Welcome!

Town of Georgina
Sanitary Sewer Master Plan

Public Information Centre

Monday, February 1, 2021

Virtual Public Information Centre

Town of Georgina
26557 Civic Centre Road
Keswick ON L4P 3G1

What is Driving the Town of Georgina Sanitary Sewer Master Plan?

Assessing Needs → **Planning for Buildout** → **Supporting Operation and Maintenance** → **Long-Term Financial Planning**

Town of Georgina Sanitary Sewer Master Plan Structure and Objectives

- Provides background information and context for servicing needs
- Outlines existing baseline of the system and demonstrates impacts of growth
- Establishes preferred servicing strategies
- Provides technical information to support staff through implementation

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Sanitary Sewer Master Plan Vision

Establish a preferred servicing strategy for Wastewater that:

- Meets current needs
- Supports growth
- Maintains or improves service levels
- Improve system resiliency and operation flexibility
- Considers the long-term financial viability of the systems

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Municipal Class EA Process

The Sanitary Sewer Master Plan involves the completion of Phases 1 and 2 of the MEA Municipal Class EA process.

Environmental Assessment Process

Problem and Opportunity

- What makes up the wastewater system?
- How does it work?
- How well is it working?
- What do we need?
- Project problem and opportunity statement

Identify Alternative Solutions

- How can we meet our needs?
- What are the different options?
- What does each option look like?

Evaluate Alternative Solutions

- How well does each option meet our needs?
- How much does each option cost?
- What impact does each option have on:
  - System performance?
  - Environment?
  - Social/ Cultural?

Select Preferred Solutions

- What is the best option and why?
- How do we move forward with the best option?

The study follows the Master Plan process as outlined in Section A.2.7 of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (Oct 2000, as amended in 2007, 2011 and 2015).

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Growth

The Master Plan Focuses on Buildout Potential

- Clarity in long-term needs
- Flexibility to respond to changes
- Helps to guide and manage growth

Growth Uncertainty

- Location of growth – What infrastructure is needed?
- Rate of growth – When is infrastructure needed?

Growth Allocation

- Used Town's Development Applications and Draft Plans and Concepts where available
  - Most large developments have approved Draft Plans or developer's Concept Plans
- Infill/intensification targets from Town's Official Plan
- Assume 60 people/hectare for remaining developable lands

	Projected Equivalent Population		
	Keswick	Sutton	Total
Existing 2016	40,095	14,073	54,168
Development Applications	12,100	5,436	17,536
Intensification	7,813	2,799	10,611
Remaining Developable Lands	10,216	3,369	13,585
Total	**70,224**	**25,679**	**95,900**

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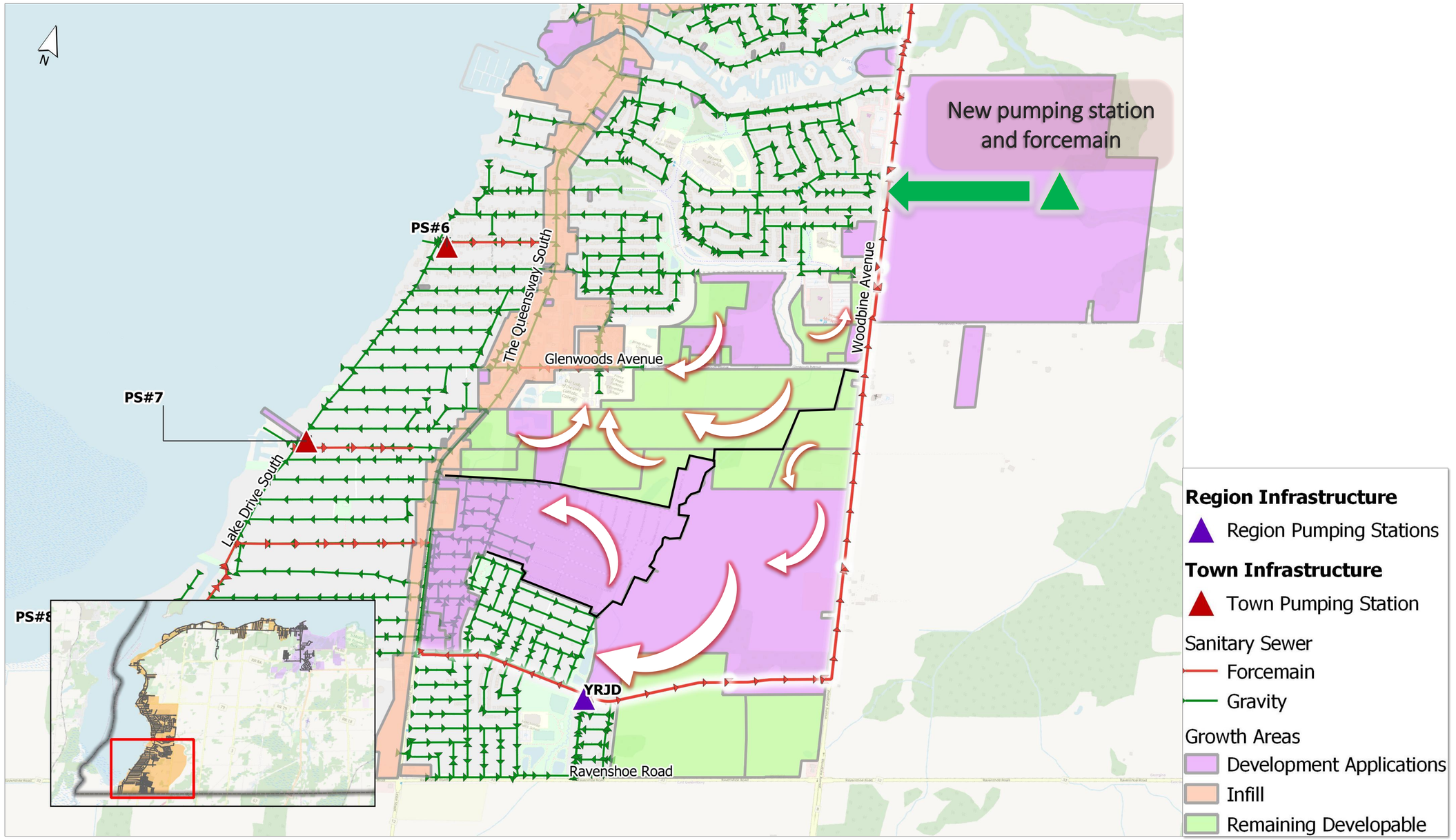
Growth – Keswick Part I



