance with the Ontario *Environmental Assessment Act*, as prescribed by the Municipal Engineers Association (MEA) Municipal Class EA (March 2023).
- This study is currently being undertaken as a **Schedule 'B' project** with the potential for elevation to a **Schedule 'C' project**, pending confirmation of the preferred solution.



Source: Municipal Engineers Association (MEA) Municipal Class EA (March 2023)

Communications & Consultation

Consultation Overview

Communications and consultation is an important part of the Class EA process. Key elements will include:

- Distribution of public notices at key milestones (**Notice of Study Commencement & PIC No. 1, Notice of PIC No. 2 & Notice of Study Completion**)
- Stakeholder / Agency Engagement
- Indigenous Communities Outreach
- **Two Public Information Centres (No.1 & No.2)** to seek input from local residents and interested parties
- Information posted on the project webpage



Project Information is posted on the City's webpage at: <http://www.hamilton.ca/awcreekEA>

Indigenous Communities Outreach

The following communities have been notified of the project and invited to participate:

- Haudenosaunee Development Institute (HDI) for the Haudenosaunee Confederacy of Chiefs Council (HCCC)
- Department of Consultation and Accommodation (DOCA) of the Mississaugas of the Credit First Nation
- Six Nations Land and Resources Department, Land Use Unit for the Six Nations of the Grand Elected Council (SNEC)
- Huron Wendat First Nation at Wendake
- Metis Nation of Ontario

Recent amendments to Ontario's *Environmental Assessment Act* note that a Section 16 Order or "bump-up" request will only be considered by the Ministry of the Environment, Conservation and Parks (MECP) if the project impacts constitutionally protected Aboriginal or treaty rights. Requests on other grounds will not be considered.

Project Background

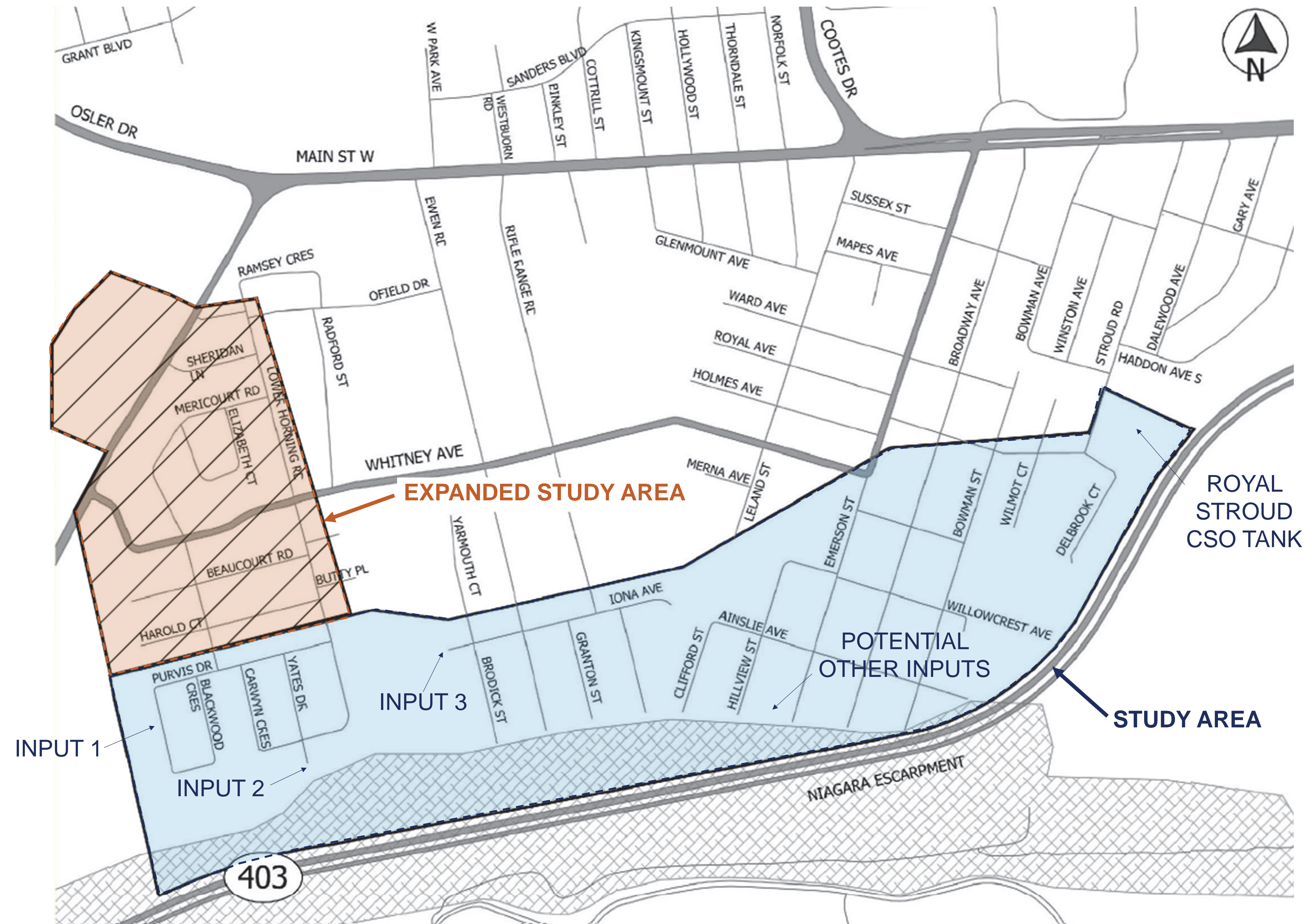
- Chedoke Creek is a historic watercourse that conveys flows from the Niagara Escarpment through the City of Hamilton, and ultimately to Cootes Paradise and Hamilton Harbour.
- During the City's early development, much of the creek downstream of the Niagara Escarpment was diverted underground into the City's combined sewer system.
- This is problematic because stormwater inputs from relatively large drainage areas are entering the combined sewer system rather than flowing into Chedoke Creek as would occur if the storm sewer system was separate from the sanitary sewer system.
- The City's Chedoke Creek Water Quality Improvement Study (2021) identified the need to separate Chedoke Creek inputs from the Ainslie Wood Neighbourhood combined sewer system.

