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# Water and Wastewater Area Servicing Plan For the Premier Gateway Phase 2B Employment Area **Final Report**

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**Prepared by**

**GM BluePlan for:**

**Town of Halton Hills**

**Project No. 717029**

**September 2023**



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September 11, 2023  
Our File: 720010

Macaulay Shiomi Howson Ltd  
600 Annette Street  
Toronto, Ontario M6S 2C4

Attention: Lorelei Jones, MCIP, RPP  
Principal

**Re: Condition Assessment and Capital Plan Recommendations Final Report**

Dear Ms. Jones,

GM BluePlan Engineering Limited is pleased to submit this Revised Water and Wastewater Area Servicing Plan for the Town of Halton Hills Premier Gateway Phase 2B Employment Area. This final report addresses Town of Halton Hills and Halton Region comments on the November 2021 version and September 2022 version of the draft report (including comments received at the February 7, 2023 meeting with the Town and Halton Region to review alignment of the Area Servicing Plan with the Region's planned work within the area) and Region comments on the March 2, 2023 Final Draft for Review Report.

If you have any questions, or require any additional information, please contact the undersigned.

Yours truly,

**GM BLUEPLAN ENGINEERING LIMITED**

A handwritten signature in black ink, appearing to read 'Matthew Fisher', is written over a light blue horizontal line.

Per: Matthew Fisher, P.Eng.  
Infrastructure Planning

GUELPH | OWEN SOUND | LISTOWEL | KITCHENER | LONDON | HAMILTON | GTA

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## VERSION LOG

Version	Date	Author(s)	Description
1	November 24, 2021	Matthew Fisher	Draft for Review
2	September 15, 2022	Matthew Fisher	Revised Draft for Review
3	March 2, 2023	Matthew Fisher	Final Draft for Review
4	September 11, 2023	Matthew Fisher	Final







## Executive Summary

GM BluePlan have been retained to complete the water and wastewater Area Servicing Plan (ASP) for the Premier Gateway Phase 2B Employment Area (PGEA P2B) Secondary Plan. The PGEA is an important designated employment area in the Town of Halton Hills located in the western GTA/Highway 401 corridor. The ASP study area is comprised of the Phase 2B area of the PGEA and includes the lands within the Urban Area located north of Steeles Avenue between Eighth Line and Winston Churchill Boulevard.

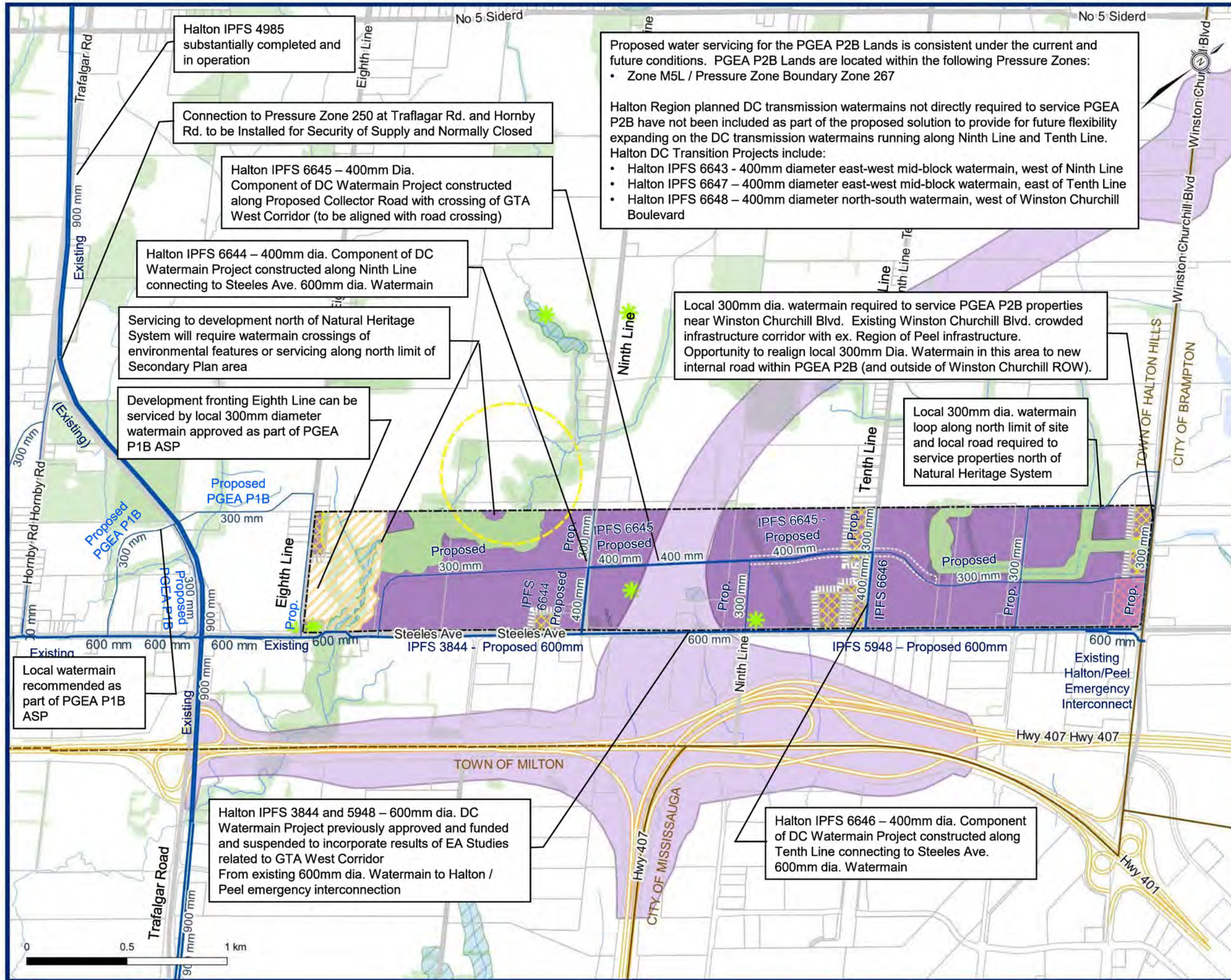
The Water and Wastewater ASP for the PGEA P2B has developed a comprehensive servicing strategy that builds on previous studies, can be cost-efficiently constructed, effectively phased to support the growth needs of the Town of Halton Hills and provides flexibility to be incorporated into Halton Region's approved and updated servicing plans for the area. The Water and Wastewater ASP for the PGEA P2B includes consideration for the Region's ongoing work to refine the servicing strategy to service the PGEA P2B.

Proposed water servicing is summarized in Figure ES-1 and proposed wastewater servicing is summarized in Figure ES-2.

The PGEA P2B ASP confirms that the planned Employment Area can ultimately be serviced by the Region's proposed upgrades to water and wastewater linear infrastructure along Steeles Avenue, Ninth Line and Tenth Line and crossing the GTA West Corridor.

The Region's planned water and wastewater projects for the area are being considered further as part of studies supporting the Regional Municipal Comprehensive Review, including an ongoing Premier Gateway Phase 2B Wastewater Servicing Strategy Feasibility Study and Provisional Municipal Class Environmental Assessment (EA) that is scheduled to be completed ahead of completion of the Region's ongoing Water, Wastewater and Transportation Master Plan Update project. It is anticipated that in order for the Town to supply area employment lands to meet their 2031 planning targets, adoption of the Secondary Plan ahead of completion of the Region's Master Plan Update will be required, and the Area Servicing Plan has been completed to meet the development timing requirements of the Town and provide for flexibility for recommended water and wastewater servicing to be effectively incorporated into the Region's ongoing studies.





Water & Wastewater Area Servicing Plan  
for the Premier Gateway Phase 2B

Water Infrastructure

- ▲ Pumping Station (PS)
- Storage
- Treatment
- Feeder Main (Diameter >= 400mm)
- Local Watermain (Diameter < 400mm)

General Features

- ▭ Premier Gateway Phase 2B
- Highway
- Major Road
- Local Road
- ▭ Property Parcel
- ▭ Municipal Boundary
- ▭ Preferred Route and Interchange Locations for GTA West Transportation Corridor Study

Preferred Land Use

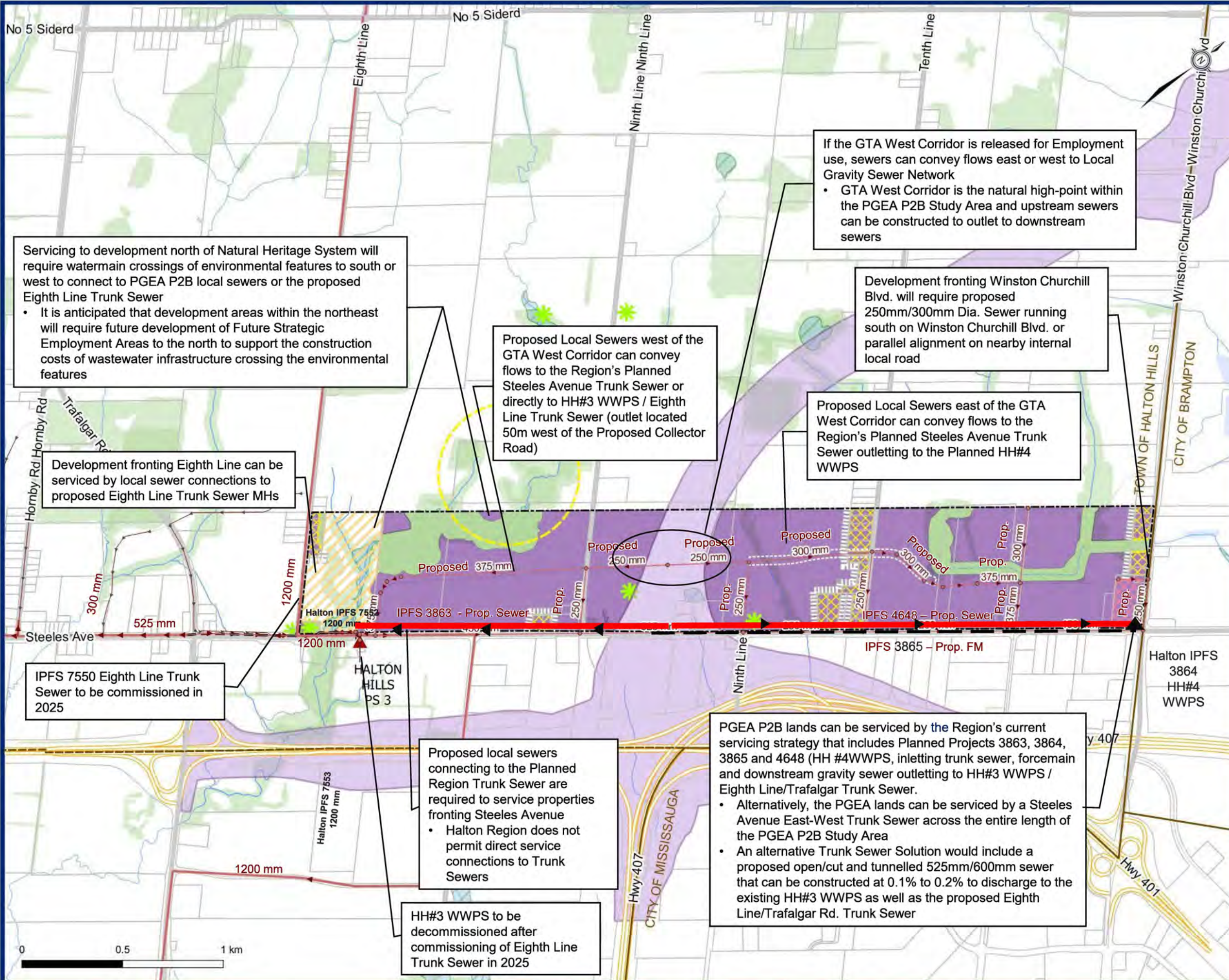
- Natural Heritage System
- Prestige Industrial Area
- Residential Special Policy Area
- Supportive Commercial
- Subject to D09OPA22.001 As Per PL180499
- Headwater Drainage Feature
- ▭ Buffer for Existing Residential Uses
- ★ Cultural Heritage Resource
- ▭ Minimum Distance Separation

Figure ES-1

Proposed Water Servicing  
Solution for PGEA P2B







Water & Wastewater Area Servicing Plan  
for the Premier Gateway Phase 2B

- Wastewater Infrastructure**
- ▲ Sewage Pumping Station (SPS)
  - Trunk Sewer (diameter ≥ 450mm)
  - Local Sewer (diameter < 450mm)
  - Forcemain
- General Features**
- ▭ Premier Gateway Phase 2B
  - Highway
  - Major Road
  - Local Road
  - ▭ Property Parcel
  - ▭ Municipal Boundary
  - ▭ Preferred Route and Interchange Locations for GTA West Transportation Corridor Study
- Preferred Land Use**
- Natural Heritage System
  - Prestige Industrial Area
  - Residential Special Policy Area
  - Supportive Commercial
  - Subject to D09OPA22.001 As Per PL180499
  - Headwater Drainage Feature
  - ▭ Buffer for Existing Residential Uses
  - ★ Cultural Heritage Resource
  - ▭ Minimum Distance Separation

Servicing to development north of Natural Heritage System will require watermain crossings of environmental features to south or west to connect to PGPA P2B local sewers or the proposed Eighth Line Trunk Sewer

- It is anticipated that development areas within the northeast will require future development of Future Strategic Employment Areas to the north to support the construction costs of wastewater infrastructure crossing the environmental features

If the GTA West Corridor is released for Employment use, sewers can convey flows east or west to Local Gravity Sewer Network

- GTA West Corridor is the natural high-point within the PGPA P2B Study Area and upstream sewers can be constructed to outlet to downstream sewers

Development fronting Winston Churchill Blvd. will require proposed 250mm/300mm Dia. Sewer running south on Winston Churchill Blvd. or parallel alignment on nearby internal local road

Proposed Local Sewers east of the GTA West Corridor can convey flows to the Region's Planned Steele's Avenue Trunk Sewer outletting to the Planned HH#4 WWPS

Proposed Local Sewers west of the GTA West Corridor can convey flows to the Region's Planned Steele's Avenue Trunk Sewer or directly to HH#3 WWPS / Eighth Line Trunk Sewer (outlet located 50m west of the Proposed Collector Road)

Development fronting Eighth Line can be serviced by local sewer connections to proposed Eighth Line Trunk Sewer MHs

IPFS 7550 Eighth Line Trunk Sewer to be commissioned in 2025

Proposed local sewers connecting to the Planned Region Trunk Sewer are required to service properties fronting Steele's Avenue

- Halton Region does not permit direct service connections to Trunk Sewers

HH#3 WWPS to be decommissioned after commissioning of Eighth Line Trunk Sewer in 2025

PGPA P2B lands can be serviced by the Region's current servicing strategy that includes Planned Projects 3863, 3864, 3865 and 4648 (HH #4WWPS, inletting trunk sewer, forcemain and downstream gravity sewer outletting to HH#3 WWPS / Eighth Line/Trafalgar Trunk Sewer.

- Alternatively, the PGPA lands can be serviced by a Steele's Avenue East-West Trunk Sewer across the entire length of the PGPA P2B Study Area
- An alternative Trunk Sewer Solution would include a proposed open/cut and tunnelled 525mm/600mm sewer that can be constructed at 0.1% to 0.2% to discharge to the existing HH#3 WWPS as well as the proposed Eighth Line/Trafalgar Rd. Trunk Sewer

Figure ES-1  
Proposed Wastewater Servicing  
Solution for PGPA P2B









## Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>5</b>
1.1	Proposed Development.....	5
1.2	Timing and Phasing .....	7
1.3	Interim Servicing .....	7
1.4	Organization of Report.....	7
<b>2</b>	<b>Relevant Documents and Studies .....</b>	<b>9</b>
2.1	Town of Halton Hills .....	9
2.1.1	Town of Halton Hills Official Plan.....	9
2.2	Halton Region .....	9
2.2.1	Halton Region Official Plan (2016).....	9
2.2.2	Halton Regional Council Motions Related to the GTA West Corridor .....	10
2.2.3	Sustainable Halton Water and Wastewater Master Plan (2011) .....	10
2.2.4	2017 Water & Wastewater Development Charges Update .....	11
2.2.5	Ongoing Halton Region Servicing Studies .....	13
<b>3</b>	<b>Land Use and Planning Projections.....</b>	<b>15</b>
3.1	Land Use .....	15
3.1.1	Existing .....	15
3.1.2	Future.....	15
3.2	Planning Estimates and Growth Assumptions .....	17
3.2.1	Best Planning Estimates (BPEs) .....	17
3.2.2	Premier Gateway Employment Area Phase 2B Secondary Plan Area - Growth Assumptions .....	18
3.2.3	Town of Halton Hills Projections .....	18
<b>4</b>	<b>Water .....</b>	<b>20</b>
4.1	Existing Water System .....	20
4.1.1	PGEA Area.....	20
4.2	Planned Water System .....	22
4.2.1	Ultimate Pressure Zone Boundary Realignment.....	22
4.2.2	Pumping and Storage.....	22
4.2.3	Region's Timing and Development Charges Projects .....	23
4.3	Estimated Water Demands .....	27
4.3.1	Design Criteria.....	27
4.3.2	Water Demands .....	28
4.4	Water Servicing Review and Needs Assessment.....	28
4.5	Development of the Proposed Water Servicing Strategy.....	29
4.5.1	Proposed Water Servicing Strategy.....	29



4.5.2	Incorporation with the Region's Existing Water and Wastewater Master Plan and Future Municipal Class Environmental Assessment Requirements.....	31
4.5.3	Local Service Watermains.....	31
4.5.4	Water Distribution Modelling Analysis.....	34
<b>5</b>	<b>Wastewater .....</b>	<b>35</b>
5.1	Existing Wastewater System.....	35
5.2	Planned Wastewater System .....	37
5.2.1	Region's Timing and Development Charges Projects .....	37
5.3	Wastewater Design Criteria and Flows .....	40
5.3.1	Wastewater Design Criteria .....	40
5.3.2	Wastewater Flows .....	41
5.4	Wastewater Servicing Review and Needs Assessment.....	41
5.4.1	Review of Available Capacity Under Scenario 1 Prior to Commissioning of the Eighth Line/Trafalgar Trunk Sewer .....	41
5.5	Development of the Proposed Wastewater Servicing Strategy.....	43
5.5.1	Proposed Wastewater Servicing Strategy.....	44
5.5.2	Incorporation with the Region's Existing Water and Wastewater Master Plan and Future Municipal Class Environmental Assessment Requirements.....	48
5.5.3	Local Sewers.....	49
5.5.4	Wastewater Collection Modelling Analysis.....	50
<b>6</b>	<b>Phasing of Servicing .....</b>	<b>51</b>
6.1	General.....	51
6.2	Water .....	51
6.2.1	West of GTA West Corridor .....	51
6.2.2	East of GTA West Corridor .....	51
6.3	Wastewater .....	55
6.3.1	Prior to Commissioning of Eighth Line/Trafalgar Trunk Sewer.....	55
6.3.2	West of GTA West Corridor .....	55
6.3.3	East of the GTA West Corridor .....	55
<b>7</b>	<b>Cost Estimates .....</b>	<b>57</b>
7.1	Water and Wastewater Servicing Cost Estimates .....	57
7.1.1	Water and Wastewater DC Projects Cost Estimates Approach .....	57
7.1.2	Water Projects.....	57
7.1.3	Wastewater Projects .....	58
<b>8</b>	<b>Conclusion.....</b>	<b>61</b>



8.1	General .....	61
8.2	Water .....	61
8.3	Wastewater .....	62

## List of Figures

Figure 1-1: Study Area .....	6
Figure 3-1: Preferred Land Use Concept.....	16
Figure 3-2: Premier Gateway Employment Area Phases & SGU Boundaries.....	17
Figure 4-1: Existing Water System in the Area of PGEA P2B Lands .....	21
Figure 4-2: Planned Halton Region Water Projects in the Area of PGEA P2B Lands .....	26
Figure 4-3: Proposed Water Servicing Solution for PGEA P2B .....	33
Figure 5-1: Existing Wastewater System in the Area of PGEA P2B Lands.....	36
Figure 5-2: Planned Halton Region Wastewater Projects in the Area of the PGEA P2B Lands .....	39
Figure 5-3: Proposed Wastewater Servicing Solution for PGEA P2B .....	45
Figure 5-4: Proposed Outlet to HH#3 WWPS.....	47
Figure 5-5: Proposed Outlet to Eighth Line Trunk Sewer .....	48
Figure 6-1: Proposed Phasing and Future Considerations for Interim Water Servicing of PGEA P2B Lands .....	54
Figure 6-2: Proposed Phasing and Future Considerations for Interim Wastewater Servicing of PGEA P2B Lands .....	56



## List of Tables

Table 3-1: PGEA P2B Secondary Plan Employment Growth Projections (Halton Region) .....	18
Table 3-2: PGEA P2B Secondary Plan Employment Growth Projections (Secondary Plan Economic Study).....	19
Table 4-1: HH PGEA P2B Lands Existing and Future Water Pressure Zone.....	22
Table 4-2: Future Water Storage Requirements.....	23
Table 4-3: Halton Region Area Water Projects.....	23
Table 4-4: Water Design Criteria.....	27
Table 4-5: Water Design Criteria for Water System Components.....	27
Table 4-6: Water Modelling Results for PGEA P2B (Current and Ultimate Pressure Zone Boundary Configurations) .....	34
Table 5-1: Halton Region Area Wastewater Projects.....	37
Table 5-2: Wastewater Design Criteria (Treatment Plant) .....	40
Table 5-3: Wastewater Design Criteria (Collection System) .....	40
Table 5-4: Design Criteria for Wastewater System Components.....	41
Table 5-5: Downstream Pumping Stations Available Capacities (Prior to Commissioning of Eighth Line/Trafalgar Trunk Sewer) .....	42
Table 5-6: Summary of PGEA P2B Wastewater Sub-Catchments .....	43
Table 5-7: Overall InfoSewer Model Scenarios to Evaluate PGEA P2B Development.....	50
Table 7-1: Cost Estimate for Proposed Development Charges Water Infrastructure Required for PGEA P2B Development.....	58
Table 7-2: Cost Estimate for Proposed Development Charges Wastewater Infrastructure Required for PGEA P2B Development.....	59
Table 7-3: Cost Estimate for Alternative Equivalent Tunnelled Steeles Avenue Trunk Sewer Required for PGEA P2B Development.....	60

## Appendices

Appendix A	Halton Region Future Water Pressure Zones, Wastewater Drainage Areas and Water and Wastewater Capital Implementation Plans (2017-2031)
Appendix B	Proposed Wastewater Servicing Plan and Profile Drawings
Appendix C	Drainage Plans and Sanitary Design Sheets
Appendix D	Cost Estimates



## 1 Introduction

GM BluePlan have been retained to complete the water and wastewater Area Servicing Plan (ASP) for the Premier Gateway Phase 2B Employment Area (PGEA P2B) Secondary Plan. GMBP are part of the project team lead by Macaulay Shiomi Howson Ltd (MSH) to develop the Secondary Plan for the Town of Halton Hills.