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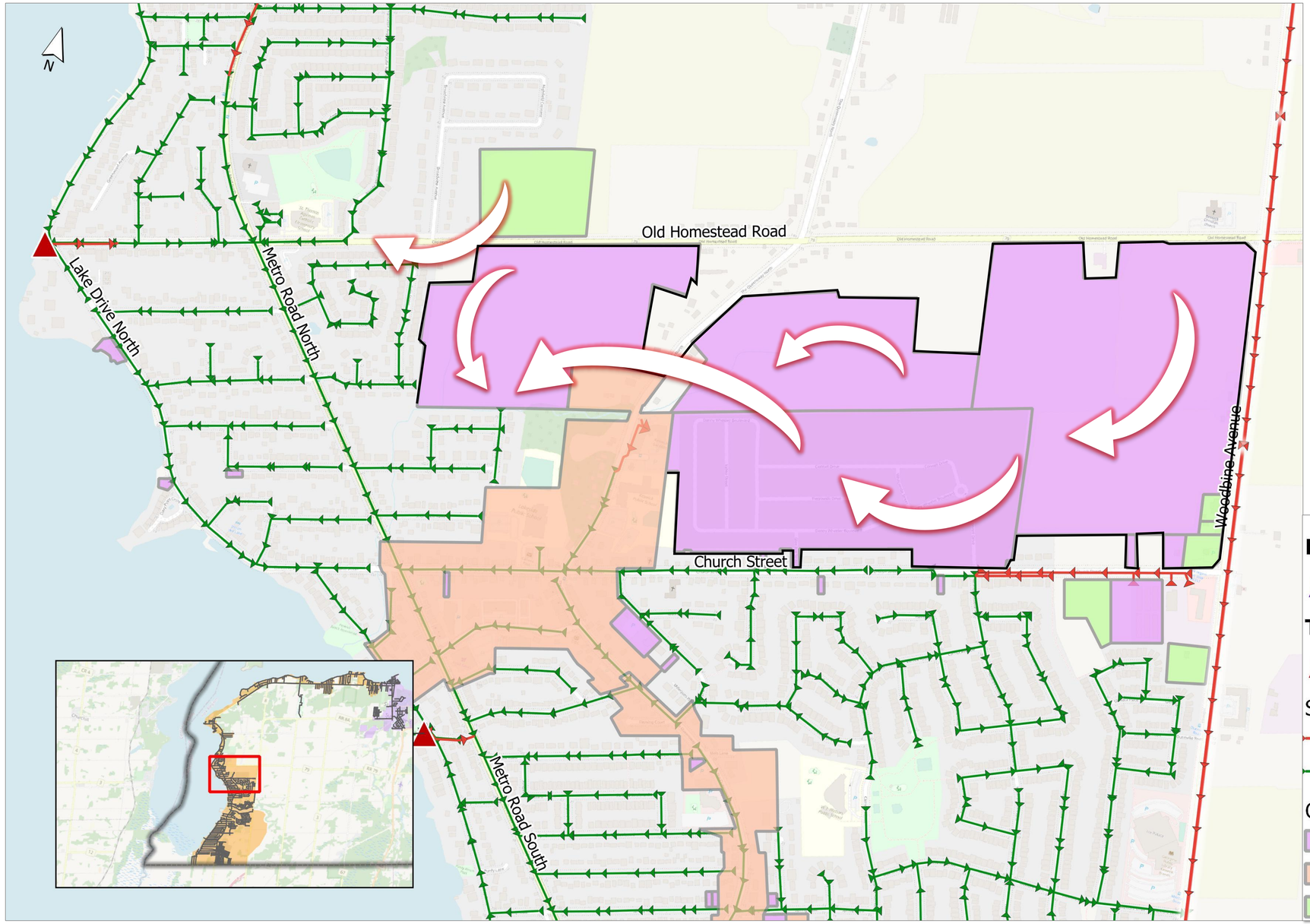
Growth – Keswick Part II



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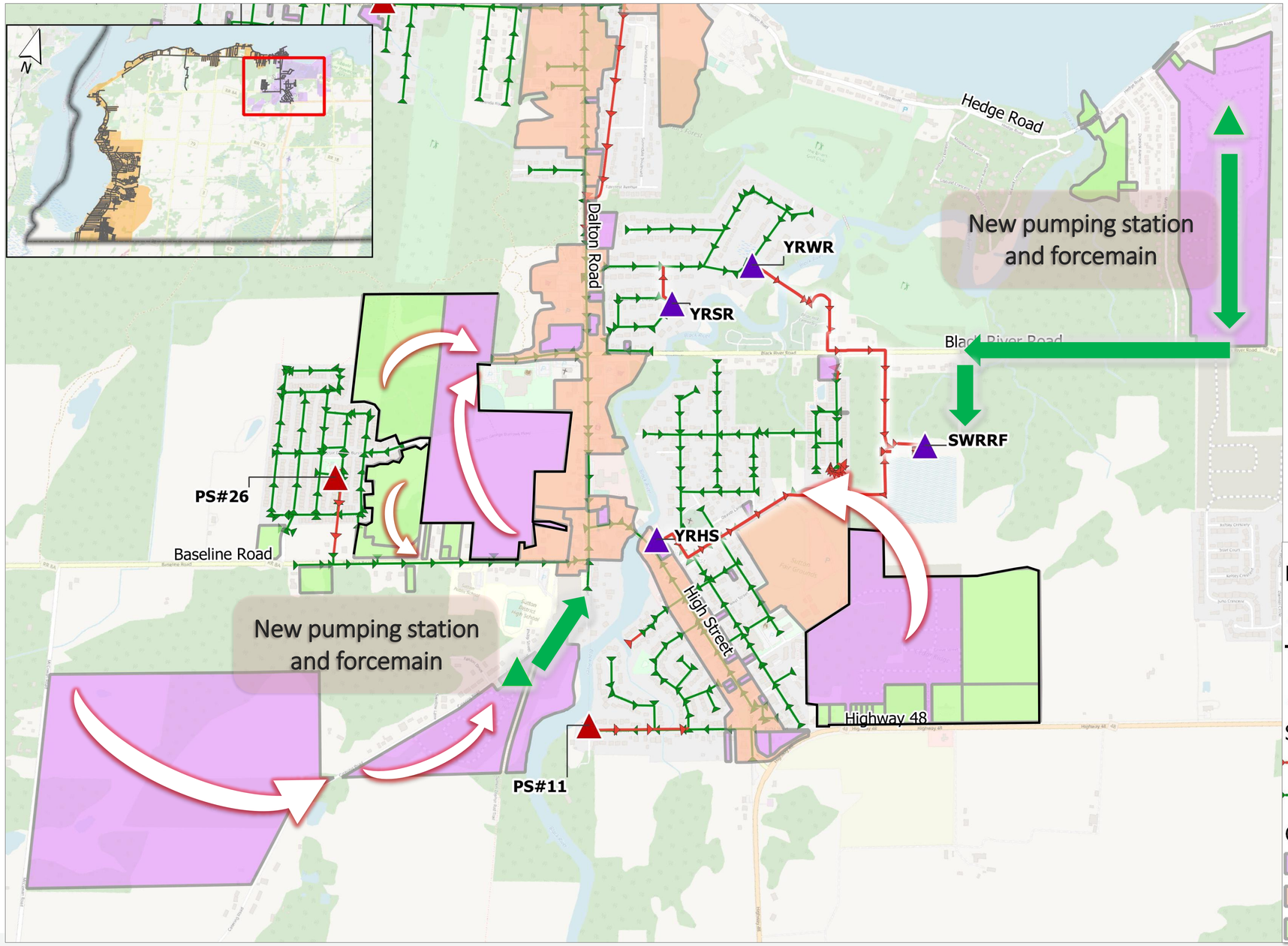
Growth – Sutton