Problem Statement

- At least three identified inputs from Chedoke Creek are carrying stormwater and contributing flows to the City's combined sewer system within the Ainslie Wood neighbourhood, rather than continuing flowing into Chedoke Creek.
- These inputs contribute to increased flows through the City's sewer system to the Woodward Avenue Wastewater Treatment Plant, resulting in reduced conveyance and treatment capacity and increased conveyance and treatment costs.
- During significant wet weather events, these inputs increase the frequency and the volume of overflow at the Royal Stroud Combined Sewer Overflow (CSO) tank and discharges to Chedoke Creek north of Highway 403 and south of the railway overpass.
- A solution is required to separate these flows from the combined sewer system to reduce the frequency and volume of CSOs, reduce the load on the City's wastewater treatment infrastructure and optimize the capacity of the City's existing sewer system.

Study Area

- The study area includes the southern and western portion of the Ainslie Wood neighbourhood.
- There are three main input locations where Chedoke Creek drainage areas are conveyed through the City's combined sewer system to the Royal Stroud Combined Sewage Overflow (CSO) tank:
 - 1) At Purvis Drive and Blackwood Crescent;
 - 2) At the end of Yates Drive; and
 - 3) At the west extent of Iona Avenue.
- There may be more inputs at the south end of various streets adjacent to Highway 403.
- The Royal Stroud CSO tank is located in Stroud Park, on the southwest corner of Royal Avenue and Stroud Road.



Study Purpose & Objectives

Intent of the Study:

- Identify and evaluate potential design alternatives for the capture, conveyance, and outlet of Chedoke Creek inputs within the study area and determine a preferred solution for the separation of these flows from the City's combined sewer system.

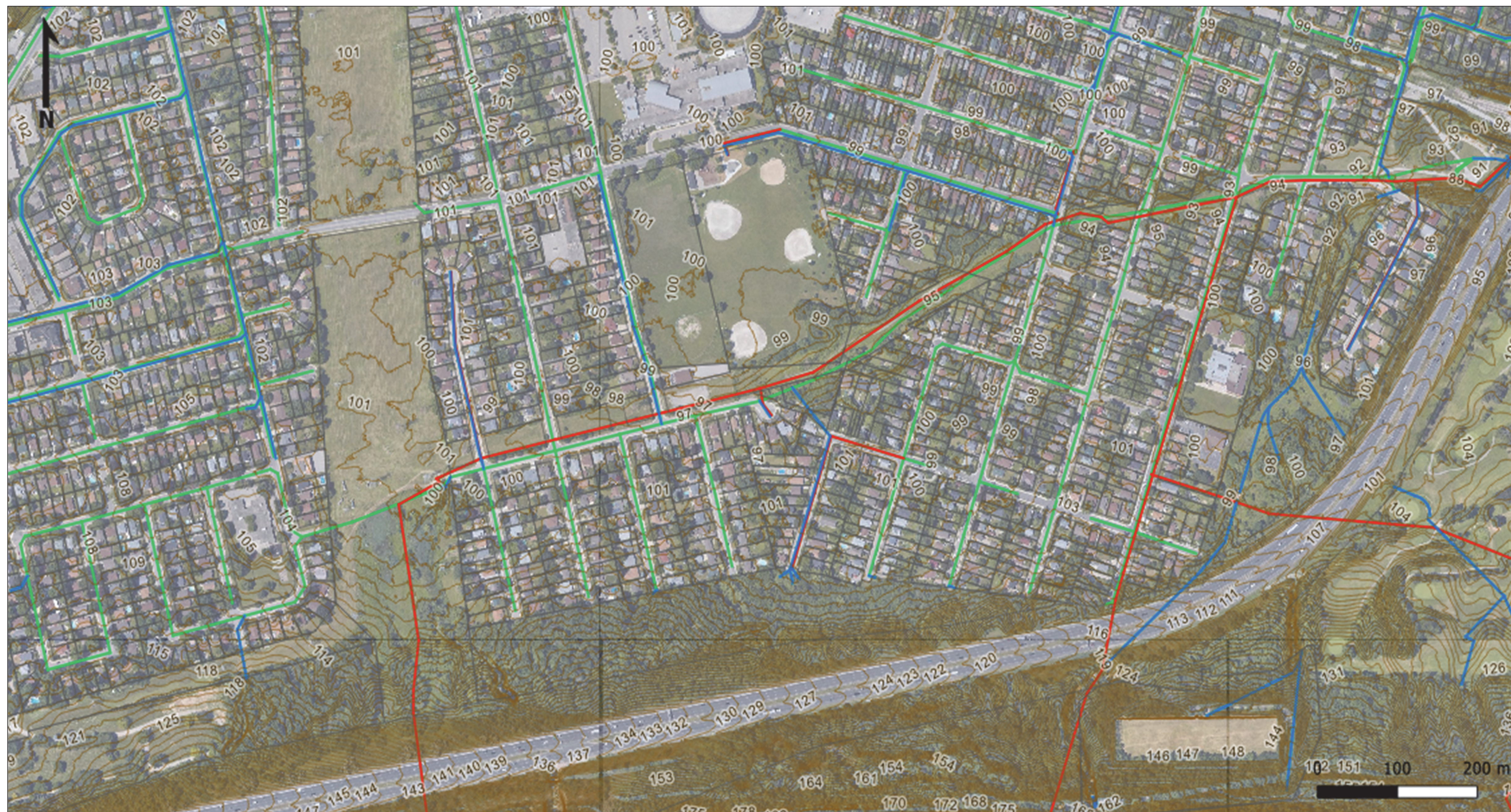
Project Objectives / Opportunities:

