

Welcome!

Public Information Centre No. 2

2020 Water & Wastewater Master Plan

Mississauga

Living Arts Centre
CN Meeting Room

Tuesday, November 26, 2019
4:30 – 7:30 p.m.

Caledon

Caledon Community Complex
Banquet Hall B

Wednesday, November 27, 2019
4:30 – 7:30 p.m.

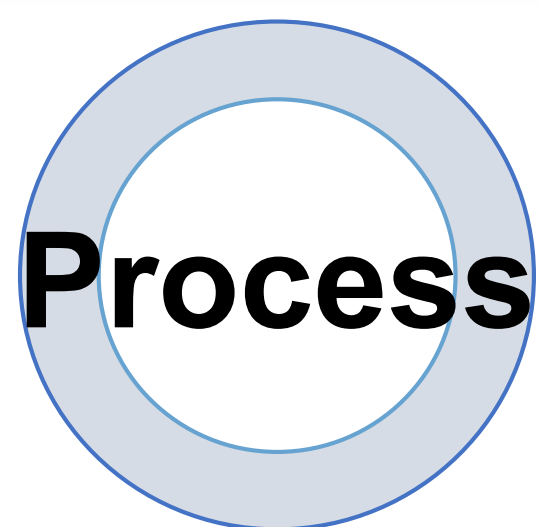
Brampton

Region of Peel
Caledon & Brampton Meeting Room

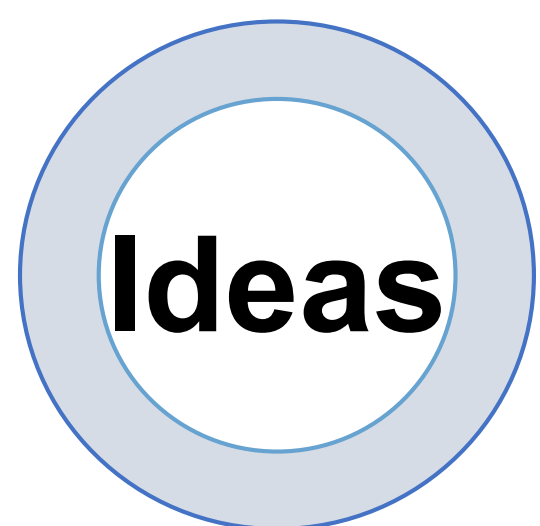
Thursday, November 28, 2019
4:30 – 7:30 p.m.

Why are we Here?

2020 Water & Wastewater Master Plan PIC No.2



Form an understanding of the Master Plan process



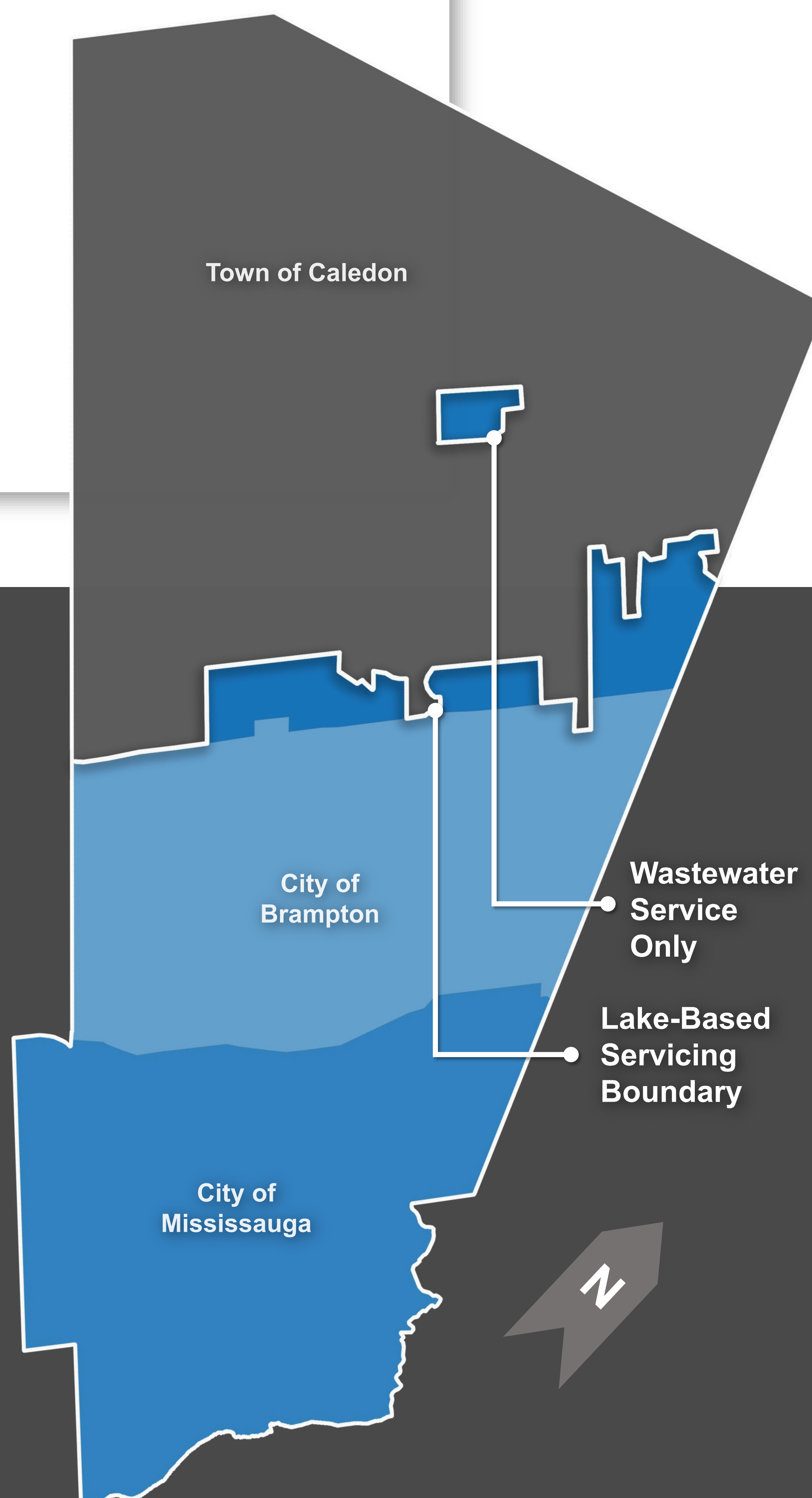
Hear about the study and the preliminary preferred water and wastewater strategies



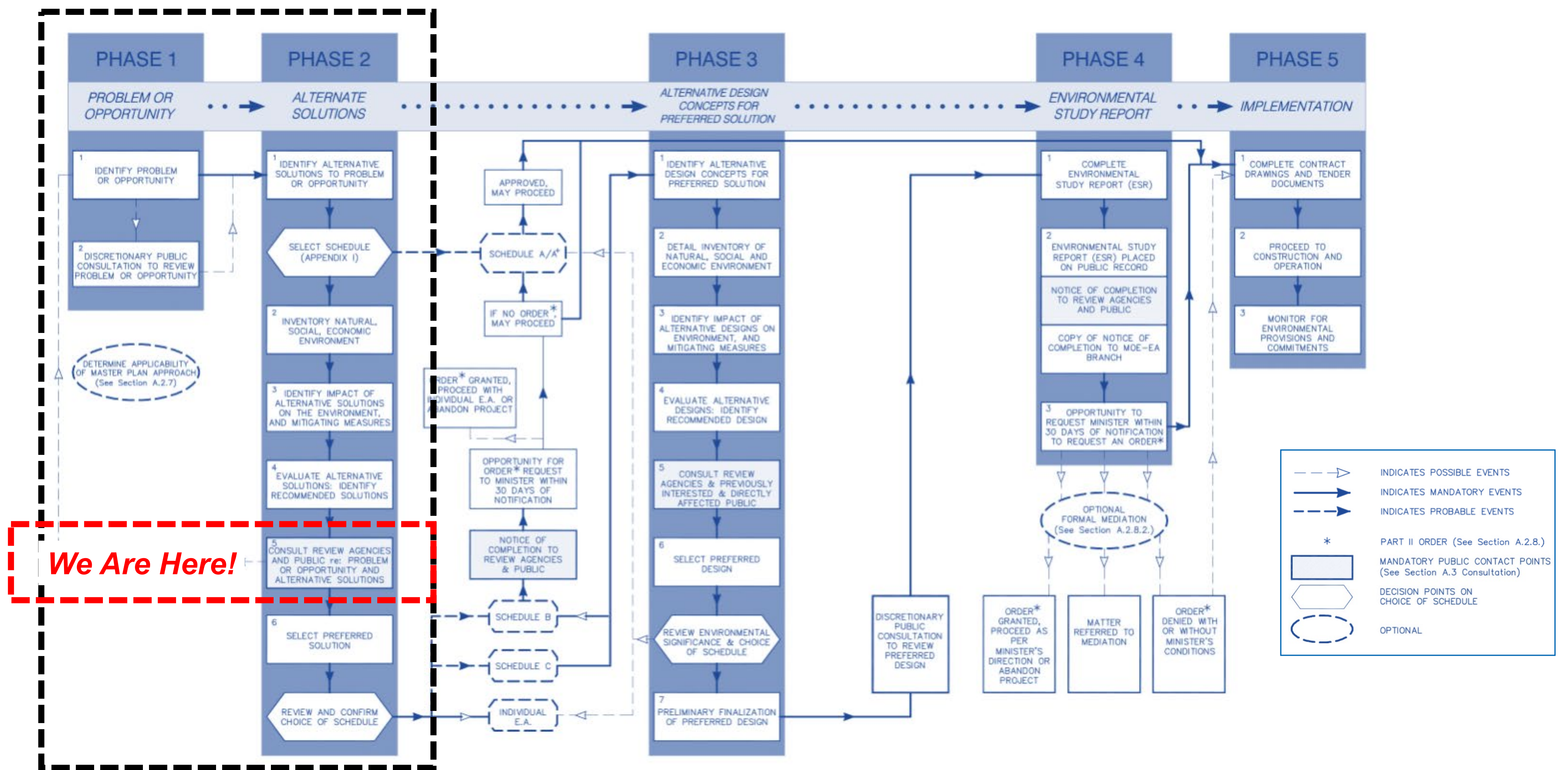
Provide your feedback on the Master Plan study – Stay involved

Purpose of the Study

1. To identify preferred lake-based water and wastewater servicing strategies to support existing servicing needs and projected growth
2. To coordinate with the Regional Official Plan which guides Provincially mandated growth within the Region
3. To consider an emphasis on intensification, post 2041 growth, and alignment with the Regional Strategic Plan
4. To provide the business case for the need, timing and cost of servicing and infrastructure
5. To follow the Municipal Class Environmental Assessment (EA) process for Master Plans



Municipal Class EA Process and Consultation



Study Problem / Opportunity Statement

The Region of Peel has completed several updates to the Water and Wastewater Master Plan with the most recent completed in 2014.