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Evaluation Methodology

Environmental Factors

- Protects environmental features
- Protects wildlife and species-at-risk
- Minimizes climate change impacts

Financial Viability

- Be cost effective
- Life cycle costing (remaining value of asset)

Technical Factors

- Meets existing and future servicing needs
- Supports phased expansion of the system
- Provides a reliable service
- Minimizes and manages construction risk
- Aligns with approval and permitting process
- Ability to adapt to climate change

Social and Cultural Factors

- Protects resident quality of life
- Manages and minimizes construction impacts
- Protects cultural heritage features
- Protects archaeological features

Criteria Scoring and Selection

Will complete individual evaluation of each Criteria using the following ranking approach:

- “High” Solution generates beneficial impacts and/or has no substantial technical challenges
- “Medium” Solution to a mix of positive and negative elements with some impacts
- “Low” Solution presents permanent negative impacts and/or presents significant technical challenges

Selection will be guided by the **Reasoned Argument Approach**

Clear and thorough rationale of the tradeoffs among the various criteria

Highlights the reasons why one alternative is the best alternative

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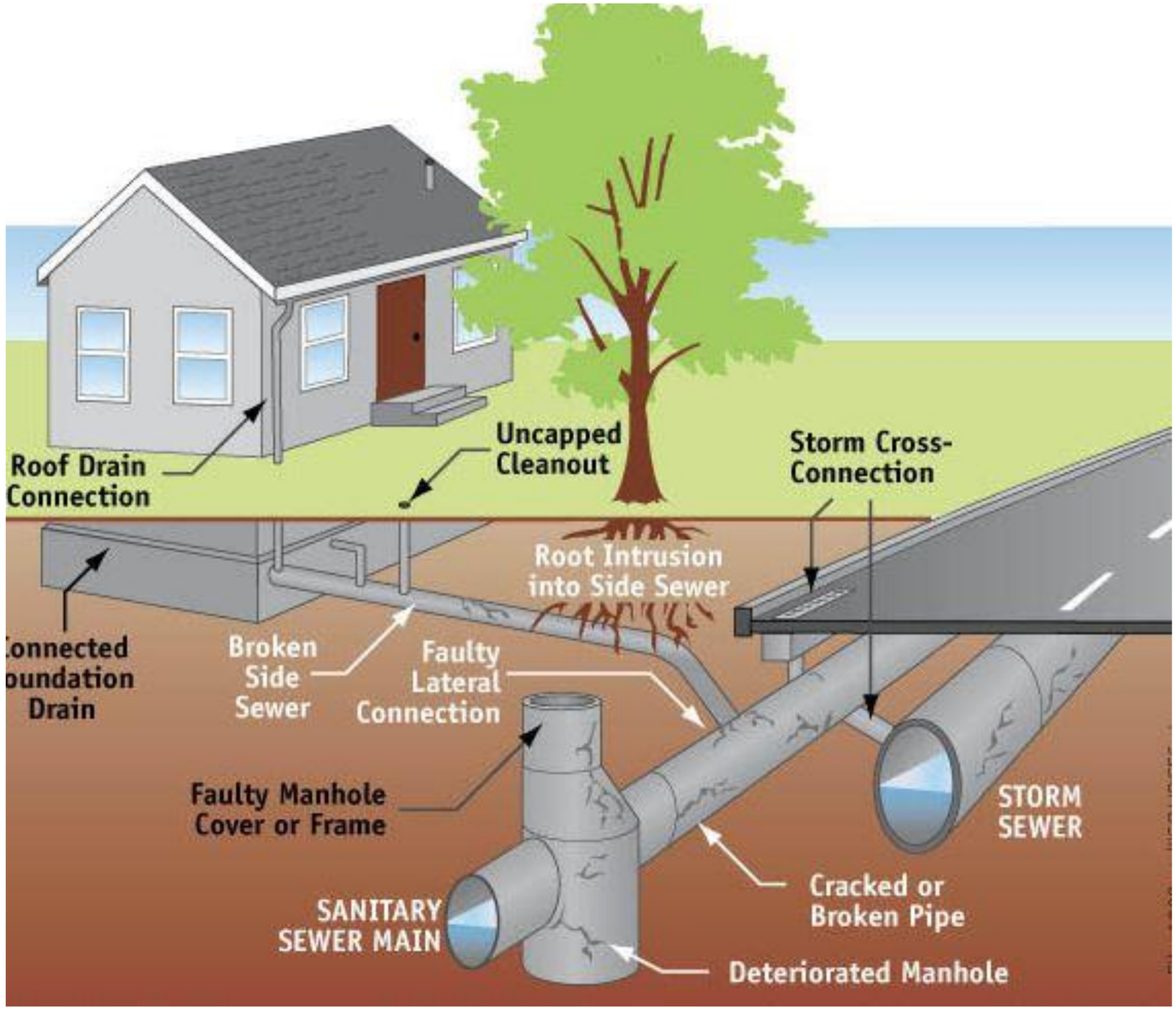
Wastewater Terminology – Inflow and Infiltration



What is Inflow and Infiltration?

- Groundwater and stormwater that enters the sanitary sewer system through cross connections with the stormwater system or through cracks and other imperfections within the sanitary system

Is Inflow and Infiltration Expected in the Town's Infrastructure?

- Inflow and infiltration is a normal component of municipal sanitary sewer systems
- Municipalities allow for a certain rate of inflow and infiltration in the design of sanitary infrastructure
- The goal is to minimize inflow and infiltration in order to:
  - Minimize additional cost of pumping and treating the extraneous flows
  - Maximize the existing capacity of sanitary infrastructure