- Reduce the frequency and volume of CSOs during wet weather events.
- Reduce the load on the City's wastewater treatment infrastructure and optimize the capacity of the City's existing sewer system.
- Increase baseflow to Chedoke Creek, potentially enhancing both its aquatic environment and riparian habitat.
- Potentially improve the water quality that will reach Chedoke Creek and ultimately Cootes Paradise and Hamilton Harbour.



Short-Listed Alternative Solutions Part 1 of 3

The long-list of alternatives from PIC1 were refined into a short-list of alternatives that was further expanded in the spring of 2023 to include alternatives that address Inputs 1 and 2. The short-list of alternatives were selected based on a high-level conceptual design process where feasibility and constructability was assessed.

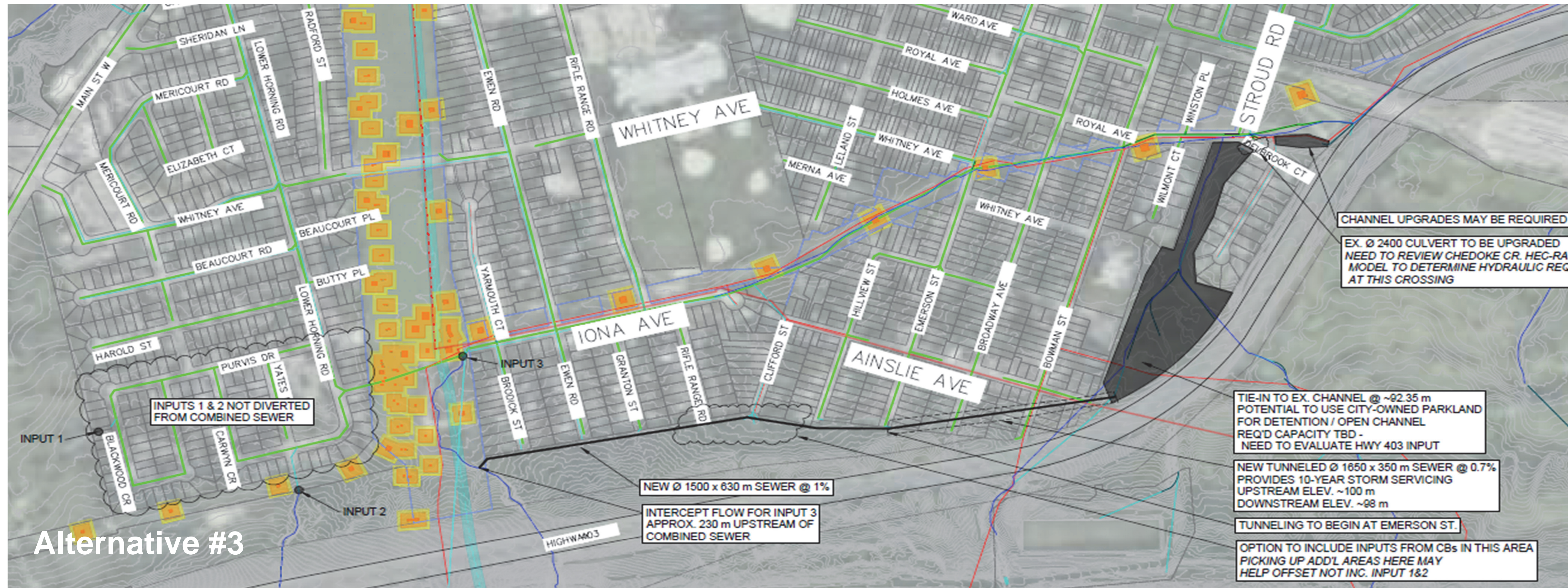


Legend
— Sanitary Sewer
— Combined Sewer
— Storm Sewer

Alternative #1 – ‘Do Nothing’

- Required for comparison with other alternatives.
- Inputs continue to discharge to combined sewer system.
- No decrease in stormwater runoff contributions or CSOs.