The Water and Wastewater ASP for the PGEA P2B will identify and evaluate water and wastewater servicing alternatives and recommend a servicing solution. The Water and Wastewater ASP will support the Premier Gateway Employment Area (PGEA), which is designated as an urban area, a natural heritage system as well as an Employment Area in the Town of Halton Hills and Halton Region Official Plans.

The PGEA will serve as a key employment growth area including industrial, office, commercial and institutional services. The completion of this Water and Wastewater ASP for the PGEA P2B is a critical step in the development of a key employment area by Halton Region and the Town of Halton Hills.

The key objectives of this Water and Wastewater ASP are to:

- Develop a comprehensive servicing strategy to meet the requirements of PGEA P2B that can be cost-effectively constructed.
- Provide a defensible framework and implementation plan for servicing of the PGEA P2B.
- Provide justification and recommendations for timing and phasing of new Regional and local infrastructure.
- Build on previous studies and create a forward-looking document to support the Town of Halton Hills that aligns with infrastructure planning across Halton Region.

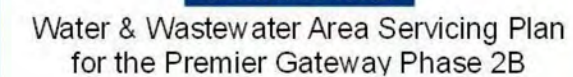
### 1.1 Proposed Development

The PGEA is an important designated employment area in the Town of Halton Hills located in the western GTA/Highway 401 corridor. The PGEA is located along Steeles Avenue north of Highway 401, west of Winston Churchill Blvd, and east of Esquesing Line. The PGEA consists of four distinct Phases: 1A, 1B, 2A and 2B. The Area Servicing Plan will focus on Phase 2B of the PGEA.







The ASP study area is comprised of the Phase 2B area of the PGEA and includes the lands within the Urban Area located north of Steeles Avenue between Eighth Line and Winston Churchill Boulevard.

The study area is shown in Figure 1-1.





- ## General Features

-  Highway
-  Major Road
-  Local Road
-  Property Parcel
-  Municipal Boundary
-  Preferred Route and Interchange Locations for GTA West Transportation Corridor Study

- ### Environmental Features

-  Water Course  
 Water Body  
 Natural Heritage System  
 Wetland

Figure 1-1  
**Study Area**



## 1.2 Timing and Phasing

The PGEA 2B area is the second phase of employment lands to the 2031 planning horizon. It is anticipated that development of areas will occur concurrently with the required planning processes (zoning by-law amendments with supporting functional servicing plans, etc.). The Secondary Plan project aims to supply employment lands to accommodate employment growth within the area to 2031. Proposed water and wastewater infrastructure will be coordinated together with stormwater infrastructure and road improvements recommended as part of the Town of Halton Hill's PGEA P2B Secondary Plan.

Halton Region's Region-wide Integrated Water, Wastewater and Transportation Master Plan Update commenced in March 2022. At the time of submission of this revision of the Area Servicing Plan, the ongoing Master Plan has been progressed to the background and existing conditions review. Planning numbers have not yet been made available for the Master Plan work.

The Area Servicing Plan has been completed to meet the development timing requirements of the Town (in order to meet the Town's 2031 growth targets) and provide for flexibility for recommended water and wastewater servicing to be effectively incorporated into the Region's Master Plan Update. It is understood that the Town will require the adoption of the Secondary Plan ahead of completion of the Region's Master Plan Update in order to supply employment lands to accommodate growth within the area to 2031.

## 1.3 Interim Servicing

This Report has been prepared to provide the Town of Halton Hills and Halton Region with a proposed plan for the water and wastewater servicing of the PGEA P2B area. The primary objective of the analysis is the provision of servicing across the entire secondary plan area that aligns with the respective Secondary Plan's planning horizon.

The analysis has considered existing Halton Region water and wastewater infrastructure, previously planned (and funded) Halton Region infrastructure, ongoing studies and review of Region trunk infrastructure to service the area (as well as anticipated timing for Halton Region's planned area infrastructure, including the Ultimate Water Pressure Zone Boundary Realignment, construction and commissioning of the Eighth Line Trunk Sewer and Region's PGEA P2B Wastewater Servicing Strategy Feasibility Study and Provisional Municipal Class EA).

This Report references the approved Region Master Plan projects with consideration for interim servicing to allow for planned development to proceed ahead of commissioning of planned Region infrastructure for the area. Interim servicing recommendations have been included to support detailed servicing designs to be undertaken as part of future Zoning By-law Amendments and Draft Plans of Subdivision.

## 1.4 Organization of Report

The ASP Report documents the comprehensive process undertaken to develop and recommend a proposed water and wastewater servicing strategy for the PGEA P2B Study Area. The Report is organized as follows:

- **Section 1 – Introduction**

An introduction to the study, description of study area, study purpose and objectives, and the report outline.



- **Section 2 – Background Study Context**

Provides the background plans, related studies, legislative and policy planning context, water and wastewater servicing principles and policies relevant to the PGEA P2B Water and Wastewater ASP.

- **Section 3 – Land Use and Best Planning Estimates**

Outlines the existing land use and environmental conditions, future planned land use, and population and employment growth forecasts for the PGEA P2B area.

- **Section 4 – Water**

Baseline description of the existing water system, estimated water demands, assessment of existing infrastructure capacity and development of servicing strategies.

- **Section 5 – Wastewater**

Baseline description of the existing wastewater system, estimated wastewater flows, assessment of existing infrastructure capacity and development of servicing strategies.

- **Section 6 – Phasing, Timing and Cost Estimate**

Identifies the phasing / timing and cost estimate of capital projects to service the PGEA P2B area, taking into consideration the system-wide needs.

- **Section 7 – Conclusion**

Summarizes the servicing solution for the study area and lists the capital upgrades and improvements recommended.



## 2 Relevant Documents and Studies

### 2.1 Town of Halton Hills

#### 2.1.1 Town of Halton Hills Official Plan

The Town of Halton Hills Official Plan (OP) provides policies related to the Town of Halton Hills' growth and development through to the year 2031. The OP relates to all lands within the Town of Halton Hills.

According to the OP, the PGEA is divided into six land designations: prestige industrial area, gateway area, green lands, major parks and open space area, private open space area, and Employment.

All development shall proceed based on full municipal services. Halton Region is responsible for the extension of municipal water and wastewater services.

### 2.2 Halton Region

#### 2.2.1 Halton Region Official Plan (2016)

The Halton Region Official Plan (OP) provides policies for Halton Region and all its municipalities including the Town of Halton Hills. The OP also includes strategies and objectives related to Regional growth and development through to the year 2031.

The Phase 2B study area is designated as an *Employment Area* within the Urban Area. The OP defines an employment area as:

"...areas designated for clusters of business and economic activities including, but not limited to, manufacturing, warehousing, offices and associated retails and ancillary facilities".

The OP also identifies the area north of the PGEA lands for Future Strategic Employment Area. The Future Strategic Employment Area is not a land use designation but represent lands that are strategically located near major transportation facilities and existing Employment Areas and are best suited for employment beyond the planning horizon of the current OP. Sizing of the proposed water and wastewater infrastructure in the PGEA P2B ASP does not include capacity allocation for the future strategic employment area.

*Regional Official Plan Amendment (ROPA) 43 – HPBATS/GTA West Corridor Protection* identified a corridor protection area to be protected for the *Halton Peel Boundary Area Transportation Study / Greater Toronto Area West Corridor Study Area* through the Town of Halton Hills and Town of Milton until the completion of the GTA West Corridor Environmental Assessment study. The area protected is generally bounded by Winston Churchill Boulevard to the east, No. 10 Side Road to the north, Eight Line to the west and Steeles Avenue to the south.

In 2017, the previous Provincial government announced the suspension of the GTA West Study and the re-evaluation of the project to consider additional transportation options for the corridor such as utilities, transit or other transportation alternatives, and released a refined corridor which partially affected the Premier Gateway Phase 2B Lands.

In June 2019, the current Provincial government announced that it would resume the GTA West Environmental Assessment. In September 2019, the draft Technically Preferred Route (TPR) was presented and the MTO stated that they have reduced interest in areas outside the draft Focused Analysis Area (FAA). The FAA continues to be refined through the Class EA Process. MTO issued an updated 2020 FAA based on review and feedback following the presentation of the



2019 FAA at PIC #2. Much of the east and west portions of the Study Area now fall within the Reduced Interest Area; with the FAA through the Study Area refined to an area between Ninth and Tenth Line.

For properties within the MTO's Reduced Interest Area, applications can proceed through municipal development processes. MTO will continue to review all development applications in the GTA West Study Area (which includes the entire Phase 2B lands). It is anticipated that applications in the MTO's Reduced Interest Area will not be impacted by the GTA West Transportation Corridor.

The GTA West Project Team aims to further reduce the FAA when the preliminary design of the Preferred Route is presented at PIC #3.

## **2.2.2 Halton Regional Council Motions Related to the GTA West Corridor**

On November 20, 2019, Regional Council endorsed a motion on the GTA West Environmental Assessment Study:

*"THAT the Region of Halton Council opposes further investment by the Province in the GTA West Transportation Corridor".*

Further, on March 24, 2021, Halton Region Council passed a Motion regarding the Designation Request for the Proposed GTA West Project Under the Impact Assessment Act:

*"THAT further to the letter, The Regional Municipality of Halton reaffirms its opposition to the GTA West project and its commitment to protecting and preserving the natural environment and its work to mitigate the impacts of climate change,*

*AND FURTHER THAT The Regional Municipality of Halton hereby reiterates its request as set out in the March 3, 2021 letter and forwards a copy of that letter and this resolution to the Minister of Environment and Climate Change Canada Wilkinson urging designation of the GTA West project for an Impact Assessment under the Impact Assessment Act.*

*AND FURTHER THAT this resolution be circulated to the Prime Minister of Canada, Halton's MPs, Premier of Ontario, Ontario Minister of Transportation, Ontario Minister of Environment, Conservation and Parks, Halton's MPPs, City of Burlington, Towns of Halton Hills, Milton and Oakville."*

Further, on May 3, 2021, The Minister of Environment and Climate Change determined that the GTA West Project proposed by the Ontario Ministry of Transportation warrants designation under the Impact Assessment Act (Federal assessment).

## **2.2.3 Sustainable Halton Water and Wastewater Master Plan (2011)**

In 2011, Halton Region completed the Sustainable Halton Water and Wastewater Master Plan (SHWWMP) to support Regional implementation of the Official Plan Amendment (ROPA 38/39) based on Halton Region's Bests Planning Estimates (June 2011). The Master Plan provided a Region-wide water and wastewater servicing strategy to accommodate growth from 2011 to 2031.

Halton Region, with support from local municipalities, updated their planning data to 2031 as part of the Master Planning process.

The key water servicing components for the Milton/Halton Hills 401 Employment Corridor are:

- Serviced by Zone M5L located along Steeles Avenue



- Water supply is lake based. Pumping stations pump the water north to Milton/Halton Hills 401 Corridor

Servicing of the PGEA is reliant on the following water and wastewater capital projects identified in Halton Region's Development Capital Plan (as outlined in the 2017 Development Charges (DC) Update Technical Report (detailed below)).

Key water servicing components for the broader Milton/Halton Hills 401 Employment Corridor include:

- Infrastructure upgrades maximizing use of existing capacity;
- New Zone 4/5 boundary;
- Second spine up Trafalgar Road alignment and third spine along Neyagawa Boulevard;
- Burloak WPP and Oakville Water Purification Plant (WPP) water supply capacity expansion; and,
- Integration of Zone 5 infrastructure providing Milton supply security.

The following Sustainable Halton servicing components have been removed from the Region's capital program:

- Addition of Zone 5 Pumping Station (at Zone 4 Reservoir) and transmission for additional feed to 401 Corridor.

Key wastewater servicing components for the broader Milton/Halton Hills 401 Employment Corridor include:

- Additional capacity at Mid-Halton Wastewater Treatment Plant (WWTP);
- Utilization of the two (2) existing wastewater pumping stations located along Steeles Avenue to minimize sewer depth and transfer flows along Steeles Avenue to the existing Milton gravity system to the south.
- Eastern area will continue to pump wastewater flows to existing infrastructure to the west;
- Diversion of flows to the future Eighth Line/Trafalgar Trunk Sewer.

The Master Plan was generally an Approach 2 style Master Plan – with the Master Plan document being completed at the conclusion of Phase 1 and Phase 2 of the Municipal Class Environmental Assessment (EA) process. The Approach 2 Master Plan provided for all recommended Schedule A, A+ and B projects to move forward to implementation. (The final public notice for the Master Plan can serve as the Notice of Completion for the Schedule B projects within it).

## 2.2.4 2017 Water & Wastewater Development Charges Update

The 2017 DC Update Water and Wastewater Technical Report was completed in September 2016 to update the 2012 DCs and includes a number of technical updates to the SHWWMP and its associated Capital Implementation Plan. The report provides the basis for developing costs and capital implementation timing of water and wastewater projects required to service population and employment growth across Halton Region from 2017 to 2031 using 2011 Best Planning Estimates (BPEs).

The following summarizes the water and wastewater servicing recommendations made under the 2017 DC Update that are relevant to the PGEA P2B study area:



### **Water Servicing Recommendations**

- Realignment of water pressure zone boundaries in the Town of Milton and the Town of Oakville (Zones 3, 4, and 5) to optimize customer water pressure in these areas.

#### *Previously Approved and Funded Projects, Constructed and Commissioned*

- 600 mm diameter Zone M5L watermain on Steeles Avenue from Trafalgar Road to East of Ninth Line (Region IPFS ID 3844)
- Zone 4 (Future Zone 250) Twin 900mm diameter trunk watermain along Trafalgar Road from Britannia Road to new Zone 4 (Existing Zone M4L / Future Zone 250) Reservoir (SH Halton Region IPFS ID 4985)

#### *Previously Approved and Funded Projects, Not Yet Constructed*

- 600mm diameter Zone M5L watermain on Steeles Avenue from East of Ninth Line to Peel Interregional Connection at Winston Churchill Boulevard (Region IPFS ID 5948)

#### *Significant Water Projects (2017-2031):*

- Oakville/Milton Water Pressure Zone Realignment (Zones 3, 4, 5) and alterations to Neyagawa, Fourth Line and Eighth Line Pumping Stations (Region IPFS IDs 7509, 7513, 7514)
- 400mm diameter watermain along Hornby Road (Zone M5L / Future Zone 250) (Region IPFS ID 6641)
- 400mm diameter watermain from Hornby Road to Trafalgar Road (Zone M5L / Future Zone 250) (Region IPFS ID 6642)
- 400mm diameter watermain from Trafalgar Road to approximately 400m east of Eight Line (Zone M5L / Future Zone 250) (Region IPFS ID 6643)
- 400mm diameter watermain from Steeles Avenue to approximately 300m north (Zone M5L / Future Zone 250) (Region IPFS ID 6644)
- Future Zone 250 400mm diameter watermain in the 401 growth corridor north of Steeles Avenue from 1,000 metres west of Ninth Line to 900 metres east of Ninth Line (Region IPFS ID 6645)
- Future Zone 250 400mm diameter watermain in the 401 growth corridor from Steeles Avenue to approximately 330 metres north of Steeles Avenue (Region IPFS ID 6646)
- Future Zone 250 400mm watermain in the 401 growth corridor north of Steeles Avenue from 600 metres west of Tenth Line to 1,000 metres east of Tenth Line (Region IPFS ID 6647)
- Future Zone 250 400mm diameter watermain in the 401 growth corridor from Steeles Avenue to 340 metres north of Steeles Avenue (Region IPFS ID 6648)

### **Wastewater Servicing Recommendations**

#### *Previously Approved and Funded Projects, Currently Under Construction*



- Georgetown Eighth Line/Trafalgar Trunk Sewer (Region IPFS ID 6569/7550, 6572/7552, 6573/7553, 6574/7554, 6575/7555, 6576/7529, 6577/7530)

*Previously Approved and Funded Projects, Not Yet Constructed*

- Wastewater main on Steeles Avenue from West of Ninth Line to Halton Hills (HH) #3 Wastewater Pumping Station (WWPS) – In the future, HH#3 WWPS will be decommissioned and the WWM will be transferred to Region IPFS ID 7553 – Eighth Line Trunk Sewer) (Region IPFS ID 3863)
- Halton Hills (HH) #4 WWPS at intersection of Steeles Avenue and Winston Churchill Boulevard (Region IPFS ID 3864)
- Wastewater forcemain on Steeles Avenue from HH #4 WWPS to wastewater main on Steeles Avenue, east of Ninth Line (Region IPFS ID 3865)
- Wastewater main on Steeles Avenue from East of Ninth Line to Winston Churchill Boulevard (outletting to HH#4 WWPS) (Region IPFS ID 4648)

*Significant Wastewater Projects (2017-2031):*

- Decommissioning of Halton Hills #3 WWPS and connection to new Eighth Line trunk sewer and conversion of site to septage receiving facility (Region IPFS ID 6508)

## **2.2.5 Ongoing Halton Region Servicing Studies**

Halton Region is currently completing projects that will support the future update of the Region-wide water and wastewater servicing strategies (including the Premier Gateway Employment Area Phase 2B Wastewater Servicing Strategy Feasibility Study and Provisional Municipal Class EA. The work is ongoing and final recommendations will consider the update of the water and wastewater servicing strategies for the Town's PGEAs that will better align with the anticipated development timing and Town growth needs/targets for the area. The Region's feasibility study is anticipated to be completed in Summer 2023 – ahead of the Region-wide Master Plan Update.

Until the studies are issued as final, servicing of the Secondary Plan area will consider the approved servicing strategy and projects included in the Sustainable Halton Water & Wastewater Master Plan and 2017 Water & Wastewater Development Charges Update.

Servicing requirements outlined in this Area Servicing Plan will be considered as part of the Region's updated servicing strategy for the area.

### **2.2.5.1 Wastewater Pumping Station Servicing Strategy Update**

Halton Region is currently undertaking a Wastewater Pumping Station Servicing Strategy Update. The outcomes of this project will ultimately be incorporated in Halton Region's future infrastructure planning studies such as the ongoing Water and Wastewater Master Plan Update. The study primarily considers opportunities for WWPS related capital projects that will result in lower life-cycle costs and reduced energy consumption.

The study is considering the planned Halton Hills #4 WWPS and finalized recommendations from the Wastewater Pumping Station Servicing Strategy Update will be incorporated into the Region's future Master Plan Update project.



### **2.2.5.2 Halton Region Integrated Growth Management Strategy**

Halton Region is currently completing an Integrated Growth Management Strategy (IGMS) Study as part of the Regional Municipal Comprehensive Review (including Halton's Official Plan review). The Study is currently considering alternative planning scenarios with focus on growth in alternative areas across Halton Region.

Growth management within the Future Strategic Employment Areas north of HH PGEA P2B lands and generally surrounding the GTA West Transportation Corridor Preferred Route is included as part of the Study. Various densification and greenfield expansion scenarios are being considered as part of the Study's four growth concepts. Servicing potential is a primary consideration for the Growth Concepts Employment Areas.

GMBP is supporting Halton Region's IGMS study, undertaking the review of water and wastewater servicing requirements. GMBP have completed a review of the water and wastewater servicing opportunities and constraints for alternative Growth Concepts, including review of impacts of projected growth to 2041 and 2051 on existing and approved future water and wastewater infrastructure; and high-level servicing needs to meet 2041 and 2051 growth.

At this stage of the Study, a preferred growth concept has been developed. GM BluePlan has identified servicing needs based on the preferred growth concept to meet 2041 and 2051 growth and completed a cost analysis of potential water and wastewater capital improvements. Servicing requirements to support the preferred growth concept will be updated as the Strategy is finalized, and the final recommendations will support Halton Region's Official Plan review and the supporting servicing studies will support the Region's future Master Plan update project.

### **2.2.5.3 2022 Water and Wastewater Development Charges Update**

Halton Region is currently completing the background studies in support of the 2022 Development Charges By-Law. The Water and Wastewater Background Study in support of the 2022 DC Update is being completed by GM BluePlan, based on the Sustainable Halton Water and Wastewater Master Plan and has updated cost estimates and capital implementation timing for water and wastewater projects to service Halton Region growth from 2023 to 2031.

As part of the 2022 DC Update work, the 2012 and 2017 Water and Wastewater DC Background Studies were reviewed with focus on the following key elements:

- Re-assessing existing and future water and wastewater system capacities;
- Comparing actual growth uptake with planned theoretical growth projections;
- Identifying opportunities to further optimize water and wastewater system infrastructure; and,
- Validating the long-range Water and Wastewater Development Capital Implementation Plan to 2031 (i.e. project scope, timing, and cost) as identified in the 2011 Master Plan and refined through the 2017 DC Update Technical Report.

The Final 2022 Development Charges Update Water/Wastewater Technical Report was submitted to Halton Region in September 2021.



