Welcome to the Public Information Centre for The Town of Oakville Saville Area Stormwater System Improvement Study – Schedule B Municipal Class Environmental Assessment

Public Information Centre

March 20, 2024

6:00 pm to 8:00 pm

Queen Elizabeth Park Community and Cultural Centre
Multipurpose Room 1-2

Project Overview

The Town of Oakville is carrying out a Schedule B Municipal Class Environmental Assessment (EA) in **The Saville Neighbourhood Area** located in western Oakville, in the Halton Region.

This study is being completed in an effort to address nuisance flooding complaints and to resolve capacity issues in the stormwater drainage system; while aligning any future works with the planned Halton Region sanitary sewer and watermain improvement project within the Saville Neighborhood.

Purpose of Tonight's Meeting

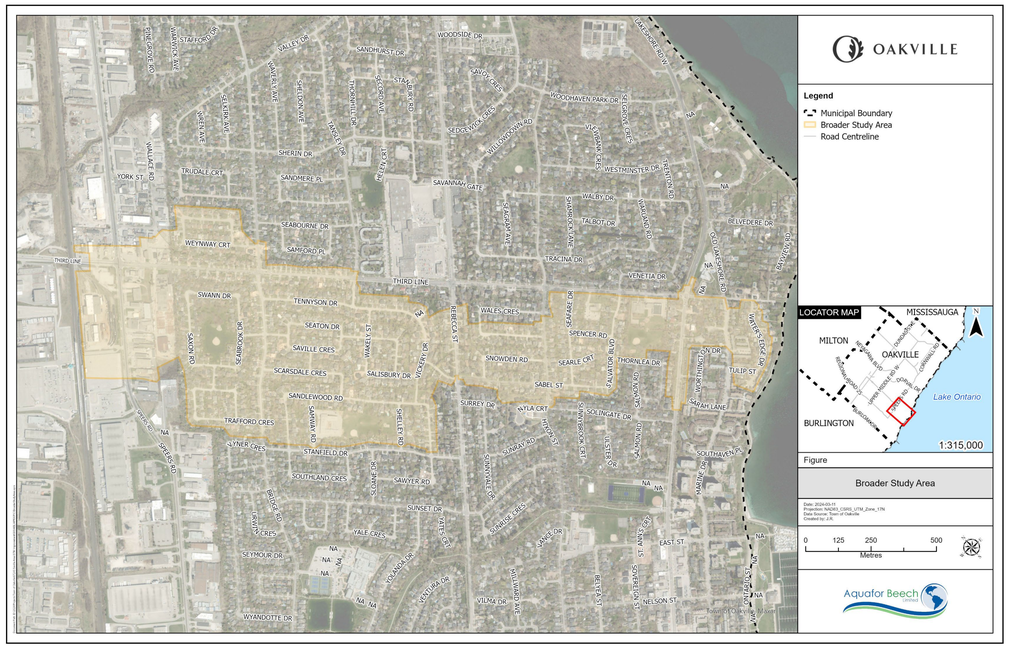
Your feedback is important to us.

This PIC provides an opportunity for participants to review and provide comments on the alternatives, evaluation criteria, and preliminary preferred solution for the immediate study area.

The Broader Study Area runs from the CN Rail line on the north-west to the border of Lake Ontario on the south-east.

The Immediate Study Area runs from the CN Rail line on the north-west to approximately Rebecca street on the south-east.

*This PIC is focusing on the **immediate** study area as it aligns with Halton Region's planned work area.*



Broader Study Area

Immediate Study Area

Areas of Responsibility

Town of Oakville Responsibilities

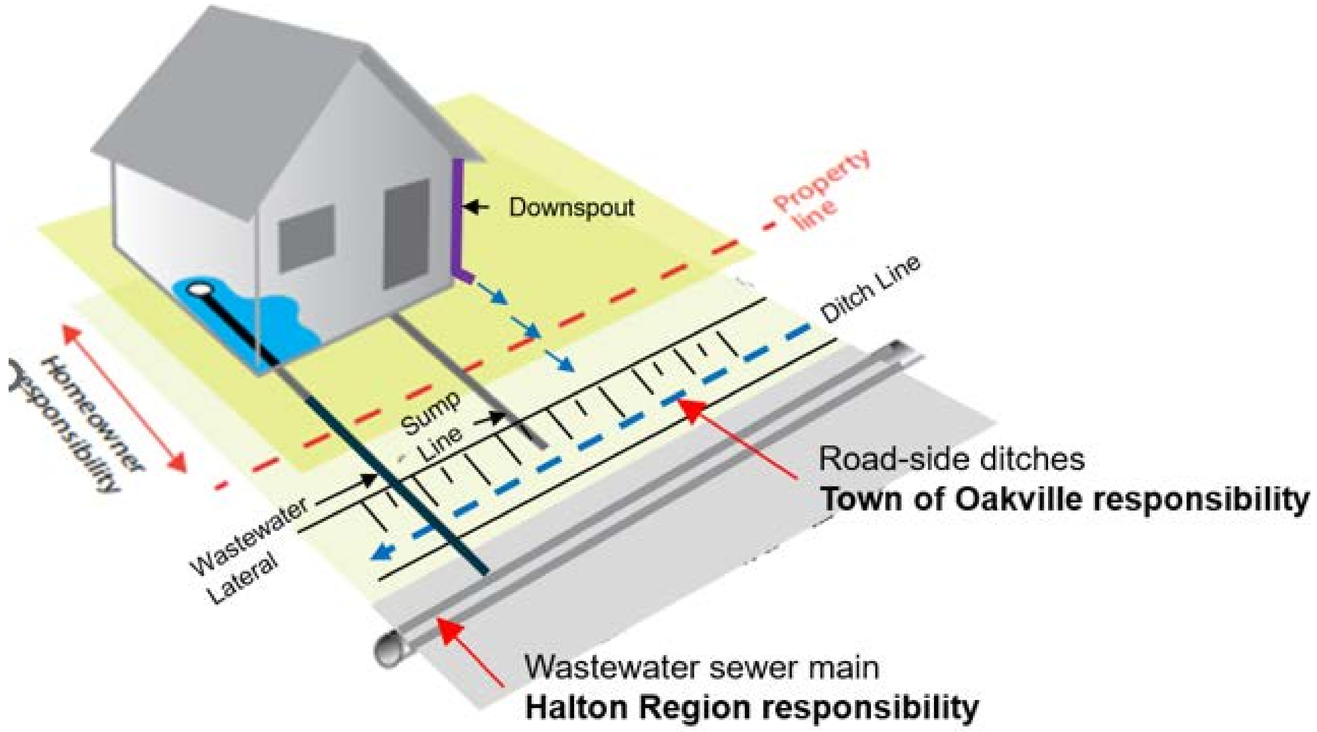
- Maintenance of stormwater system on public side
- Maintenance of catch basins/culverts within roadways and easements
- Manage overland drainage within roadways and easements

Halton Region Responsibilities

- Maintenance of wastewater sewer mains
- Maintenance of wastewater laterals (on public side)