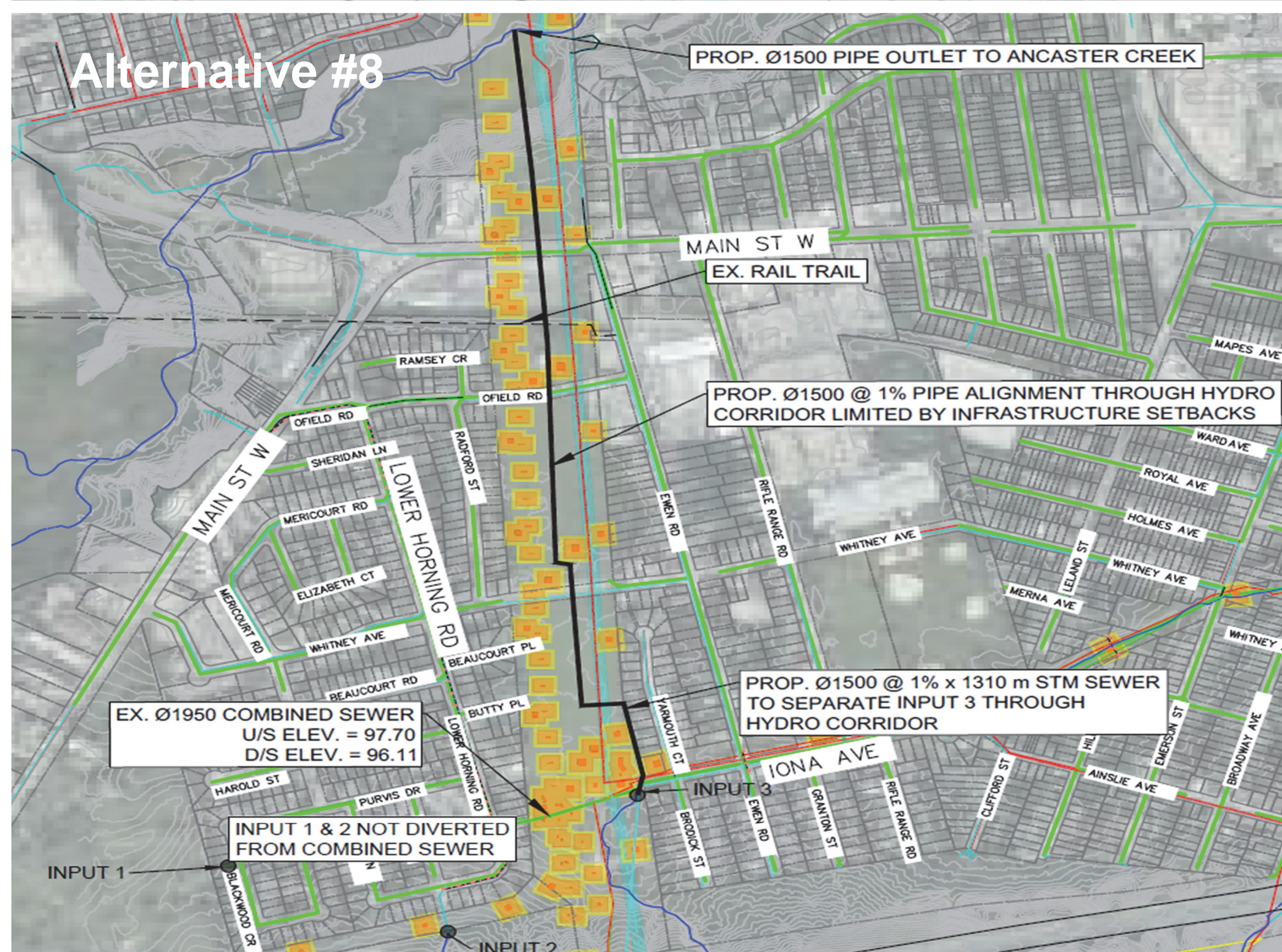
Short-Listed Alternative Solutions Part 2 of 3



Alternative #3

Alternative #3 – Overland Flow Capture and Piped Diversion

- Diverts Input 3 to a new storm sewer that discharges to a new outfall to Chedoke Creek.
- Does not divert Inputs 1 or 2 due to Hydro One corridor and TransCanada (TC) pipeline conflicts.
- Tunneling likely required.



Alternative #8

Alternative #8 – North Diversion

- Diverts Input 3 to a new storm sewer that travels north through the hydro corridor to Ancaster Creek.
- Does not divert Inputs 1 or 2 due to conflicts with combined sewer system, hydro towers and TC pipeline.
- Triggers requirement for a Schedule 'C' Municipal Class EA.