With an updated planning horizon to 2041, the Master Plan needs to be updated to determine how the Region's Water and Wastewater Infrastructure will support growth in a sustainable and financially responsible manner.

The Master Plan Update will develop a long-term servicing strategy and capital forecast to ensure level of service for existing residents and businesses, to support future growth in the community through 2041, and to consider potential impacts post 2041.

Project Schedule Timeline

Phase 1

Identify & Describe the Problem / Opportunity Statement

PIC NO. 1
Public Consultation / Review
Agency Contact Point
February 2018

Phase 2

Complete Study Area Inventory
Identify & Evaluate Alternative Solutions

PIC NO. 2 *We Are Here!*
Public Consultation / Review
Agency Contact Point
November 2019

Water and Wastewater Master Plan Report

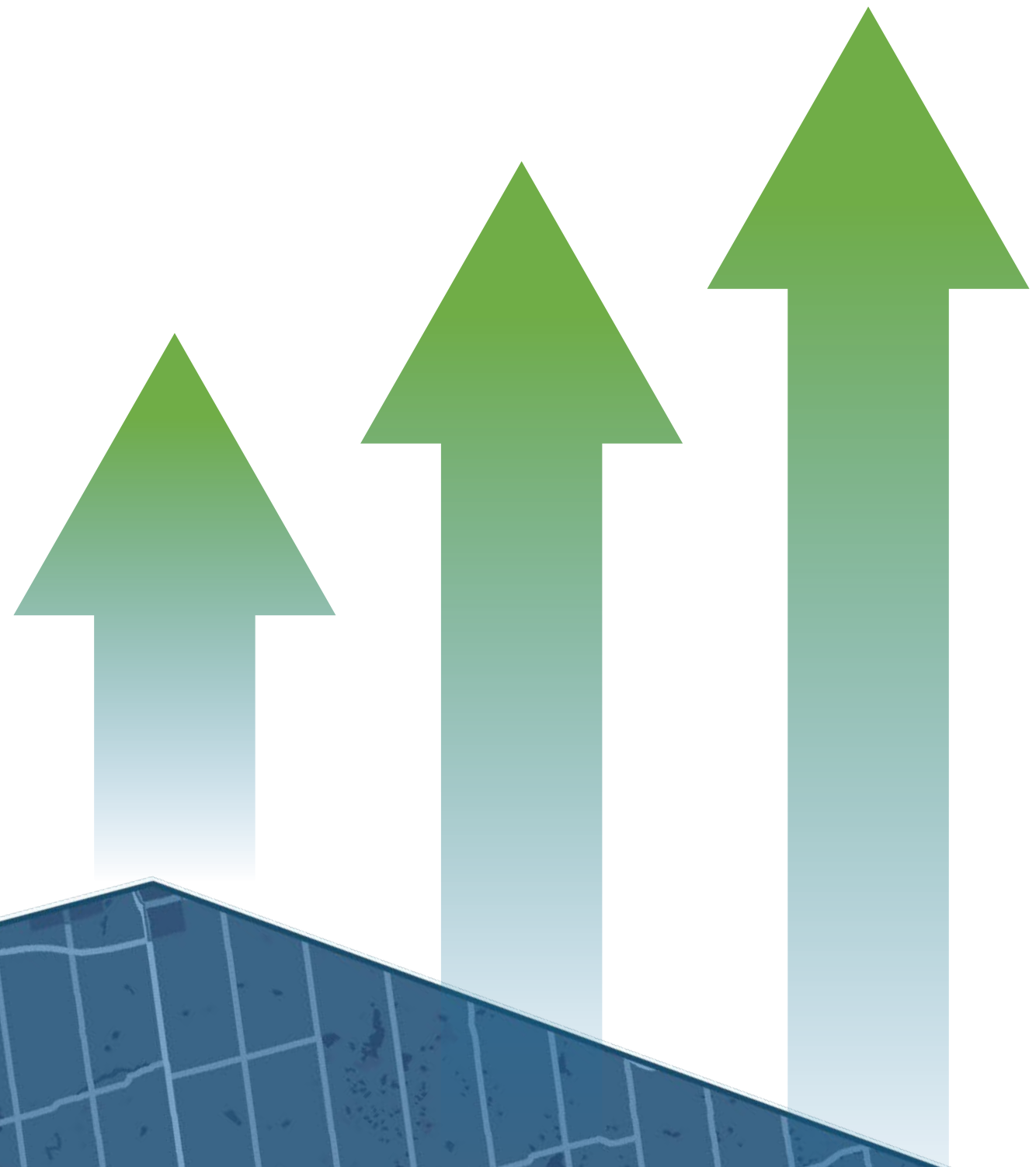
Documentation of Master Plan Process, Servicing Strategies and Implementation Plan

Notice of Completion
(Mandatory Contact Point)
February 2020

The study follows the Master Plan process as outlined in Section A.2.7 of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (Oct 2000, as amended in 2004, 2007, 2011 and 2015). The scope of the study involves the completion of Phase 1 and Phase 2 of the MEA Municipal Class Environmental Assessment process. The Master Plan will be filed under Approach #1 of the MEA Municipal Class Environmental Assessment for Master Planning.

Study Area and Planning Projections

The Region of Peel is **GROWING!**



2016
2.12
Million

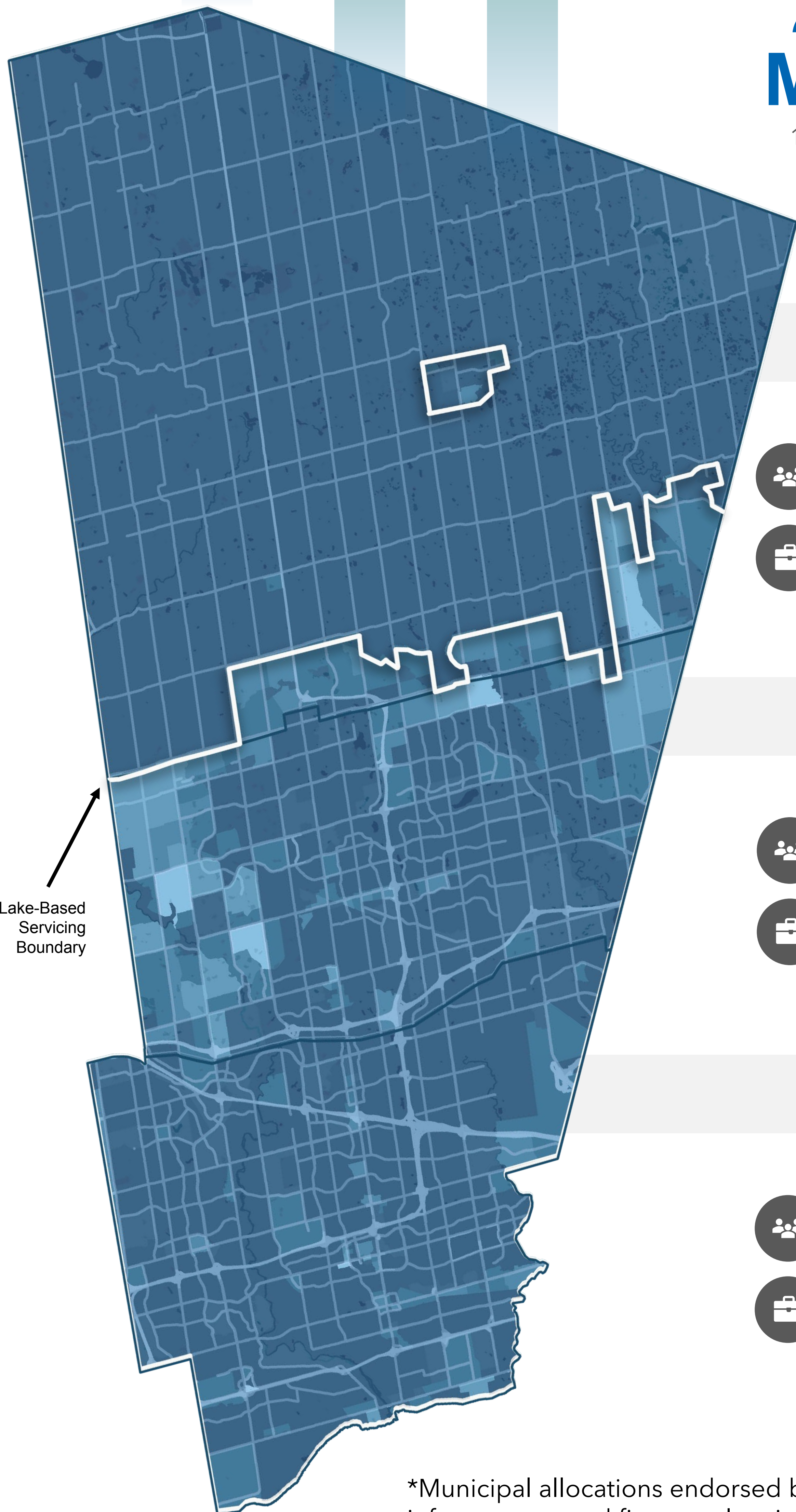
1,428,000 people
695,000 jobs

2041
2.94
Million

1,970,000 people
970,000 jobs

40%
increase

+ 542,000 people
+ 275,000 jobs



Lake-Based Servicing Boundary

Caledon

2016 2041

People 69,000 160,000

Jobs 27,000 80,000

150%
increase

+ 91,000 people
+ 53,000 jobs

Brampton

2016 2041

People 614,000 890,000

Jobs 191,000 325,000

51%
increase

+ 276,000 people
+ 134,000 jobs

Mississauga

2016 2041

People 746,000 920,000

Jobs 477,000 565,000

22%
increase

+ 174,000 people
+ 88,000 jobs

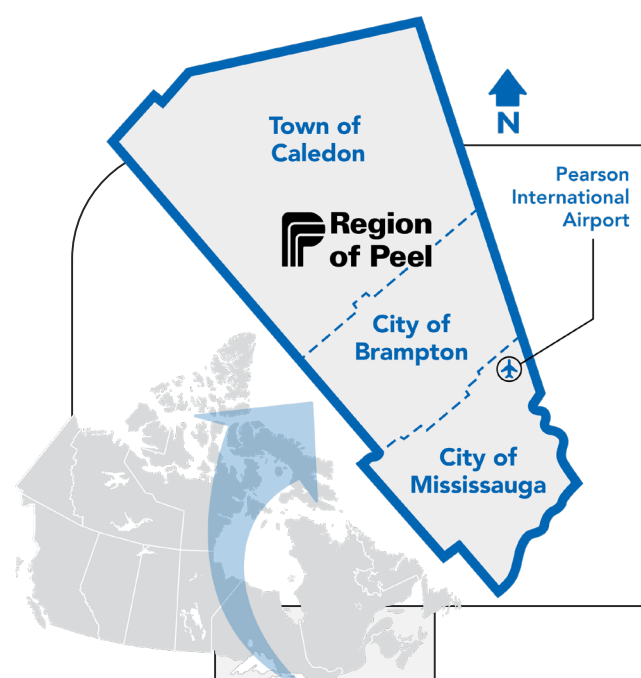
*Municipal allocations endorsed by Regional Council for infrastructure and finance planning purposes in February 2019.