### **3 Land Use and Planning Projections**

#### **3.1 Land Use**

##### **3.1.1 Existing**

The existing land use within the PGEA P2B study area currently consists of largely vacant lands, agricultural lands and a few areas of commercial and residential uses. Most commercial properties are located along Steeles Avenue, while residential rural areas are located along Steeles Avenue, Eighth Line, Ninth Line, Tenth Line and Winston Churchill.

##### **3.1.2 Future**

The objective of the PGEA is to ensure the availability of land to accommodate projected employment growth and support the Town of Halton Hills' and Halton Region's economy. The PGEA contains areas that are designated as Prestige Industrial Area with the intention to form an economically competitive and attractive employment area. PGEA P2B has been identified as a Provincially Significant Employment Zone.

The preferred land use concept is shown in Figure 3-1.

The permitted uses within this area will be limited to mainly employment such as industrial uses, business and professional offices, and some other facilities that do not cause or are not likely to cause air pollution, offensive odours, ground or water pollution, or noise in excess of current regulations.

The Supportive Commercial Area located northwest of the intersection of Steeles Avenue West and Winston Churchill Boulevard is anticipated to include facilities such as restaurants, gyms, etc.

The Residential Special Policy Areas represent the existing concentration of rural residential developments, which are unlikely to redevelop in the short term for employment uses.



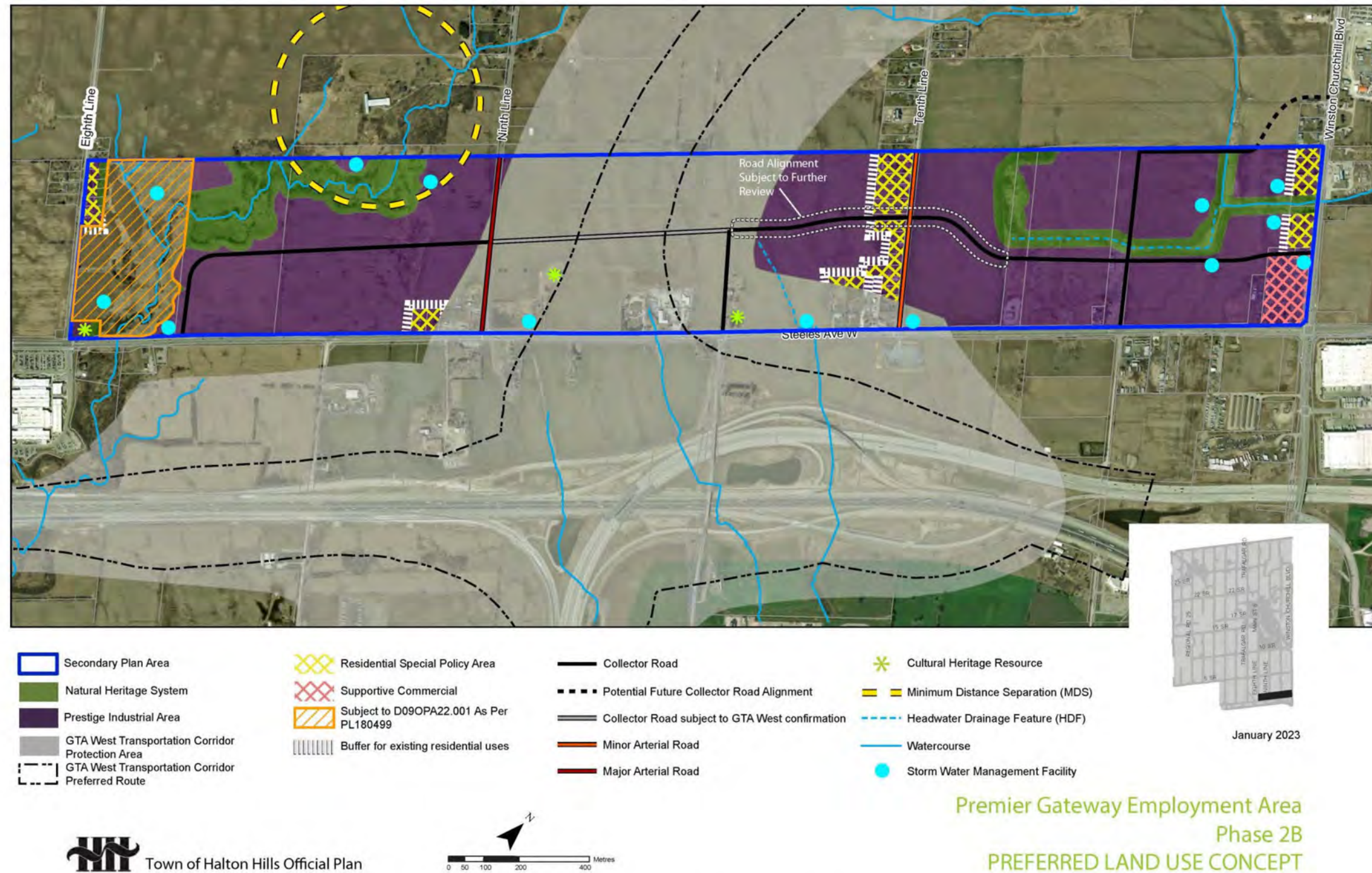


Figure 3-1: Preferred Land Use Concept

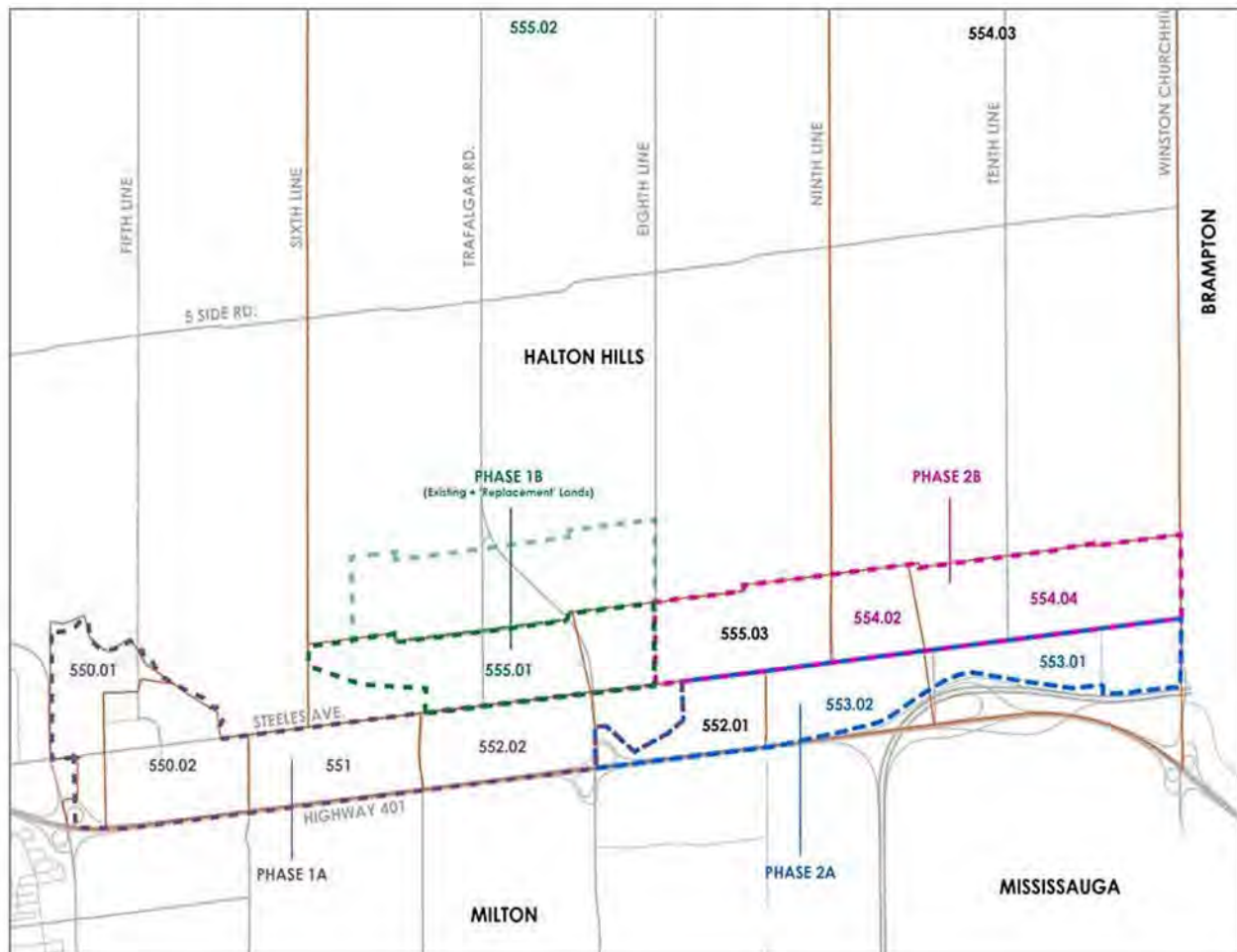


## 3.2 Planning Estimates and Growth Assumptions

### 3.2.1 Best Planning Estimates (BPEs)

Halton Region Best Planning Estimates (BPEs) Data from June 2011 are generally used to determine the current and future water and wastewater servicing needs in Halton Region. This data is geographically distributed by Traffic Survey Zone (TSZ) and Small Geographic Units (SGUs) and contains approved population and employment projections for Halton Region up to the year 2031 consistent with Halton Region's Official Plan.

Figure 3-2 shows the SGUs associated with the PGEA P2B Water and Wastewater Area Servicing Plan.



**Figure 3-2: Premier Gateway Employment Area Phases & SGU Boundaries**



### 3.2.2 Premier Gateway Employment Area Phase 2B Secondary Plan Area - Growth Assumptions

For the P2B lands located within the Urban Area, the planning forecasts provided by Halton Region were based on the 2011 Best Planning Estimates (BPEs) consistent with the SHWWMP. The PGEA P2B SGU growth projections are summarized in Table 3-1.

**Table 3-1: PGEA P2B Secondary Plan Employment Growth Projections (Halton Region)**

PGEA P2B SGU	2031 Projections				
	Res	Com	Ind	Ins	Total Employment
554.02	0	189	857	29	1,075
554.04	99	480	2,056	338	2,874
555.03	41	332	1,289	45	1,665
<b>Total</b>	<b>140</b>	<b>1,001</b>	<b>4,202</b>	<b>412</b>	<b>5,614</b>

Growth projections for the area were updated in support of the PGEA P1B ASP completed by Halton Region. The PGEA P1B ASP growth projections considered the impact of the potential GTA West Highway Corridor and the reallocation of growth from SGU 554.02 (where the potential GTA West Corridor will intersect) to replacement lands within SGU 555.01 located within the P1B lands.

### 3.2.3 Town of Halton Hills Projections

Employment targets for the P2B lands continue to be developed as part of the Secondary Plan. The P2B lands were previously frozen for development as the Greater Toronto Area (GTA) West Class Environmental Assessment (EA) process was progressed. The Class EA has progressed to a point where a Secondary Plan can be commenced for the area of the P2B lands will not be required for the transportation corridor and will be released for development.

Employment forecasting completed as part of the economic study in support of the Secondary Plan (completed by Watson Associates Ltd.) anticipated an employment density of 25 jobs per net hectare. The calculated net area discounted the environmental features (and the potential for restricted development within the GTA West Corridor Focused Analysis Area). The economic study assumed that 80% of the gross developable area will be developable.

The economic study employment forecasting growth projections are shown in Table 3-2.



**Table 3-2: PGEA P2B Secondary Plan Employment Growth Projections (Secondary Plan Economic Study)**

PGEA P2B SGU	2031 Projections		
	Gross Developable Area (Excluding Environmental Features and GTA West Corridor)	Net Developable Area (80% of Gross Developable Area)	Total Employment (@ 25 jobs per net hectare)
<b>SGU 554.02</b>			
Excluding GTA West Corridor Lands	56.4 Ha	45.1 Ha	1,128
GTA West Corridor Lands within 554.02 (If released for Development)	21.9 Ha	17.5 Ha	438
<b>Total SGU 554.02 (Including GTA West Corridor)</b>	<b>78.3 Ha</b>	<b>62.7 Ha</b>	<b>1,566</b>
SGU 554.04	56.6 Ha	45.2 Ha	1,132
SGU 555.03	43.6 Ha	34.9 Ha	872
<b>SGUs Total</b>	<b>178.5 Ha</b>	<b>142.8 Ha</b>	<b>3,570</b>

The Region's total growth projections for the PGEA 2B area are more than 50% greater than the growth projections based on Watson's economic study (5,614 compared to 3,570).

Consideration for growth projections for the area will be focused on the impacts related to P2B lands and phasing of development to meet the Town of Halton Hills planned and anticipated timelines. Long-term servicing for the larger area is being addressed as part of the Regional Municipal Comprehensive Review and the subsequent Halton Region Water and Wastewater Master Plan.

The ASP has considered servicing based on the more conservative (higher total growth projections) established by the Region. The Region's BPEs have been adopted as part of previously approved planning and servicing studies and remain the approved planning projections for the area.

Total employment projections will be included as part of the final Secondary Plan.



## **4 Water**

### **4.1 Existing Water System**

Three (3) water treatment plants provide potable water for Halton Region's lake-based service areas: Burlington WTP, Oakville WTP and Burloak WTP. Halton Region's water transmission and distribution network is interconnected throughout Burlington and Oakville; however, the Oakville WTP and Burloak WTPs are the main supply sources to the Milton/Halton Hills lake-based area. PGEA P2B lies predominantly within the existing Milton Zone 5 (M5L) pressure zone whose boundaries have recently been reviewed.

Reference maps from the Sustainable Halton Water and Wastewater Master Plan Update, including Halton Region's existing water infrastructure (at the time of issue of the Sustainable Halton Report) and existing pressure zones are included in Appendix A.

#### **4.1.1 PGEA Area**

Currently the area is serviced from the west via an existing 600mm diameter trunk watermain running along Steeles Avenue (from James Snow Parkway). Additionally, there is an emergency regional interconnect with Peel at Steeles Avenue and Winston Churchill Boulevard. Halton Region has confirmed that the emergency Regional interconnect is not available for supply to Halton Region. The Region of Peel has an existing 400mm diameter watermain running north along Winston Churchill Boulevard. The current supply to the PGEA P2B area is effectively the 5 km long single dead-end feed running along Steeles Avenue from James Snow Parkway.

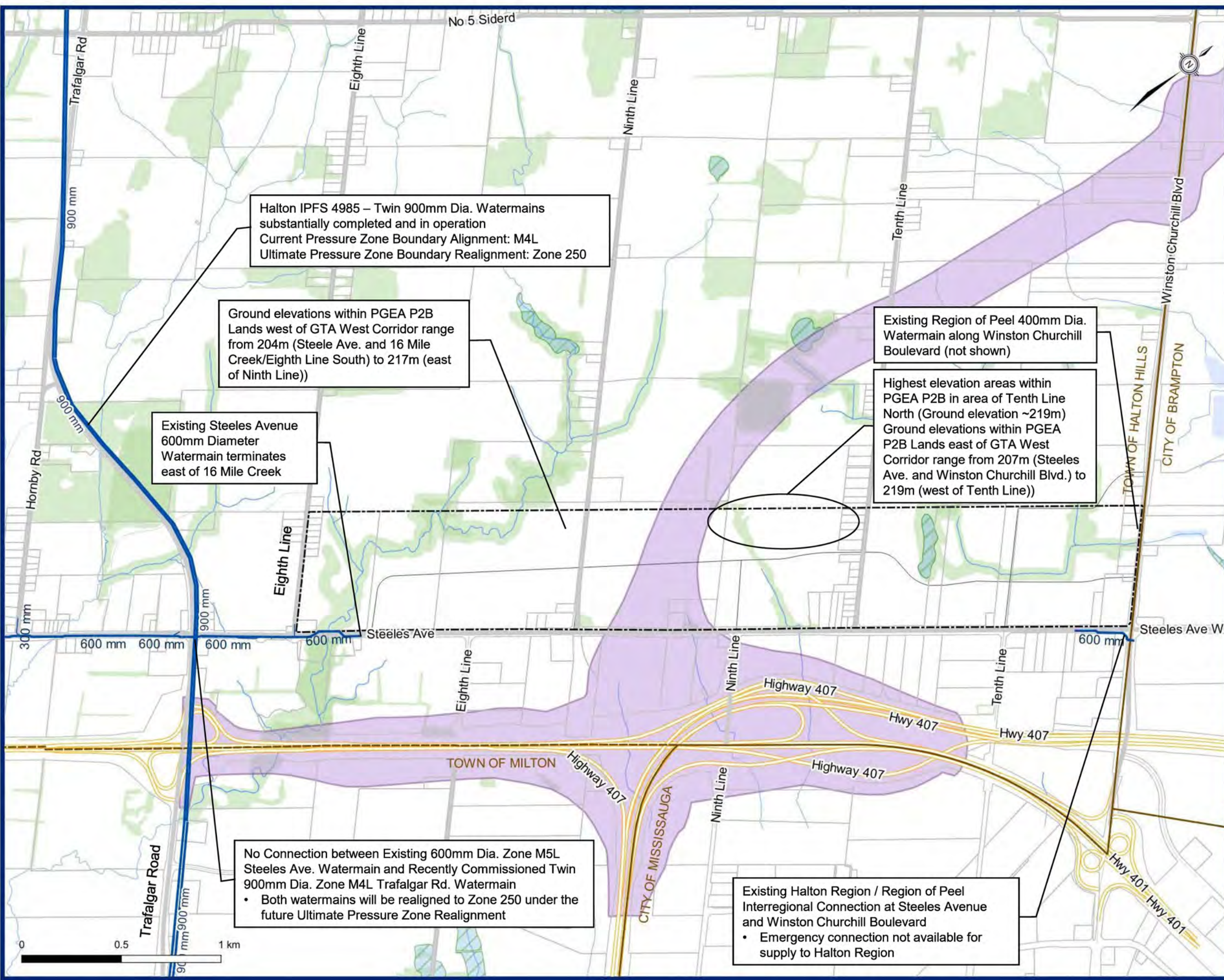
Within the area of the PGEA, Zone M4L 900mm diameter watermain along Trafalgar Road to the new Zone 4 Reservoir have recently been commissioned. Existing water infrastructure in the area of the PGEA P2B lands is shown in Figure 4-1.





# Water & Wastewater Area Servicing Plan for the Premier Gateway Phase 2B

- Water Infrastructure**
- ▲ Pumping Station (PS)
  - Storage
  - ◆ Treatment
  - Feeder Main (Diameter >= 400mm)
  - Local Watermain (Diameter < 400mm)
- General Features**
- ▭ Premier Gateway Phase 2B
  - Highway
  - Major Road
  - Local Road
  - ▭ Property Parcel
  - ▭ Municipal Boundary
  - ▭ Preferred Route and Interchange Locations for GTA West Transportation Corridor Study



Halton IPFS 4985 – Twin 900mm Dia. Watermains substantially completed and in operation  
Current Pressure Zone Boundary Alignment: M4L  
Ultimate Pressure Zone Boundary Realignment: Zone 250

Ground elevations within PGEA P2B Lands west of GTA West Corridor range from 204m (Steeles Ave. and 16 Mile Creek/Eighth Line South) to 217m (east of Ninth Line))

Existing Steeles Avenue 600mm Diameter Watermain terminates east of 16 Mile Creek

Existing Region of Peel 400mm Dia. Watermain along Winston Churchill Boulevard (not shown)

Highest elevation areas within PGEA P2B in area of Tenth Line North (Ground elevation ~219m)  
Ground elevations within PGEA P2B Lands east of GTA West Corridor range from 207m (Steeles Ave. and Winston Churchill Blvd.) to 219m (west of Tenth Line))

No Connection between Existing 600mm Dia. Zone M5L Steeles Ave. Watermain and Recently Commissioned Twin 900mm Dia. Zone M4L Trafalgar Rd. Watermain  
• Both watermains will be realigned to Zone 250 under the future Ultimate Pressure Zone Realignment

Existing Halton Region / Region of Peel Interregional Connection at Steeles Avenue and Winston Churchill Boulevard  
• Emergency connection not available for supply to Halton Region

Figure 4-1  
Existing Water System





## 4.2 Planned Water System

### 4.2.1 Ultimate Pressure Zone Boundary Realignment

Due to existing and potential future level of service challenges, Pressure Zones 3, 4 & 5 boundaries have recently undergone extensive review. This review and analysis have resulted in the recommendation to realign the pressure zones boundaries within the existing Oakville and Milton Zones 3, 4 & 5. New pressure zones will be created and will be referred to based on their proposed top water level (TWL). These zones are 211 m, 223.5 m and 250 m. The boundaries for Milton Zone M5L (TWL 267 m) have also been modified. The PGEA P2B study area generally lies at the lower elevations within the existing M5L pressure zone where high pressures can occur during certain conditions. The Region continues to review the Ultimate Pressure Zone Boundary Alignment as part of their ongoing studies. As of March 2023, the Study Area is planned to remain within the Milton Zone M5L (TWL 267 m) pressure zone boundary upon commissioning of the Ultimate Pressure Zone Boundaries Realignment.

The existing and future pressure zone of the HH PGEA P2B lands is summarized in Table 4-1.

**Table 4-1: HH PGEA P2B Lands Existing and Future Water Pressure Zone**

Existing Pressure Zone	Future Pressure Zone (After Commissioning of Halton Region Ultimate Pressure Zone Boundary Realignment)
Zone M5L	Zone M5L (267 m)

Region staff have noted that under the Ultimate Pressure Zone strategy for this area, the Highway 401 corridor will be supplied from Milton Zone 5 / Zone 267 via a pressure reducing valve (PRV) at James Snow Parkway and Steeles Avenue (it is anticipated that the interconnect to Zone 250 at Trafalgar Road and Hornby Road will be normally closed). Outside of the scope of this assignment, the Region is considering optimizing the PRV pressure setting to improve pressures along the 401 corridor.

The reference map from the Sustainable Halton Water and Wastewater Master Plan Update, showing Halton Region's Ultimate Pressure Zone Boundary Realignment is included in Appendix A.