Legend

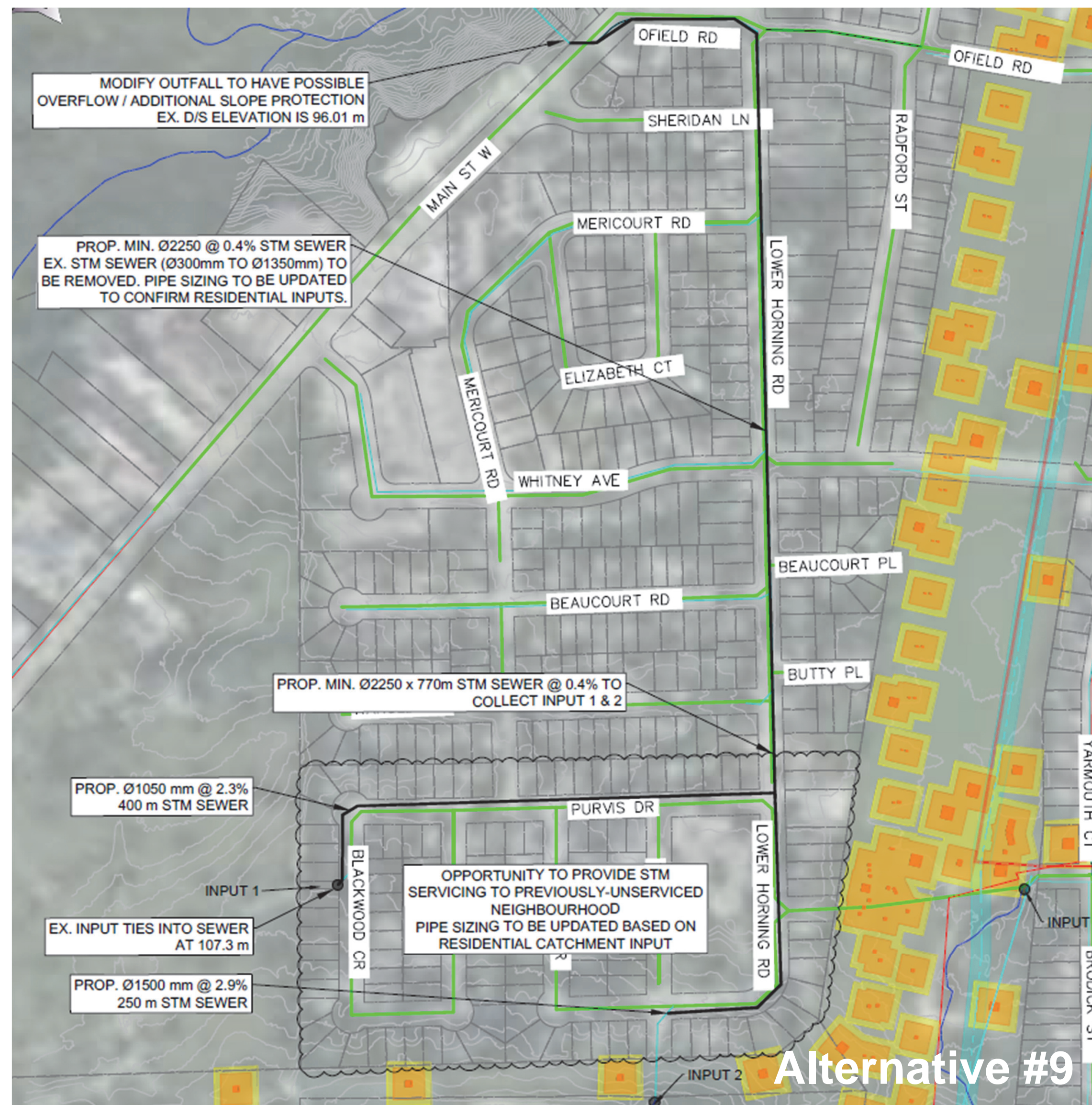
- Sanitary Sewer
- Combined Sewer
- Storm Sewer

Short-Listed Alternative Solutions Part 3 of 3

- Legend**