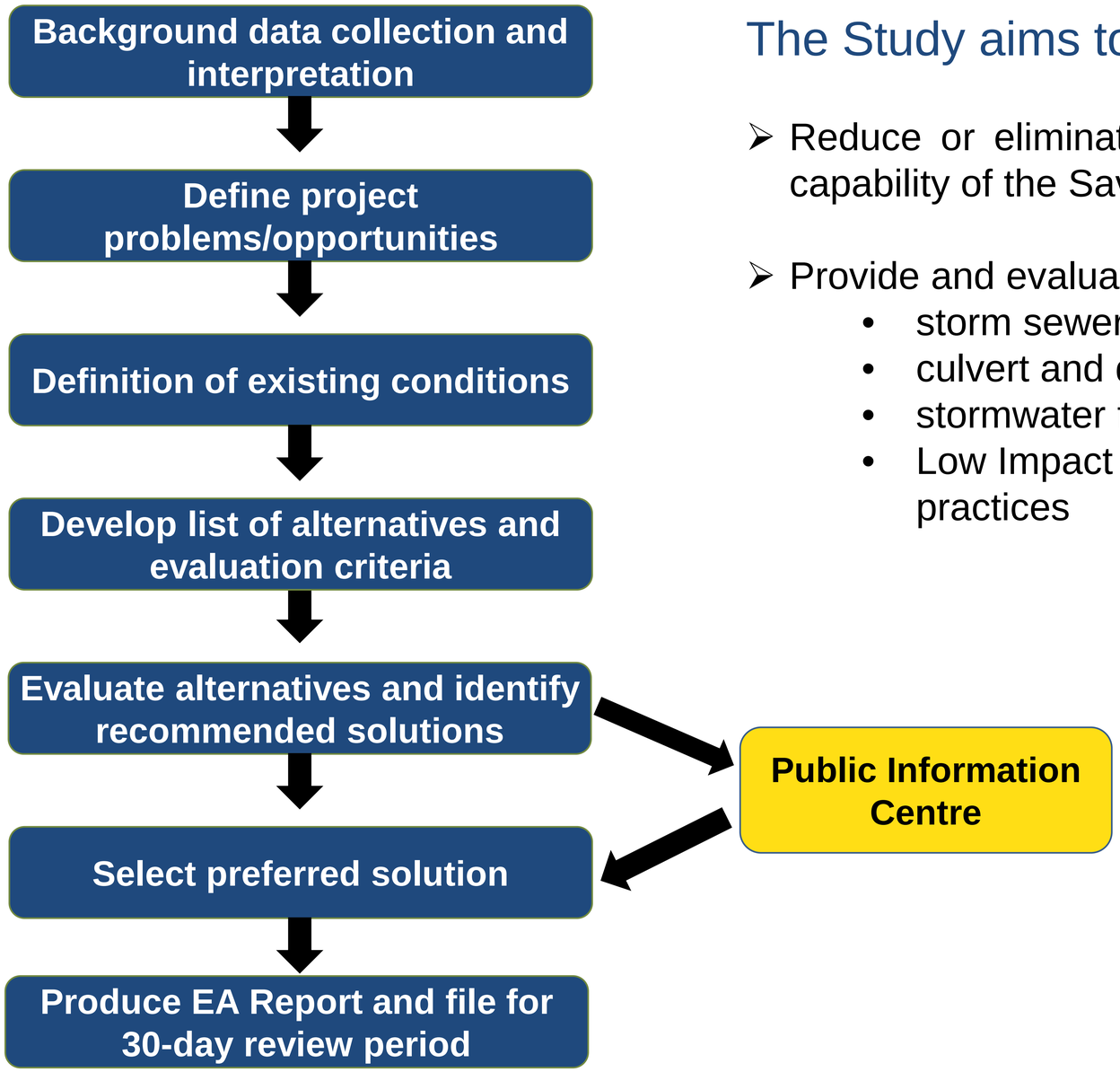
Property Owner – Responsibilities

- House structure including subsurface waterproofing systems
- The plumbing (fixtures, pipes, fittings) within the home and property limits (performance, integrity, maintenance)
- Equipment (sump pump, backwater valves) located on private property (performance, integrity, maintenance)
- Proper lot drainage away from the home's foundation



Municipal Class Environmental Assessment Process

This study is being undertaken as a Schedule B project under the Municipal Class Environmental Assessment (EA) Process. The flow chart illustrates the key steps to be undertaken as part of the Class EA process.



The Study aims to:

- Reduce or eliminate nuisance flooding and to improve the drainage capability of the Saville Area stormwater infrastructure;
- Provide and evaluate stormwater management alternatives including:
  - storm sewer upgrades
  - culvert and ditch upgrades
  - stormwater facility implementation
  - Low Impact Development (LID) & Green Infrastructure (GI) practices

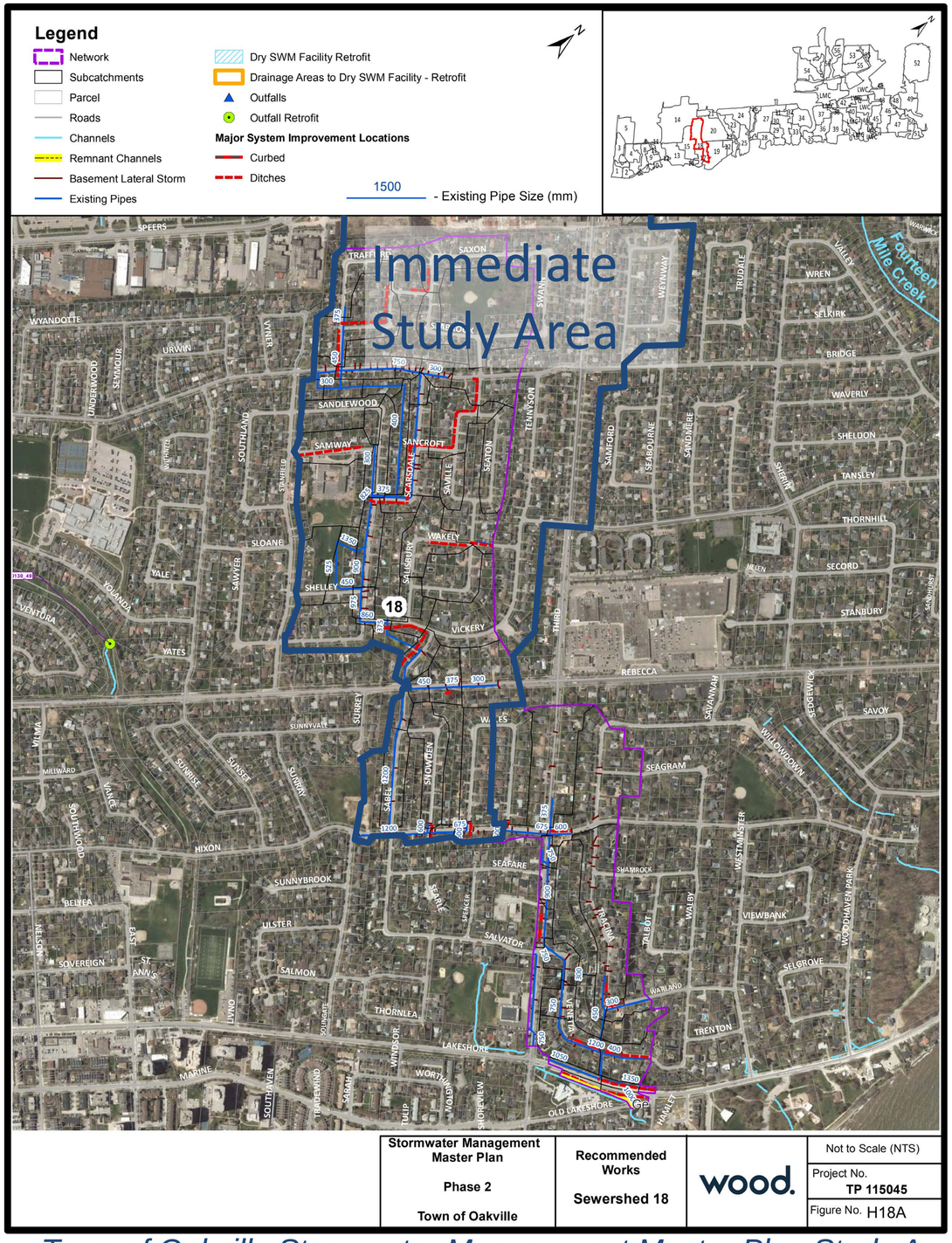
Stormwater Master Plan

The 2019 Town of Oakville Stormwater Master Plan assessed the performance of the existing stormwater system and identified opportunities to decrease flood risk

Recommendations were made for improvements to the major and minor storm systems throughout the overall study area

For the Saville Neighborhood Study Area, preferred alternatives included diversions, pipe replacement, and Online/Offline Storage.