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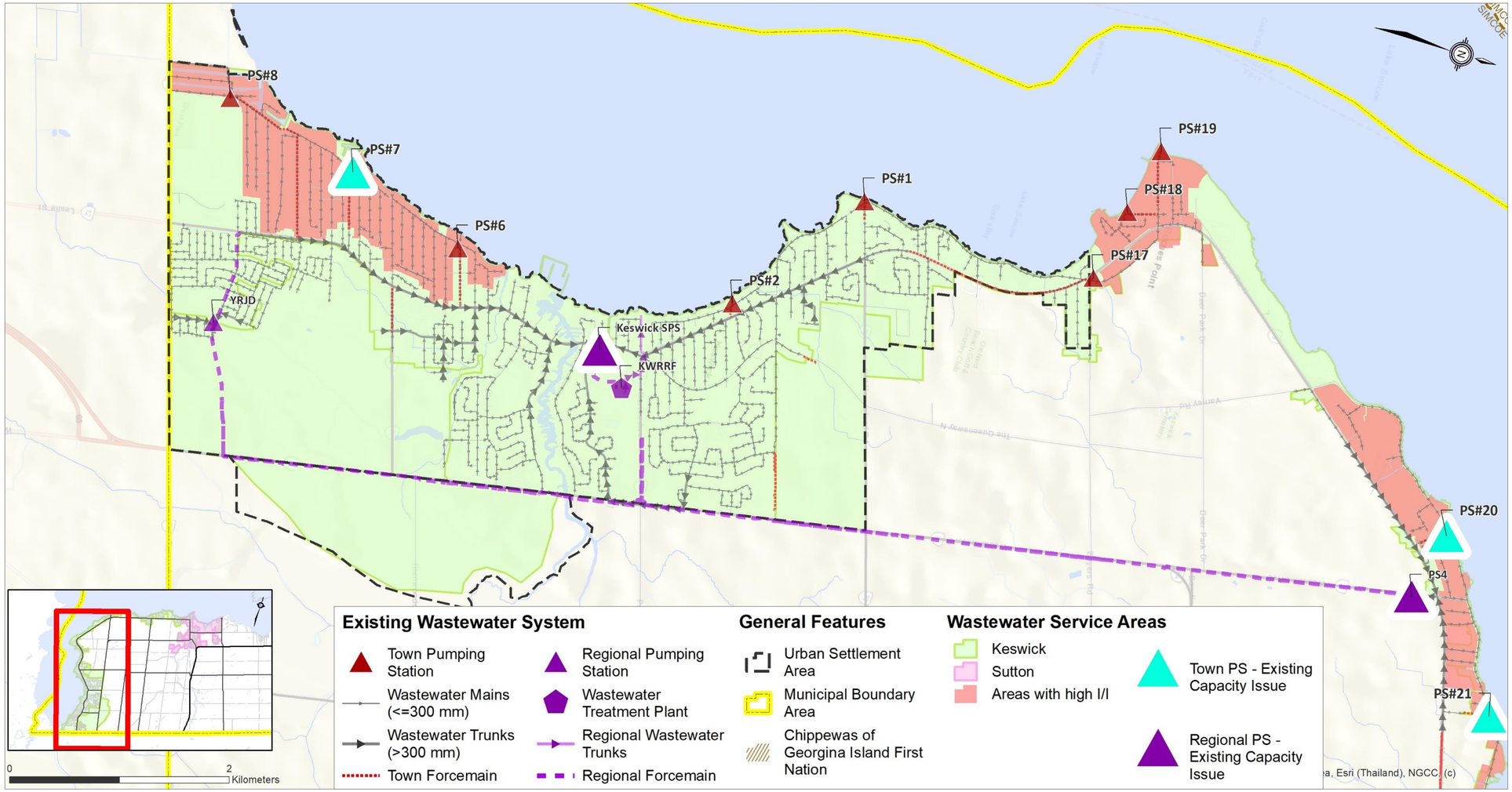
Opportunities and Constraints - Keswick



Constraints

- High inflow/infiltration areas shown in red
- Long-term treatment capacity issue at the Keswick WRRF
- Existing capacity issues at local and regional pump stations

Opportunities:

- Manage inflow/infiltration
- Strategic sewer upsizing to support growth
- Ongoing renewal of existing sewers
- Prioritize and coordinate sewer upgrades with the Town's other infrastructure projects
- Life cycle costing

Growth Impacts

- Growth impacts on the existing sanitary system are minimal
- Overall, the Town's existing sewer network is well-equipped to support future needs

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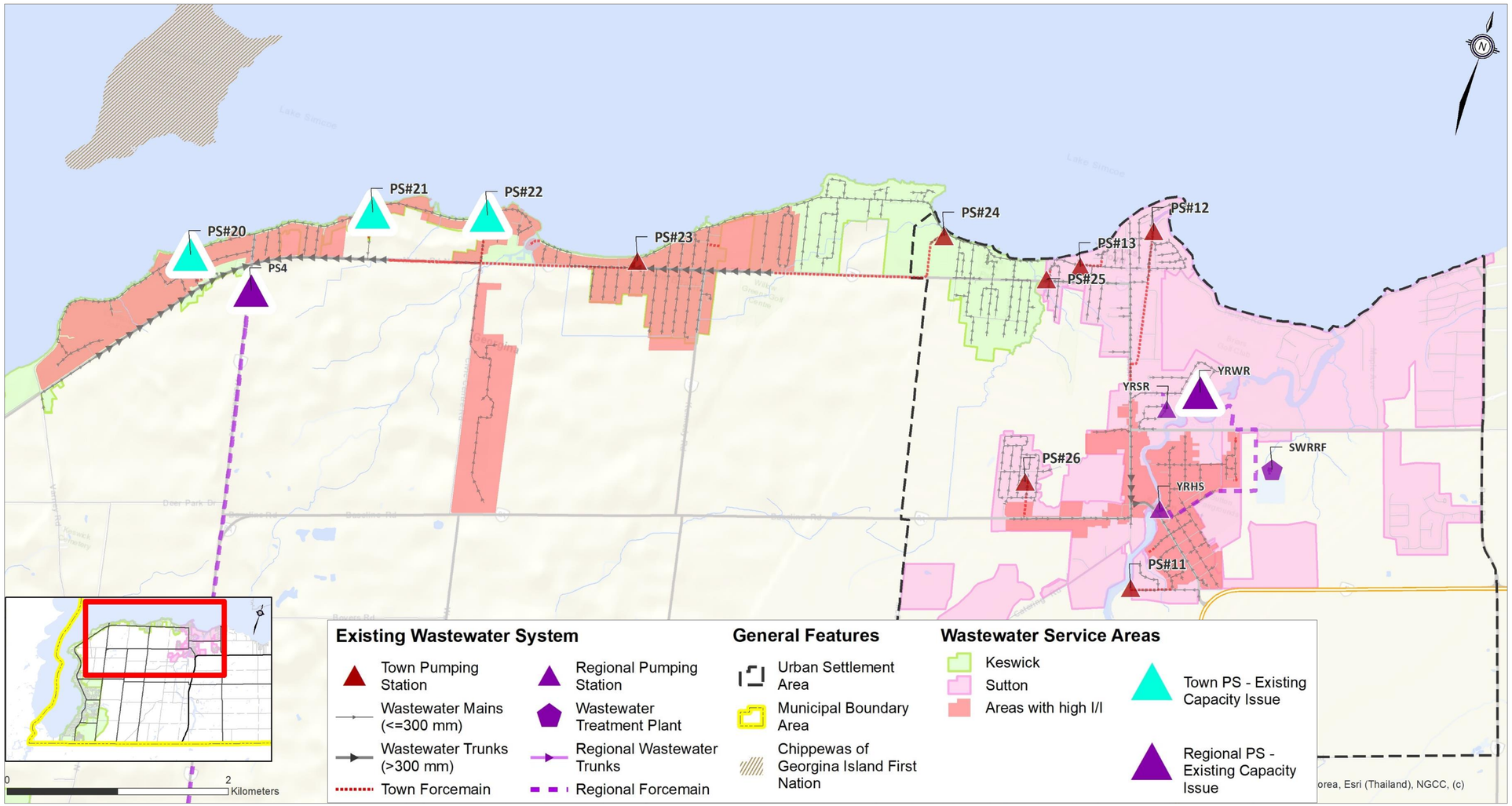
Opportunities and Constraints - Sutton