Master Plan **Strategy** **Development** and **Process**



Planning Policy Framework Drivers

Provincial Policy Statement
Region of Peel Official Plan
A Place to Grow: Growth Plan for the Greater Golden Horseshoe



Region of Peel Study Area

Master Plan Analysis Consists of the Lake-Based Service Area Only

Existing Water System

Water Servicing Alternatives & Area Specific Analysis

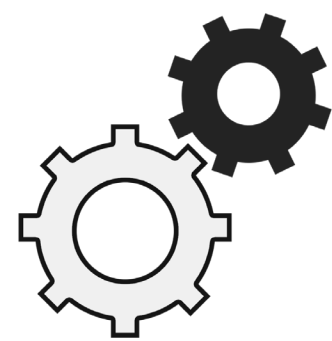
- Water Treatment
- Pumping
- Storage
- Pressure Zone 1
- Pressure Zone 2
- Pressure Zone 3
- Pressure Zone 4
- Pressure Zone 5
- Pressure Zone 6
- Pressure Zone 7

Existing Wastewater System

Wastewater Servicing Alternatives & Area Specific Analysis

- East to West Diversion & WWTP Strategy
- West Bolton Strategy
- Bolton Wastewater Strategy
- Etobicoke Creek Trunk Sewer Twinning
- Lakeshore Road West Trunk Sewer
- McVean SPS Bypass Trunk Sewer
- Central Mississauga Wastewater Strategy
- Mayfield West Expansion
- Inspiration Lakeview Strategy
- Fletchers Creek Trunk Sewer Twinning
- Tullamore / Airport Road Strategy