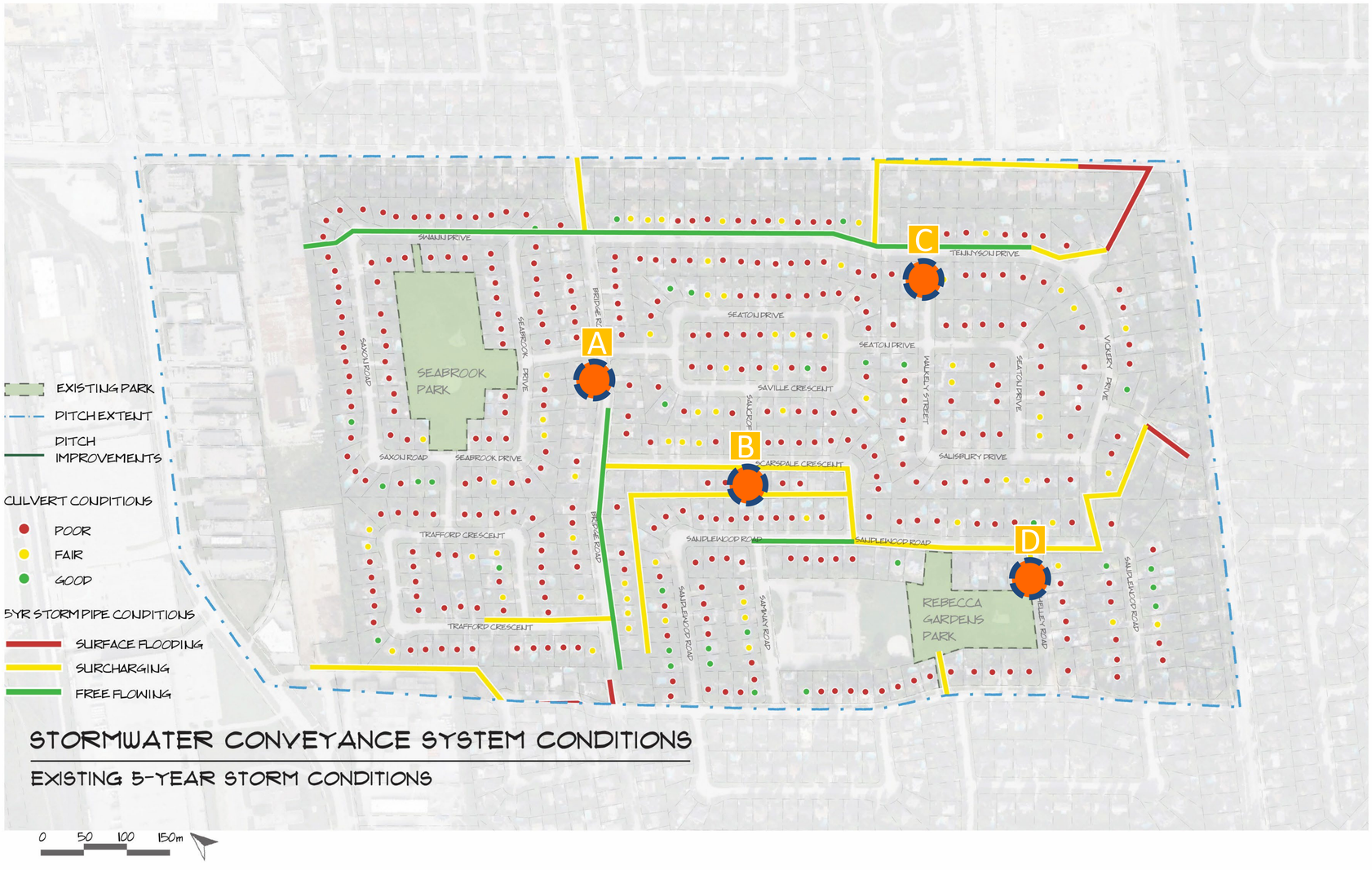
This EA Study builds on the broader Town-wide Master Plan and investigates the Study Area at a higher level of detail, including additional analyses, refined modeling, and field investigations



Town of Oakville Stormwater Management Master Plan Study Area

Existing Storm Drainage System Performance

Culvert and ditch assessments were completed for the full extents of the immediate study area. Figure below shows the conveyance performance of ditches and sewers under the 5-year event.



Total Culverts Assessed (#)		446
Culvert Conditions		
Poor (%)	Fair (%)	Good (%)
77	16	7

Total Length of Sewers (m)		3660
Sewer Conditions		
Surface Flooding (m)	Surcharging (m)	Free-Flowing (m)
285	2100	1275

5-Year Flow Node Results	
Location	Existing (cms) Sewer [Overland]
A	N/A [0.782]
B	0.813 [0.371]
C	2.436 [0.137]
D	1.207 [0.13]

100-Year Flow Node Results	
Location	Existing (cms) Sewer [Overland]
A	N/A [1.60]
B	0.96 [1.743]
C	3.09 [0.94]
D	1.625 [0.454]

Key Findings Include:

- Flows from Seabrook Park, Swann Drive, and Saxon Road flow into the Saville neighborhood and exceeds the capacity of the existing ditches. Intercepting the flows prior to entering the Saville neighbourhood would improve conditions (reduce surfacing flooding).
- Neighborhood storm sewers are flowing full and do not have capacity to accept additional flow
- Ditches are not free flowing and there is ponding of water at driveway culverts due to sedimentation and damaged culverts

Area of Concern – Ditch Drainage

Long List of Alternatives

Alternative #1 – Do Nothing

Alternative #2 – Capture Alternative ➔ Not Evaluated: not an effective solution for addressing flooding

Alternative #3A – Local (Minor) Ditch System Improvements

Alternative #3B – Local (Minor) Ditch System Improvements with LID/Green Infrastructure Enhancements (Bioswale)

Alternative #4A – Existing Storm Sewer Upgrades and Installation of New Sewers

Alternative #4B – LID / Green Infrastructure Enhancement (perforated pipe) to Existing Storm Sewers and New Storm Sewers

Alternative #5A – Traditional Stormwater Management Facility (Surface Storage)

Alternative #5B – Traditional Stormwater Management Facility (subsurface)

Alternative #5C – Subsurface storage with Green Infrastructure Enhancements

Seabrook Park

Alternative #6A – Traditional Stormwater Management Facility (Surface Storage)

Alternative #6B – Traditional Stormwater Management Facility (subsurface)

Alternative #6C – Subsurface storage with Green Infrastructure Enhancements

Rebecca Gardens Park

Alternative #7 – Flow Diversion at Sable/Henson ➔ Not Evaluated: limited benefits to the upstream system

Alternative #8 – Combination of Alternatives

Alternative #3 Local (Minor) Ditch Drainage System Improvements

Alt 3A: Local (minor) Ditch System Improvements

Alternative 3A includes re-ditching of the existing local ditch network and driveway culvert works to improve conveyance capacity for the ditch systems within the Saville Neighborhood. Potential future works include expanded ditch improvements within the broader Study Area.