### 4.2.2 Pumping and Storage

The proposed Zone 250 400mm diameter watermain running along Hornby Road between Trafalgar Road and Steeles Avenue (in Halton Region's current capital program (Region IPFS 6641)) will provide the area with additional security of supply. The proposed Hornby Road watermain will connect the existing Steeles Avenue watermain with the Zone 250 900mm diameter trunk watermain running along Trafalgar Road. This will provide the area with additional supply from Neyagawa BPS and the new Trafalgar Road Zone 4 / Zone 250 Reservoir.

Halton Region has identified a potential water storage deficiency within the future Zone 250 that will service PGEA P2B lands. Halton Region continues to monitor the demand projections for the pressure zone. The potential deficiency will be addressed through the on-going Regional Municipal Comprehensive Review and the next Water and Wastewater Master Plan. Future water storage requirements estimated as part of work completed to support Halton Region's 2017 Development Charges Background Study are summarized in Table 4-2.



**Table 4-2: Future Water Storage Requirements**

Pressure Zone Service Area	Total Storage Requirement (ML)			Planned Available Storage (ML)	Related Infrastructure
	2021	2026	2031	2031	
250, 223.5, 211	30.8	39.0	42.4	45.0	Zone 4 Reservoir
267	9.9	11.0	12.0	12.0	

Total Storage Requirement taken from Table 12 – Water Storage Requirements, 2022 Development Charges Update Water/Wastewater Technical Report, Revision 5 (Final), prepared for Halton Region by GM BluePlan Engineering Limited, September 24, 2021

Planned Available Storage taken from Table 10 – Future Water Storage Requirements, Technical Memorandum #2 – Baseline and Future Capacity, Opportunities and Constraints, prepared for Halton Region by GM BluePlan Engineering Limited, April 2017.

It is not expected that the potential Zone 250 storage deficiency will impact the servicing timing for the P2B lands. Required storage for development phasing of the P2B lands will be reviewed compared to available storage capacity, and the P2B lands phasing plan will outline the servicing of planned development within the anticipated timeframe and within the context of Halton Region's proposed water servicing to the area.

#### 4.2.3 Region's Timing and Development Charges Projects

Table 4-3 summarizes Halton Region's planned water infrastructure projects for the area with timing.

**Table 4-3: Halton Region Area Water Projects**

Region Project ID	Project Description	Project Municipal Class EA Schedule	Timing	Timing Reference	Pressure Zone	
					Current Pressure Zone Boundary Alignment	Ultimate Pressure Zone Boundary Realignment
3844	600 mm Zone M5L WM on Steeles Ave. from Trafalgar Rd. to East of Ninth Line	A+	Funded, but not constructed	Funded Project – Construction delayed (Region considering GTA West Corridor requirements)	M5L	250
5948	600mm Zone M5L WM on Steeles Ave. from East of Ninth Line to Peel Interregional Connection at Winston Churchill Boulevard	A+	Funded, but not constructed		M5L	250



Region Project ID	Project Description	Project Municipal Class EA Schedule	Timing	Timing Reference	Pressure Zone	
					Current Pressure Zone Boundary Alignment	Ultimate Pressure Zone Boundary Realignment
4985	900 mm WMs on Trafalgar Rd from Britannia Rd to new Zone 4 Reservoir (Zone M4L / Zone 250)	A+	Substantially completed and in service		M4L	250
6641	400 mm WM on Hornby Rd. from Steeles Ave to Trafalgar Rd.	A+	2025	2019 Budget and Business Plan (Development Capital Plan)	-	250
6642	400 mm WM in the 401 growth corridor north of Steeles from Hornby Rd. to Trafalgar Rd.	A+	2025		-	250
6643	400 mm WM in the 401 growth corridor north of Steeles from Trafalgar Rd to approximately 400m east of 8th Line	A+	2025	2017/2022 Development Charges Water/Wastewater Technical Report	-	250
6644	400mm WM in the 401 growth corridor from Steeles Ave to approximately 300 m north	A+	2025		-	250
6645	400mm WM in the 401 growth corridor north of Steeles Ave. from 1,000 m west of 9th Line to 900 m east of 9th Line	A+	2029		-	250
6646	400mm WM in the 401 growth corridor from Steeles Ave to approximately 330 m north	A+	2029		-	250
6647	400mm WM in the 401 growth corridor north of Steeles Ave. from 600 m west of 10 <sup>th</sup> Line to 1,000 m east of 10th Line	A+	2029		-	250
6648	400mm WM in the 401 growth corridor from Steeles Ave to 340 m north	A+	2029		-	250

Halton Region Project 3844 and 5948 – 600mm diameter transmission watermain running along Steeles Avenue was funded and carried forward to detailed design in 2012. Design of the project was suspended after implementation of the corridor protection area and policies to protect for the



Halton Peel Boundary Area Transportation Study (now the GTA West Corridor Study) and adoption of ROPA 43 (discussed further in Section 2.2.1).

September 2012 Design Drawings for Halton Region Project 3844/5948 show the proposed 600mm diameter watermain connecting to the existing 600mm diameter Emergency Regional Interconnect at the east limit (near Winston Churchill Boulevard).

The existing system and planned water projects for the area are shown in Figure 4-2.

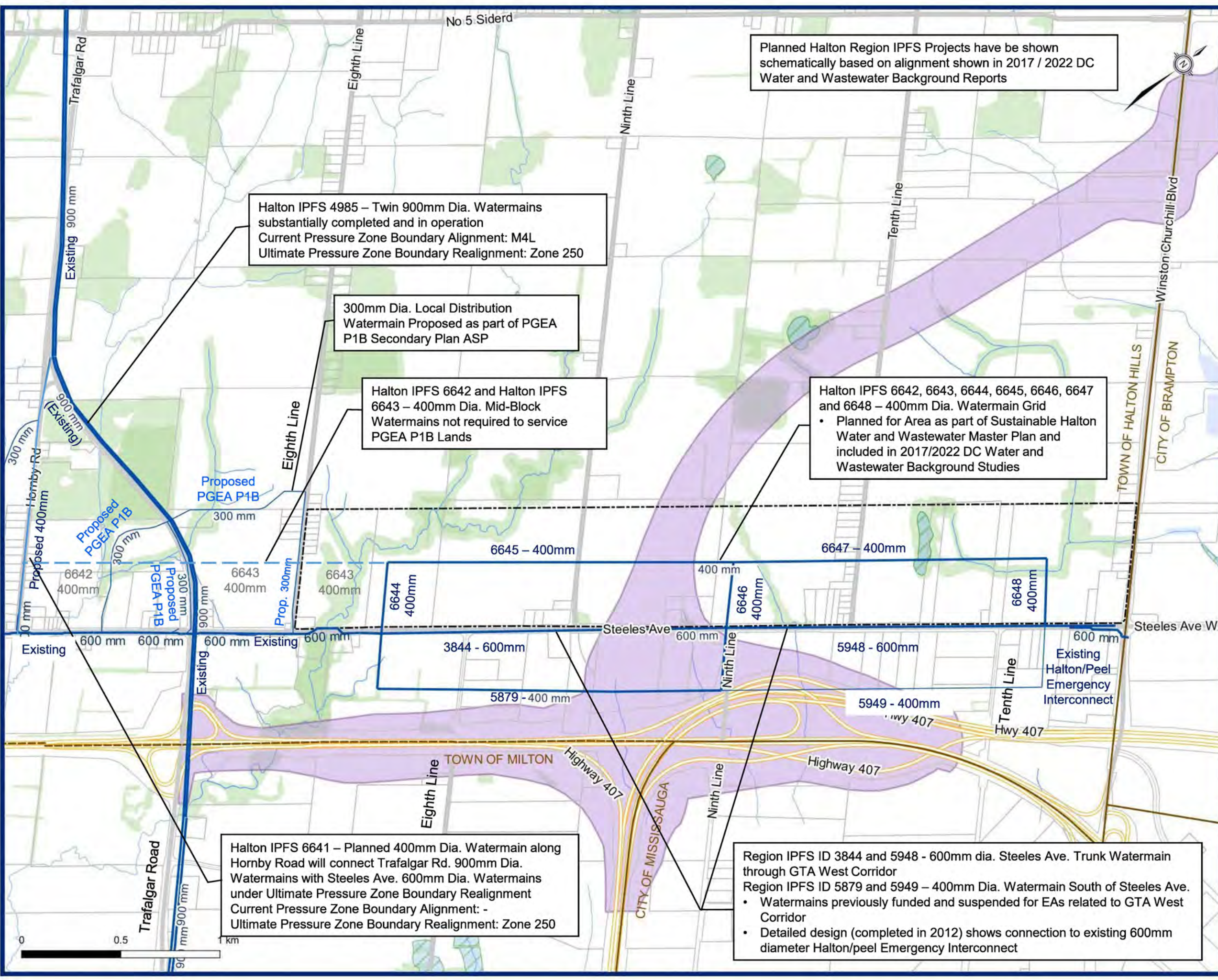
The reference map from Halton Region's 2017 Development Charges Water and Wastewater Technical Report, showing Halton Region's Water Development Capital Implementation Plan (2017-2031) is included in Appendix A.





Water & Wastewater Area Servicing Plan  
for the Premier Gateway Phase 2B

- Water Infrastructure
- ▲ Pumping Station (PS)
  - Storage
  - ◆ Treatment
  - Feeder Main (Diameter >= 400mm)
  - Local Watermain (Diameter < 400mm)
- General Features
- ▭ Premier Gateway Phase 2B
  - Highway
  - Major Road
  - Local Road
  - Property Parcel
  - ▭ Municipal Boundary
  - ▭ Preferred Route and Interchange Locations for GTA West Transportation Corridor Study



Planned Halton Region IPFS Projects have been shown schematically based on alignment shown in 2017 / 2022 DC Water and Wastewater Background Reports

Halton IPFS 4985 – Twin 900mm Dia. Watermains substantially completed and in operation  
Current Pressure Zone Boundary Alignment: M4L  
Ultimate Pressure Zone Boundary Realignment: Zone 250

300mm Dia. Local Distribution Watermain Proposed as part of PGEA P1B Secondary Plan ASP

Halton IPFS 6642 and Halton IPFS 6643 – 400mm Dia. Mid-Block Watermains not required to service PGEA P1B Lands

Halton IPFS 6642, 6643, 6644, 6645, 6646, 6647 and 6648 – 400mm Dia. Watermain Grid  
• Planned for Area as part of Sustainable Halton Water and Wastewater Master Plan and included in 2017/2022 DC Water and Wastewater Background Studies

Halton IPFS 6641 – Planned 400mm Dia. Watermain along Hornby Road will connect Trafalgar Rd. 900mm Dia. Watermains with Steeles Ave. 600mm Dia. Watermains under Ultimate Pressure Zone Boundary Realignment  
Current Pressure Zone Boundary Alignment: -  
Ultimate Pressure Zone Boundary Realignment: Zone 250

Region IPFS ID 3844 and 5948 - 600mm dia. Steeles Ave. Trunk Watermain through GTA West Corridor  
Region IPFS ID 5879 and 5949 – 400mm Dia. Watermain South of Steeles Ave.  
• Watermains previously funded and suspended for EAs related to GTA West Corridor  
• Detailed design (completed in 2012) shows connection to existing 600mm diameter Halton/peel Emergency Interconnect

Figure 4-2  
Planned Region Water Projects





### 4.3 Estimated Water Demands

#### 4.3.1 Design Criteria

For the PGEA P2B ASP the recommendation is to use the design criteria developed for the Region's 2017 DC Update (also used for the Region's 2022 DC Update). The 2017/2022 DC Update Design Criteria is the best information available, developed based on a comprehensive review of the water and wastewater design criteria using 2011-2015 demand and flow data and updated estimates of actual population and employee numbers based on the 2011 census. At the time of the DC Update, Halton Region expressed that the revised criteria were representative of existing and ongoing system measures to reduce lost water and I/I (which will offset the need to upsize trunk infrastructure).

The recommended design criteria for the PGEA P2B proposed water demands is summarized in Table 4-4.

**Table 4-4: Water Design Criteria**

Design Criteria	Design Criteria	Design Criteria Reference
<b>Residential</b>	265 lpcd <sup>1</sup>	Based on Design Criteria from the 2017 DC Update
<b>Industrial</b>	295 lped <sup>2</sup>	Based on Design Criteria from the 2017 DC Update
<b>Commercial</b>	175 lped	Based on Design Criteria from the 2017 DC Update
<b>Institutional</b>	220 lped	Based on Design Criteria from the 2017 DC Update
<b>Max Day (lake based) PF</b>	1.9	Based on Design Criteria from the 2017 DC Update
<b>Peak Hour PF</b>	3	Based on Design Criteria from the 2017 DC Update

<sup>1</sup>lpcd refers to litres per capita per day.

<sup>2</sup>lped refers to litres per employee per day (for non-residential uses).

Similar to recommendations for the PGEA P1B ASP completed for Halton Region, it is recommended that industrial design criteria be applied for the projection of employment water demands (as well as wastewater flows) throughout the study area. This a conservative and reasonable approach that provides flexibility with regards to the future employment development in the study area. This also provides for a consistent design criteria approach applied to all PGEAs simplifying future comparison and allocation considerations.

Design criteria for water system components is summarized in Table 4-5.

**Table 4-5: Water Design Criteria for Water System Components**

Component	Design Criteria
Feeder mains	Flow capacity Convey maximum day demand while achieving water velocity requirements
Local Water mains	Flow capacity Convey the greater of: • Maximum day demand plus fire flow demand, or • Peak hour demand



Component		Design Criteria
Pumping Stations	With adequate zone storage available	Supply maximum day demand to zone and all subsequent zones
	Without adequate storage available	Supply peak hour demand to zone and maximum day demand to all subsequent zones
Storage Facilities	Equalization (A)	25% of maximum day demand
	Fire (B)	Largest expected fire in zone (based on land use)
	Emergency (C)	25% of (A + B)
	Total Volume	= A + B + C
Fire Flow	Residential Flow	5,500 L/min for 2 hours @ minimum 140 kPa (20 psi)
	Minimum Employment Flow (Industrial / Commercial / Institutional)	15,000 L/min for 3 hours @ minimum 140 kPa (20 psi)
System Pressures	Minimum and maximum operating conditions	280 kPa (40 psi) to 700 kPa (100 psi)

For pressure zones with sufficient storage volume, water supply requirements are based on the maximum day demands (MDD). For pressure zones without floating storage, water supply requirements are based on peak hour demands. Transmission mains are required to convey the total pumping capacity of the receiving pumping station and the upper zone reservoir.

#### 4.3.2 Water Demands

Consistent practice in the SHWWMP and 2017 DC Update is to develop water demands using existing conditions + growth demands. Existing conditions plus growth demands have been developed for the PGEA P2B lands based on the Region's updated planning projections.

As noted in Section 3.2.3, the employment targets for the P2B lands, developed as part of the Secondary Plan's supporting economic study, anticipate growth less than the Region's BPEs. The ASP has considered servicing based on the more conservative (higher total growth projections) established by the Region. The Region's BPEs have been adopted as part of previously approved planning and servicing studies and remain the approved planning projections for the area. Total employment projections will be included as part of the final Secondary Plan.

Long-term servicing for the area for projected growth from 2041 to 2051 is being addressed as part of the Regional Municipal Comprehensive Review, including development of Halton Region's Integrated Growth Management Strategy and the subsequent Halton Region Water and Wastewater Master Plan. The findings of the PGEA P2B ASP will support Halton Region's Municipal Comprehensive Review and MP Update projects.

#### 4.4 Water Servicing Review and Needs Assessment

Assessment of the existing water system included review of existing GIS asset data, current Halton Region water model and most recent available design and construction drawings.



Hydraulic modelling was undertaken to assess preliminary water infrastructure demand and capacity.

#### **4.5 Development of the Proposed Water Servicing Strategy**

The water servicing strategy in support of the Secondary Plan was developed based on supplying water to the PGEA P2B area under the current zone alignment (study area located within Zone M5L) as well as through the connection to the new Zone 250, in case this connection is used to secure water supply to the PGEA P2B area.

Consideration of full development of the PGEA P2B lands under both zone boundary configurations ensures that development can proceed independent of the pressure zone supplying the area.

The proposed water servicing strategy was developed to meet the operational and fire flow requirements within the PGEA P2B lands and provide flexibility to:

- Be effectively incorporated into a future Region Master Plan water servicing update for the area; and,
- Meet the short-term needs of anticipated development within the area.

Supply and transmission to the area will be updated as part of the Region's Water and Wastewater Master Plan Update. Water servicing of the area to the 2051 horizon will need to further consider inclusion of Future Strategic Employment Area lands north of the PGEA, and the potential GTA West Corridor.

Future Strategic Employment Area lands located north of the PGEA do not have land use designations and inclusion of lands within the Future Strategic Employment Areas into the Urban Area is to be completed through a municipal comprehensive review.

Servicing to the small development areas located in the northwest portion of PGEA P2B (north of the designated Natural Heritage System between Eighth Line and Ninth Line) will require watermain crossings of environmental features or servicing along north limit of Secondary Plan area. It is anticipated that 3.5 Ha of development area within the northwest will require development of Future Strategic Employment Areas to the north to support the construction costs of water (and wastewater) infrastructure crossing the environmental features to service the projected 70 to 175 jobs for the areas.

##### **4.5.1 Proposed Water Servicing Strategy**

The Region has indicated that it will work with the Town to expedite construction and commissioning of required water (and wastewater) servicing to meet the Town's development targets, timing and phasing.

The proposed servicing strategy incorporates the following infrastructure recommendations:

##### **Under Pressure Zone M5L Boundary Alignment**

Under the current pressure zone alignment (PGEA P2B within Zone M5L):

- Supply from the proposed Zone M5L 600mm diameter watermain running along Steeles Avenue; and,



- Two (2) 400mm diameter watermain running along Ninth Line and Tenth Line north, supplied by the proposed 600mm diameter Steeles Avenue watermain.
- One (1) 400mm diameter watermain running along the proposed PGEA P2B Collector Road from the proposed Ninth Line 400mm diameter watermain to the proposed Tenth Line 400mm diameter watermain.

The proposed 600mm diameter transmission watermain running along Steeles Avenue supplying the proposed 400mm diameter watermain loop running along Ninth Line, the Proposed Collector Road and Tenth Line is essential to provide sufficient available fire flow to the Employment Lands located near Tenth Line, north of the Proposed Collector Road.

The proposed watermain can be constructed as components of the DC projects for the area. A watermain crossing of the potential GTA West Corridor will be required to provide security of supply and sufficient available fire flow to the PGEA P2B lands located near Tenth Line in the north portion of the Study Area. The ultimate alignment/corridor for the watermain crossing of the GTA West Corridor is flexible and can be aligned with future road alignment through the study area or at the north limit of the PGEA P2B lands. The 400mm diameter watermain will be required to be constructed at sufficient depth under the potential MTO corridor and any future highway structures footings (typically 5 metres or greater), and within a protective casing pipe to MTO and Halton Region standards. Design and construction can be coordinated with MTO to allow for construction of the watermain to proceed ahead of a future highway.

The proposed 400mm diameter servicing loop running along Ninth Line, the Proposed Collector Road and Tenth Line allows for flexibility of future Region transmission watermain alignments. The updated servicing strategy for the area can include future extension of transmission watermain to the north, which can include a north/south crossing of the GTA West Corridor along Tenth Line (within the Future Strategic Employment Areas) – or other configurations to suit development for the broader area to 2051.

The planned 600mm diameter and 400mm diameter watermain crossings of the GTA West Corridor can be relocated further to the north to accommodate development phasing and planning approvals (for both the GTA West Corridor and Future Strategic Employment Lands located north of the PGEA P2B lands) as well as constructability considerations for watermain crossings of a potential GTA West Corridor highway. The watermain crossings of the GTA West Corridor will be required to supply sufficient available fire flow to lands within the PGEA P2B Study Area located east of the GTA West Corridor. To meet the servicing requirements of these lands, ultimate alignment of the planned trunk watermain crossings will need to be further considered in coordination with the GTA West Corridor study and design (as well as part of the Region's Water and Wastewater Master Plan Update). The Proposed Water Servicing Strategy provides for flexibility of the ultimate location and alignment of the trunk watermain crossings the GTA West Corridor. Phasing of the proposed water servicing strategy is detailed further in Section 6.2.

### **Under Pressure Zone 250 Boundary Alignment**

After commissioning of the Ultimate Pressure Zone Boundary Realignment, the Steeles Avenue watermain feed into the PGEA P2B area will be supplemented by a (normally closed) emergency connection to the Trafalgar Road feedermain from a future transmission watermain to be installed along Hornby Road.



#### **4.5.2 Incorporation with the Region's Existing Water and Wastewater Master Plan and Future Municipal Class Environmental Assessment Requirements**

The Area Servicing Plan has not been completed to Municipal Class EA requirements, instead building on the approved Approach 2 Sustainable Halton Water and Wastewater Master Plan. For recommended Schedule A, A+ and B projects, the final public notice for the Master Plan can also serve as the Notice of Completion for the Schedule B projects within the Master Plan (and the Secondary Plan Study Area).

Recommended water servicing projects that may potentially cross the GTA West Corridor Environmental Assessment study or significant environmental features are to be considered further at the project-specific approval stage for Revisions to Schedule B projects. The Municipal Class EA process provides for revisions to Schedule B projects due to environmental implications of changes to the project or due to a delay in implementation. Modifications to recommended water servicing projects identified as Schedule B projects can fulfill Class EA requirements as part of integration with Planning Act applications (including, but not limited to, future Zoning By-Law Amendments or Draft Plans of Subdivision). Public consultation can be combined with the required public consultation for Planning Act applications. Required Revisions to Schedule B Projects can reference or build on the previous Master Plan and Secondary Plan studies to demonstrate Phase 1 and Phase 2 of the Class EA process have been satisfied. A Revised Notice of Completion shall be issued with notification of the public's right to request a Part II order within the 30-day review period.