Constraints

- High inflow/infiltration areas shown in red
- Long-term treatment capacity issue at the Sutton WRRF
- Existing capacity issues at local and regional pump stations

Opportunities:

- Manage inflow/infiltration
- Strategic sewer upsizing to support growth
- Ongoing renewal of existing sewers
- Prioritize and coordinate sewer upgrades with the Town's other infrastructure projects
- Life cycle costing

Growth Impacts

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Servicing Concepts

System Improvements

- Growth Related Capacity Upgrades
- Existing Broader System Issues
- Existing Localized Issues

Servicing Concepts

- Do Nothing
- Capacity Upgrade
- I/I Reduction

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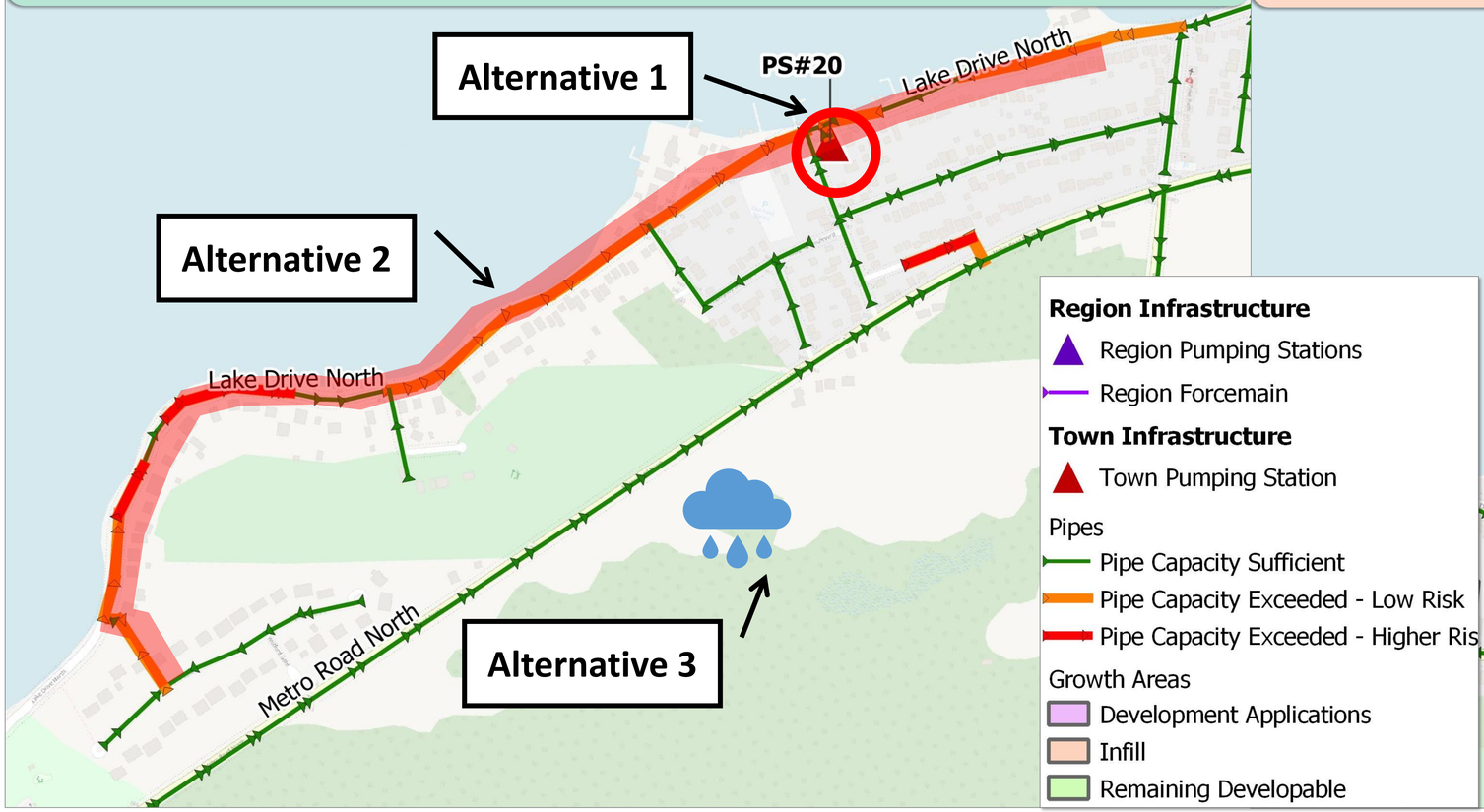
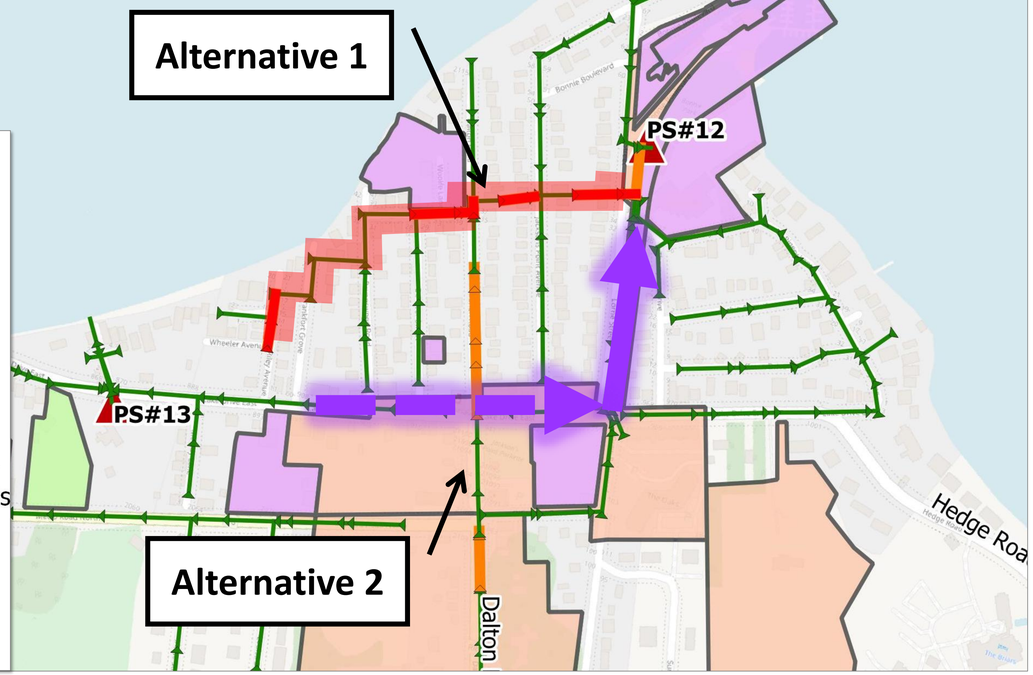
Existing Broader System Issues – Alternatives