- Sanitary Sewer
 - Combined Sewer
 - Storm Sewer

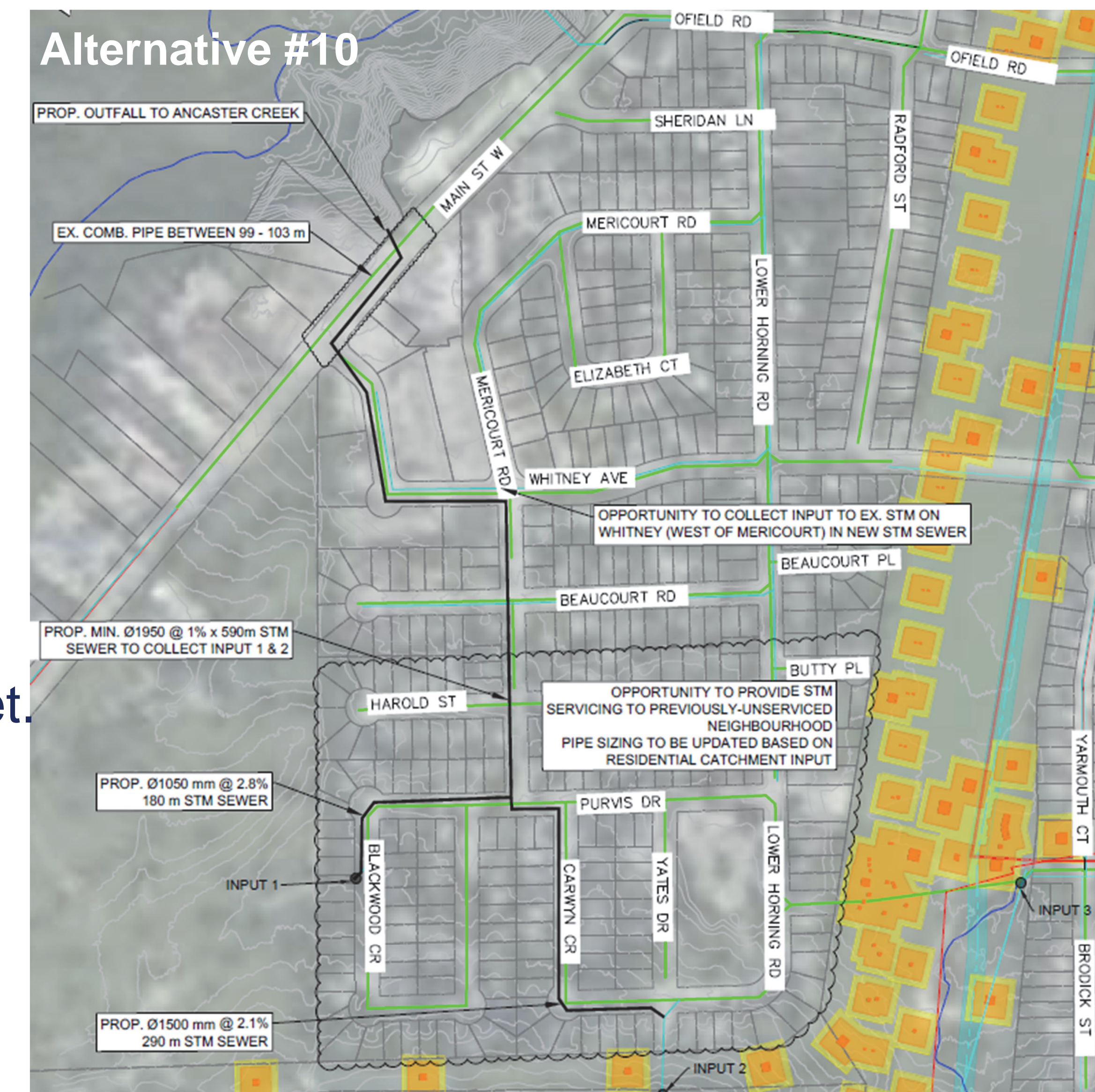
Alternative #9 – West Diversion, Lower Horning to Ancaster Creek