#### **4.5.3 Local Service Watermains**

Local 300mm diameter watermain is proposed along the Proposed East-West Collector Road, connecting to the proposed 400mm diameter transmission main at Ninth Line and Tenth Line. This will provide the PGEA P2B area with a large diameter distribution main across the PGEA P2B area for connection of smaller diameter watermains to service future development along future internal roads or direct water service connection for larger site plan applications.

A 300mm diameter watermain running north along Eighth Line, proposed as part of the PGEA P1B, can provide service to development fronting Eighth Line.

The Winston Churchill Boulevard is an arterial corridor and Regional Boundary Road that already has an existing Region of Peel 400mm diameter watermain installed within the right-of-way. A proposed 300mm diameter watermain is shown running along Winston Churchill; which will require Halton Region as well as Region of Peel approval ahead of detailed design and construction. A 300mm diameter watermain at the east limit of the PGEA P2B lands, connected to the proposed Steeles Avenue trunk watermain is required to provide security of supply to the eastern-most portion of the Secondary Plan study area. The opportunity to relocate the proposed watermain, shown on Winston Churchill Boulevard, to future local internal roads under Draft Plan of Subdivision is encouraged to provide the area with services and security of supply and mitigate extensive approval requirements, construction costs and disruption within Winston Churchill Boulevard.

Local watermain alignments and connections to the proposed DC watermains can be developed as part of future Draft Plans of Subdivision (or Zoning By-law Amendment) applications.

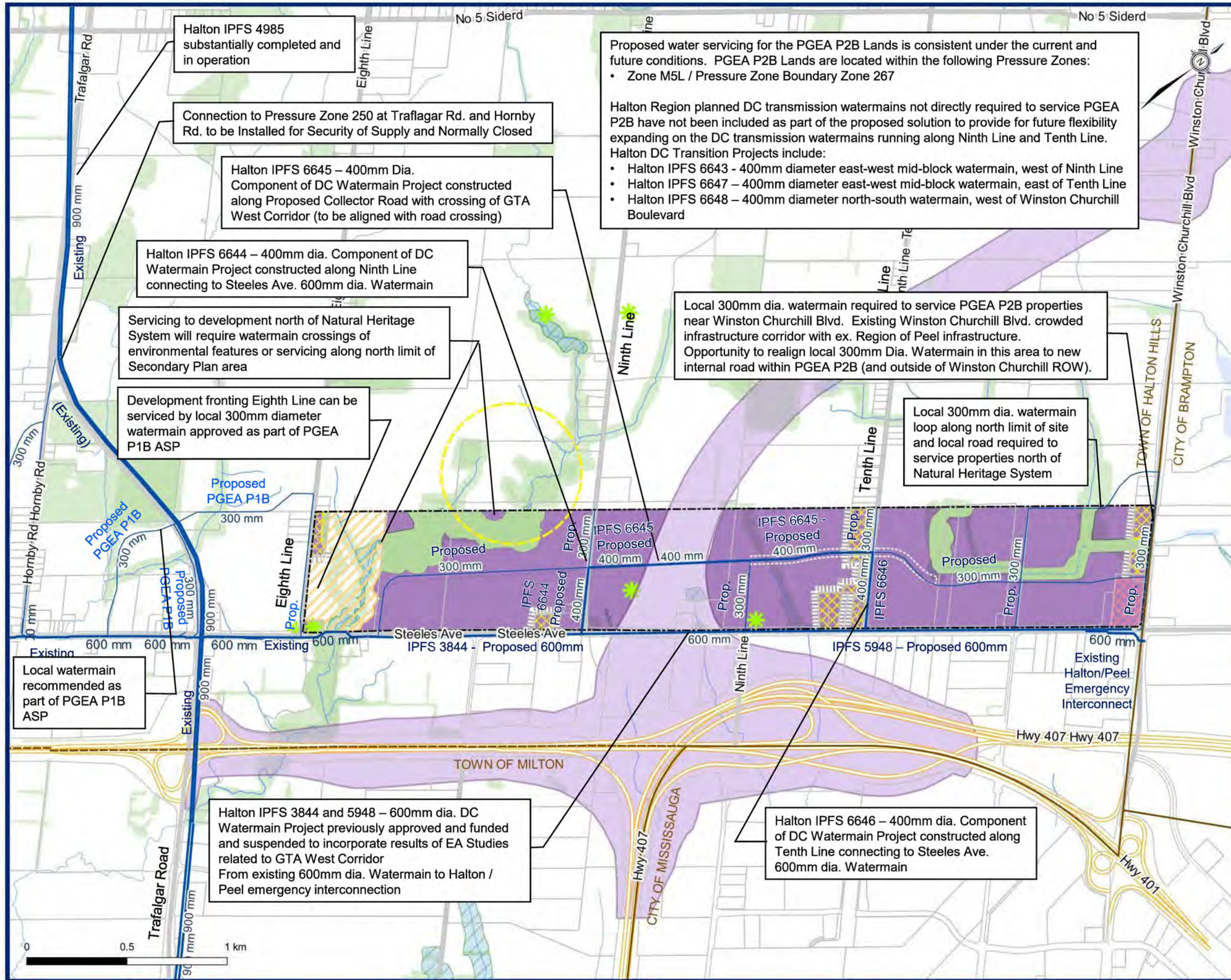
Halton Region does not permit service connections to watermains of 400 mm diameter or greater unless a deviation from the Region's policy is approved by the Region. Development fronting Steeles Avenue, Ninth Line and Tenth Line (and the Proposed Collector Road between Ninth Line



and Tenth Line) will require connections to local watermain to service any properties in the area. Design of local watermains through future local roads to reduce (or eliminate) requirements for local watermains to be installed within the same corridor as transmission watermains is encouraged as part of Planning Act Applications.

The proposed Water Servicing Solution for the PGEA P2B lands is shown in Figure 4-3.





Water & Wastewater Area Servicing Plan  
for the Premier Gateway Phase 2B

- Water Infrastructure**
- ▲ Pumping Station (PS)
  - Storage
  - Treatment
  - Feeder Main (Diameter >= 400mm)
  - Local Watermain (Diameter < 400mm)
- General Features**
- ▭ Premier Gateway Phase 2B
  - Highway
  - Major Road
  - Local Road
  - ▭ Property Parcel
  - ▭ Municipal Boundary
  - ▭ Preferred Route and Interchange Locations for GTA West Transportation Corridor Study
- Preferred Land Use**
- Natural Heritage System
  - Prestige Industrial Area
  - Residential Special Policy Area
  - Supportive Commercial
  - Subject to D09OPA22.001 As Per PL180499
  - Headwater Drainage Feature
  - ▭ Buffer for Existing Residential Uses
  - ★ Cultural Heritage Resource
  - ▭ Minimum Distance Separation

Figure 4-3  
**Proposed Water Servicing  
Solution for PGEA P2B**





#### 4.5.4 Water Distribution Modelling Analysis

Halton Region's InfoWater models were utilized to analyse the servicing scheme for the PGEA P2B lands under 2031 conditions. The following scenarios will be run for the analysis of PGEA P2B:

- Maximum Day Demand (MDD);
- Peak Hour Demand (PHD); and,
- Maximum Day Demand plus Fire Flow (MDD+FF)

Model simulations were completed utilizing Halton Region's current model (provided by Halton Region).

Modelling shows that operating pressures in the Study Area range from approximately 45 psi to 85 psi (elevation range for the service area is around 204m to 219m).

With anticipated looping and security of supply of proposed watermain throughout the study area, modelled available fire flow will exceed 300L/s. The water modelling results are summarized in Table 4-6.

**Table 4-6: Water Modelling Results for PGEA P2B (Current and Ultimate Pressure Zone Boundary Configurations)**

	Demand Condition		
	ADD	MDD	PHD
Range of Service Elevations in Block	~204m to 219m		
Current and Ultimate Pressure Zone Boundary Configuration (PGEA P2B in Zone M5L / TWL 267)			
HGL (m)	~265m	~265m	~265m
Pressure Range	65 to 85psi	65 to 85psi	64 to 84psi
Fire Flow Availability	n/a	~325L/s	n/a
Ultimate Pressure Zone Boundary Configuration (PGEA P2B in Zone 250)			
HGL (m)	~250m	~250m	~249m
Pressure Range	44 to 64psi	44 to 64psi	42 to 62psi
Fire Flow Availability	n/a	~300L/s	n/a

Hydraulic analysis has confirmed that 400mm diameter watermain are required to provide sufficient available fire flow to the Study Area. This is in line with the recommendations of the SH Master Plan.



## **5 Wastewater**

### **5.1 Existing Wastewater System**

The PGEA P2B study area lies within the Mid-Halton Wastewater Treatment Plant (WWTP) catchment area. Existing wastewater flows in the study area and surrounding areas are collected through sewers along Steeles Avenue, which convey flows to two (2) sewage pump stations: Halton Hills #3 Wastewater Pumping Station (WWPS) and Halton Hills #2 WWPS. From these two stations, wastewater flows are conveyed west to Halton Hills #1 WWPS and ultimately conveyed south through a series of trunk sewers and pump stations (the Miller Way Trunk Sewer and Mid-Block WWPS) discharging at the Mid-Halton WWTP. Existing wastewater infrastructure in the area of the PGEA P2B lands is shown in Figure 5-1.

Reference maps from the Sustainable Halton Water and Wastewater Master Plan Update, showing Halton Region's existing wastewater network (at the time of issue of the Sustainable Halton Report) and existing wastewater drainage areas are included in Appendix A.





Water & Wastewater Area Servicing Plan  
for the Premier Gateway Phase 2B

- Wastewater Infrastructure**
- ▲ Sewage Pumping Station (SPS)
  - Trunk Sewer (diameter ≥ 450mm)
  - Local Sewer (diameter < 450mm)
  - - - Forcemain
- General Features**
- ▭ Premier Gateway Phase 2B
  - Highway
  - Major Road
  - Local Road
  - ▭ Property Parcel
  - ▭ Municipal Boundary
  - ▭ Preferred Route and Interchange Locations for GTA West Transportation Corridor Study
- Direction of Existing Topography Grade (High Elevations to Low Elevations)

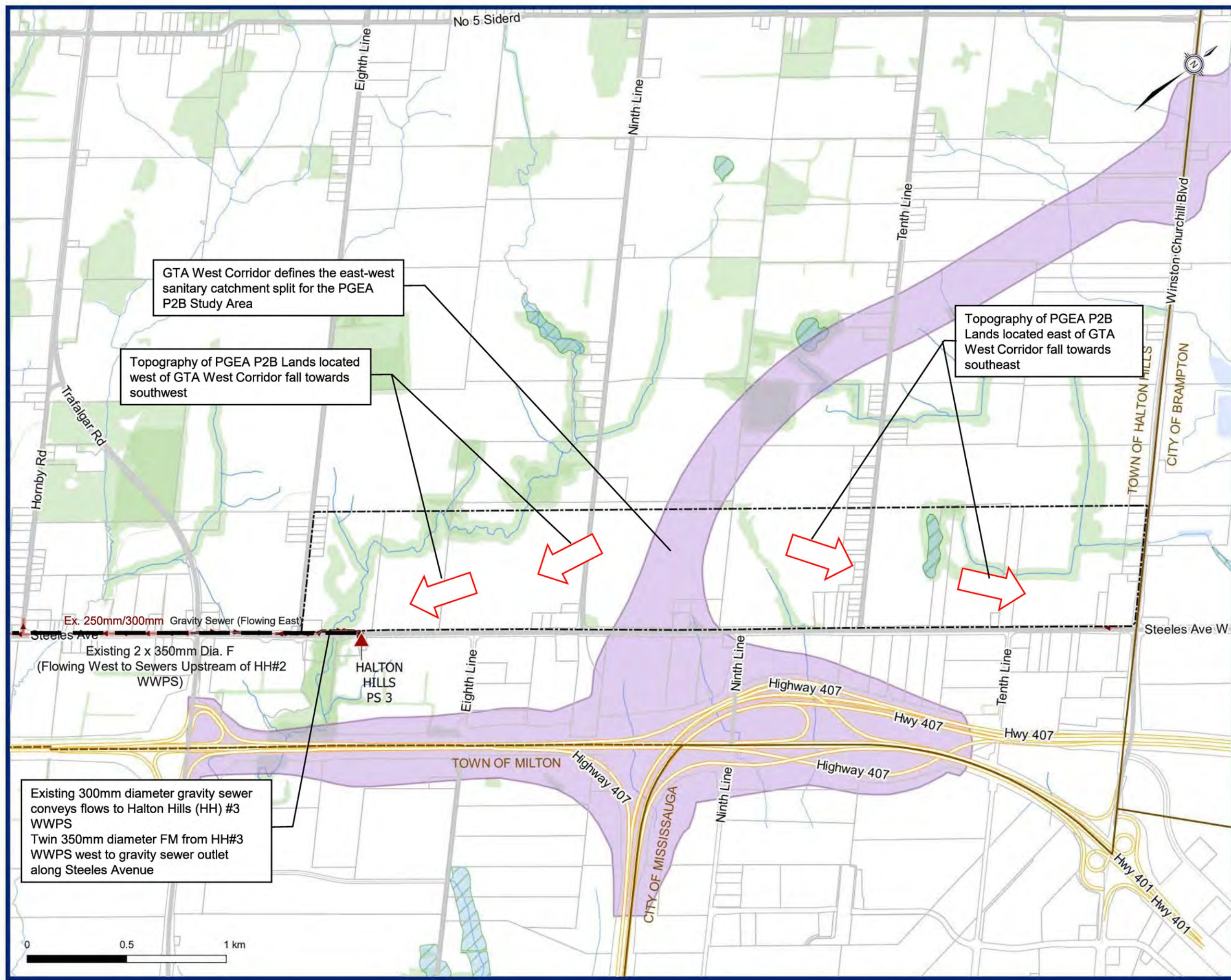


Figure 5-1  
Existing Wastewater System





## 5.2 Planned Wastewater System

### 5.2.1 Region's Timing and Development Charges Projects

A major trunk sewer (Eighth Line/Trafalgar Trunk Sewer) was identified in the SHWWMP to service growth within Halton Hills, specifically by extending the lake-based wastewater service area to the southern lands of Georgetown. This trunk sewer will be located at the west boundary of the study area and will service PGEA P2B.

Additionally, the 2017 DC Update identified a project to decommission Halton Hills #3 WWPS and free up capacity in the downstream infrastructure (Halton Hills #1 WWPS, Halton Hills #2 WWPS, and internal Milton sewer network).

Table 5-1 summarizes Halton Region's planned wastewater infrastructure projects for the area with timing.

**Table 5-1: Halton Region Area Wastewater Projects**

Region Project ID	Project Description	Project Municipal Class EA Schedule	Timing	Timing Reference
3863	WWM on Steeles Ave. from West of Ninth Line to HH #3 WWPS (To be transferred to 7553 – Eighth Line Trunk Sewer and HH#3 WWPS decommissioned)	A+	Funded, but not constructed	Sustainable Halton MP notes Project as Funded Project (WM – 2008 MP Projects)
3864	Halton Hills (HH) #4 WWPS at intersection of Steeles Ave. and Winston Churchill Blvd.	B		
3865	WWFM on Steeles Ave. from HH #4 WWPS to 3863 – WWM on Steeles Ave.	A+		
4648	WWM on Steeles Ave. from East of Ninth Line to Winston Churchill Boulevard (3864 - HH#4 WWPS)	A+		
6508	Decommissioning of HH #3 WWPS and connection to new Eighth Line trunk sewer and conversion of site to septage receiving facility	A+	2025 - Under Construction	2020 Halton Region Allocation Program Update
7550	1200mm WWM on 8th Line from No. 5 Side Road to Steeles Avenue	A+		
7552	1200mm WWM on Steeles Avenue from 8th Line to easement crossing Highway 401	A+		
7553	1200mm WWM from ID 7552 on Steeles Avenue to Auburn Road, (crossing Highway 401)	A+		

#### Steeles Avenue Trunk Sewer and HH#4 WWPS and Forcemain

Halton Region Projects 3863, 3864 and 3865 (the proposed trunk sewer running along Steeles Avenue to service the west portion of the Study Area and the future HH#4 WWPS and forcemain



to service the eastern portion of the PGEA P2B lands) were previously approved and funded. Design of the projects was suspended after implementation of the corridor protection area and policies to protect for the Halton Peel Boundary Area Transportation Study (now the GTA West Corridor Study) and adoption of ROPA 43 (discussed further in Section 2.2.1).

HH #4 WWPS was designed to accommodate flows from the east portion of the PGEA P2B lands as well as Phase 2A lands located south of Steeles Avenue. The proposed SPS was designed in 2012/2013 with a firm capacity of 141 L/s, to service a planned 2031 equivalent population of 6,421 persons and an overall catchment area of 270 Ha. The SPS design is detailed further in the Halton Hills Sewage Pumping Station No. 4 Preliminary Design Report, by Stantec Inc., Revision 1, Draft, January 24, 2013.

Ahead of completion of their ongoing Region-wide Water and Wastewater Master Plan Update, the Region is completing a feasibility study for wastewater servicing of the PGEA P2B Study Area. The feasibility study will consider both gravity sewer and WWPS and forcemain options to service PGEA P2B lands east of the GTA West Corridor (and impacts on trunk servicing infrastructure west of the GTA West Corridor). The Region is looking to complete the feasibility study work by Summer 2023, and if the feasibility study determines that the preferred solution requires a municipal Class EA, the Study is planned for commencement in 2023 and completion by Spring 2024. Design of the preferred solution is anticipated by Summer/Fall 2025, with construction and commissioning completed by Winter 2027.

### **Eighth Line/Trafalgar Trunk Sewer**

Design of the Eighth Line/Trafalgar Trunk Sewer is currently underway. Halton Region has approved financing for the Eighth Line/Trafalgar Trunk sewer as part of their updated 2020 Allocation Program. The 2020 Allocation Program includes a 'full program' that will accommodate new greenfield growth to the year 2022. It is estimated that Halton Region's Eight Line Trunk Sewer will be commissioned to service area development by 2025.

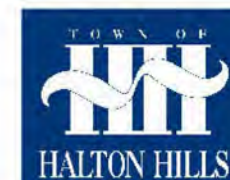
Also considered was the scenario where the Eighth Line/Trafalgar Trunk Sewer is not commissioned prior to development proceeding within the Study Area lands. Flows from PGEA P2B lands will be conveyed west to HH #3 WWPS and then west to HH#2 WWPS, and HH#1 WWPS (rather than to the Eighth Line/Trafalgar Trunk Sewer).

Region trunk sewers running along Ninth Line, Tenth Line or Winston Churchill Boulevard are not included in the Development Capital Implementation Plan.

The planned wastewater projects for the area are shown in Figure 5-2.

Reference maps from Halton Region's 2017/2022 Development Charges Water and Wastewater Technical Report, showing Halton Region's Wastewater Development Capital Implementation Plan (2017-2031) and Future Wastewater Drainage Areas are included in Appendix A.





# Water & Wastewater Area Servicing Plan for the Premier Gateway Phase 2B

- ### Wastewater Infrastructure
- ▲ Sewage Pumping Station (SPS)
  - Trunk Sewer (diameter >= 450mm)
  - Local Sewer (diameter < 450mm)
  - - - Forcemain
- ### General Features
- ▭ Premier Gateway Phase 2B
  - Highway
  - Major Road
  - Local Road
  - ▭ Property Parcel
  - ▭ Municipal Boundary
  - ▭ Preferred Route and Interchange Locations for GTA West Transportation Corridor Study

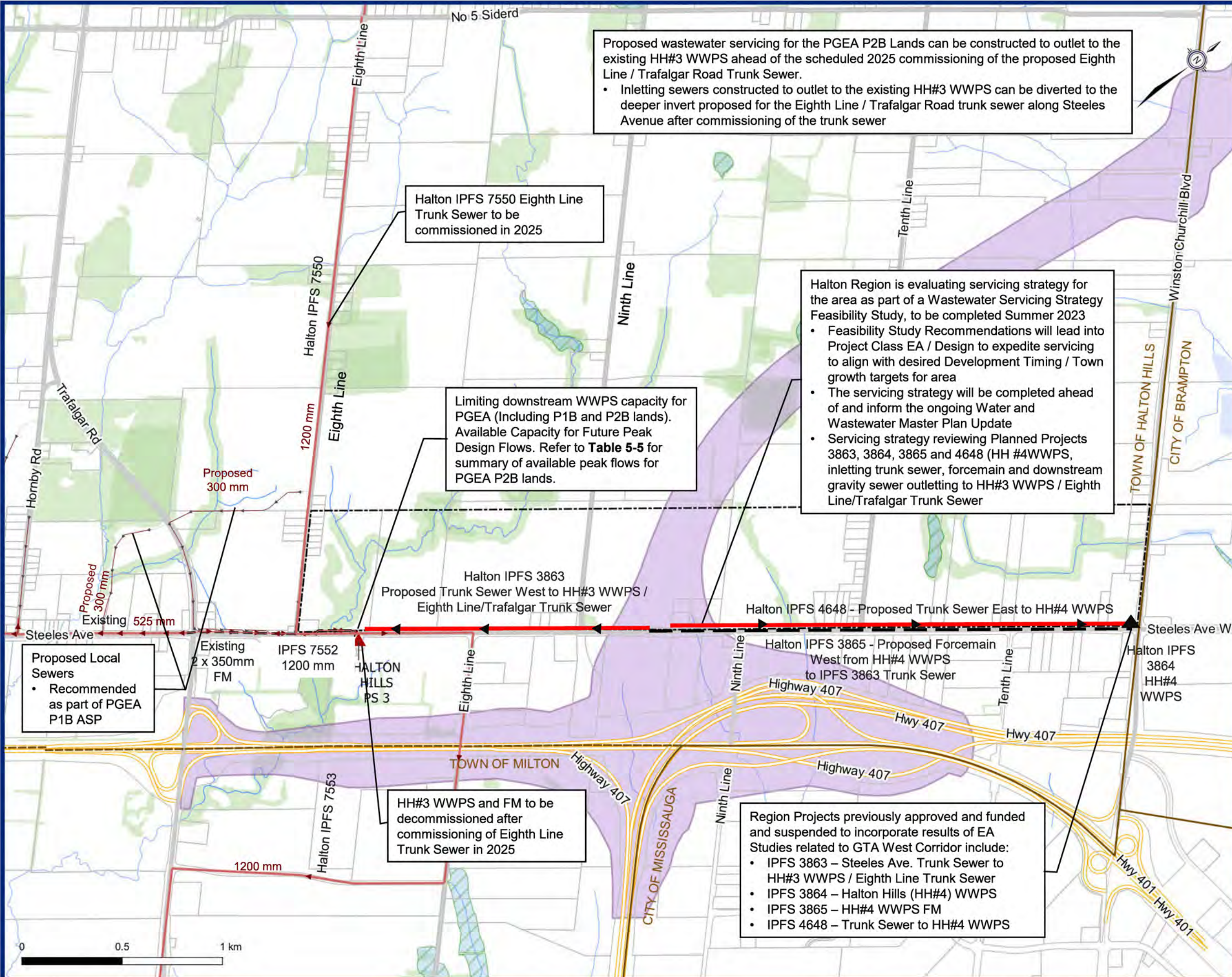


Figure 5-2  
Planned Region Wastewater  
Projects





## 5.3 Wastewater Design Criteria and Flows

### 5.3.1 Wastewater Design Criteria

As noted under Section 4.3.1, it is recommended that the design criteria developed for the Region's 2017 DC Update (and used in the Region's 2022 DC Update) be utilized for this ASP. The 2017/2022 DC Update Design Criteria is representative of existing and ongoing system measures to reduce I/I (which will offset the need to upsize trunk infrastructure).