Alternative 3B includes LID/Green infrastructure within ditch network alongside ditch drainage and culvert improvements

Alt 3B: Local (minor) Ditch System Improvements with LID/Green Infrastructure enhancement (Bioswale)

Alternative #4 – Storm Sewer System Improvement

Alt 4A: Existing Storm Sewer Upgrades and Installation of New Storm Sewers

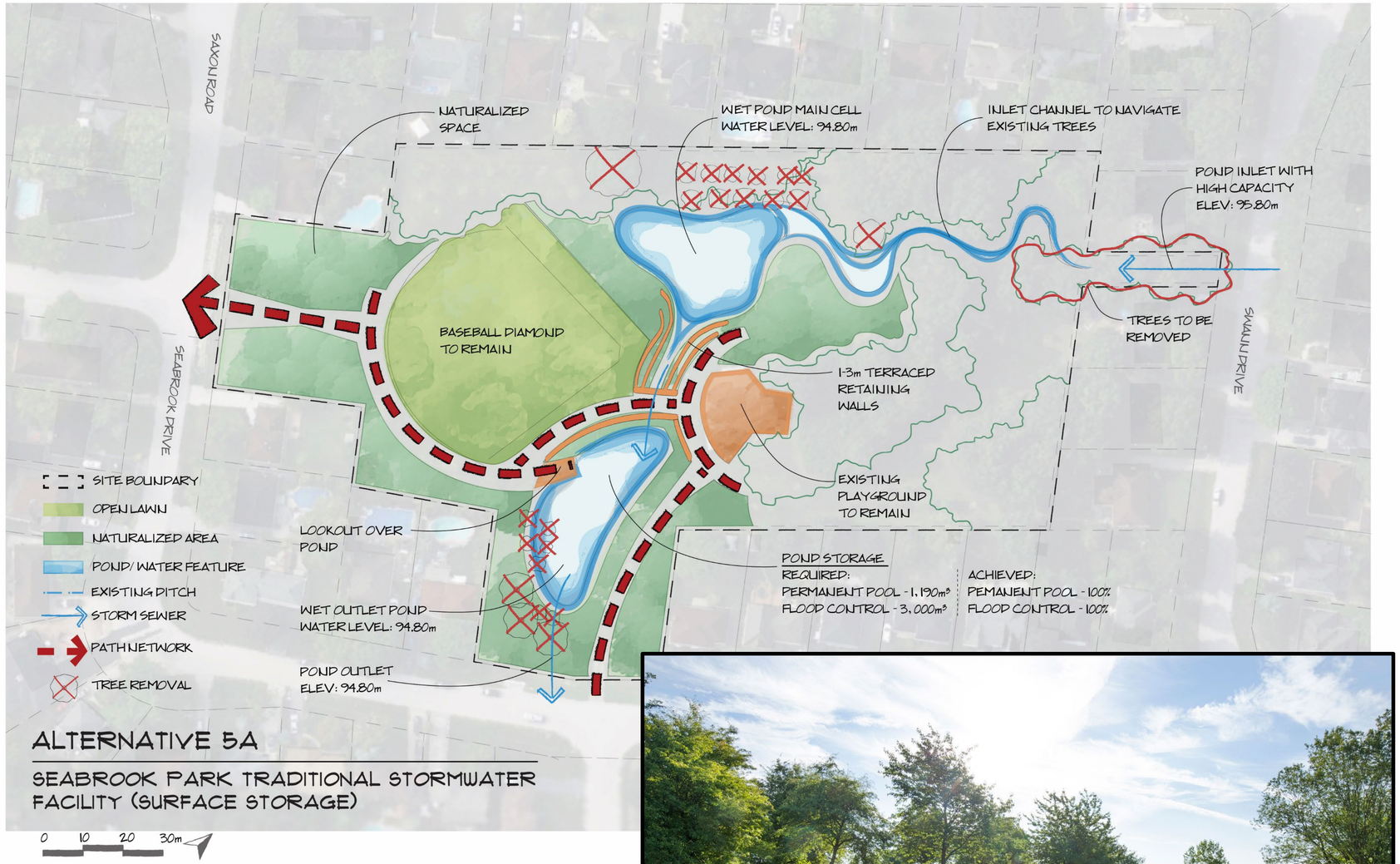
Alternative 4A includes upgrading or replacing deficient subsurface pipe networks

Alternative 4B includes incorporating LID/Green infrastructure alongside storm sewer enhancements (Perforated Pipe)

Alt 4B: LID/ Green Infrastructure enhancement (perforated pipe) to existing storm sewer upgrades and new storm sewers)

Note: Alt 4A/4B does not include urbanization of the Right-of-Way – Ditches to remain

Alternative #5A – Seabrook Park
Stormwater Pond Facility (Surface Storage)



Alternative 5A incorporates a stormwater management pond within Seabrook Park to reduce excess flows from entering the Saville Crescent Area.

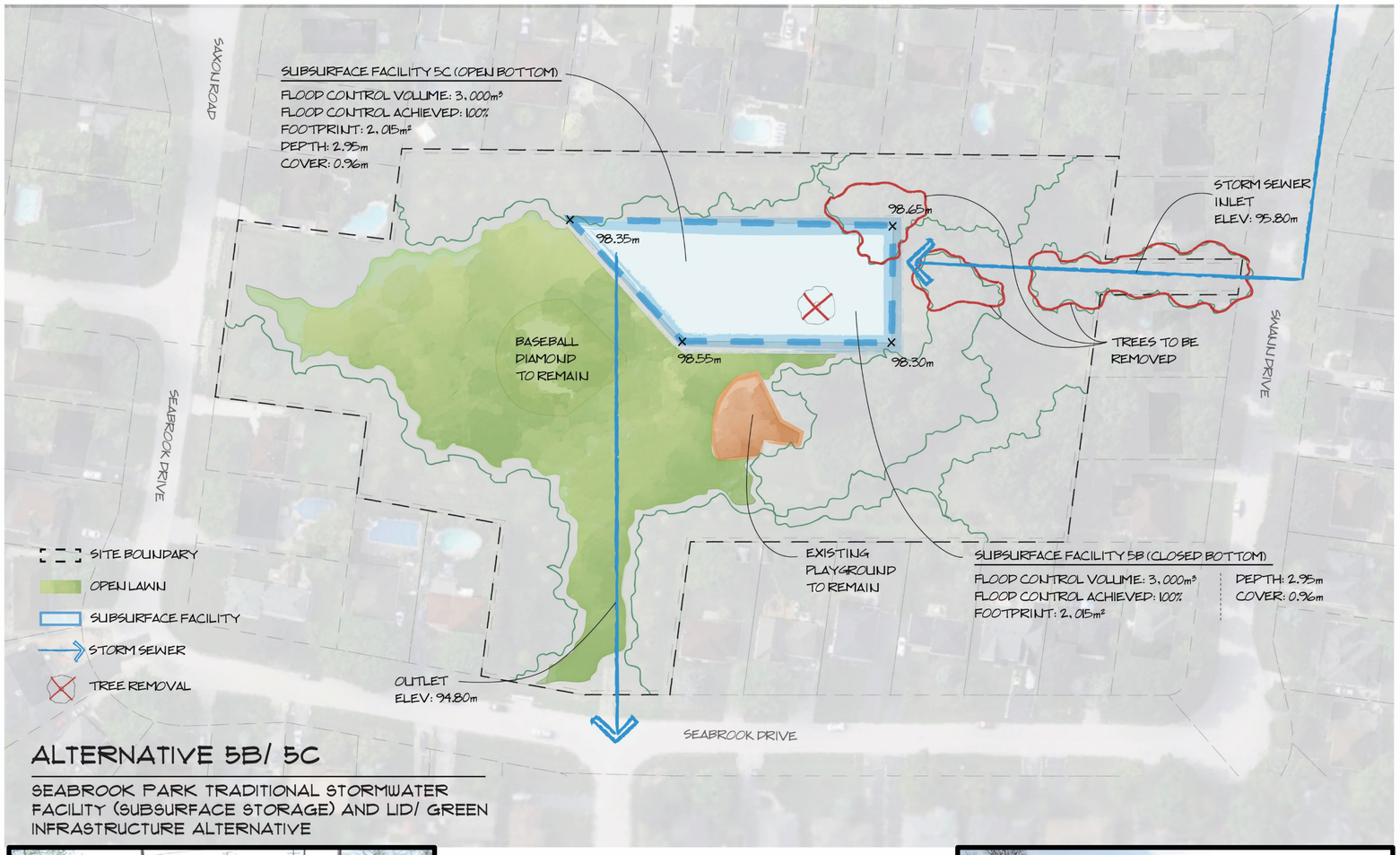
The proposed pond would have a permanent pool of water and planted with a mix of trees, shrubs, perennials, grasses, and aquatic vegetation

Storm flows from Swann Drive are intercepted and directed to the pond facility

Temporary storage of storm runoff is provided in the pond during large storms

The pond outlet provides a controlled release of flows to reduce downstream flooding impacts

Alternative #5B/C – Seabrook Park
Subsurface Storage Facility



Alternative 5B/C incorporate a subsurface storage facility in the Seabrook Park to reduce excess flows from entering the Saville Crescent Area.