Evaluation Criteria



Technical



Environmental

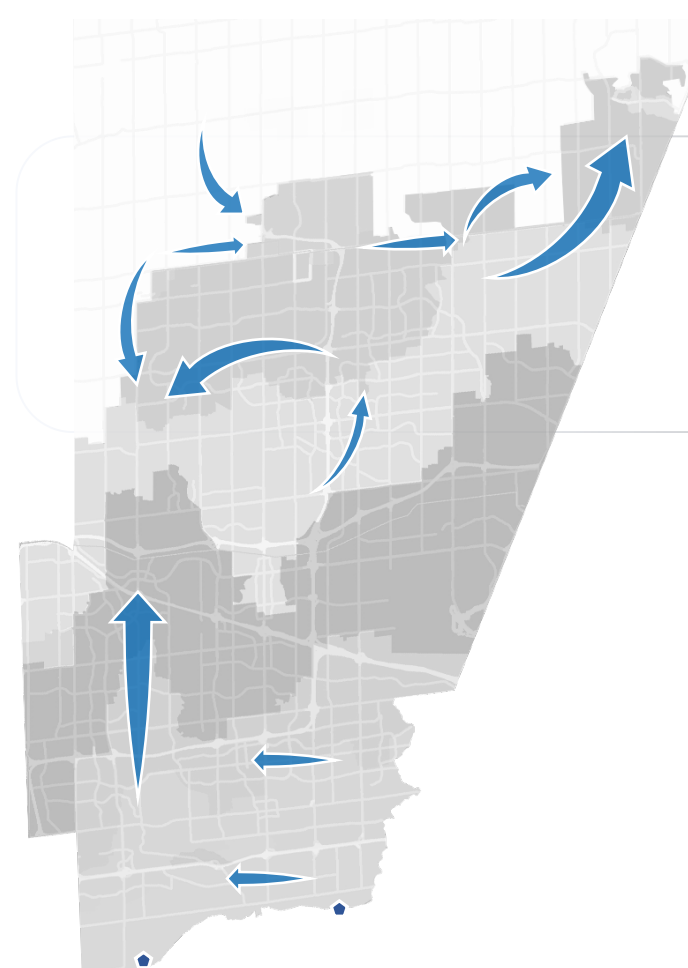


Social & Cultural

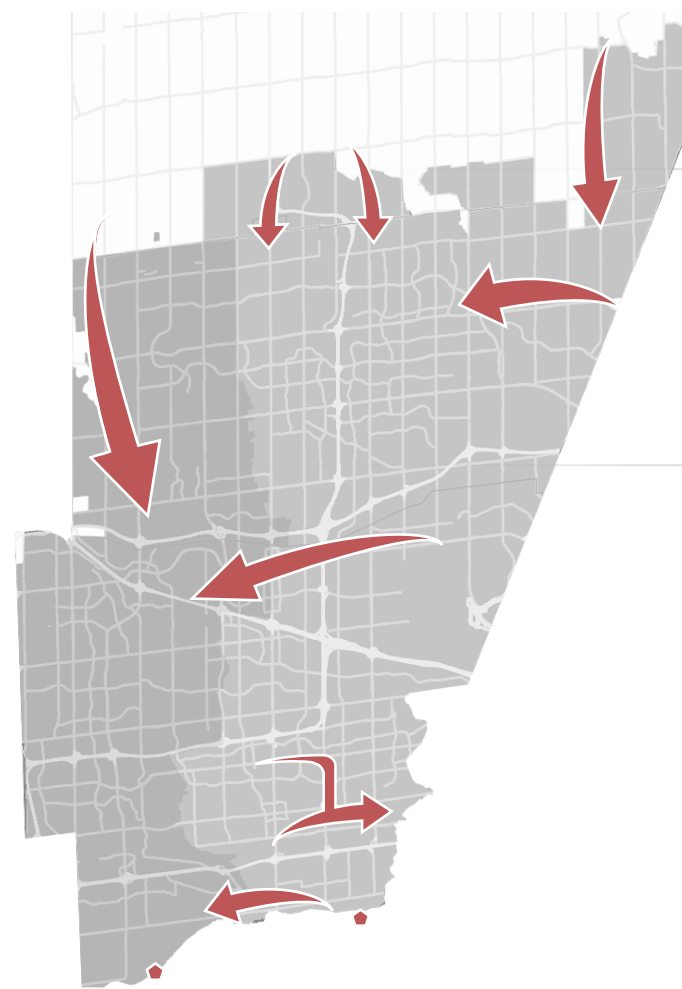


Financial

Preliminary Preferred Servicing Strategy and Capital Plan



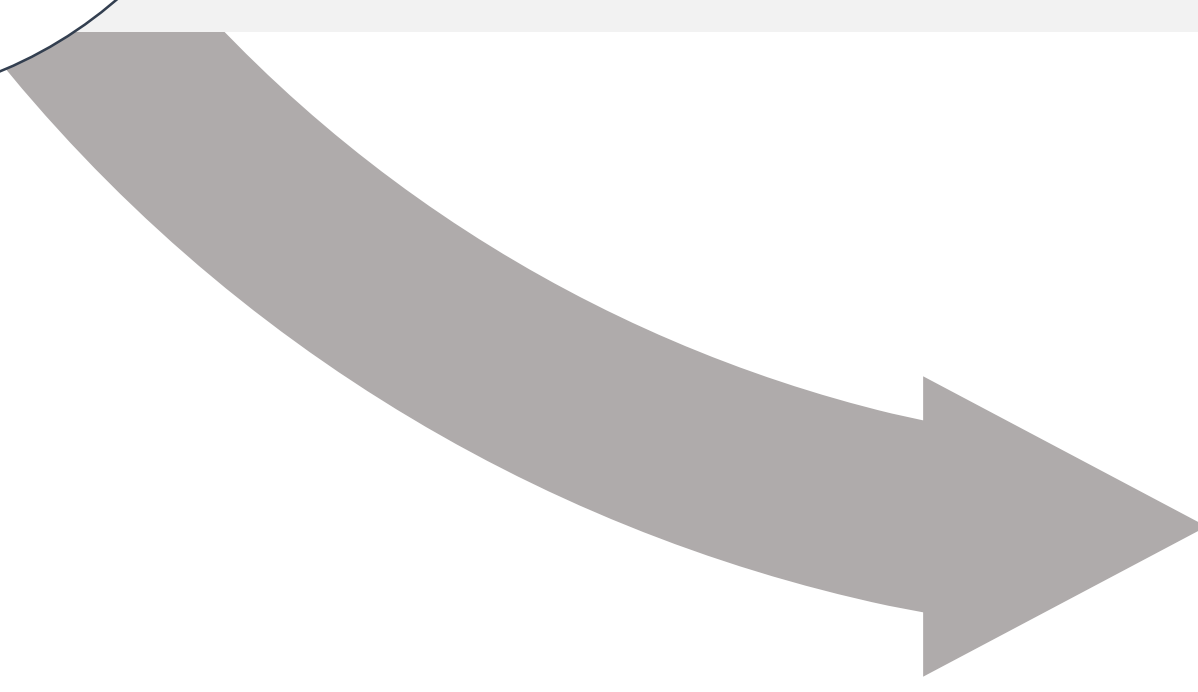
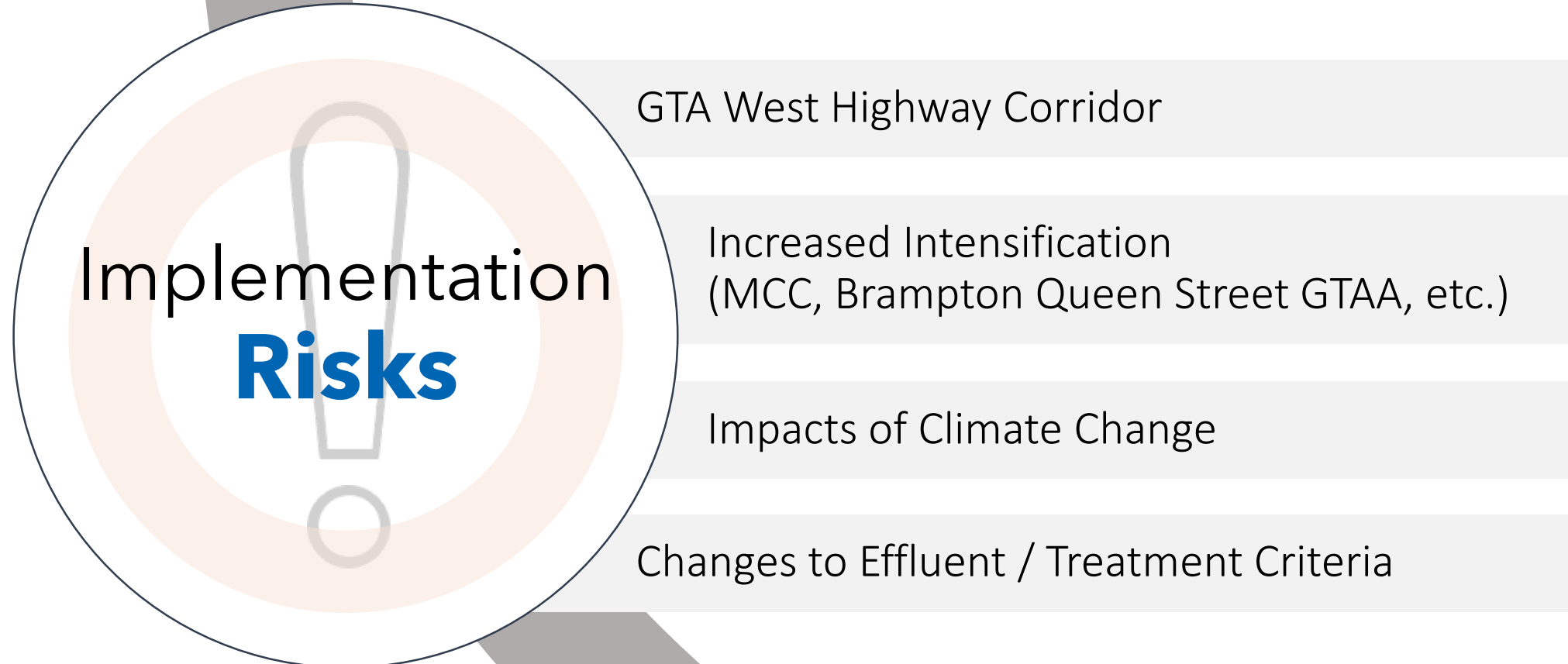
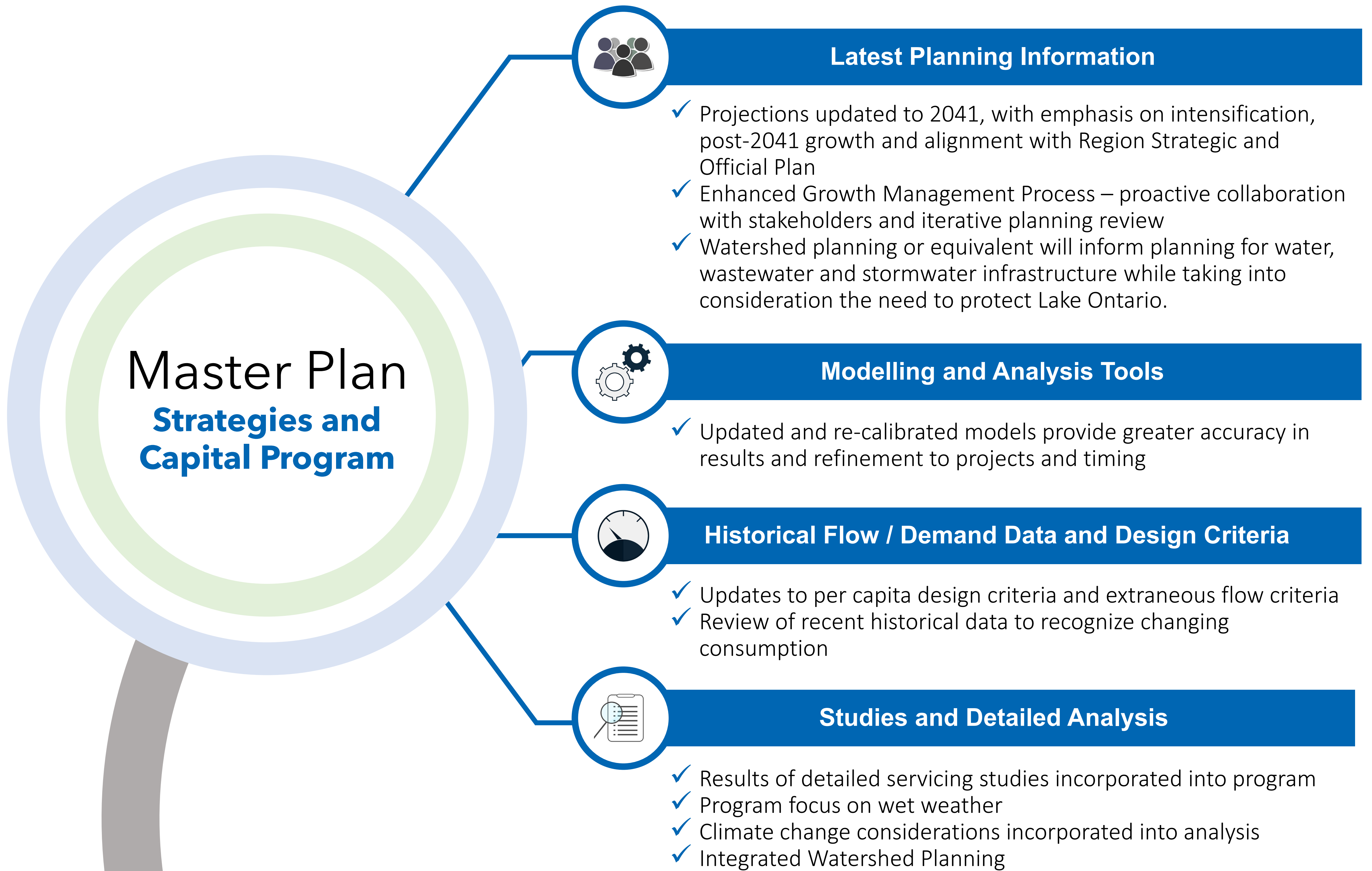
Preliminary Preferred Water Strategy



Preliminary Preferred Wastewater Strategy

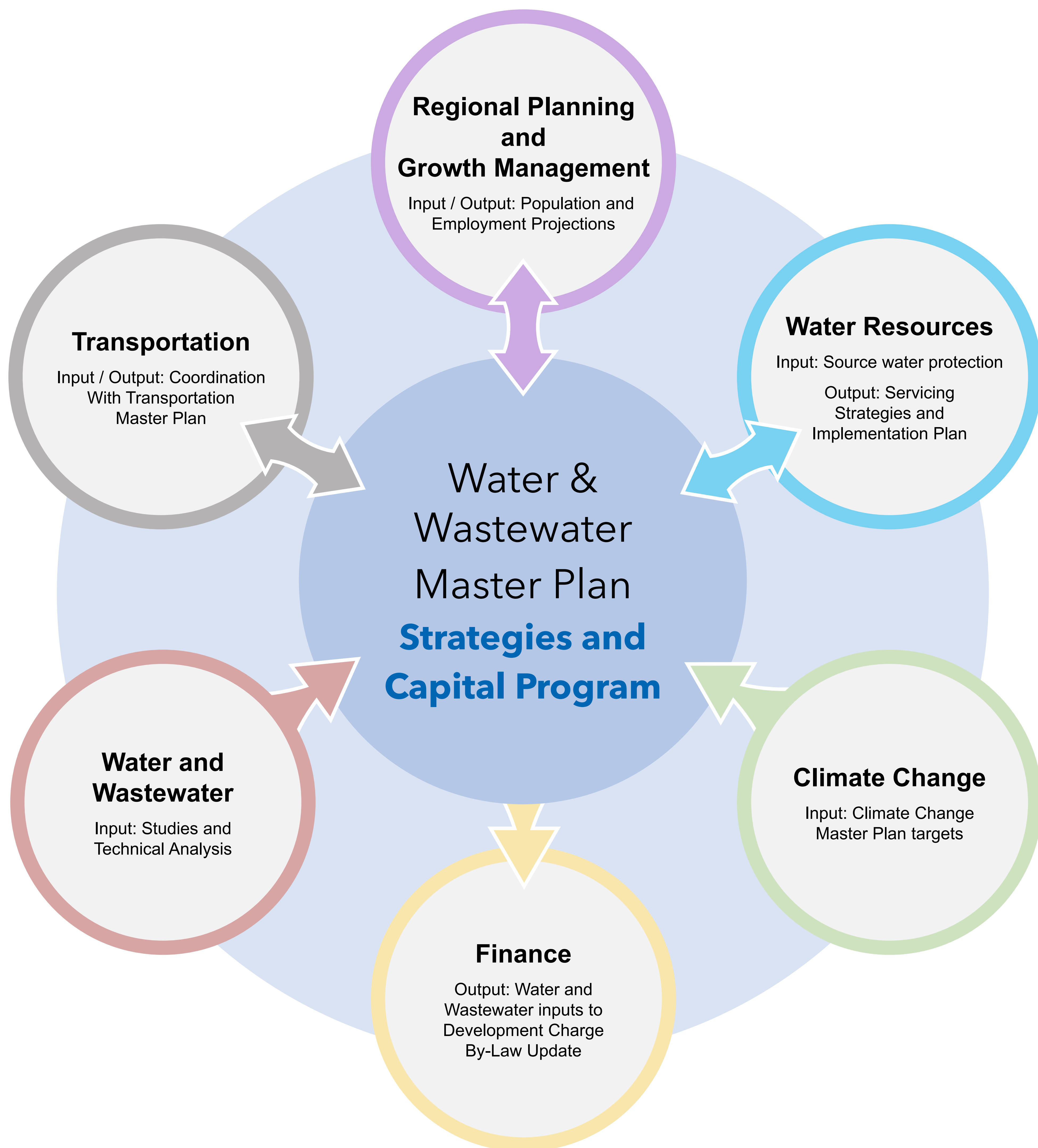
Enhancements to the Master Plan

The 2020 Master Plan incorporates the following enhancements to complete a full review and update of the servicing strategies.