The recommended design criteria for the PGEA P2B proposed wastewater flows for Treatment Plant and Collection System are summarized in Table 5-2 and Table 5-3.

**Table 5-2: Wastewater Design Criteria (Treatment Plant)**

Design Criteria	Average Flow	Design Criteria Reference
<b>Residential</b>	360 lpcd	Based on Design Criteria from the 2017 DC Update
<b>Industrial</b>	405 lped	Based on Design Criteria from the 2017 DC Update
<b>Commercial</b>	245 lped	Based on Design Criteria from the 2017 DC Update
<b>Institutional</b>	305 lped	Based on Design Criteria from the 2017 DC Update

**Table 5-3: Wastewater Design Criteria (Collection System)**

Design Criteria	Dry Weather Flow	Design Criteria Reference
<b>Residential</b>	215 lpcd x wastewater peaking factor	Based on Design Criteria from the 2017 DC Update
<b>Industrial</b>	240 lped x wastewater peaking factor	Based on Design Criteria from the 2017 DC Update
<b>Commercial</b>	145 lped x wastewater peaking factor	Based on Design Criteria from the 2017 DC Update
<b>Institutional</b>	180 lped x wastewater peaking factor	Based on Design Criteria from the 2017 DC Update
<b>Inflow and Infiltration Allowance</b>	0.286 L/s/ha	Based on Design Criteria from the 2017 DC Update

Similar to recommendations for the PGEA P1B ASP completed for Halton Region, it is recommended that Industrial design criteria be applied for the projection of employment wastewater flows throughout the study area. This a conservative and reasonable approach that provides flexibility with regards to the future employment development in the study area. This also provides for a consistent design criteria approach applied to all PGEAs simplifying future comparison and allocation considerations.

Design criteria for wastewater system components is summarized in Table 5-4.



**Table 5-4: Design Criteria for Wastewater System Components**

Component		Design Criteria
Local Sewers	Roughness Coefficient	$n = 0.013$ for PVC sewers (Based on Halton Engineering Design Guidelines for Area Servicing Plans)
	Capacity	Peak flow (Q) versus Sewer full flow capacity ( $q_{\text{manning}}$ ) less than 85% (Based on criteria established for Halton 2017 Development Charges Water and Wastewater Background Study).

### 5.3.2 Wastewater Flows

Consistent practice in the SHWWMP and 2017 DC Update is to develop wastewater flows using existing conditions + growth flows. Existing conditions plus growth flows will be evaluated for the Town of Halton Hill's employment projections within the PGEA P2B lands and compared to the flows derived from the 2017 DC Update.

Growth projections and flows for the PGEA (including P2B lands) were updated by the Region as part of the PGEA P1B ASP. The Region's updated growth projections showed that total flows from the PGEA will remain effectively the same, with some realignment within the Mid-Halton WWTP catchment (based on Regional Official Plan Amendment 47 planning projection adjustments to PGEA P1B lands). The treatment plant-level wastewater analysis, evaluation, and recommendations from the 2017 and 2022 DC Updates can be carried forward as the realignment of flows is entirely within the Mid-Halton WWTP catchment area.

As noted in Section 3.2.3, the employment targets for the P2B lands, developed as part of the Secondary Plan's supporting economic study, anticipate growth less than the Region's BPEs. The ASP has considered servicing based on the more conservative (higher total growth projections) established by the Region. The Region's BPEs have been adopted as part of previously approved planning and servicing studies and remain the approved planning projections for the area. Total employment projections will be included as part of the final Secondary Plan.

Long-term servicing for the area for projected growth from 2041 to 2051 is being addressed as part of the Regional Municipal Comprehensive Review, including development of Halton Region's Integrated Growth Management Strategy and the subsequent Halton Region Water and Wastewater Master Plan. The findings of the PGEA P2B ASP will support Halton Region's Municipal Comprehensive Review and MP Update projects.

## 5.4 Wastewater Servicing Review and Needs Assessment

Assessment of the existing wastewater system included review of existing GIS asset data, current Halton Region wastewater model (InfoSewer) and most recent available design and construction drawings. Hydraulic modelling was undertaken to confirm the existing wastewater flows, capacity and potential required infrastructure upgrades.

### 5.4.1 Review of Available Capacity Under Scenario 1 Prior to Commissioning of the Eighth Line/Trafalgar Trunk Sewer

Through previous work, including the SHWWMP, Halton Region had noted potential capacity issues downstream of the PGEA lands. Downstream capacity for the PGEA lands was reviewed as part of Halton Region's June 2019 PGEA P1B ASP.



Peak flows from PGEA lands (including projected P1B peak flows) and available peak flow capacity at downstream pumping stations are shown in Table 5-5.

**Table 5-5: Downstream Pumping Stations Available Capacities (Prior to Commissioning of Eighth Line/Trafalgar Trunk Sewer)**

WWPS	Firm Capacity	Existing Peak Flow (Provided by Halton Region as part of PGEA P1B Study)	Peak Flow Available for all PGEA Lands	Peak Flow from PGEA P1B	Available Peak Flow Capacity for PGEA P2B
HH #3	34 L/s (1 Pump + 1 Standby) 60.3 L/s (ECA)*	11 L/s	23 L/s	14 L/s	9 L/s – 23 L/s
HH #2	195 L/s (3 Pumps)	44 L/s	151 L/s	100 L/s	51 L/s – 151 L/s
HH #1	280 L/s (2 Pumps + 1 Standby)	60 L/s	220 L/s	100 L/s	120 L/s – 220 L/s
Mid-Block WWPS	1,215 L/s (3 Pumps + 1 Standby)	783 L/s	432 L/s	100 L/s	332 L/s – 432 L/s

Region staff have indicated that the available capacity at HH# 3 WWPS is limited to 34 L/s (less than the 60.3 L/s approved under the ECA for the SPS). A 2014 assignment was completed to review the performance of the SPS (pumps designed, installed and tested to meet a specified rated capacity of 53.0 L/s at 14.0m TDH). The study determined that the SPS components (including pumps, valves and appurtenances) were assessed and determined to be working as expected. The 2014 study concluded that the limited available flow from the station (and equivalent capacity) may be due to an issue with the downstream forcemain (potentially a physical restriction, entrapped air, pipe deformation, etc.). The study recommended an inspection of the forcemain to confirm any issues.

To increase the firm capacity to the approved 60.3 L/s, the Region will first need to complete inspection of the forcemain and determine the cause of the flow limitation. Once the flow issue has been resolved, an additional duty/standby pump can be installed (or alternate pump replacement/installation scenario).

Under the current capacity limitations at HH#3 WWPS, there is 23 L/s of peak flow available to development planned to come online ahead of commissioning of the Eighth Line Trunk Sewer commissioning. Assuming previously approved PGEA P1B development proceeds in full ahead of the P2B lands, HH#3 WWPS will only have 9 L/s available peak capacity for PGEA P2B lands. It is anticipated that allocation of the available 23 L/s of peak capacity will be coordinated between the Town and Region to best service development phasing in the area.

Allocation of development of future PGEA P2B lands (as well as PGEA P1B lands) ahead of the 2025 commissioning of the Eighth Line Trunk Sewer will also need to have consideration for downstream pumping station capacity as well as detailed phasing of development of future P1B lands.



## 5.5 Development of the Proposed Wastewater Servicing Strategy

The overall servicing strategy is based conveying flows from the PGEA P2B lands south to the proposed trunk sewer running along Steeles Avenue from east to west and ultimately outletting to:

- The existing HH #3 WWPS (ahead of commissioning of the Eighth Line Trunk Sewer); and,
- the proposed Eighth Line Trunk Sewer (after proposed commissioning in 2025).

Prior to commissioning of the Eighth Line/Trafalgar Trunk Sewer, PGEA P2B lands will ultimately outlet to HH #3 WWPS, and ultimately through HH #2 WWPS, HH#1 WWPS, Miller Way Trunk Sewer, Mid-Block WWPS and outletting at the Mid-Halton WWTP. After commissioning of the Eighth Line/Trafalgar Trunk Sewer, PGEA P2B lands will outlet to the proposed Eighth Line/Trafalgar Trunk Sewer and ultimately to the Mid-Halton WWTP. Consideration of development of the PGEA P2B lands under pre- and post-commissioning of the Eighth Line/Trafalgar Trunk Sewer ensures that development can proceed independent of the commissioning of the Region's trunk sewer.

The proposed wastewater servicing strategy was developed to meet the short-term needs of anticipated development within the area, with understanding that the long-term servicing strategy for the area will be reviewed and potentially updated as part of the Region's updated Water and Wastewater Master Plan.

The topography of the PGEA P2B area provides for two (2) sanitary sub-catchments that can be delineated at the potential GTA West Corridor (generally mid-block between Ninth Line and Tenth Line). Sanitary conveyance requirements for each of the sub-catchments are summarized in Table 5-6.

**Table 5-6: Summary of PGEA P2B Wastewater Sub-Catchments**

PGEA P2B Development Scenario	West of GTA West Corridor (Mid-Block between Ninth Line and Tenth Line)	East of GTA West Corridor (Mid-Block between Ninth Line and Tenth Line)
<b>Proposed Sanitary Conveyance</b>	<ul style="list-style-type: none"> <li>• Wastewater flows can be conveyed by local gravity sewers to the southwest, connecting to the planned Steeles Avenue trunk sewer, or via local sewers, directly to the HH#3 WWPS (or Eighth Line/Trafalgar Trunk Sewer)</li> </ul>	<ul style="list-style-type: none"> <li>• Wastewater flows can be conveyed by local gravity sewers to the southeast via local gravity sewers</li> </ul>
<b>Required Infrastructure to Connect to the Halton Region Wastewater Network</b>	<ul style="list-style-type: none"> <li>• Lands located west of the GTA West Corridor can drain via future local gravity sewers with future direct connection to existing Region infrastructure.</li> <li>• Ultimately a future Region trunk sewer constructed along Steeles Avenue (draining from west of the GTA West Corridor to existing downstream Region infrastructure) can collect flows from local sewers.</li> </ul>	<ul style="list-style-type: none"> <li>• A future pumping station and forcemain (Region's planned HH#4 WWPS and forcemain) or deep trunk sewer (draining from east to west) is required to convey flows from the lands located east of the GTA West Corridor.</li> </ul>



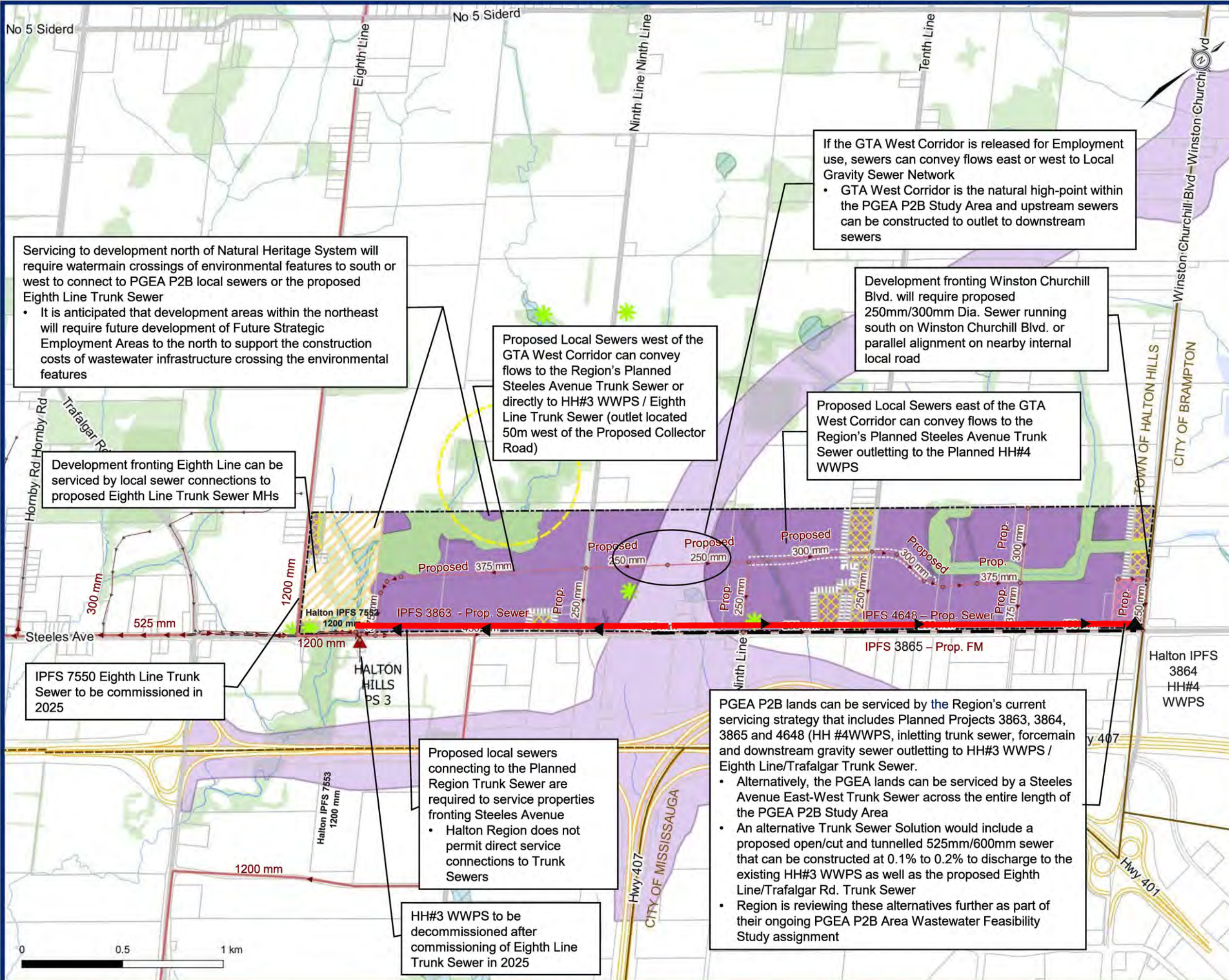
Servicing to the small development areas located in the northwest portion of PGEA P2B (north of the designated Natural Heritage System between Eighth Line and Ninth Line) will require sewer crossings of environmental features or servicing along north limit of Secondary Plan area. It is anticipated that 3.5 Ha of development area within the northwest will require development of Future Strategic Employment Areas to the north to support the construction costs of wastewater (and water) infrastructure crossing the environmental features to service the projected 70 to 175 jobs for the areas.

#### **5.5.1 Proposed Wastewater Servicing Strategy**

As noted in Section 4.5.1, The Region has indicated that it will work with the Town to expedite construction and commissioning of required water (and wastewater) servicing to meet the Town's development targets, timing and phasing.

The proposed wastewater servicing solution for PGEA P2B (based on approved Region wastewater projects for the area) is shown in Figure 5-3. The Region is reviewing the approved servicing strategy as part of the PGEA P2B Wastewater Servicing Feasibility Study Assignment that is currently underway. The proposed wastewater servicing strategy for the Secondary Plan has been developed to include flexibility to accommodate the ongoing Region work, and this ASP will inform the Region's ongoing studies.





Water & Wastewater Area Servicing Plan  
for the Premier Gateway Phase 2B

- Wastewater Infrastructure**
- ▲ Sewage Pumping Station (SPS)
  - Trunk Sewer (diameter ≥ 450mm)
  - Local Sewer (diameter < 450mm)
  - Forcemain
- General Features**
- ▭ Premier Gateway Phase 2B
  - Highway
  - Major Road
  - Local Road
  - ▭ Property Parcel
  - ▭ Municipal Boundary
  - ▭ Preferred Route and Interchange Locations for GTA West Transportation Corridor Study
- Preferred Land Use**
- Natural Heritage System
  - Prestige Industrial Area
  - Residential Special Policy Area
  - Supportive Commercial
  - Subject to D09OPA22.001 As Per PL180499
  - Headwater Drainage Feature
  - ▭ Buffer for Existing Residential Uses
  - ★ Cultural Heritage Resource
  - ▭ Minimum Distance Separation

Figure 5-3  
**Proposed Wastewater Servicing  
Solution for PGPA P2B**





The proposed servicing strategy incorporates the following infrastructure recommendations:

**Prior to Commissioning of the Eighth Line/Trafalgar Trunk Sewer**

Prior to commissioning of the Eighth Line/Trafalgar Trunk Sewer:

- Conveyance of wastewater flows from lands west of the GTA West Corridor by local gravity sewers and/or Steeles Avenue trunk sewer, outletting to the inlet sewer upstream of HH#3 WWPS; and,
- Conveyance of wastewater flows from lands east of the GTA West Corridor to:
  - The proposed HH#4 WWPS and forcemain; or,
  - Equivalent downstream servicing solution developed as part of the Region's PGEA P2B Wastewater Servicing Feasibility Study.

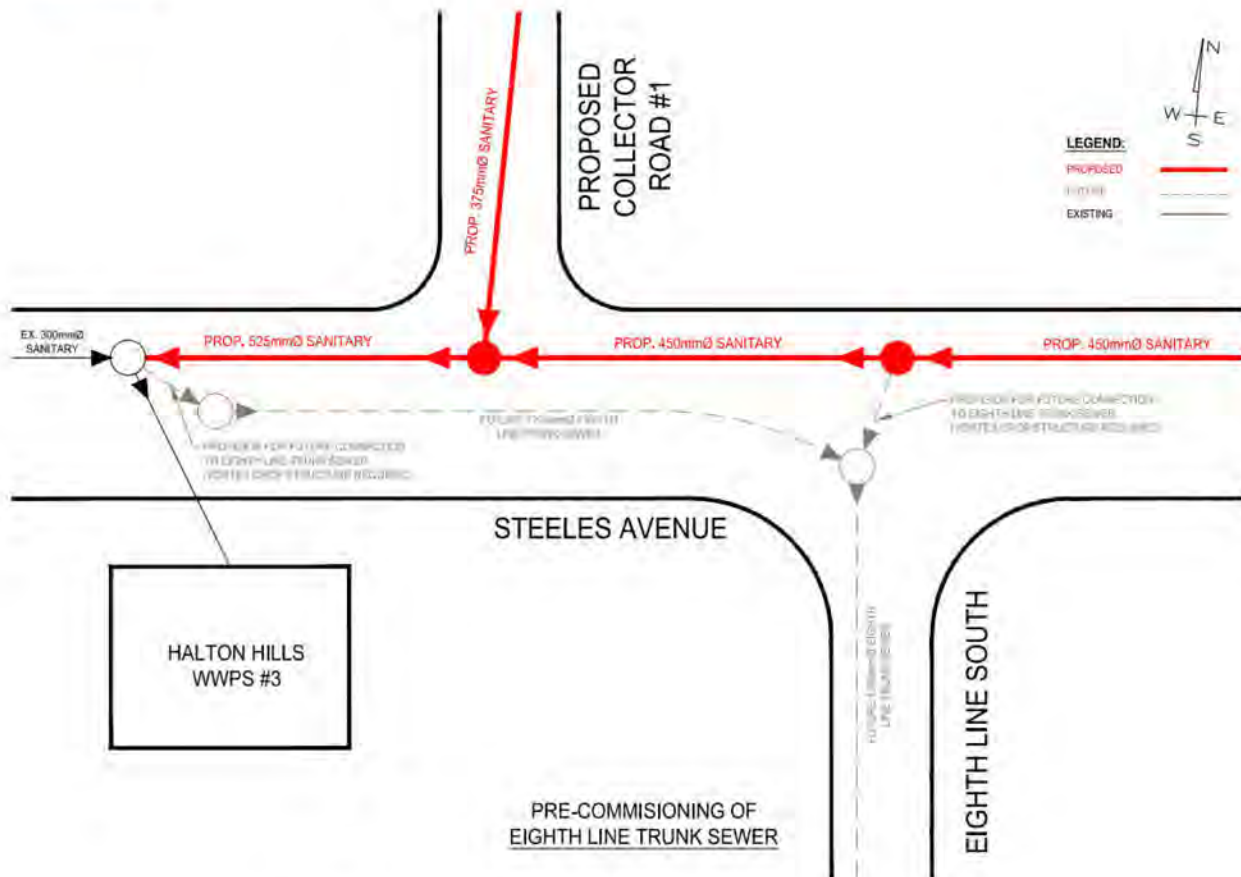
The Region's ongoing PGEA P2B Wastewater Servicing Feasibility Study is expected to review (at minimum) conveyance of wastewater flows from the east portion of the PGEA P2B lands via a pumping station and forcemain solution (equivalent to HH#4 WWPS and associated forcemain) as well as a deep trunk sewer running east-to-west along Steeles Avenue. A Steeles Avenue trunk sewer can be constructed to meet the servicing requirements of the PGEA P2B area and outlet to the inlet MH invert at the exiting HH#3 WWPS. A trunk sewer alternative would range in depth from approximately 3 metres at Steeles Avenue and Winston Churchill Boulevard to nearly 20 metres through the GTA West Corridor (where ground elevations are highest along the alignment). Profile drawings for the preliminary trunk sewer alternative have been included in Appendix B.