- Diverts Inputs 1 and 2 to a new upgraded storm sewer on Lower Horning Road and Ofield Road.
- Rehabilitation of existing outfall structure to accommodate new storm sewer.
- Does not divert Input 3 due to conflicts with the hydro corridor and TC pipeline.
- Triggers requirement for a Schedule 'C' Municipal Class EA.



Alternative #10 – West Diversion, Mericourt to New Outfall

- Diverts Inputs 1 and 2 to a new storm sewer on Whitney Avenue and Main Street.
- Construction of a new outfall structure to discharge flows to Ancaster Creek.
- Does not divert Input 3 due to conflicts with the hydro corridor and TC pipeline.
- Provides separate storm servicing to previously underserviced neighbourhood.
- Triggers requirement for a Schedule 'C' Municipal Class EA.



Comparative Evaluation of Alternatives Part 1 of 2

Evaluation Criteria	Alternative #1 "Do Nothing"	Alternative #3 Overland Flow Capture and Piped Diversion	Alternative #8 North Diversion	Alternative #9 West Diversion – Existing Outfall	Alternative #10 West Diversion – New Outfall
Engineering & Technical					
Reduction in Storm Runoff Contributions to Combined Sewer	- 0% reduction	- 46% reduction on an average annual basis.	- 46% reduction on an average annual basis.	- 54% reduction on an average annual basis.	- 54% reduction on an average annual basis.
Reduction in Combined Sewer Overflows (CSOs) from Royal CSO Tank (Volume)	- 0% reduction	- 39% reduction based on storm events analyzed between 2019 and 2021.	- 39% reduction based on storm events analyzed between 2019 and 2021.	- 63% reduction based on storm events analyzed between 2019 and 2021.	- 63% reduction based on storm events analyzed between 2019 and 2021.
Increase Natural Flow to Chedoke Creek	- 0% increase – all natural flow continues to combined sewer system.	- This is the only alternative that improves natural flow to Chedoke Creek by introducing a new outlet.	- N/A – increases natural flow to Ancaster Creek	- N/A – increases natural flow to Ancaster Creek	- N/A – increases natural flow to Ancaster Creek
Utility Constraints	- N/A	- Avoids the Hydro One corridor and utility corridor. - Minimal to no utilities located along pipe alignment. - Coordination with residential utilities for tunneling required.	- Overhead utility constraints given large number of towers and wires in the Hydro One corridor. - Coordination with TransCanada Energy required for pipeline crossing. - Minimum setback requirements from towers to be considered in the alignment.	- May require relocation of existing utilities and laterals on the local roadway. - Avoids the Hydro One corridor and utility corridor.	- May require relocation of existing utilities and laterals on the local roadway. - Avoids the Hydro One corridor and utility corridor.
Constructability & Access	- N/A	- Tunneling presents a complexity with construction, especially in the escarpment. - Temporary access to the construction area will be required with clearing, grubbing, and vegetation removal.	- Constructability and access through the Hydro One corridor will be costly and expensive. - Equipment access may be limited with overhead wires.	- New storm sewers on existing roadways follows typical construction methodology. - Storm sewer installation on Main Street and the outlet adds some complexity.	- New storm sewers on existing roadways follows typical construction methodology. - Storm sewer installation on Main Street and the outlet adds some complexity.
Permits & Approvals	- N/A	- Permits required from the City, Hamilton Conservation Authority, and Niagara Escarpment Commission. - Landowner authorization for tunneling.	- Permits required from the City, Hamilton Conservation Authority, Niagara Escarpment Commission and TC Energy. - Triggers Schedule 'C' Municipal Class EA.	- Permits required from the City, Hamilton Conservation Authority, and Niagara Escarpment Commission. - Triggers Schedule 'C' Municipal Class EA.	- Permits required from the City, Hamilton Conservation Authority, and Niagara Escarpment Commission. - Triggers Schedule 'C' Municipal Class EA.
Natural Environment					
Greenspace & Woodlots Impact / Opportunities	- N/A	- Large impact to woodlot space located between residential developments and Highway 403 to accommodate new storm sewer alignment to Chedoke Creek.	- Impact to greenspace within Hydro One corridor during construction to accommodate new storm sewer alignment.	- Minimal greenspace or woodlot impact. Alignment proposed in roadway with use of existing outfall. - Minimal work on outfall structure may be required.	- Woodlot impact as a result of new storm outfall installation to Ancaster Creek.
Aquatic Habitat Impact / Opportunities	- Continuance of CSOs to Chedoke Creek impacting water quality and ultimately aquatic habitat.	- Input for culvert is located outside of DFO-mapped habitat for Lilliput and Mapleleaf mussels.	- New outfall structure has more negative impact on aquatic habitat. - Output area may interact with urban sensitive species such as Spiny Softshell Turtle. - Additional inputs of stormwater outflow could negatively alter current sensitive habitat conditions.	- Output area may interact with urban sensitive species such as Spiny Softshell Turtle. - Additional inputs of stormwater outflow could negatively alter current sensitive habitat conditions.	- New outfall structure has more negative impact on aquatic habitat. - Output area may interact with urban sensitive species such as Spiny Softshell Turtle. - Additional inputs of stormwater outflow could negatively alter current sensitive habitat conditions.
Terrestrial Habitat Impact / Opportunities	- N/A	- Area is considered part of the Natural Heritage System. - Large terrestrial habitat impact due to the impacted forested area along the proposed sewer alignment. - Impacts can be minimized through bird and bat timing windows.	- Terrestrial impacts not anticipated as there are minimal to no trees or significant vegetation in the Hydro One corridor.	- Minimal terrestrial habitat impact expected. - Minor impacts at proposed storm outlet can be minimized through following bird and bat timing windows.	- Minimal terrestrial habitat impact expected. - Minor impacts at proposed storm outlet can be minimized through following bird and bat timing windows.
Sensitive Species Impact / Opportunities	- N/A	- Some Species at Risk (SAR) and Species of Conservation Concern (SoCC) species were reported in the NHIC reports; however, area expands further south than area of disturbance anticipated for the construction.	- No observed SAR while on site. - Species indicated in other surveys are urban tolerant species.	- No observed SAR while on site. - Species indicated in other surveys are urban tolerant species.	- No observed SAR while on site. - Species indicated in other surveys are urban tolerant species.
Water Quality Impact / Opportunities	- Continuance of CSOs to Chedoke Creek, degrading water quality.	- Diverts runoff from the combined sewer system, minimizing CSOs, resulting in an improvement to water quality. - Results in a diversion of storm runoff from 115.24 hectares (ha).	- Diverts runoff from the combined sewer system, minimizing CSOs, resulting in an improvement to water quality. - Results in a diversion of storm runoff from 115.24 ha.	- Diverts runoff from the combined sewer system, minimizing CSOs, resulting in an improvement to water quality. - Results in a diversion of storm runoff from 189.28 ha.	- Diverts runoff from the combined sewer system, minimizing CSOs, resulting in an improvement to water quality. - Results in a diversion of storm runoff from 189.28 ha.
Social / Cultural Environment					
Recreational Amenity Impact / Opportunities	- N/A	- No impacts to recreational/amenity areas.	- Impacts to the walking trails through the Hydro One corridor during construction. - Impacts to Cootes Paradise during construction.	- No impacts to recreational/amenity areas.	- No impacts to recreational/amenity areas.
Archaeological & Cultural Heritage Resources Impact / Opportunities	- N/A	- Residential dwellings impacted by tunneling are located in an area identified as having 'archaeological potential'. - Area around Chedoke Creek classified as 'Designated – Part IV of the <i>Ontario Heritage Act</i> .'	- Area in Hydro One corridor identified as having 'archaeological potential' and another area requiring further assessment. - No impacts to cultural heritage resources.	- Two built heritage resources (BHRs) along Lower Horning. - Potential for minor impact to cultural heritage resources for the installation of a storm intake at Input 1 during construction.	- No BHRs. - Potential for minor impact to cultural heritage resources for the installation of a storm intake at Input 1 during construction.