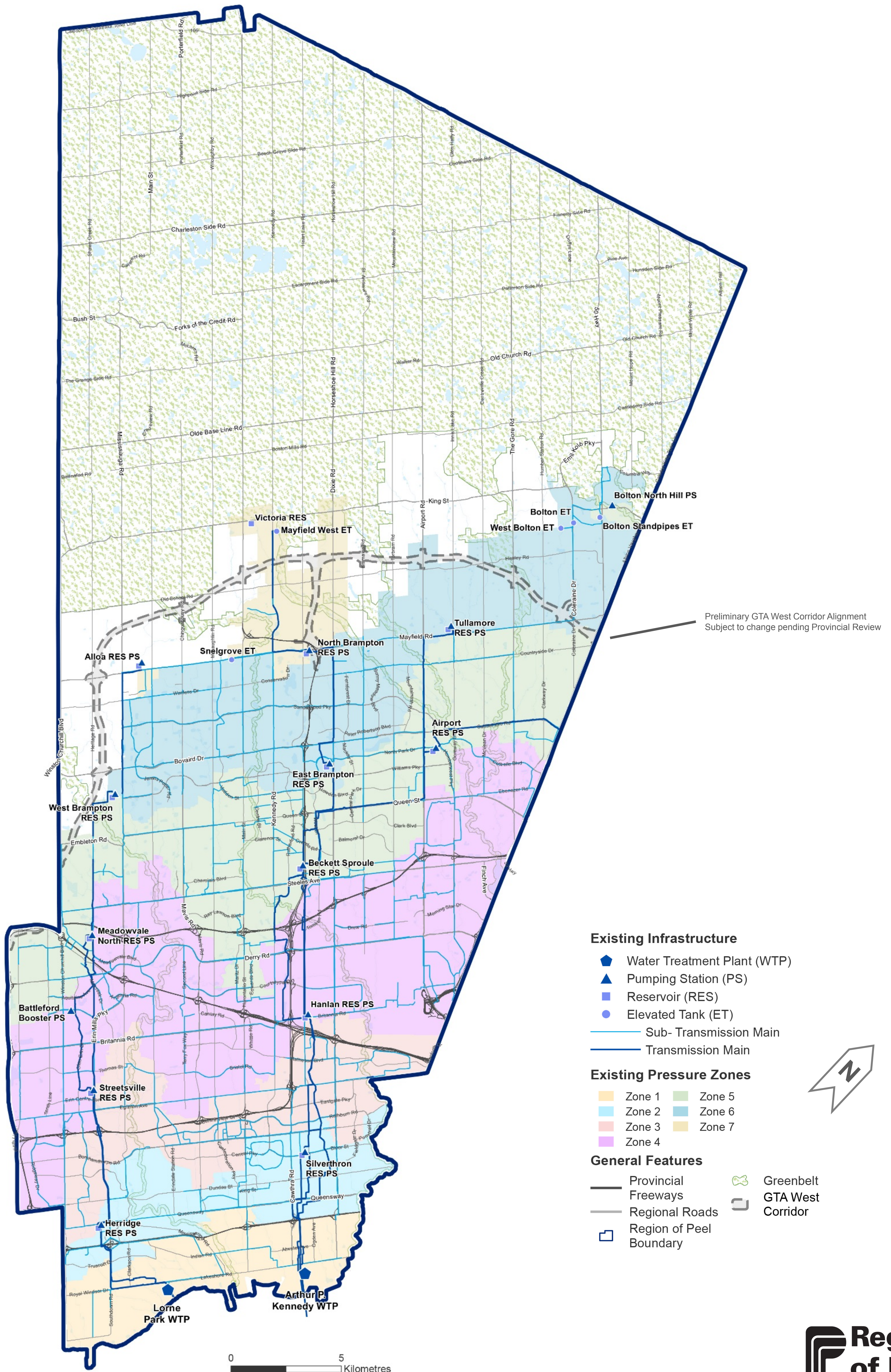
What's Next?
Capital Project Implementation
Development Charges By-law Update
Integration with State of Good Repair

Integrated Growth Management Approach



The Region of Peel is taking **a collaborative approach to planning and managing the forecasted growth into 2041** as it relates to Official Plan policies, water and wastewater planning and servicing, transportation planning, and financial policy.

Existing Water System



Opportunities and Constraints Water

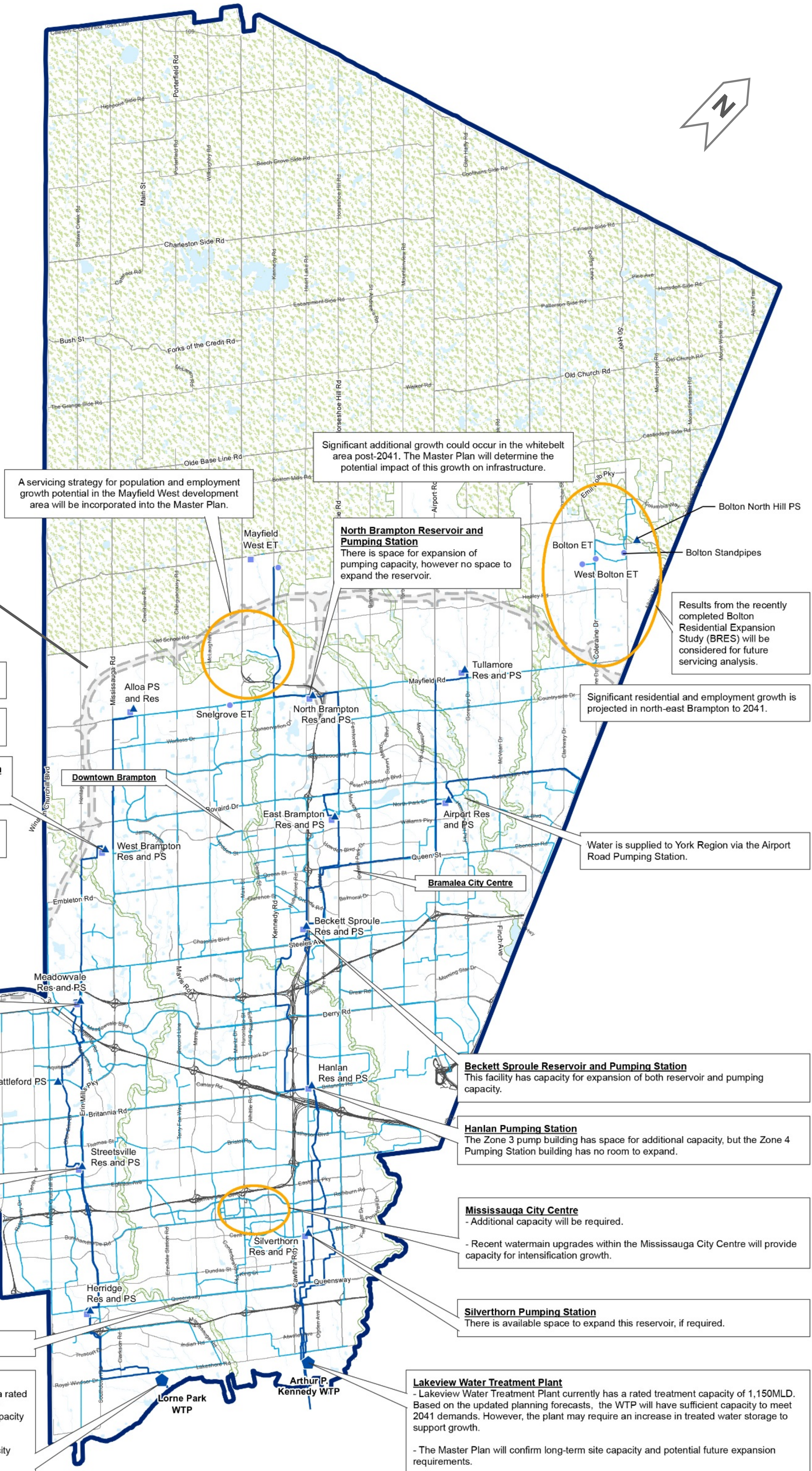
Existing Infrastructure

- Water Treatment Plant (WTP)
- Pumping Station (PS)
- Reservoir (Res)
- Elevated Tank (ET)
- Sub-Transmission Main
- Transmission Main

General Features

- Provincial Freeways
- Regional Roads
- Region of Peel Boundary
- Greenbelt
- GTA West Corridor

0 4 Kilometres



A servicing strategy for population and employment growth potential in the Mayfield West development area will be incorporated into the Master Plan.

Significant additional growth could occur in the whitebelt area post-2041. The Master Plan will determine the potential impact of this growth on infrastructure.

North Brampton Reservoir and Pumping Station
There is space for expansion of pumping capacity, however no space to expand the reservoir.

Results from the recently completed Bolton Residential Expansion Study (BRES) will be considered for future servicing analysis.

Significant residential and employment growth is projected in north-east Brampton to 2041.

Preliminary GTA West Corridor Alignment
Subject to change pending Provincial Review

Additional storage capacity may be required to service Zone 7.

Significant residential growth is projected to 2041 in north-west Brampton.

West Brampton Reservoir and Pumping Station
This facility has sufficient space for expansion of pumping and storage capacity.

Optimize east-west transfers with distribution and pumping for improved service level and security.

Additional Transfer Capacity required
- Streetsville Pumping Station to Meadowvale North Pumping Station
- Herridge Pumping Station to Streetsville Pumping Station

Meadowvale North Pumping Station
Possibility to increase or replace pumps in new Pumping Station building to gain capacity.

Streetsville Pumping Station
Room for expansion is limited. Pumping Station is running at capacity.

Hurontario Corridor and Mississauga City Centre is targeted for intensification. Results of the intensification analysis will be incorporated into the Master Plan.

Rehabilitation of the Queensway Feedermain.

Lorne Park Water Treatment Plant
- Lorne Park Water Treatment Plant currently has a rated capacity of 500MLD. Based on the Places to Grow planning forecasts, the WTP will have sufficient capacity for 2041 demands.

- The Master Plan will confirm long-term site capacity and potential future expansion requirements.

Water is supplied to York Region via the Airport Road Pumping Station.

Beckett Sproule Reservoir and Pumping Station
This facility has capacity for expansion of both reservoir and pumping capacity.

Hanlan Pumping Station
The Zone 3 pump building has space for additional capacity, but the Zone 4 Pumping Station building has no room to expand.