The surrounding park area would be restored to its original condition, with a mix of turf and trees

Storm flows from Swann Drive are intercepted and directed to the storage facility

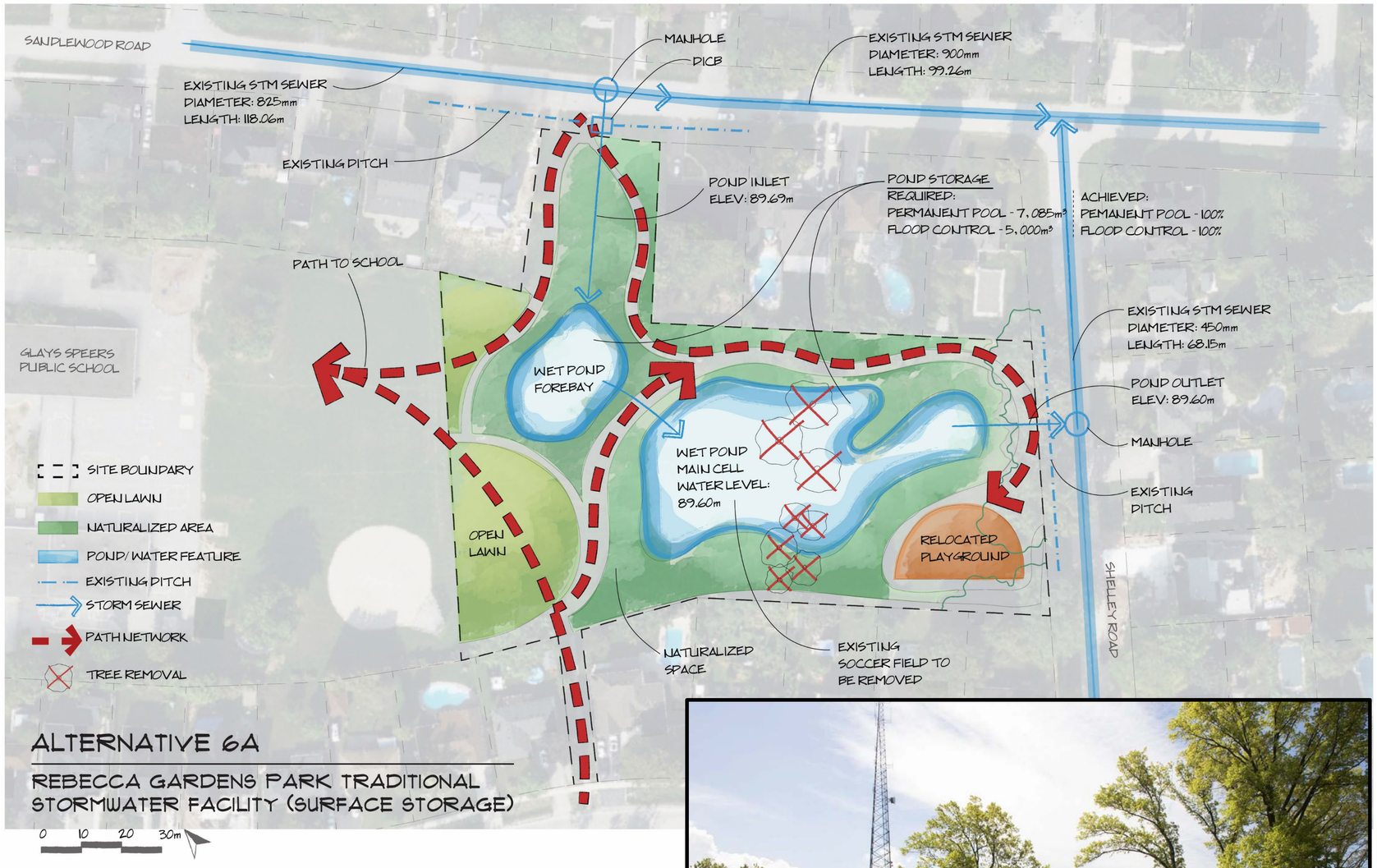
Temporary storage of storm runoff is provided in underground chambers during large storms

The chamber outlet provides a controlled release of flows to improve downstream flooding impacts

CLOSED BOTTOM FACILITY

OPEN BOTTOM FACILITY

Alternative #6A – Rebecca Gardens Park Stormwater Pond Facility (Surface Storage)



Alternative 6A incorporates a stormwater management pond within Rebecca Gardens Park

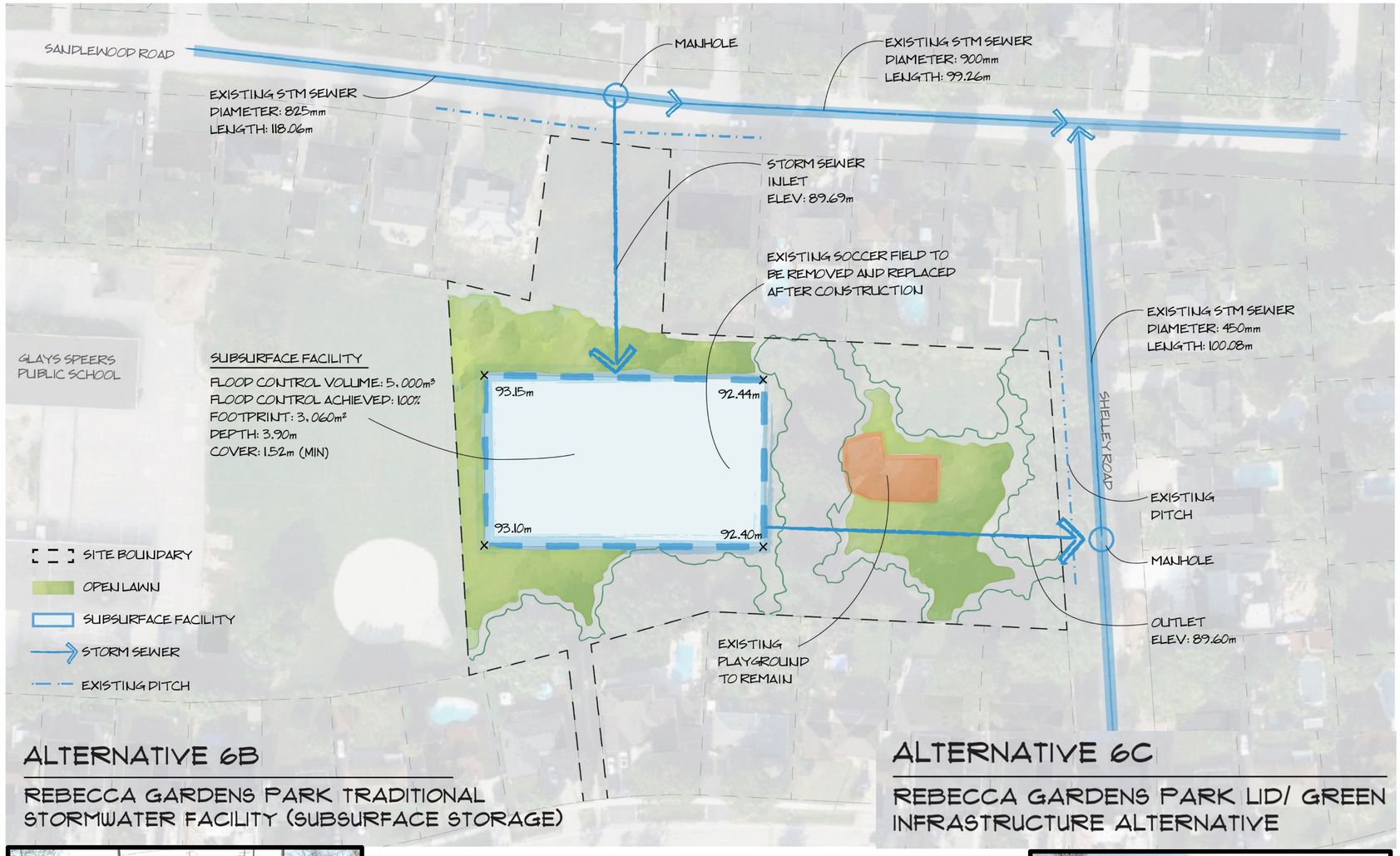
The proposed pond would have a permanent pool of water and planted with a mix of trees, shrubs, perennials, grasses, and aquatic vegetation.