Eastbourne– Existing capacity issues along Lake Drive North



Jackson's Point – Existing capacity issues through easement sewer



Alternatives:

1. Upgrade PS#20 pumping capacity
2. Sewer Upsizing along Lake Drive North
3. I/I Reduction

Alternatives:

1. Upsize sewers along existing alignment
2. Divert flows from surcharging alignment

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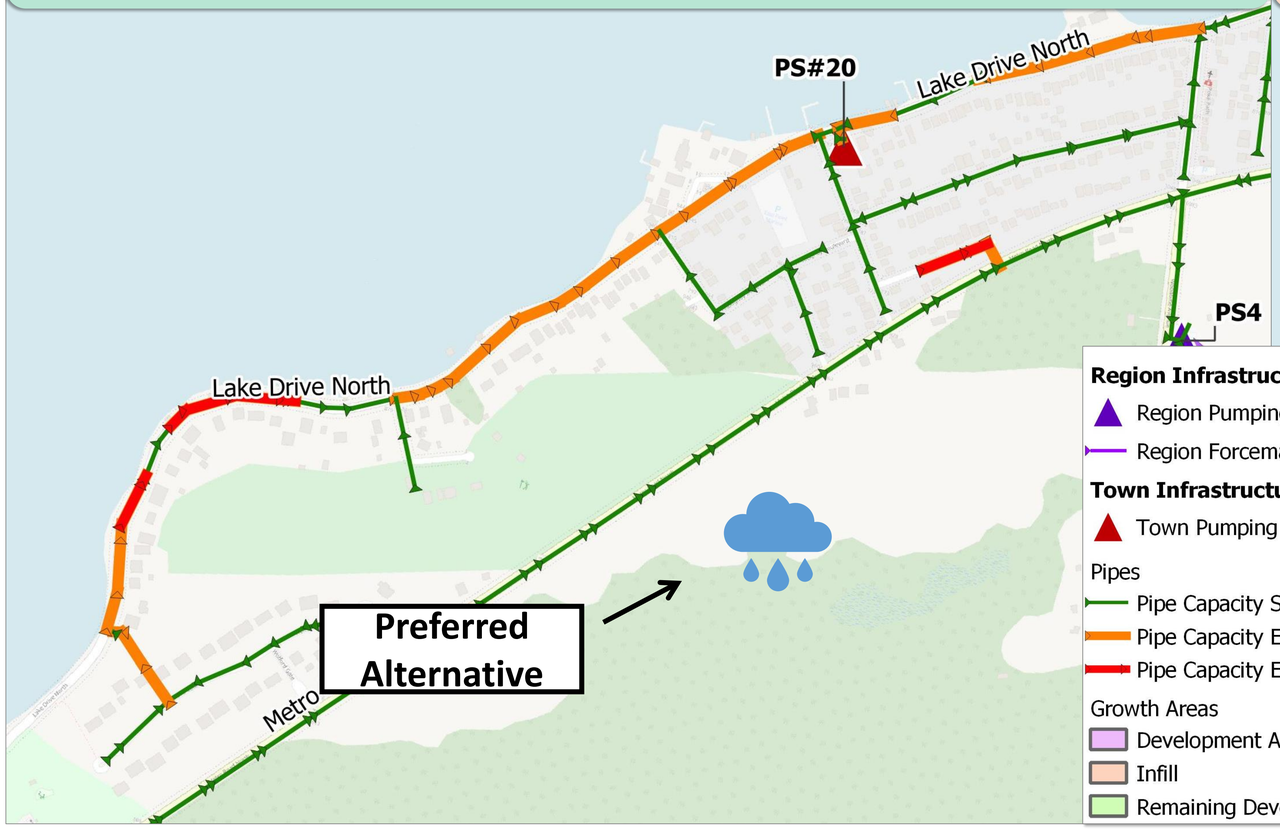
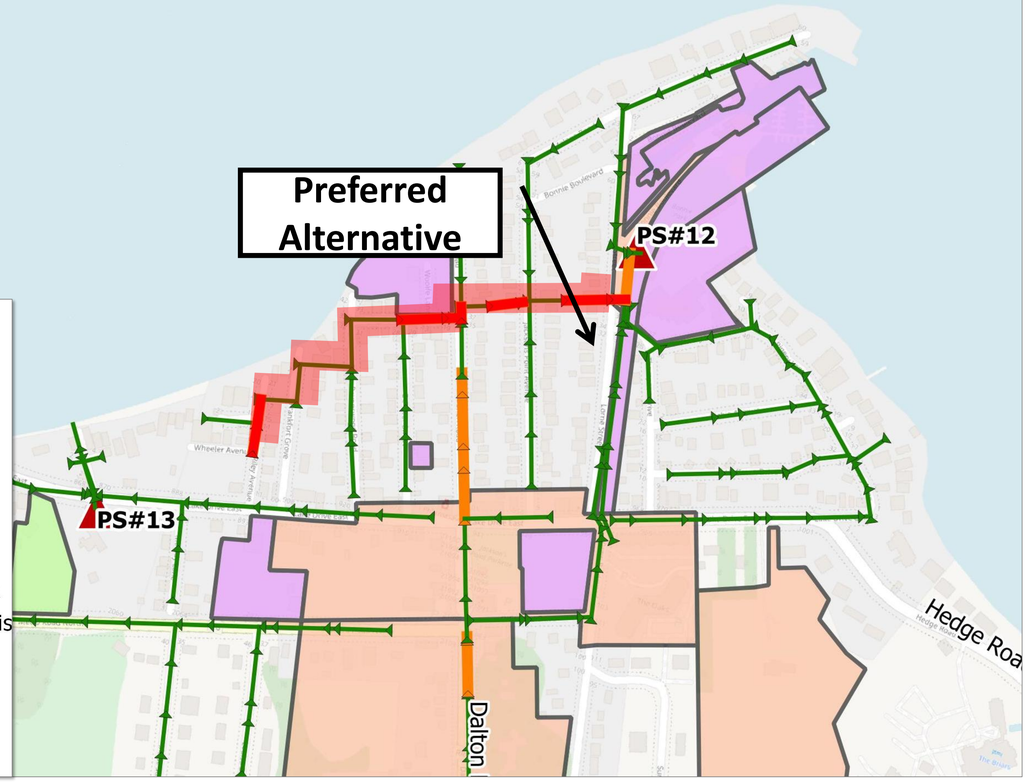
Existing Broader System Issues – Alternatives