Mississauga City Centre
- Additional capacity will be required.
- Recent watermain upgrades within the Mississauga City Centre will provide capacity for intensification growth.

Silverthorn Pumping Station
There is available space to expand this reservoir, if required.

Lakeview Water Treatment Plant
- Lakeview Water Treatment Plant currently has a rated treatment capacity of 1,150MLD. Based on the updated planning forecasts, the WTP will have sufficient capacity to meet 2041 demands. However, the plant may require an increase in treated water storage to support growth.

- The Master Plan will confirm long-term site capacity and potential future expansion requirements.

Preliminary Preferred Water Strategy



Maximizes the use of existing water transmission mains and treatment infrastructure as it builds on existing and planned transmission and distribution infrastructure.

Strategic oversizing of infrastructure, where justified, to support growth beyond 2041.

Region of York

- Peel will continue to provide water to York Region as per existing agreement.

Zone 7

- Extension of distribution network
- New West Caledon Transmission Main
- New floating storage: West Caledon Elevated Tank

Zone 6

- New Victoria Transmission Main
- Extend watermains into northwest Brampton Greenfield
- New secondary feed to West Bolton
- New floating storage: Victoria Reservoir

Zone 5

- Extend watermains for Greenfield growth
- Improve connectivity between Williams Parkway and supplement Downtown Brampton Intensification
- Extend servicing into Uptown Brampton Growth Area

Zone 4

- Improve feed to East Brampton Zone 4 Reservoir via East Brampton Transmission Main Twinning

Zone 3

- Increase transmission and pumping capacity to move water north
- New watermains to support growth within intensification areas

Zone 2

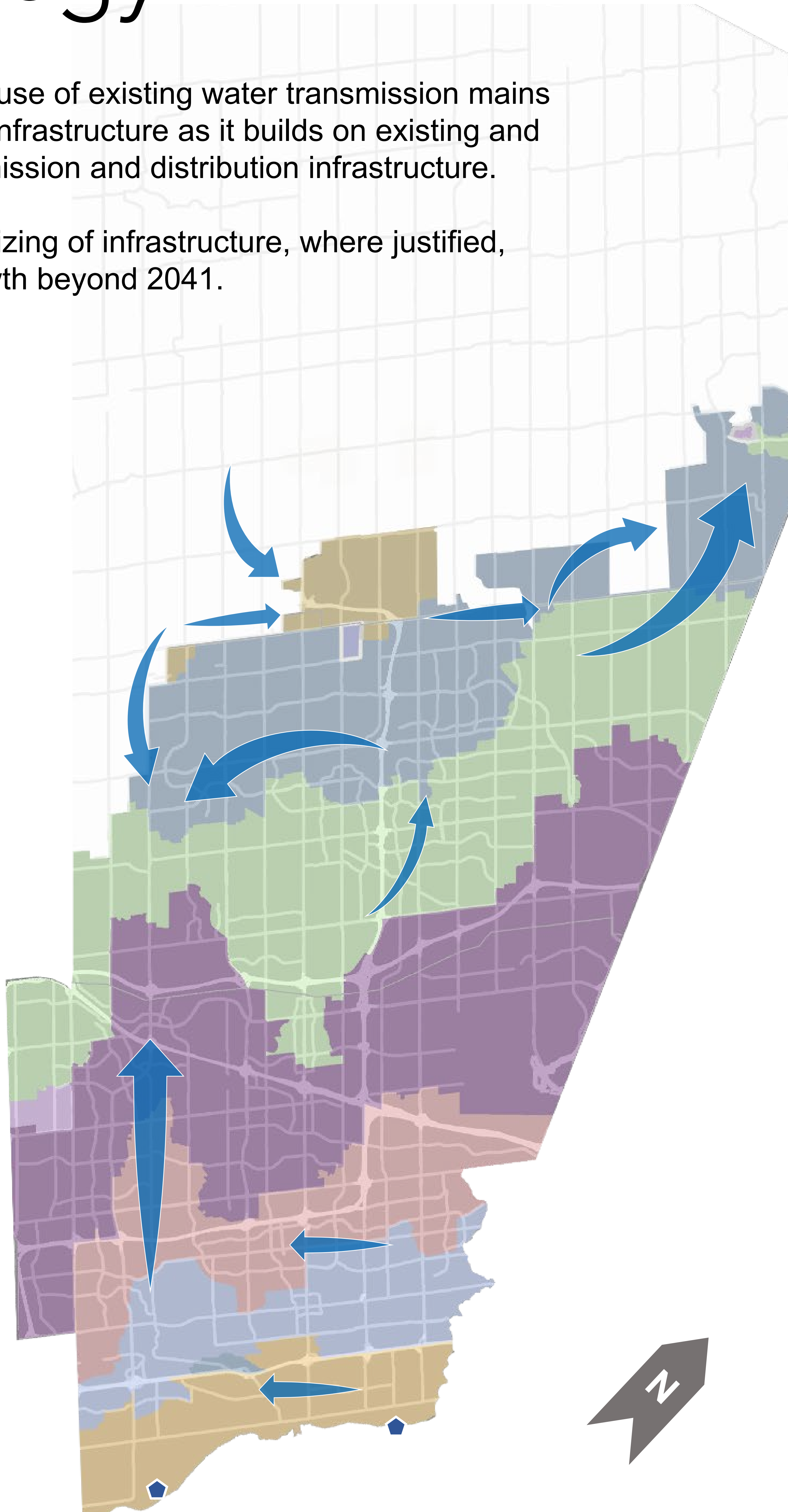
- Increase transmission and pumping capacity to move water north
- Queensway Zone 1/2 switchover and connection to Silverthorn

Zone 1

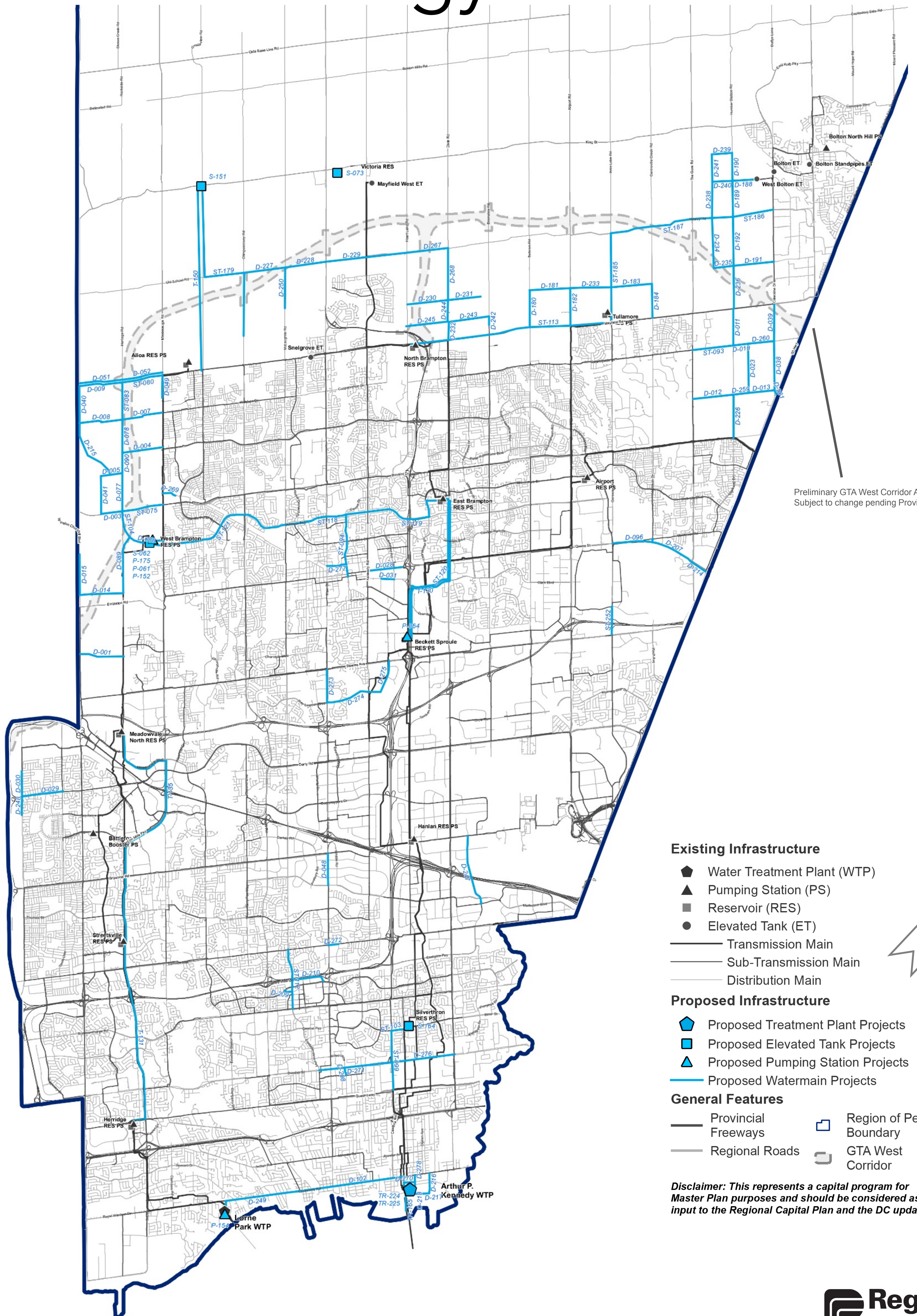
- Support growth and pressure zone interconnectivity

Water Treatment

- Plants will meet capacity needs to 2041
- Arthur P. Kennedy reservoir expansion



Preliminary Preferred Water Strategy



Preliminary GTA West Corridor Alignment
Subject to change pending Provincial Review

Existing Infrastructure

- ◆ Water Treatment Plant (WTP)
- ▲ Pumping Station (PS)
- Reservoir (RES)
- Elevated Tank (ET)
- Transmission Main
- Sub-Transmission Main
- Distribution Main