Sizing of the Region's DC projects related to the HH#4 WWPS, inletting Steeles Avenue trunk sewer, forcemain and downstream Steeles Avenue trunk sewer have been sized to accommodate wastewater flows from PGEA P2B (to 2031). Ultimately, the projects may be updated to include more catchment area as part of the Region's ongoing servicing projects being completed in support of the Regional Municipal Comprehensive Review.

The Region's ongoing Wastewater Pumping Station Servicing Strategy Update is considering opportunities for pumping station alternative projects in the area. The recommendations from the Study will be incorporated into Halton Region's Water and Wastewater Master Plan Update.

The outlet to the HH#3 WWPS is shown schematically in Figure 5-4.





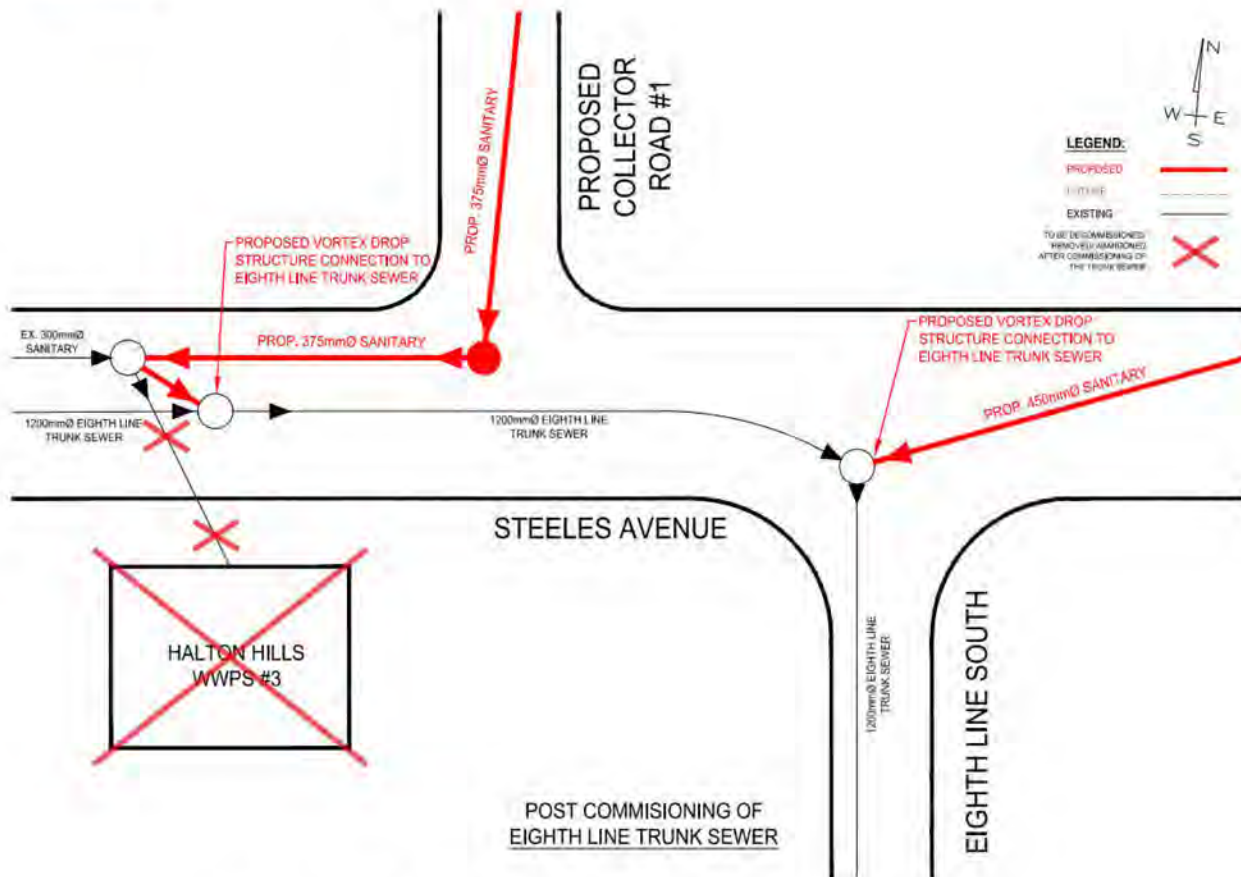
**Figure 5-4: Proposed Outlet to HH#3 WWPS  
(Ahead of Commissioning of Eighth Line Trunk Sewer)**

#### After Commissioning of the Eighth Line/Trafalgar Trunk Sewer

After commissioning of the Eighth Line/Trafalgar Trunk Sewer, the proposed servicing strategy for the PGEA P2B lands will be similar, with no capacity constraints for the development of the P2B lands.

If the under-construction trunk sewer is available ahead of construction of the Steeles Avenue / Collector Road 1 sewers, then it is anticipated that lands east of Eighth Line South draining to the proposed 450mm diameter Steeles Avenue west trunk sewer will outlet to the Eighth Line Trunk Sewer at MH 20 (Steeles Avenue and Eighth Line South) via a proposed drop / vortex structure to the Eighth Line trunk sewer. Sewers along Collector Road 1 will outlet to the Eighth Line Trunk sewer along with sewers being diverted from HH#3 WWPS. This scenario is shown in Figure 5-5.





**Figure 5-5: Proposed Outlet to Eighth Line Trunk Sewer**

### Trunk Sewer Alternative to HH#4 WWPS

Alternatively, a Steele's Avenue trunk sewer could be constructed to outlet to the proposed Eighth Line / Trafalgar Road Trunk Sewer. The Steele's Avenue trunk sewer could be constructed at a grade of 0.2% or greater to achieve the appropriate connection invert elevations with the Eighth Line Trunk Sewer. A proposed 600mm sewer could be installed by trenchless methods, within the Steele's Avenue right-of-way. Any future sewer through the GTA West Corridor would require extensive confirmation/coordination with any future GTA West highway structures designs (depth of footings conflict with watermain, etc.)

### 5.5.2 Incorporation with the Region's Existing Water and Wastewater Master Plan and Future Municipal Class Environmental Assessment Requirements

As noted in Section 4.5.2, the Area Servicing Plan has not been completed to Municipal Class EA requirements, instead building on the approved Approach 2 Sustainable Halton Water and Wastewater Master Plan. For recommended Schedule A, A+ and B projects, the final public notice for the Master Plan can also serve as the Notice of Completion for the Schedule B projects within the Master Plan (and the Secondary Plan Study Area).

Recommended wastewater servicing projects that may potentially cross the GTA West Corridor Environmental Assessment study or significant environmental features are to be considered



further at the project-specific approval stage for Revisions to Schedule B projects. It is anticipated that for recommended Schedule B wastewater projects, Revisions to Schedule B Projects will be required due to environmental implications of changes to the project (including GTA West Corridor crossing impacts) or even due to a delay in implementation. Modifications to recommended wastewater servicing projects identified as Schedule B projects can fulfill Class EA requirements as part of integration with Planning Act applications (including, but not limited to, future Zoning By-Law Amendments or Draft Plans of Subdivision). Public consultation can be combined with the required public consultation for Planning Act applications. Required Revisions to Schedule B Projects can reference or build on the previous Master Plan and Secondary Plan studies to demonstrate Phase 1 and Phase 2 of the Class EA process have been satisfied. A Revised Notice of Completion shall be issued with notification of the public's right to request a Part II order within the 30-day review period.

Incorporation of the Secondary Plan recommended projects into the Region's current Water, Wastewater and Transportation Master Plan may also provide for required fulfillment of Class EA requirements after completion and filing of the ongoing Master Plan.

### **5.5.3 Local Sewers**

Local sewer alignments, depths grades and connections to potential Steeles Avenue trunk sewers have been developed based on the proposed land use concept and proposed road patterns and environmental constraints.

There is opportunity for development within the west sub-catchment to drain by local sewer directly to the existing HH#3 WWPS.

Under the ultimate servicing solution for the area, a local sewer crossing of the GTA West Transportation Corridor is not required. The GTA West Transportation Corridor follows a high ridge within the Study Area and conveying flows from east of the corridor to the west by gravity will drive the depth of the west gravity sewers significantly deeper (to greater than 10 metres depth).

Halton Region does not permit service connections to sanitary sewers of 450 mm diameter or greater unless a deviation from the Region's policy is approved by the Region. Development fronting Steeles Avenue will be required to connect to sections of local sewer that outlet to the proposed Region trunk sewer at manhole connections. Similar to for water service connections for Steeles Avenue fronting properties, alternate sanitary connections to local sewers along future internal roads will be considered, where topography and planned development phasing will allow for local sanitary sewer and service construction.

Local sewer alignments and connections to the proposed trunk sewers can be developed as part of future Draft Plans of Subdivision (or Zoning By-law Amendment) applications.

It is anticipated that local sewers running along future internal roads as well as along existing Town of Halton Hills and Halton Region roads including Ninth Line, Tenth Line, Winston Churchill and potentially Eighth Line and Steeles Avenue will be constructed through Developer front-end agreements.

As noted in Section 4.5.3, Halton Region currently has a policy to allow the Regional development-related projects to be designed and constructed by the development industry which may result in the construction of a project that was not identified in the current or prior years' capital budget.



#### 5.5.4 Wastewater Collection Modelling Analysis

Halton Region's InfoSewer model was utilized to analyse the servicing scheme for the PGEA P2B lands under the two scenarios that consider pre and post commissioning of the Eighth Line Trunk Sewer. The model simulations analysed as part of the Secondary Plan analysis are summarized in Table 5-7.

**Table 5-7: Overall InfoSewer Model Scenarios to Evaluate PGEA P2B Development**

PGEA P2B Development Scenario	Halton Region InfoSewer Model to be Used	Note
PGEA P2B Build-out Ahead of 2025 Commissioning of Eighth Line Trunk Sewer	<ul style="list-style-type: none"> <li>2026 Growth Scenario</li> <li>HH#3 WWPS still in service</li> <li>Eighth Line Trunk Sewer not yet commissioned</li> </ul>	<ul style="list-style-type: none"> <li>2026 Growth Scenario will be used as it is closest growth timing to the 2025 Eighth Line Trunk Sewer commissioning and will not underestimate growth to downstream pumping stations.</li> <li>2026 Growth Scenario will include PGEA P2B build-out as well as previously approved PGEA P1B build-out</li> </ul>
PGEA P2B Build-out After 2025 Commissioning of Eighth Line Trunk Sewer	<ul style="list-style-type: none"> <li>2031 Growth Scenario</li> <li>Eighth Line Trunk Sewer commissioned</li> <li>HH#3 WWPS decommissioned</li> </ul>	<ul style="list-style-type: none"> <li>2031 Growth Scenario will be used to evaluate full buildout of PGEA lands under current OP/MP projections</li> <li>2031 Growth Scenario will include PGEA P2B build-out as well as previously approved PGEA P1B build-out</li> </ul>

Sanitary design sheets for flows from the PGEA P2B lands were also completed. The sanitary design sheets were based on engineering standards outlined in Halton Region's Water and Wastewater Linear Design Manual. The sanitary design sheets have been included in Appendix C.



## **6 Phasing of Servicing**

### **6.1 General**

Similar to for previous PGEA Secondary Plans, it is anticipated that the preference will be for the entire study area to come online under a single (initial) phase. This provides the flexibility for development of any parcels within the PGEA P2B lands, and the ability for development phasing/servicing that aligns with development interest.

However, the limited available connections to the Region's existing infrastructure will initially restrict the general phasing of development from Eighth Line progressing east toward the GTA West Corridor.

Development east of the potential GTA West Corridor will require interim servicing to proceed ahead of commissioning of the Region's planned water and wastewater infrastructure for the area.

Also to be considered is Halton Region's policy to allow the Regional development-related projects to be designed and constructed by the development industry which may result in the construction of a project that was not identified in the current or prior years' capital budget. Opportunity to incorporate the construction of required P2B DC watermain with development infrastructure will be reviewed as part of the ASP phasing considerations.

### **6.2 Water**

#### **6.2.1 West of GTA West Corridor**

Initial development within the western half of the PGEA P2B lands can be serviced by local watermain connecting to the existing Halton Region 600mm diameter trunk watermain. The existing trunk watermain terminates at the east limit of the HH#3 WWPS property, approximately 50 metres away from the intersection of the Proposed Collector Road and Steeles Avenue. The 600mm Region main can be extended to the Proposed Collector Road and 300mm diameter local watermain constructed northeast along the collector road to service initial development.

Construction of a component of the Region's planned 600mm diameter watermain along Steeles Avenue to west of the GTA West Corridor, along with connection to / construction of the proposed 400mm diameter transmission watermain along Ninth Line will provide sufficient fire flow for all development west of the GTA West Corridor. The proposed 400mm diameter watermain along Collector Road 1 can provide sufficient fire flow to limited development ahead of the looped connection to the extension of the Steeles Avenue 600mm diameter – this can be further reviewed as part of detailed engineering for development applications in the area / fronting the west portion of Collector Road 1.

#### **6.2.2 East of GTA West Corridor**

Initial water servicing to development within the eastern portion of the P2B lands will require at minimum commissioning of the Region's planned 600mm diameter Steeles Avenue watermain. Design and construction of the 600mm diameter watermain was suspended to accommodate the EA studies associated with the GTA West Corridor. It is not anticipated that the Steeles Avenue trunk watermain project will be resumed ahead of the completion of the GTA West Corridor EA Study, and the watermain project will be considered further as part of the Region's ongoing Water and Wastewater Master Plan Update.

Design of the future watermain will require consideration for depth through the GTA West Corridor and potential conflict with possible future overpass structure footings and other structures. If the



preferred alternative developed from the GTA West Corridor EA leads to conceptual and detailed design of a new highway interchange south of Steeles Avenue (including associated overpass/underpass structures in the area of Steeles Avenue), then significant coordination between future water and wastewater infrastructure crossings will be required. It is unlikely that trunk watermain design and construction would be able to proceed ahead of design of potential MTO works in the area.

As the Steeles Avenue trunk watermain may not be constructed to meet the Secondary Plan's anticipated development timing, alternative initial supply to the eastern portion of the PGEA P2B lands was considered. Construction and commissioning of the proposed 300mm/400mm diameter watermain along the Proposed Collector Road (ahead of commissioning of the Steeles Avenue trunk watermain) was evaluated. The intent was to determine if a watermain along the Proposed Collector Road could provide sufficient available fire flow to potential east development areas fronting/near the Proposed Collector Road. Crossing of the GTA West Corridor lands is still required, including significant coordination with the MTO to complete the works. A dead-end 300mm/400mm diameter watermain along the Proposed Collector Road can provide approximately 90 L/s of available fire flow to areas east of the GTA West Corridor. This interim servicing and available fire flow will not meet the Region's minimum requirement of 15,000 L/min (250 L/s) available fire flow for Employment Lands.

Looped watermain across the GTA West Corridor will be required to provide sufficient available fire flow to proposed Employment Lands east of the GTA West Corridor. Even a scenario where the planned 600mm diameter watermain crossing from Steeles Avenue is relocated to the Proposed Collector Road cannot by itself provide the required available fire flow to employment lands located east of the GTA West Corridor. An additional 400mm diameter crossing is still required and can be located at the north limit of the PGEA P2B lands, or to align with a future road crossing through the Future Strategic Employment area lands (if planning timing and approvals can be aligned with development requirements within the east portion of the PGEA P2B lands).

Relocation of the planned 600mm diameter watermain crossing of the GTA West Corridor to north of Steeles Avenue to potentially provide for a less complex crossing of the highway corridor (clear of any potential interchange/overpass/underpass structures that may be constructed within the area of Steeles Avenue) can be explored. A proposed strategy that includes the required 600mm diameter and 400mm diameter trunk watermain crossings of the GTA West Corridor can be applied across various crossing locations throughout the study area. As the ultimate location of the watermain crossings is flexible, it can be adapted to the future requirements of study and development timing, approvals and constructability considerations.

Connection to the Region of Peel's system at Winston Churchill Boulevard could also be considered for supply to the east portion of the PGEA P2B lands. This alternative has not been reviewed with Halton Region or the Region of Peel but could be explored for feasibility if it is determined that potential delays to the timing of the planned Steeles Avenue Trunk Watermain commissioning will significantly impact planned development within the eastern portion of the PGEA P2B lands. At minimum, a connection to the Region of Peel system would require confirmation that the Peel water system has the capacity to supply the area, an agreement between Halton Region and the Region of Peel to supply water to the area and metered connection chamber(s). Halton Region and the Region of Peel do not currently have any existing agreements to provide water supply for normal operations. Feasibility analysis for this alternative is outside of the scope of this assignment. It has only been included as an alternative for



consideration based on the expectation that the timing of the Steeles Avenue trunk watermain may not meet the requirements of desired development timing for the PGEA P2B lands.

Proposed phasing and future considerations for interim water servicing of PGEA P2B lands is shown in Figure 6-1.





# Water & Wastewater Area Servicing Plan for the Premier Gateway Phase 2B

## Water Infrastructure

- ▲ Pumping Station (PS)
- Storage
- Treatment
- Feeder Main (Diameter >= 400mm)
- Local Watermain (Diameter < 400mm)

## General Features

- Alternate Watermain Alignment
- Premier Gateway Phase 2B
- Highway
- Major Road
- Local Road
- Property Parcel
- Municipal Boundary
- Preferred Route and Interchange Locations for GTA West Transportation Corridor Study

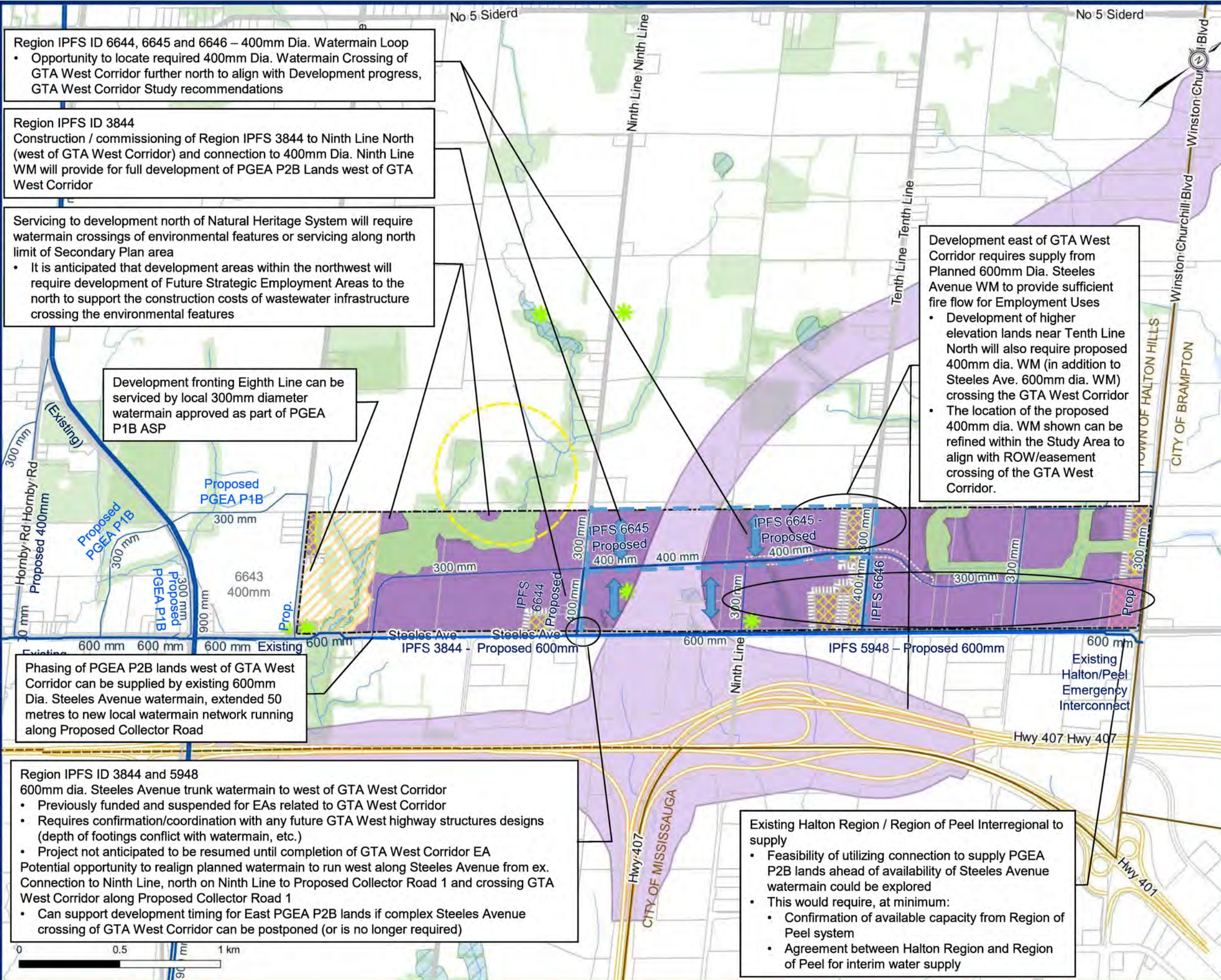
## Preferred Land Use

- Natural Heritage System
- Prestige Industrial Area
- Residential Special Policy Area
- Supportive Commercial
- Subject to D09OPA22.001 As Per PL180499
- Headwater Drainage Feature
- Buffer for Existing Residential Uses
- ★ Cultural Heritage Resource
- Minimum Distance Separation

Figure 6-1  
**Proposed Phasing and Future Considerations**  
Interim Water Servicing  
PGEA P2B Lands



September 2023  
720010-004  
Projection EPSG:26917



Region IPFS ID 6644, 6645 and 6646 – 400mm Dia. Watermain Loop

- Opportunity to locate required 400mm Dia. Watermain Crossing of GTA West Corridor further north to align with Development progress, GTA West Corridor Study recommendations

Region IPFS ID 3844

Construction / commissioning of Region IPFS 3844 to Ninth Line North (west of GTA West Corridor) and connection to 400mm Dia. Ninth Line WM will provide for full development of PGEA P2B Lands west of GTA West Corridor

Servicing to development north of Natural Heritage System will require watermain crossings of environmental features or servicing along north limit of Secondary Plan area

- It is anticipated that development areas within the northwest will require development of Future Strategic Employment Areas to the north to support the construction costs of wastewater infrastructure crossing the environmental features

Development fronting Eighth Line can be serviced by local 300mm diameter watermain approved as part of PGEA P1B ASP

Phasing of PGEA P2B lands west of GTA West Corridor can be supplied by existing 600mm Dia. Steeles Avenue watermain, extended 50 metres to new local watermain network running along Proposed Collector Road

Region IPFS ID 3844 and 5948

600mm dia. Steeles Avenue trunk watermain to west of GTA West Corridor

- Previously funded and suspended for EAs related to GTA West Corridor
- Requires confirmation/coordination with any future GTA West highway structures designs (depth of footings conflict with watermain, etc.)
- Project not anticipated to be resumed until completion of GTA West Corridor EA

Potential opportunity to realign planned watermain to run west along Steeles Avenue from ex. Connection to Ninth Line, north on Ninth Line to Proposed Collector Road 1 and crossing GTA West Corridor along Proposed Collector Road 1

- Can support development timing for East PGEA P2B lands if complex Steeles Avenue crossing of GTA West Corridor can be postponed (or is no longer required)

Development east of GTA West Corridor requires supply from Planned 600mm Dia. Steeles Avenue WM to provide sufficient fire flow for Employment Uses

- Development of higher elevation lands near Tenth Line North will also require proposed 400mm dia. WM (in addition to Steeles Ave. 600mm dia. WM) crossing the GTA West Corridor
- The location of the proposed 400mm dia. WM shown can be refined within the Study Area to align with ROW/easement crossing of the GTA West Corridor.