LEGEND: Excellent Good No Impact Poor Very Poor

Comparative Evaluation of Alternatives Part 2 of 2

Evaluation Criteria	Alternative #1 "Do Nothing"	Alternative #3 Overland Flow Capture and Piped Diversion	Alternative #8 North Diversion	Alternative #9 West Diversion – Existing Outfall	Alternative #10 West Diversion – New Outfall
Social / Cultural Environment cont'd					
Adjacent Property Impact / Opportunities	- N/A	- Requires tunneling below existing residential dwellings which may impact property owners during construction.	- Minimal impacts to adjacent properties as the works are located within the Hydro One corridor.	- No impact to private property, however homeowners may be temporarily affected during construction.	- No impact to private property, however homeowners may be temporarily affected during construction. - Presents an opportunity to further separate the residential area that is currently serviced by combined sewers.
Indigenous Community Impact	- To be confirmed with Indigenous communities, as applicable.	- To be confirmed with Indigenous communities, as applicable.	- To be confirmed with Indigenous communities, as applicable.	- To be confirmed with Indigenous communities, as applicable.	- To be confirmed with Indigenous communities, as applicable.
Niagara Escarpment Plan Designations	- N/A	- Works are predominantly located within the 'Escarpment Natural Area'. Although 'Infrastructure' works are permitted in these areas, impacts to the natural area are anticipated during construction.	- Proposed works are only located within an area classified as 'Urban Area' where infrastructure works are permitted.	- Proposed works are located within an 'Urban Area' and 'Escarpment Natural Area'. Infrastructure works are permitted in both designations. - Works within the natural area are limited to connecting/rehabilitation of existing outfall.	- Proposed works are located within an 'Urban Area' and 'Escarpment Natural Area'. Infrastructure works are permitted in both designations. - Works within the natural area are limited to construction of a new outlet structure.
Noise, Traffic, Dust During Construction	- N/A	- Impacts due to noise, dust and traffic during construction are anticipated to be minor as the sewer alignment is only bounded by residential developments on one side.	- Best option for noise, dust and traffic impacts during construction as the works are aligned in the Hydro One corridor.	- The proposed works are along residential streets where temporary construction impacts from noise, dust, and traffic are anticipated to be higher.	- The proposed works are along residential streets where temporary construction impacts from noise, dust, and traffic are anticipated to be higher.
Economic					
Property Acquisitions Requirements	- N/A	- Includes tunneling below existing residential developments which will require an easement on private properties over the sewer.	- Property acquisitions are not required; however, easements will be required within the Hydro One corridor and for the outlet at Cootes Paradise.	- Property acquisitions are not required; storm sewer alignment on public lands.	- Property acquisitions are not required; storm sewer alignment on public lands. - Requires approval from Hamilton Conservation Authority for the new outfall structure on their property.
Capital Costs	- \$0	- Estimated at approximately \$25.1 M.	- Estimated at approximately \$17.4 M.	- Estimated at approximately \$20.8 M.	- Estimated at approximately \$16.9 M.
Operation & Maintenance (O&M) Costs	- O&M on the CSO tank, overflows, pumps etc. will continue to be required as a result of not diverting storm runoff from the system. - The City will continue to have elevated costs of treatment at the Woodward Wastewater Treatment Plant.	- Estimated cost reduction of \$550K/year. - No O&M required for storm sewer network. - Diverts storm runoff from the combined sewer system, improving O&M costs on the Royal Stroud CSO system.	- Estimated cost reduction of \$550K/year. - No O&M required for storm sewer network. - Diverts storm runoff from the combined sewer system, improving O&M costs on the Royal Stroud CSO system.	- Estimated cost reduction of \$650K/year. - No O&M required for storm sewer network. - Diverts the largest amount of runoff from the combined system, providing a reduction in O&M on the Royal Stroud CSO system.	- Estimated cost reduction of \$650K/year. - No O&M required for storm sewer network. - Diverts the largest amount of runoff from the combined system, providing a reduction in O&M on the Royal Stroud CSO system. - Provides opportunity to further separate an area currently serviced by combined sewer systems.
Overall Ranking and Summary					
Key Considerations	- Does not satisfy the project objective.	- Most expensive and has a high degree of technical constraints including utility conflicts, tunneling constraints, and property impacts.	- Low costs, but a high degree of complexity and impacts within the Hydro One corridor. - High possibility of increased costs and delays.	- Similar to Alternative 10 but is more expensive and does not provide an opportunity to feasibly improve storm servicing to the currently underserved neighborhood.	- Lowest costs. - Achieves project objectives. - Provides an opportunity to improve storm servicing to the currently underserved neighborhood.
Overall Ranking	5th Ranked – Not Recommended	4th Ranked – Not Recommended	3rd Ranked – Not Recommended	2nd Ranked – Not Recommended	1st Ranked – Recommended Alternative

LEGEND: Excellent Good No Impact Poor Very Poor

Recommended Alternative Solution

Alternative #10 – West Diversion, Mericourt to New Outfall

- Achieves the maximum reduction in stormwater runoff contributions and CSOs of all five short-listed alternatives assessed.
- Achieves the maximum result for the least expensive alternative (\$16.9M).
- Minimizes utility conflicts by proposing a new storm sewer down a side street with minimal infrastructure.
- Minimizes social impacts by refining works to a side street as opposed to a connecting street.
- Presents an opportunity to separate storm servicing from a neighbourhood currently serviced by combined sewers .
- Minimizes environmental impacts by generally being refined to City rights-of-way. Permits/approvals from Hamilton Conservation Authority required for new outfall structure on their property.
- Reduces operating costs to the City by reducing the amount of stormwater conveyed and treated at the wastewater treatment plant (WWTP) facility by diverting storm runoff from the system.



Next Steps

- Review and incorporate stakeholders' comments received, **continuing communications and consultation** throughout the study.
- Refine recommended alternative solution, as needed, and select preferred solution.
- Identify and evaluate alternative design concepts for preferred solution, e.g., depths, pipe location within rights-of-way, exact outfall location.
- Identify potential construction impacts and develop mitigation measures.
- Host **PIC No.3 in Spring 2024** to present recommended design due to Schedule C requirements.
- Prepare Environmental Study Report (ESR) and publish Notice of Completion in Fall/Winter 2024.

Your Participation is Important!

How can you remain involved in this study?

- Request that your name / email is added to the project emailing list.
- Complete a Comment Sheet or email your questions or comments.
- Contact one of our project team members at any time:

Shawn Qu, M.Sc.Eng., P.Eng.

Project Manager

City of Hamilton

Email: shawn.qu@hamilton.ca

Phone: 905-546-2424 ext.1731

Mark Bassingthwaite, P.Eng.

Project Manager

Resilient Consulting

Email: mbassingthwaite@resilientconsulting.ca

Phone: 289-943-4651

Thank you for your participation in this PIC!

There is an opportunity at any time during the Class EA process to provide your input. Comments received will be collected under the authority of the *Environmental Assessment Act* and 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.