Storm flows from Sandlewood Road are intercepted and directed to the pond facility

Temporary storage of storm runoff is provided in the pond during large storms

The pond outlet provides a controlled release of flows to improve downstream flooding impacts

Alternative #6B/C – Rebecca Gardens Park Subsurface Storage Facility



CLOSED BOTTOM FACILITY

OPEN BOTTOM FACILITY

Alternative 6B/C incorporates a subsurface storage facility within Rebecca Gardens Park.

The surrounding park area would be restored to its original condition, with a mix of turf and trees

Storm flows from Sandlewood Road are intercepted and directed to the storage facility

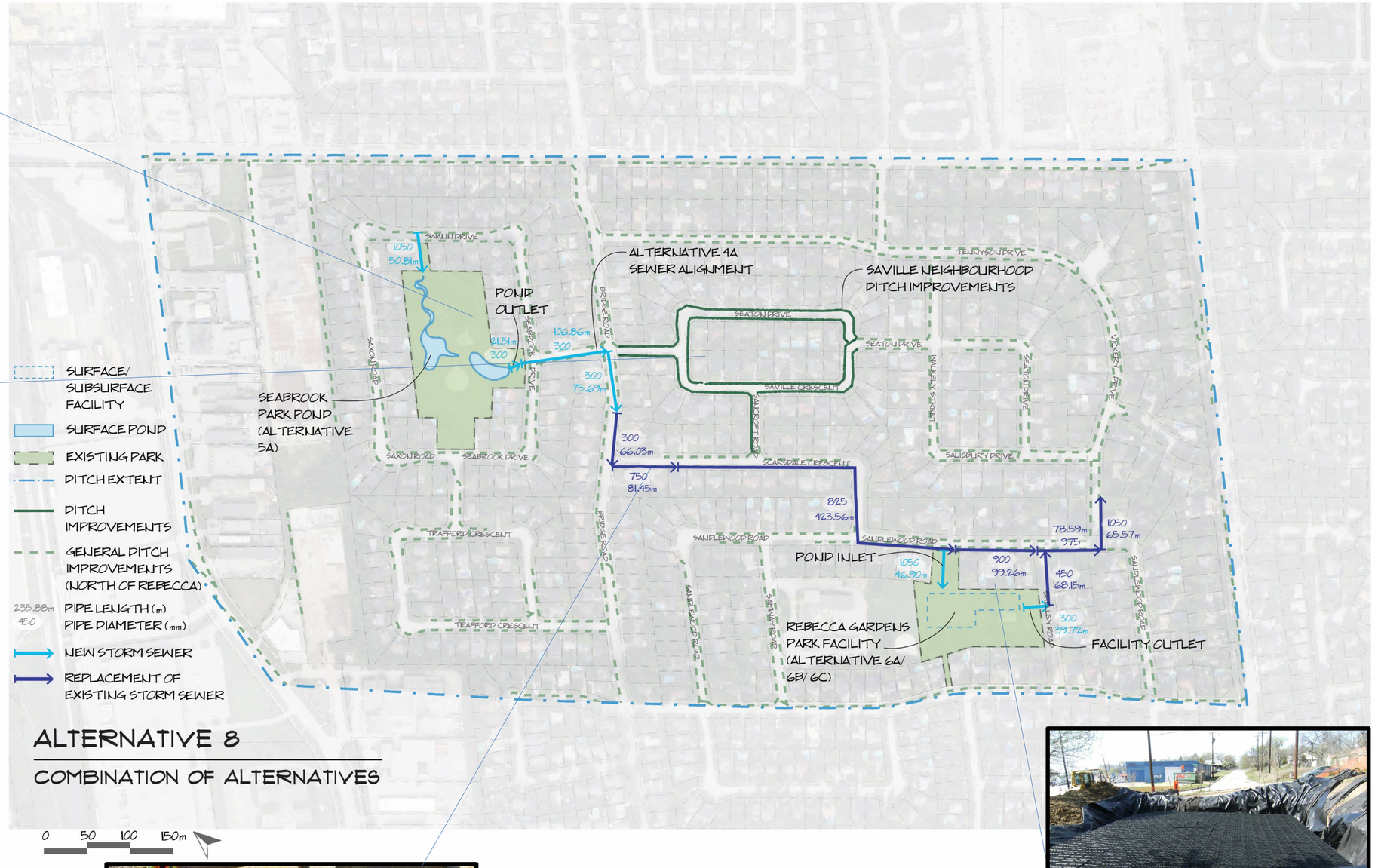
Temporary storage of storm runoff is provided in underground chambers during large storms

The chamber outlet provides a controlled release of flows to improve downstream flooding impacts

Alternative #8 – Combination of Alternatives

Alternative 5A:
Stormwater management pond within Seabrook Park using green infrastructure (stores water on surface).

Alternative 3A:
Re-grade the existing local ditch network within Saville Crescent and Seaton Drive loop using green initiatives.



Alternative 4A:
Upgrading or replacing deficient subsurface pipe networks on Bridge Road, Scarsdale Crescent, Sandlewood Road.

Alternative 6A/B/C:
Stormwater Management Facility within Rebecca Gardens Park (surface or subsurface facility options)

Notes:
- Alts 3, 5, and 6 are green infrastructure
- No urbanization of the Right-of-Way – Ditches to remain

Evaluation Criteria

The following criteria have been used to evaluate each alternative and to select the Preferred Solution. The Final Preferred Solution will be selected based on agency and public input.

Flood Mitigation Criteria

- Building/Property Risk – Major and Minor system
- Conveyance Capacity – Major and Minor system
- Inflow/Infiltration (I/I) Mitigation Criteria (Reduce the amount of stormwater available for inflow/infiltration into Halton Region's Sanitary Sewer System)

Natural Environment

- Potential Aquatic Habitat Benefit
- Potential to Reduce Erosion
- Potential to Impact Terrestrial Habitat
- Integration with the Existing Environment

Social/Cultural Environment

- Aesthetic/Recreational Benefits
- Compatibility with Adjacent Land Use
- Community Disruption/ Landowner Impacts
- Public Health and Safety Objectives

Engineering Criteria

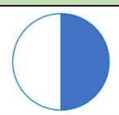
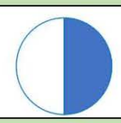
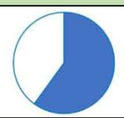
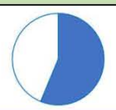
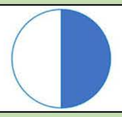
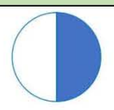
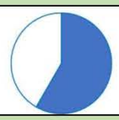
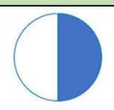
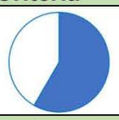
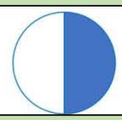
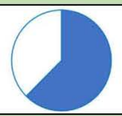
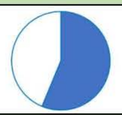
- Technical Feasibility
- Agency Acceptance
- Lifespan of Works
- Easement Acquisition
- Integration with Existing Infrastructure
- Protection of New/Existing infrastructure
- Policy/By-Law Requirements