Eastbourne– Existing capacity issues along Lake Drive North



Category	Alternative 1 Upgrade PS	Alternative 2 Upsize Sewers	Alternative 3 I/I Reduction
Technical Feasibility	🔴	🟢	🟡
Environmental Impacts	🟢	🟡	🟢
Social / Cultural Impacts	🟢	🟡	🟡
Financial Viability	🟢	🔴	🟡

Jackson's Point – Existing capacity issues through easement sewer



Category	Alternative 1 Sewer Upsize	Alternative 2 Divert Flows
Technical Feasibility	🟡	🟢
Environmental Impacts	🟢	🟢
Social / Cultural Impacts	🟡	🟡
Financial Viability	🟡	🔴

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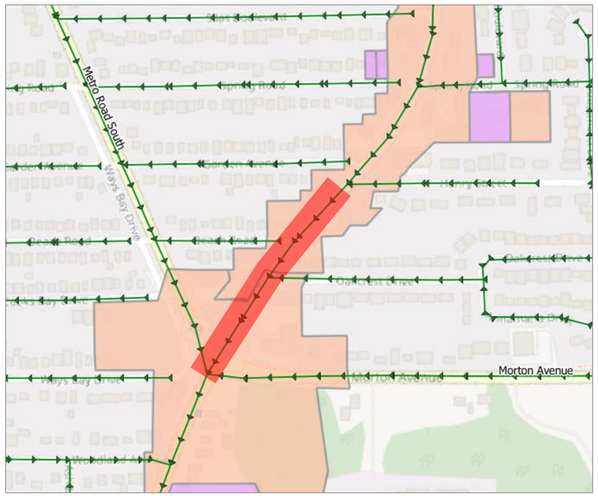
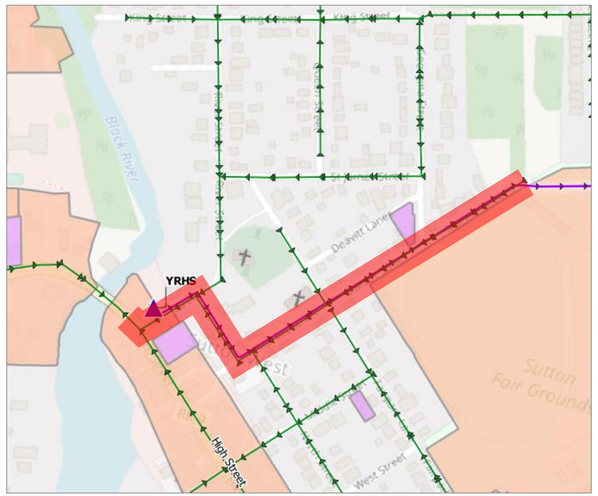
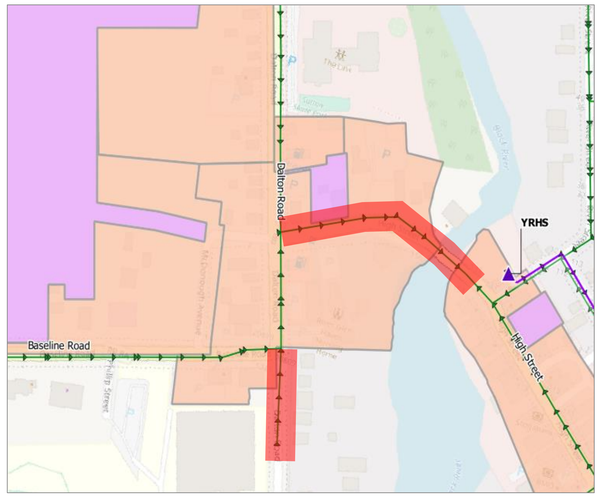
Sewer Capacity Upgrades







The Queensway South from Henry Street to Morton Avenue

- To address existing network capacity issues
- Planned growth in the area (infill and intensification)
- Not a priority I/I area – I/I reduction not a viable solution

Cottage Grove to Metro Road North

- To address existing network capacity issues
- Receives flows from PS#20 forcemain
- No growth planned in the area

Market Street Upgrades to High Street

- To address network capacity issues due to future growth in southeast Sutton

Dalton Road from south end to Baseline Road and High Street from Dalton Road to High Street Pumping Station

- To address network capacity issues due to future growth in southwest Sutton

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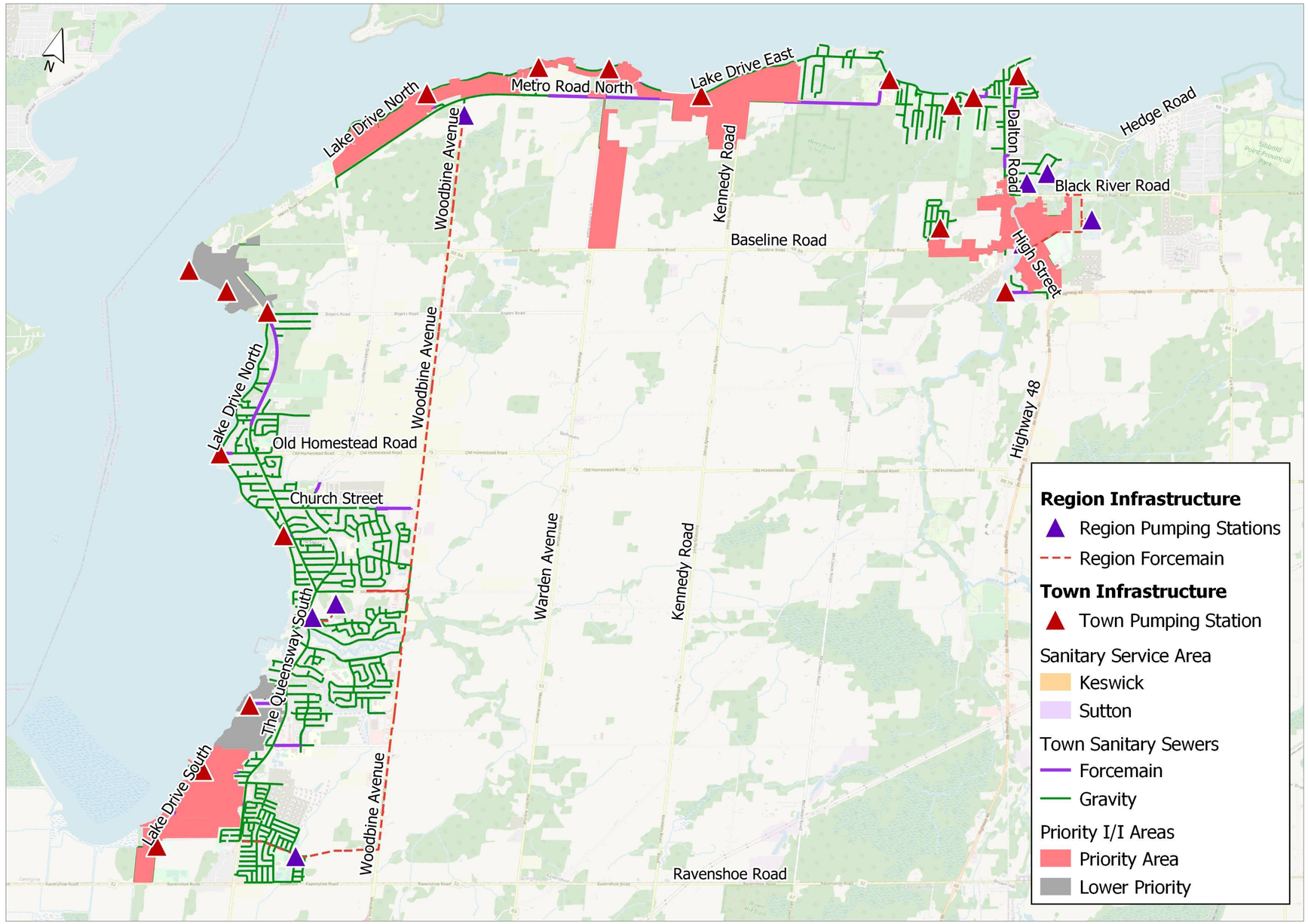
Inflow and Infiltration