Proposed Infrastructure

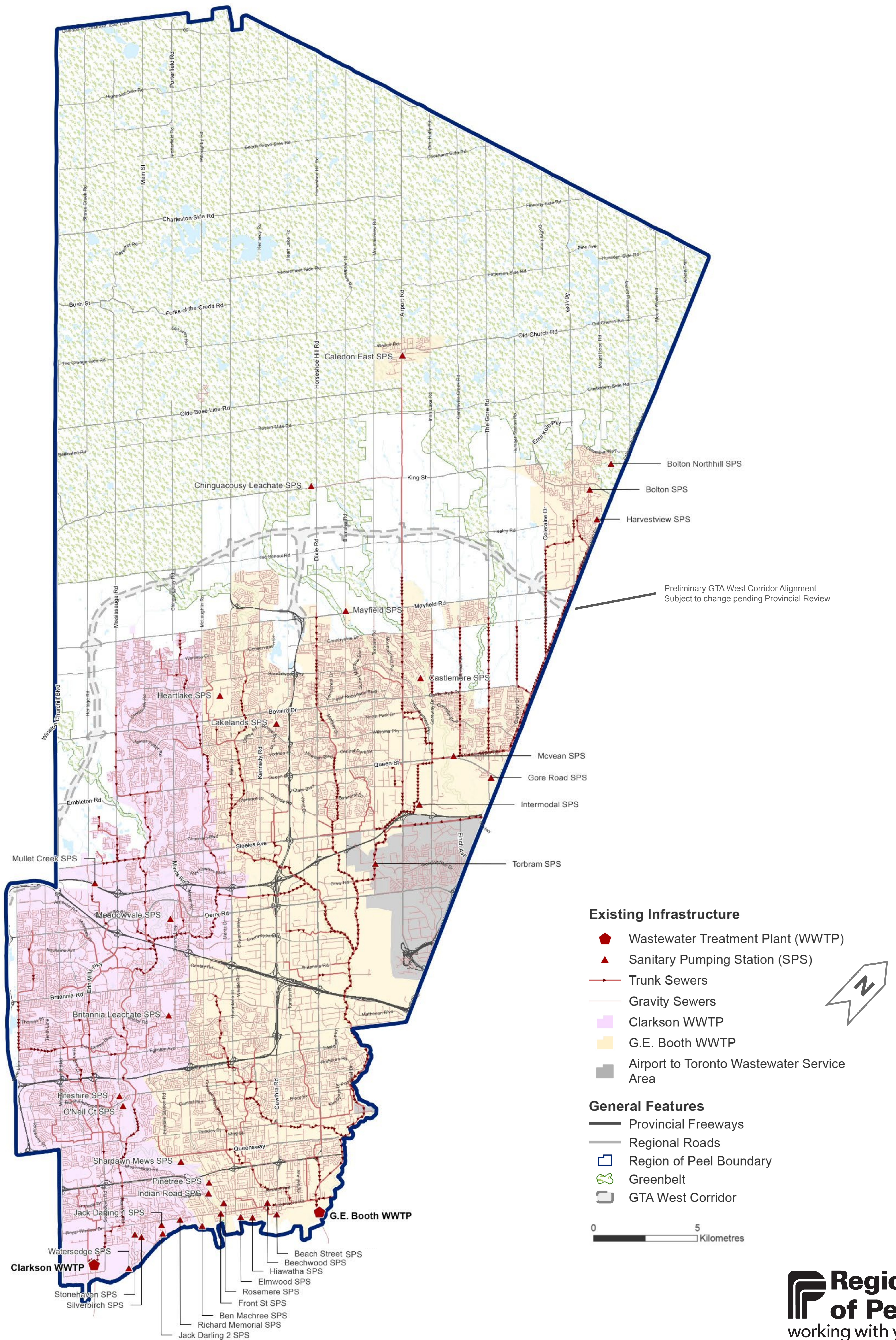
- ◆ Proposed Treatment Plant Projects
- Proposed Elevated Tank Projects
- ▲ Proposed Pumping Station Projects
- Proposed Watermain Projects

General Features

- Provincial Freeways
- Regional Roads
- Region of Peel Boundary
- ▭ GTA West Corridor

Disclaimer: This represents a capital program for Master Plan purposes and should be considered as an input to the Regional Capital Plan and the DC update.

Existing Wastewater System



Opportunities and Constraints Wastewater

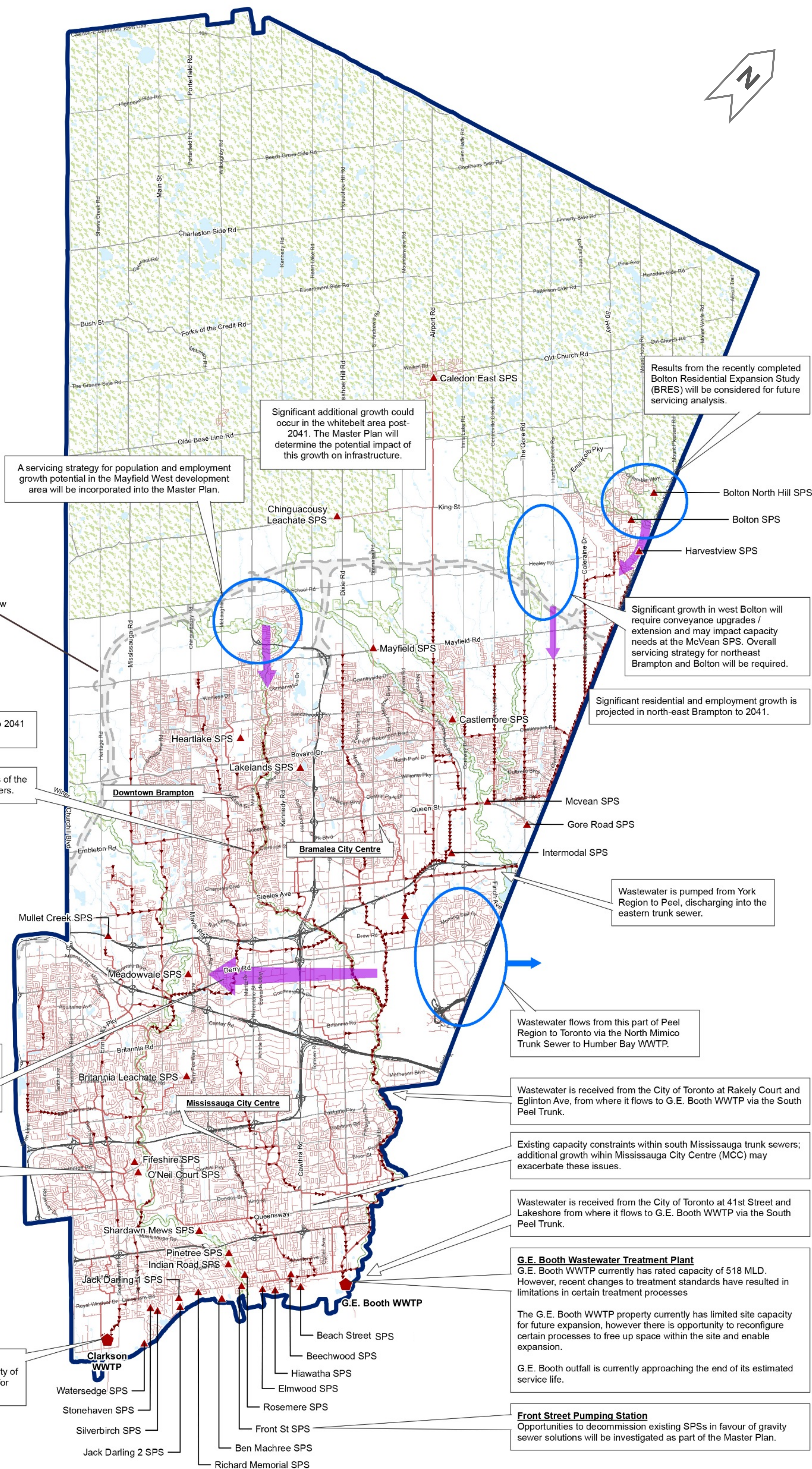
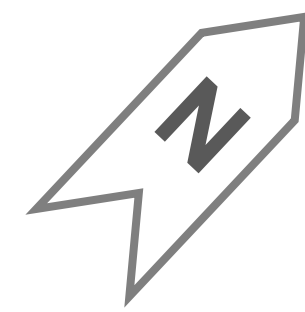
Existing Infrastructure

- ◆ Wastewater Treatment Plant (WWTP)
- ▲ Sewage Pumping Stations (SPS)
- Gravity Sewers (< 675 mm)
- ➔ Trunk Sewers (> 675 mm)

General Features

- Provincial Freeways
- Regional Roads
- ▭ Region of Peel Boundary
- 🌿 Greenbelt
- ▭ GTA West Corridor

0 4 Kilometres



A servicing strategy for population and employment growth potential in the Mayfield West development area will be incorporated into the Master Plan.

Significant additional growth could occur in the whitebelt area post-2041. The Master Plan will determine the potential impact of this growth on infrastructure.

Results from the recently completed Bolton Residential Expansion Study (BRES) will be considered for future servicing analysis.

Significant growth in west Bolton will require conveyance upgrades / extension and may impact capacity needs at the McVean SPS. Overall servicing strategy for northeast Brampton and Bolton will be required.

Significant residential and employment growth is projected in north-east Brampton to 2041.

Preliminary GTA West Corridor Alignment Subject to change pending Provincial Review

Significant residential growth is projected to 2041 in north-west Brampton.

Current capacity constraints within sections of the Fletcher's Creek and Etobicoke Creek sewers.

As the East Trunk System approaches capacity, flow will need to be diverted from the East Trunk to the West Trunk. This will optimize the conveyance and treatment capacities.

Recently constructed West Trunk Sewer provides substantial conveyance capacity in the Clarkson WWTP catchment area.

Clarkson Wastewater Treatment Plant
Clarkson WWTP currently has rated capacity of 350 MLD. The plant property has capacity for further expansion if required.

Wastewater is pumped from York Region to Peel, discharging into the eastern trunk sewer.

Wastewater flows from this part of Peel Region to Toronto via the North Mimico Trunk Sewer to Humber Bay WWTP.

Wastewater is received from the City of Toronto at Rakely Court and Eglinton Ave, from where it flows to G.E. Booth WWTP via the South Peel Trunk.

Existing capacity constraints within south Mississauga trunk sewers; additional growth within Mississauga City Centre (MCC) may exacerbate these issues.

Wastewater is received from the City of Toronto at 41st Street and Lakeshore from where it flows to G.E. Booth WWTP via the South Peel Trunk.

G.E. Booth Wastewater Treatment Plant
G.E. Booth WWTP currently has rated capacity of 518 MLD. However, recent changes to treatment standards have resulted in limitations in certain treatment processes

The G.E. Booth WWTP property currently has limited site capacity for future expansion, however there is opportunity to reconfigure certain processes to free up space within the site and enable expansion.

G.E. Booth outfall is currently approaching the end of its estimated service life.