Economic Criteria

- Capital Cost
- City Liability
- Operation and Maintenance Costs

Evaluation of Alternatives

Alternative 8 preferred

Alternative 1 Do Nothing	**Alternative 3A** Ditch Improvements	**Alternative 3B** Ditch Improvements with LIDs	**Alternative 4A** Storm Sewer Upgrades	**Alternative 4B** Storm Sewer Upgrades with LIDs	**Alternative 5A** Seabrook Wet Pond	**Alternative 5B** Seabrook Sub-Surface (closed-bottom)	**Alternative 5C** Seabrook Sub-Surface (open-bottom)	**Alternative 6A** Rebecca Gardens SWMF	**Alternative 6B** Rebecca Gardens Sub-surface (closed bottom)	**Alternative 6C** Rebecca Gardens Sub-Surface (open bottom)	**Alternative 8** Combination Solution
Flood Mitigation Criteria											
											
Natural Environment											
											
Economic Criteria											
											
Social/Cultural Environment											
											
Technical/Engineering Consideration											
Total											
Capital Cost: - $0 - No community disruption - No reduction to flood risk - No I/I reduction potential - Infrastructure not protected	Capital Cost: - $200-$400K (Add'l $2.0M – $2.5M for entire neighborhood) - Minor community disruption - No reduction in flood risk - Minor I/I reduction potential - Some protection to infrastructure	Capital Cost: - $400-$800k(Add'l $4.0M – $5M for entire neighborhood) - Minor community disruption - No reduction in flood risk - No I/I reduction potential - Some protection to infrastructure	Capital Cost: - $4.0M – $4.5M - Significant community disruption - Improvement to flood risk - High I/I reduction potential - Good protection to infrastructure	Capital Cost - $4.0M – $4.5M - Significant community disruption - Improvement to flood risk - Minor I/I reduction potential - Good protection to infrastructure	Capital Cost - $1.8M – $2.2M - Minor community disruption - Improvement to flood risk - High I/I reduction potential - Some protection to infrastructure	Capital Cost - $2.2M – $3.0M - Minor community disruption - Improvement to flood risk - High I/I reduction potential - Some protection to infrastructure	Capital Cost: - $2.2M – $3.0M - Minor community disruption - Improvement to flood risk - High I/I reduction potential - Some protection to infrastructure	Capital Cost: - $3.2M – $3.7M - Significant community disruption - Improvement to downstream flood risk - High I/I reduction potential - Some protection to infrastructure	Capital Cost - $4.2M – $4.7M - Significant community disruption - Improvement to downstream flood risk - High I/I reduction potential - Some protection to infrastructure	Capital Cost - $4.2M – $4.7M - Significant community disruption - Improvement to downstream flood risk - Minor I/I reduction potential - Some protection to infrastructure	Capital cost - $5.7M – $7.0M - Highest community disruption - Highest reduction in flood risk - High I/I Reduction potential - Highest protection to infrastructure

Notes:
1. Preferred Solution Alternative #8 – Additional $2 to $2.5M required for ditch improvements for the entire Study Area. Subject to Town Capital Budget
2. Cost savings are reflected in Alternative 8 for the improvements to ditches instead of the installation of new sewers in the Saville Crescent/Seaton Drive Area
3. The cost range provided in Alternative 8 assumes that Rebecca Gardens Park may incorporate a stormwater pond or a subsurface storage facility

Preliminary Preferred Alternative #8

Alternative #8 (Combination of Alternative #2-6) is identified as the preliminary preferred option with the highest score in evaluation process.

Benefits of Alternative 8 include:

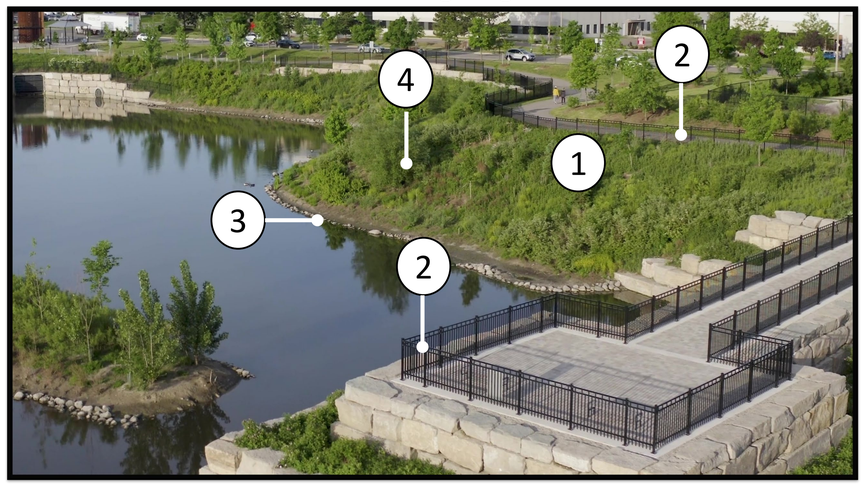
- Overland flood risk reduction in the Immediate Study Area
- Storm sewers flow more freely within the Immediate Study Area
- Peak flow reduction to the drainage system downstream of the Immediate Study Area (i.e. South of Rebecca Street).
- Reduce the amount of stormwater available for inflow/infiltration into Halton Region's Sanitary Sewer System

SWM Facility Design Elements

- Pedestrian walkway
- Enhanced Landscaping/Plantings
- Preservation of Seabrook Park and minor relocation of Rebecca Gardens Park playgrounds

Safety Design Elements (Seabrook and Rebecca Gardens SWMF)

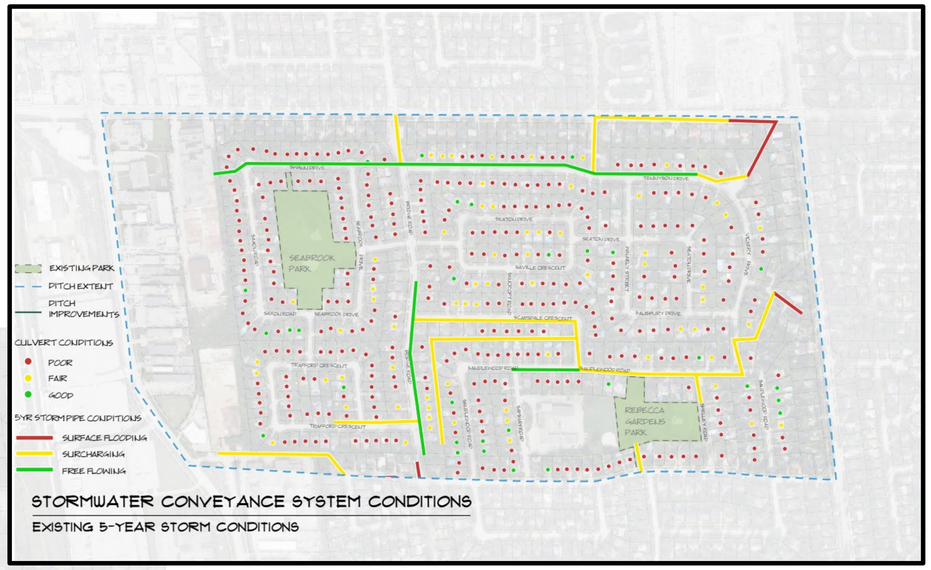
1. Vegetated Barrier
2. Ornamental/cedar fence
3. Safety Pools/Aquatic Shelf
4. Walkable Slopes
5. Signage