What is Inflow and Infiltration (I/I)

- Groundwater and stormwater that enters the sanitary system

Why Reduce Inflow and Infiltration?

- To address network capacity issues
  - Avoids upsizing infrastructure to accommodate extraneous flows
- To reduce overall treatment volume
  - Saves money and maximizes the usage of the existing WRRF treatment capacity

Priority I/I Areas

- Priority areas were identified through analysis of historic and new flow monitoring data
- I/I studies in these areas will be recommended as part of the Town's capital program

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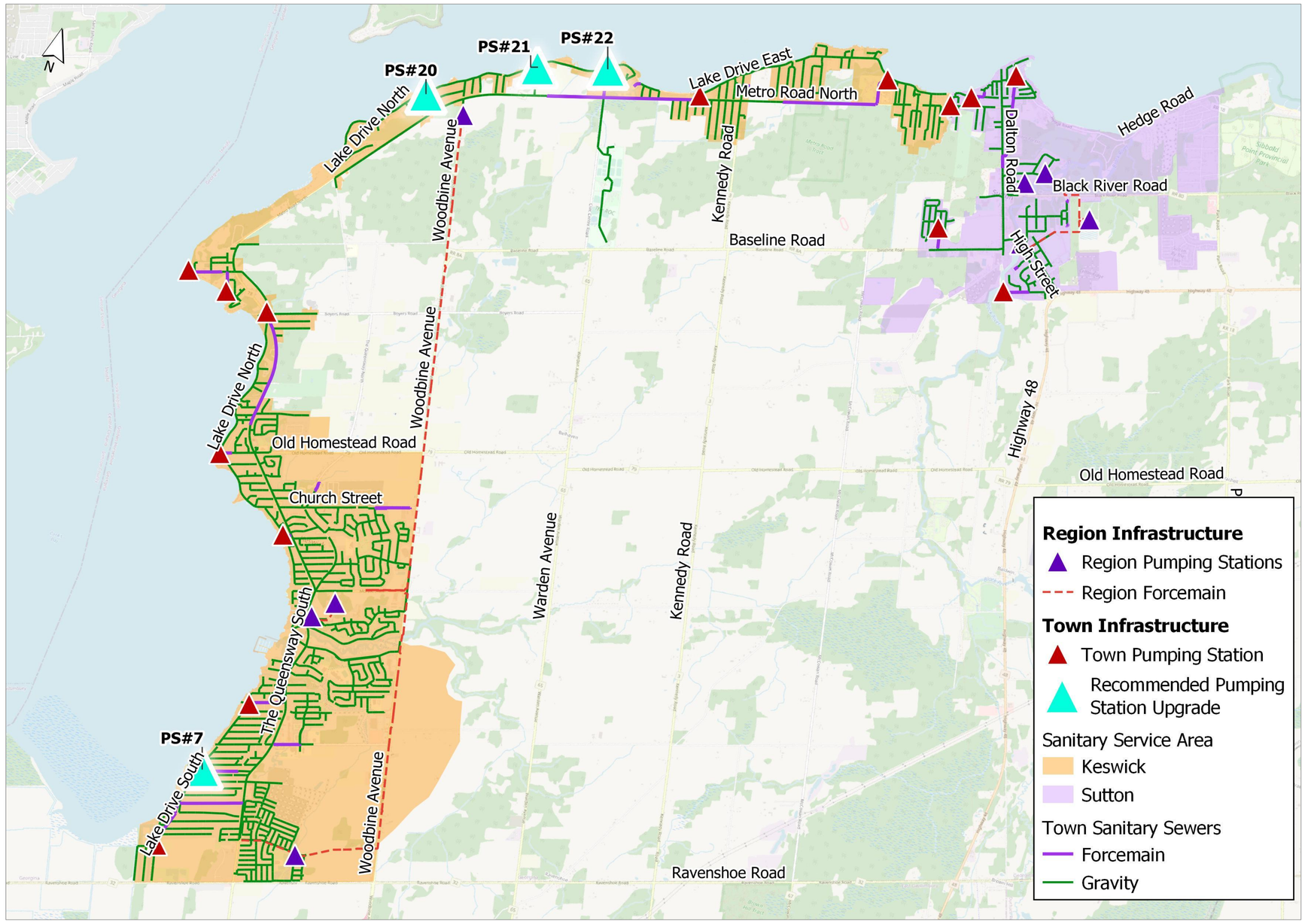
Pumping Station Capacity



The Town owns and operates:

- 5 pumping stations within the Sutton Service Area
- 13 pumping stations within the Keswick Service Area

There are four local pumping stations that are in need of capacity upgrades

Prior to implementation of station upgrades, the Town will consider:

- Pumping station condition assessment and pumping capacity assessment
- Inflow and infiltration reduction
- Presence of Growth Areas

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Capital Program

Project Type	Description	Estimated Capital Cost
Infrastructure Capacity Upgrades	Sewer	$4,550,000
	Pumping Station	$2,663,000
Inflow and Infiltration Reduction	Higher Priority	$9,200,000
	Lower Priority	$1,500,000
Total		**$17,913,000**

- This is a preliminary recommended capital program
- The program includes the upgrades anticipated between 2021 and 2041
- The Town will take these projects into consideration in the development of its comprehensive annual capital projects which would integrate sanitary sewer system projects with other infrastructure projects

Thank you for your participation!

We want to hear from you!
Please let us know your thoughts by filling out a comment form.
If you have any questions or input, please speak with one of the project team members here, and/or you may contact the Town of Georgina Project Manager:

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