Front Street Pumping Station
Opportunities to decommission existing SPSs in favour of gravity sewer solutions will be investigated as part of the Master Plan.

- Watersedge SPS
- Stonehaven SPS
- Silverbirch SPS
- Jack Darling 2 SPS
- Beach Street SPS
- Beechwood SPS
- Hiawatha SPS
- Elmwood SPS
- Rosemere SPS
- Front St SPS
- Ben Machree SPS
- Richard Memorial SPS

Preliminary Preferred Wastewater Strategy



Maximize the use of existing trunk wastewater conveyance and treatment infrastructure.

Strategic oversizing of infrastructure, where justified, to support growth beyond 2041.

Region of York & City of Toronto

Peel will continue to receive wastewater flows from York Region and the City of Toronto as per existing agreement.

Flow Diversions

1. East to West Diversion Trunk Sewer
2. McVean SPS Bypass Trunk Sewer
3. Lakeshore Road West Trunk Sewer
4. Kennedy Road Trunk Sewer with connection to East to West Diversion

Collection System

Strategies & Trunk Sewer

5. Etobicoke Creek Trunk Sewer
6. Central Mississauga Wastewater Strategy
7. Fletcher's Creek Trunk Sewer Twinning
8. Lower West Trunk Sewer Twinning
9. West Bolton Strategy
10. Mayfield West Expansion
11. West Brampton Strategy
12. Tullamore/Airport Road Strategy

Pumping Stations

New pumping stations:

13. Inspiration Lakeview SPS
14. Mayfield West Phase II SPS

Pumping station expansions:

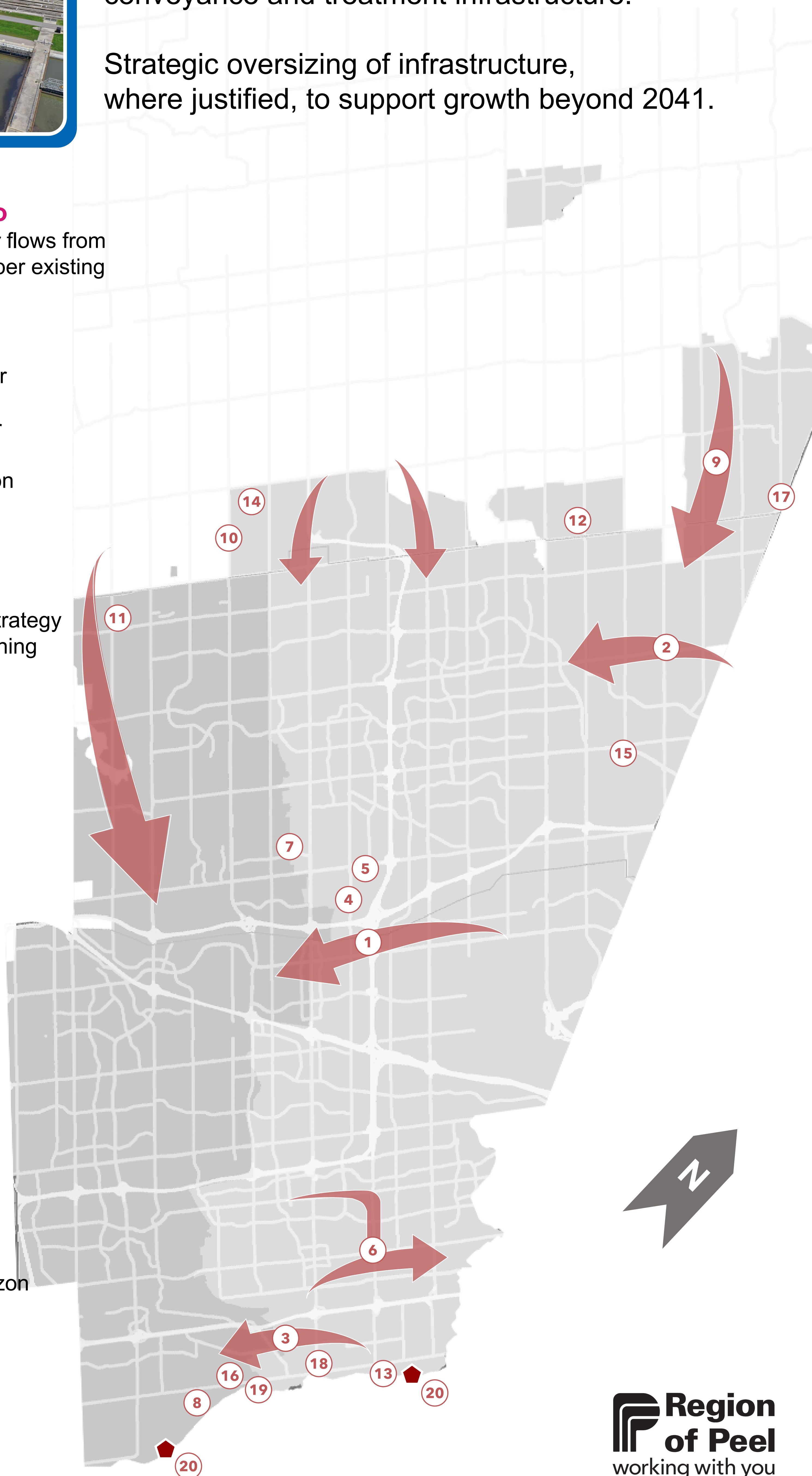
15. McVean SPS
16. Richard's Memorial SPS

Decommissioning of existing stations:

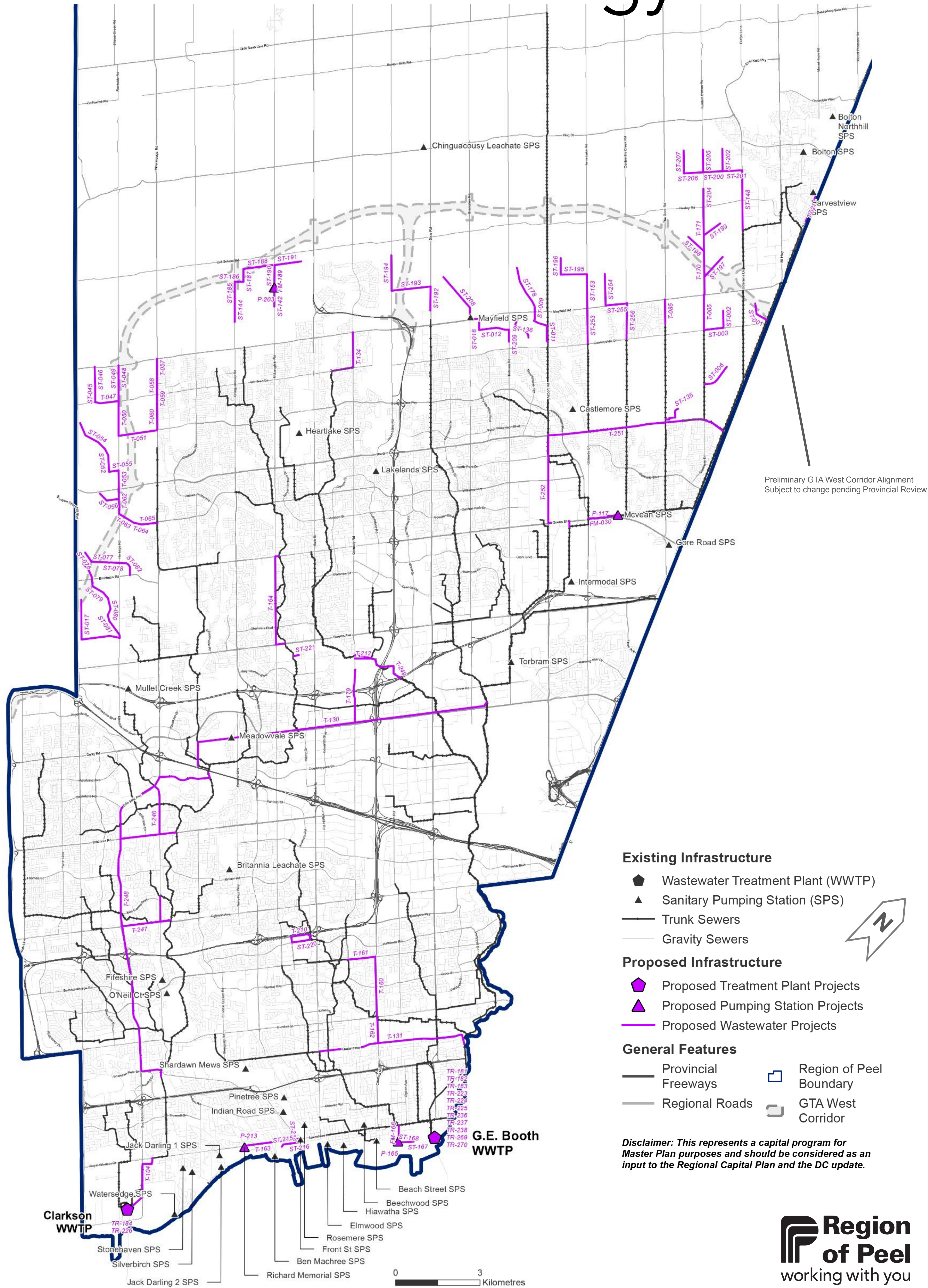
17. Harvestview SPS
18. Front Street SPS
19. Ben Machree SPS

Wastewater Treatment

20. WWTP Capacity expansion at both plants and new G.E. Booth WWTP Outfall within the 2041 horizon



Preliminary Preferred Wastewater Strategy



Please Stay Engaged

Thank You for Participating!

Following this Public Information Centre (PIC), the project team will:

- Review and consider your input received during and following the PIC
- Select and refine the Preferred Water and Wastewater Servicing Strategies
- Develop the Capital Implementation Plan
- Prepare the Master Plan Project File for 30 day public review

How to Stay Involved

- **Fill out the questionnaire and comment sheet**
- **We want to know if you are interested in active involvement or prefer to participate through project information updates**



Do you have any questions, comments, or want to stay up to date? Please contact us anytime.

Martin Pendlebury, P.Eng.

Advisor, Water and Wastewater
Infrastructure Planning

Regional Municipality of Peel
10 Peel Centre Drive, 4th Floor Suite A
Brampton, ON L6T 4B9
905-791-7800 EXT. 4548
Martin.Pendlebury@peelregion.ca

Please note that information related to this study will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. All comments received will become part of the public record and may be included in the study documentation prepared for public review.