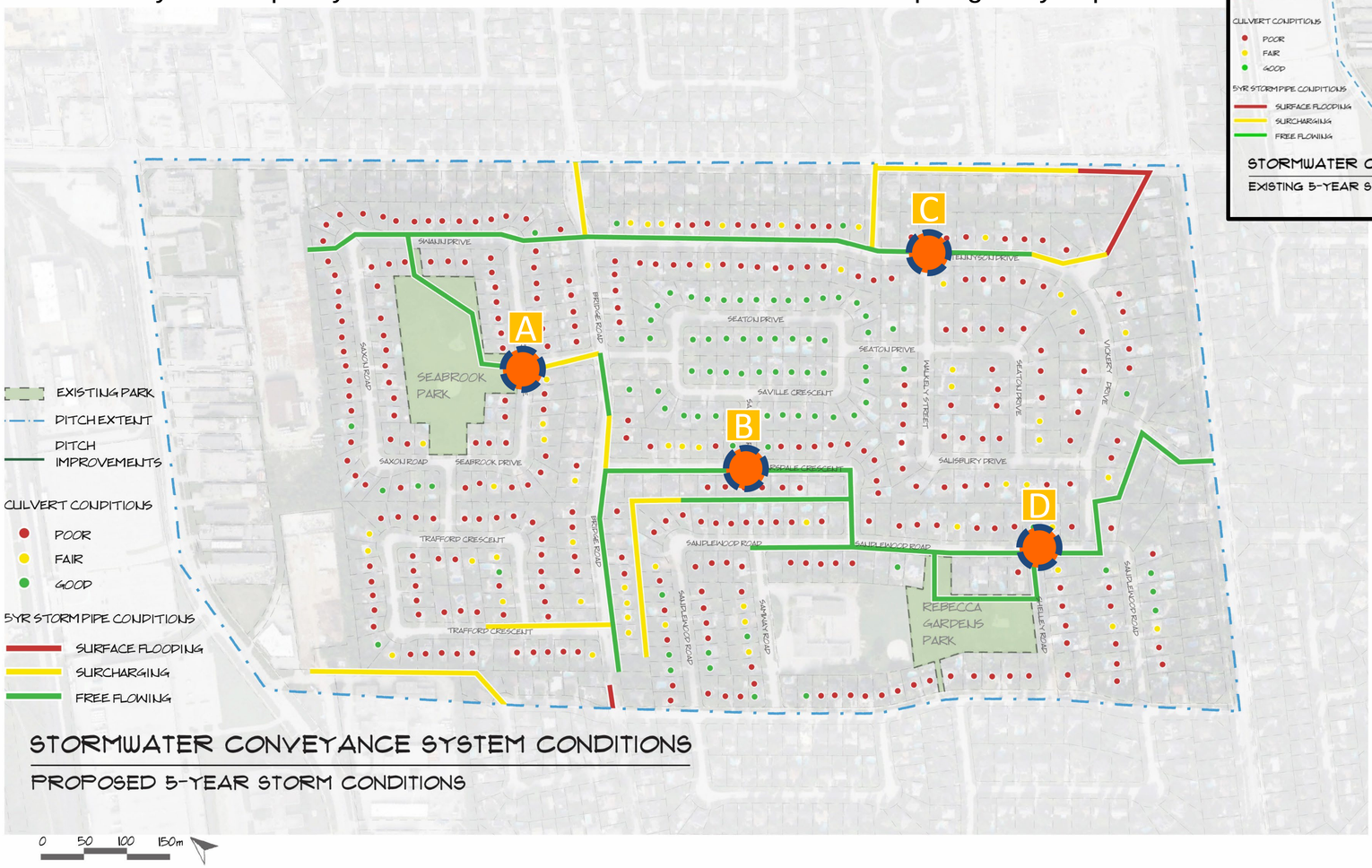


Preferred Alternative Performance Comparison

Preferred alternative provides the following key storm sewer and ditch capacity improvements within the immediate study area:

1. Scarsdale Crescent: sewers improve from surcharging to free flowing
2. Sandlewood Cr: sewers improve from surcharging to free flowing
3. Vickery Dr (Sandlewood Cr to Sabel St): sewers improve from surcharged to free flowing
4. Sabel St (Vickery Dr to Rebecca St): sewers improve from surface flooding to free flowing
5. Conveyance capacity within the Saville Crescent/Seaton Drive loop is greatly improved





Total Culverts Assessed (#)		446
Culvert Conditions		
Poor (%)	Fair (%)	Good (%)
69	13	18

Total Length of Sewers (m)		4325
Sewer Conditions		
Surface Flooding (m)	Surcharging (m)	Free-Flowing (m)
225	1250	2850

5-Year Flow Node Comparison			
Location	Existing (cms) Sewer [Overland]	Proposed (cms) Sewer [Overland]	Change (cms) Sewer [Overland]
A	N/A [0.782]	N/A [0.0]	N/A **[-0.782]**
B	0.813 [0.371]	0.861 [0.116]	**+0.05** **[-0.255]**
C	2.436 [0.137]	2.00 [0.137]	**-0.436** [0.0]
D	1.207 [0.13]	0.324 [0.02]	**-0.883** **[-0.11]**

100-Year Flow Node Comparison			
Location	Existing (cms) Sewer [Overland]	Proposed (cms) Sewer [Overland]	Change (cms) Sewer [Overland]
A	N/A [1.60]	N/A [0.0]	N/A **[-1.6]**
B	0.96 [1.743]	1.32 [1.00]	**+0.36** **[-0.743]**
C	3.09 [0.94]	2.92 [0.70]	**-0.17** **[-0.24]**
D	1.625 [0.454]	0.766 [0.08]	**-0.86** **[-0.374]**

Implementation Considerations

- Green infrastructure enhancement have been considered throughout this study. A detailed green infrastructure assessment will be conducted at the detailed design stage to determine feasibility
- Project funding to be secured through the Town's annual budget process and subject to Council approval
- Preferred solution to be Phased. Phase 1 – Short Term: Alt 3 (ditch improvements in the Saville Neighborhood) and Alt 4 (storm sewer upgrades). Phase 2 - Long-term: Alt 5 (Seabrook Park SWMF) and Alt 6 (Rebecca Gardens SWMF)
- Improvement of ditches in additional locations will be considered

Next Steps

- After this Public Information Centre, the study team will consider verbal and written comments in order to proceed with the selection of the preferred alternative.
- The Final Report will be available for public review in Q3 of 2024.
- A Questionnaire has been provided tonight and online. Please provide your comments by April 5th , 2024.

Construction timing:

- Timing of Town's construction schedule and staging of work throughout the immediate study area will be aligned with the Region of Halton sanitary and watermain replacements to minimize disruption
- Coordination with Region construction to avoid interruption and minimize disturbances will be prioritized to the greatest extent possible

Summary of ‘Green’ Elements of the Preferred Solution

Ditches:

- Vegetated rural cross sections already provide environmental advantages over urban cross sections by allowing for some infiltration, evapotranspiration, and filtration of stormwater to occur
- Ditches are a naturalized drainage system that also provide additional flood control benefits
- Provides increased resiliency to climate change impacts
- A detailed green infrastructure assessment at the detailed design stage will identify the potential to include feasible LIDs such as enhanced grass swales and bioswales

Stormwater Ponds:

- While providing aesthetic and recreational opportunities, ponds also provide an environment supportive of high quality aquatic and terrestrial habitats
- Permanent pools enhance stormwater runoff quality by removing total suspended solids
- Provides increased resiliency to climate change impacts

Subsurface Storage Facility (Open bottom):

- Opportunity to encourage infiltration of stormwater which better resembles predevelopment conditions, replenishing groundwater, reducing erosion, and reducing the volume of runoff that is directed to downstream rivers/creeks and Lake Ontario

Contact Information

For more information on this project and to be placed on our mailing list, please contact:

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Thank You for Participating