Existing Halton Region / Region of Peel Interregional to supply

- Feasibility of utilizing connection to supply PGEA P2B lands ahead of availability of Steeles Avenue watermain could be explored
- This would require, at minimum:
  - Confirmation of available capacity from Region of Peel system
  - Agreement between Halton Region and Region of Peel for interim water supply



## **6.3 Wastewater**

### **6.3.1 Prior to Commissioning of Eighth Line/Trafalgar Trunk Sewer**

Development within all PGEA lands, including P2B as well as P1B will need to consider the downstream pumping station capacity constraints prior to commissioning of the Eighth Line/Trafalgar Trunk Sewer. Existing pumping station constraints are discussed further in Section 5.4.1. Allocation will be required to ensure that peak wastewater flows for future development within the PGEA does not exceed the existing capacity at HH#2 and HH#3 WWPS.

### **6.3.2 West of GTA West Corridor**

Development within the western half of the PGEA P2B lands can be serviced by local sanitary sewers initially outletting to the HH#3 WWPS and ultimately to the Eighth Line/Trafalgar Trunk Sewer after commissioning.

### **6.3.3 East of the GTA West Corridor**

The Region is currently working to expedite the construction and commissioning of wastewater servicing to meet the development timing and needs of lands located east of the GTA West Corridor. The Region solution will incorporate the flexibility to cost effectively meet servicing needs of initial development within the Secondary Plan area.

Proposed phasing and future considerations for interim wastewater servicing of PGEA P2B lands is shown in Figure 6-2.





## Water & Wastewater Area Servicing Plan for the Premier Gateway Phase 2B

### Wastewater Infrastructure

- ▲ Sewage Pumping Station (SPS)
- Trunk Sewer (diameter ≥ 450mm)
- Local Sewer (diameter < 450mm)
- Forcemain

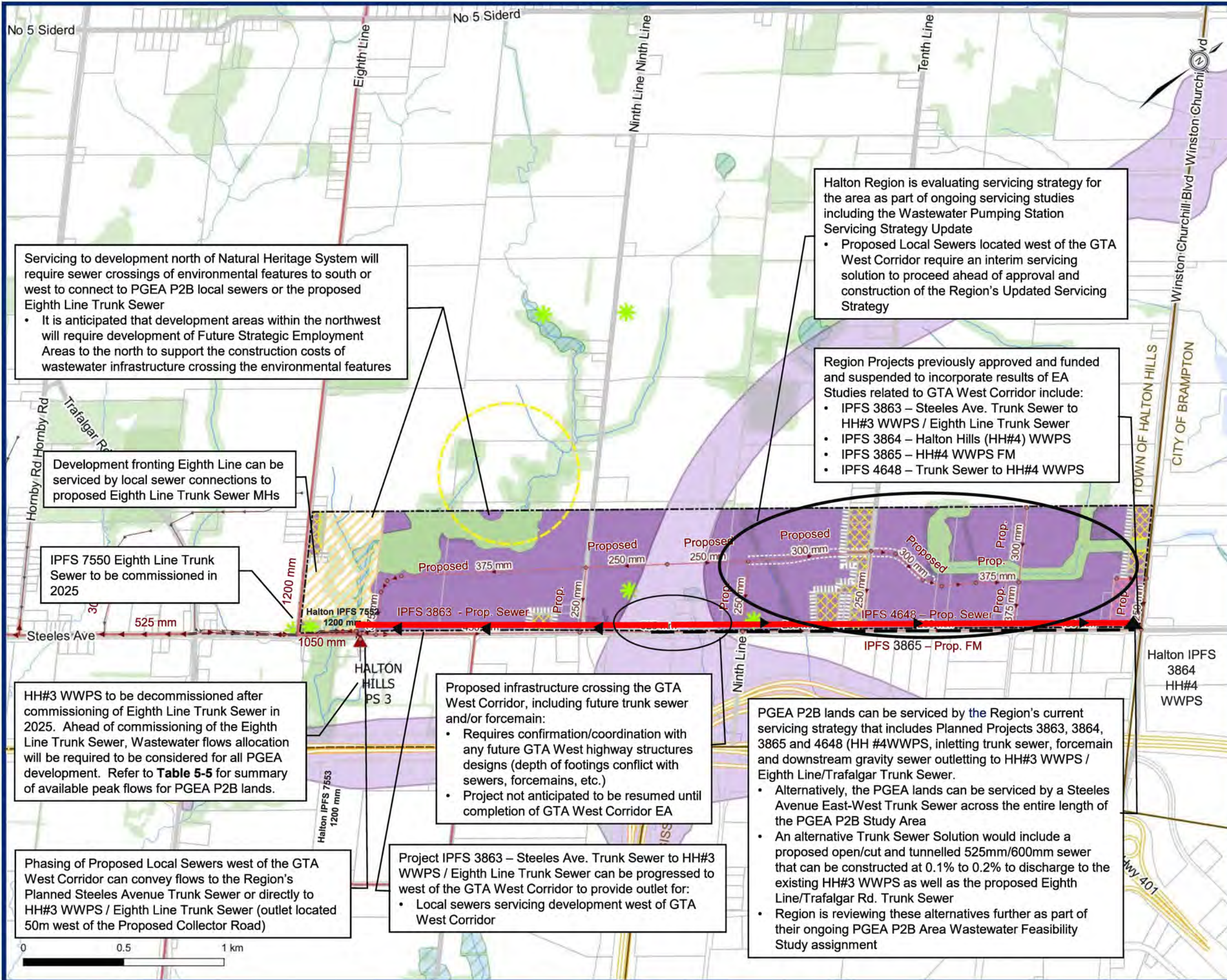
### General Features

- ▭ Premier Gateway Phase 2B
- Highway
- Major Road
- Local Road
- ▭ Property Parcel
- ▭ Municipal Boundary
- ▭ Preferred Route and Interchange Locations for GTA West Transportation Corridor Study

### Preferred Land Use

- Natural Heritage System
- Prestige Industrial Area
- Residential Special Policy Area
- Supportive Commercial
- Subject to D09OPA22.001 As Per PL180499
- Headwater Drainage Feature
- ▭ Buffer for Existing Residential Uses
- ★ Cultural Heritage Resource
- ▭ Minimum Distance Separation

Figure 6-2  
**Proposed Phasing and Future Considerations**  
Interim Wastewater Servicing  
PGEA P2B Lands





## **7 Cost Estimates**

### **7.1 Water and Wastewater Servicing Cost Estimates**

#### **7.1.1 Water and Wastewater DC Projects Cost Estimates Approach**

As noted in Section 4.2.3 and Section 5.2.1, Region water and wastewater development charges projects for the area were previously funded and suspended to consider the previous and current EA Studies related to the GTA West Corridor.

Planned water and wastewater servicing for the area has been considered as part of ongoing Halton Region servicing studies, including the Region's Integrated Growth Management Study and Wastewater Pumping Station Servicing Strategy Update. The water and wastewater servicing strategy for the area will be updated as part of the Region's ongoing Water and Wastewater Master Plan Update project.

The cost estimate unit rates are based on the Region's 2022 Development Charges Update (Water/Wastewater) and are generally inline with the Association for the Advancement of Cost Engineering (AACE) Class 4 estimates. AACE Class 4 estimates are:

- completed in support of project planning and initial preliminary design;
- are based on sufficient knowledge of site conditions adequate to identify high level risk;
- based on historical costs of similar projects and historical average unit costs for work activities; and,
- have an expected accuracy range of -20% to +30%.

For the Class 4 cost estimates, the risk related to construction considerations including environmental feature crossings, pumping station decommissioning and MTO coordination (as well as other approval authorities and utilities) is intended to be incorporated directly into the unit rate. The costs have been included primarily for reference purposes.

The cost estimate approach is detailed further in the 2022 Development Charges Update – Water/Wastewater Cost Estimation Approaches Technical Memorandum, October 2021, included in Appendix D.

#### **7.1.2 Water Projects**

Updated cost estimates for the Region's anticipated water development charges projects and local watermain required to service the PGEA P2B lands have been developed based on the unit rates included in the Region's 2022 Water and Wastewater DC Update. Total cost estimates are summarized in Table 7-1.



**Table 7-1: Cost Estimate for Proposed Development Charges Water Infrastructure Required for PGEA P2B Development**

Water	Total Project Construction Cost Estimate (2021\$)	Total Project Cost Estimate (including Property, Engineering and Associated Construction Fees) (2021\$)
Halton Region Project 3844 and Halton Region Project 5948 - 600 mm diameter watermain on Steeles Avenue, from Eighth Line to Peel Interregional Connection at Winston Churchill Boulevard (Approximately 3.8 km of watermain)	\$18.6 M	\$25.8 M
Halton Region Project 6644 – 300 metres of 400mm diameter watermain on Ninth Line from Steeles Avenue to PGEA P2B Proposed Collector Road	\$0.5 M	\$0.7 M
Halton Region Project 6645 – 1.5 km of 400mm diameter watermain on PGEA P2B Proposed Collector Rod from Ninth Line to Tenth Line (with potential crossing of GTA West Corridor)	\$5.6 M	\$7.7 M
Halton Region Project 6646 – 400 metres of 400mm diameter watermain on Tenth Line from Steeles Avenue to PGEA P2B Proposed Collector Road	\$0.6 M	\$0.8 M
<b>Sub-Total Halton DC Projects Costs</b>	<b>\$25.3 M</b>	<b>\$35.0 M</b>
Local Watermain Costs	\$5.7 M	\$7.8 M
<b>Total Water Servicing Costs for HH PGEA P2B Area</b>	<b>\$31.0 M</b>	<b>\$42.8 M</b>

Detailed cost estimates for the proposed local 300mm diameter watermain running along the proposed collector roads have been included in Appendix D. Cost estimates for local watermain have also been based on the unit rates included in the Region's 2022 Water and Wastewater DC Background Study. Distribution watermain cost estimates include an estimate of \$5,000/150m (\$33.33/m) construction cost estimate for hydrants based on Halton Region design standards and recent comparable construction pricing.

### 7.1.3 Wastewater Projects

Updated cost estimates for the Region's anticipated wastewater development charges projects and local sewers required to service the PGEA P2B lands have been developed based on the unit rates included in the Region's 2022 Water and Wastewater DC Update. Cost estimates are project based, recognizing that construction and commissioning of individual servicing components will be required to be adaptable to meet associated development phasing within the PGEA P2B lands.

Total cost estimates are summarized in Table 7-2.



**Table 7-2: Cost Estimate for Proposed Development Charges Wastewater Infrastructure Required for PGEA P2B Development**

Component	Total Project Construction Cost Estimate (2021\$)	Total Project Cost Estimate (including Property, Engineering and Associated Construction Fees) (2021\$)
Halton Region Project 3863 – Trunk Sewer on Steeles Avenue from East of Ninth Line to Eighth Line (HH #3 WWPS / 7553 – Eighth Line Trunk Sewer)	<p>\$1.8 M (Pre-Eighth Line Trunk Commissioning)</p> <p>\$1.0 M (Post-Eighth Line Trunk Commissioning)</p>	<p>\$2.5 M (Pre-Eighth Line Trunk Commissioning)</p> <p>\$1.4 M (Post-Eighth Line Trunk Commissioning)</p>
Halton Region Project 3864 - Halton Hills (HH) #4 WWPS at intersection of Steeles Avenue and Winston Churchill Boulevard	\$8.0 M	\$11.1 M
Halton Region Project 3865 – Forcemain(s) on Steeles Avenue from HH #4 WWPS to the Proposed Halton Region Trunk Sewer (Project 3863) (Estimated as 2x300mm Dia. Forcemains (from Stantec's January 2013 Preliminary Design Report))	\$8.3 M	\$11.6 M
Halton Region Project 3865 – Trunk Sewer on Steeles Avenue from East of Ninth Line HH#4 WWPS (Project 3864) (Estimated firm capacity of 141 L/s to service PGEA P2A + P2B Lands East of GTA West Corridor (from Stantec's January 2013 Preliminary Design Report))	\$3.0 M	\$4.1 M
<b>Sub-Total Halton DC Projects Costs</b>	<b>\$20.3 M – \$21.1 M</b>	<b>\$28.2 M – \$29.3 M</b>
Local Sewer Costs	<b>\$10.6 M</b>	<b>\$14.6 M</b>
<b>Total Wastewater Servicing Costs for HH PGEA P2B Area</b>	<b>\$30.9 M - \$31.8 M</b>	<b>\$42.8 M - \$43.9 M</b>

Cost estimates for the HH#4 WWPS, inlet sewer, forcemain(s) and downstream gravity sewer are based on approved designs and updated based on the Region's 2022 DC cost estimates methodology. Ultimately, the projects may be updated to include more (or less) catchment area as part of the Region's PGEA P2B Servicing Strategy Feasibility Study as well as the ongoing Water and Wastewater Master Plan Update. Projects 3863 – 450mm/525mm diameter trunk sewer has been conservatively estimated using the 2022 DC unit rate for 525mm diameter open-cut gravity sewer for the entire length (the location for the increase in pipe size will be confirmed as part of the updated of the detailed design of the gravity sewer for the area).

The ultimate location of the proposed pumping station and upstream catchment area can have significant impacts on the cost estimate, including adjusted requirements for wet well depth and pump and energy requirements. The 2022 DC cost estimate approach for pumping stations is based on peak flow only. Additionally, if a temporary pumping station is constructed by developers ahead of commissioning of the Region's updated wastewater servicing strategy for the area, then there may be cost efficiencies if construction of a prefabricated pumping station is determined to be the preferred alternative.

The January 2013 Preliminary Design Report for HH#4 WWPS estimated the SPS works only to cost \$4.6 M (2013\$). A SPS servicing only the P2B lands east of the GTA West Corridor is



estimated to cost \$5.3 M (Region DC Formula -  $\$19,420.36 \times 73 \text{ L/s}$  (required firm capacity) + \$1,982,631).

Cost estimates for the Eighth Line Trunk Sewer and the HH #3 WWPS decommissioning have not been included in the cost estimate. These projects benefit the P2B lands and the broader development area but are not considered to be required for initial development of the PGEA P2B lands and will be completed independent of the development of the Study Area.

The cost estimate for an equivalent trunk sewer servicing the PGEA P2B lands, along Steeles Avenue from Winston Churchill Boulevard, crossing the GTA West Corridor and outletting to the existing HH#3 WWPS / Eighth Line Trunk Sewer is shown in Table 7-3.

**Table 7-3: Cost Estimate for Alternative Equivalent Tunnelled Steeles Avenue Trunk Sewer Required for PGEA P2B Development**

Component	Total Project Construction Cost Estimate (2021\$)	Total Project Cost Estimate (including Property, Engineering and Associated Construction Fees) (2021\$)
Equivalent Steeles Avenue trunk sewer from Winston Churchill Boulevard, crossing the GTA West Corridor, and outletting at the Ex. HH#3 WWPS / Proposed Eighth Line Trunk Sewer (Assumed 600mm Dia. to align with smallest diameter available microtunnelling boring machine (MTBM))	\$50.8 M	\$70.6 M

Detailed cost estimates are included in Appendix D.



## **8 Conclusion**

### **8.1 General**

The PGEA P2B ASP confirms that the planned Employment Area can ultimately be serviced by the Region's proposed upgrades to water and wastewater linear infrastructure along Steeles Avenue, Ninth Line and Tenth Line and crossing the GTA West Corridor.

The Region's previously approved and funded water and wastewater Master Plan projects, including the Steeles Avenue trunk watermain and the HH#4 WWPS, forcemain and downstream trunk sewer remain suspended while the Province's GTA West Corridor is completed.

Additionally, the Region's planned water and wastewater projects for the area are being considered further as part of studies supporting the Regional Municipal Comprehensive Review, including the Integrated Growth Management Strategy and the Wastewater Pumping Station Servicing Strategy. Ultimately the servicing strategy for the area will be updated as part of the Region's PGEA P2B Servicing Strategy Feasibility Study as well as the Water and Wastewater Master Plan Update. Recommendations from the PGEA P2B ASP will help inform the recommended water and wastewater projects for the area.

Halton Region does currently have a policy to allow the Regional development-related projects to be designed and constructed by the development industry - which may result in the construction of a project that was not identified in the current or prior years' capital budget. Opportunity to incorporate the construction of required PGEA P2B water and wastewater infrastructure by the development industry can be considered as part of future Zoning By-law Amendments or Draft Plans of Subdivision.

### **8.2 Water**

Ultimate water servicing to the PGEA P2B lands generally requires commissioning of the Region's planned 600mm diameter Steeles Avenue trunk watermain with a 400mm diameter watermain loop along Ninth Line, the Proposed Collector Road and Tenth Line as well as 300mm diameter watermain running along the Proposed Collector Road with connections to the Steeles Avenue trunk at key locations. This will provide the future Employment Lands with suitable operating pressures and sufficient available fire flow.

Employment Lands located west of the GTA West Corridor can initially be serviced by 300mm diameter watermain network connected to a short (50 metre) extension of the 600mm diameter Steele Avenue trunk main that terminates east of Eighth Line and Sixteen Mile Creek. Buildout of the Planned 600mm diameter Steeles Avenue watermain to west of the GTA West Corridor combined with the 400mm diameter Ninth Line transmission watermain will provide sufficient available fire flow to all development located west of the GTA West Corridor.

Prior to development of lands located east of the GTA West Corridor, construction of the Steeles Avenue trunk watermain to east of the GTA West Corridor will be required. The future 300mm diameter watermain network can be supplied from the Steeles Avenue trunk watermain. A looped watermain, including the planned 600mm diameter watermain and an additional 400mm diameter watermain crossing of the GTA West Corridor will be required prior to development of the east portion of the PGEA P2B lands. The only existing Halton Region water infrastructure located east of the GTA West Corridor is an emergency interregional connection to the Region of Peel's system, located at Steeles Avenue and Winston Churchill Boulevard. If uncertainty around timing of the GTA West Corridor study and associated impact on Region water infrastructure construction for the area will significantly impede development plans for the east portion of the



PGEA P2B lands, then feasibility of alternative water supply to the area will need to be further explored with Halton Region. This could include relocation of the planned Steeles Avenue 600mm diameter watermain to north of the potential GTA West Corridor interchange/overpass/underpass structures within the area of Steeles Avenue. The ultimate location of the watermain crossings is flexible and can be adapted to the future requirements of study and development timing, approvals and constructability considerations.

### **8.3 Wastewater**

Ultimate wastewater servicing to the PGEA P2B lands will require a trunk sewer running west from the GTA West Corridor to the existing HH#3 WWPS / Eighth Line/Trafalgar Trunk Sewer and a pumping station and forcemain to service the Employment Lands located east of the GTA West Corridor (or an equivalent solution that can include a deeper trunk sewer running across the entire width of Steeles Avenue from Winston Churchill Boulevard to Eighth Line).

Ahead of the anticipated 2025 commissioning of the proposed Eighth Line/Trafalgar Trunk Sewer, there are capacity constraints at the downstream HH#3 WWPS and HH#2 WWPS that must be considered for allocation of proposed development across all PGEA lands (including P2B and previously approved P1B lands).

Wastewater flows from future development west of the GTA West Corridor can be conveyed by local gravity sewer along internal roads to the outlet at the existing HH#3 WWPS. Construction of the planned Steeles Avenue trunk sewer to west of the GTA West Corridor can also be progressed to service the entire PGEA 2B lands west of the GTA West Corridor.

Lands located east of the GTA West Corridor will require the ultimate servicing solution to be developed, constructed and commissioned by the Region (including the updated HH#4 WWPS and forcemain or equivalent proposed trunk sewer).

The Region is currently undertaking a Feasibility Study and Provisional Municipal Class EA to support development of an updated servicing strategy that can be constructed to align with the development timing needs of initial phases of development (as well ultimate phasing for the broader service area). This ASP will inform the Region's servicing strategy (the Region's feasibility study is anticipated to be completed in Summer 2023).