

2016 Water and Wastewater Master Servicing Plan Update



HOW WE **FLOW**



Volume V - Public & Agency Consultation Final Report

June, 2017

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1. INTRODUCTION

1.1 Background

Niagara Region currently services the urban area of the municipalities of Grimsby, West Lincoln, Lincoln, St. Catharines, Thorold, Welland, Pelham, Port Colborne, Niagara-on-the-Lake, Niagara Falls, and Fort Erie. Water and wastewater servicing is operated under a two-tier system. Niagara Region is responsible for water treatment, transmission mains, storage facilities and major booster pumping stations; as well as wastewater treatment, trunk sewers and sewage pumping stations. The area municipalities are responsible for local water distribution networks and local sewer collection systems.

Niagara Region is part of the Greater Golden Horseshoe (GGH) area situated around the western and southern end of Lake Ontario that continues to be one of the fastest growing regions in North America. The Government of Ontario's legislative growth plan, Places to Grow Act 2005 and recent amendments, identifies substantial population and employment growth for the GGH to year 2041.

Readily available and accessible public infrastructure is essential to the viability of existing and growing communities. Infrastructure planning, land use planning and infrastructure investment require close integration to ensure efficient, safe and economically achievable solutions to provide the required water and wastewater infrastructure. To balance the needs of growth with the protection and preservation of natural, environmental and heritage resources, Niagara Region initiated an integrated process under the umbrella Niagara 2041 to complete a Municipal Comprehensive Review, a new Transportation Master Plan, and a Water and Wastewater Master Servicing Plan Update.

The 2016 Master Servicing Plan Update provides a review, evaluation and development of water and wastewater servicing strategies for all servicing within the urban areas of the Region. The 2016 Master Servicing Plan Update uses updated population and employment growth forecasts based on a 2041 planning horizon.

The Study Area for the Master Servicing Plan Update covers primarily the urban areas of the local municipalities in Niagara Region serviced by the lake-based systems. The Township of Wainfleet is not included in the scope of this Master Servicing Plan Update.



Figure 1 Study Area

The 2016 Master Servicing Plan Update builds on previous work undertaken as part of the 2011 Master Servicing Plan and previous long term infrastructure planning studies. The 2016 Master Servicing Plan Update is a critical component in the Region’s planning for growth and will provide the framework and vision for the water and wastewater servicing needs for the lake-based service areas of the Region to year 2041.

1.2 Integrated Planning Process

Niagara, as a whole, must proactively plan for and facilitate growth in order to conform with Provincial land use plans (*Places to Grow*). The Region is currently planning the best way to accommodate anticipated and targeted population and employment growth over the next 25 years. Under the umbrella “Niagara 2041” the Region will be establishing a growth strategy that will be urban in nature.

The establishment of the growth strategy involves completing (3) three projects:

1) Municipal Comprehensive Review (MCR) – ***How We Grow***

Look at the land available across Niagara, ensure there is enough land to sustain the expected growth to year 2041 and examine how the land is distributed throughout Niagara

2) Transportation Master Plan (TMP) – ***How We Go***

Look at current travel methods across Niagara and look to improve transportation systems including options for walking, cycling and public transit to better serve Niagara’s future needs

3) Water and Wastewater Master Servicing Plan (MSP) – ***How We Flow***

Ensure Niagara has the infrastructure to provide critical water and wastewater services to the growing Region in a sustainable and financially responsible way

These three projects are inter-connected and collectively form the foundation to support and foster Niagara’s growth and input into the Niagara Region Development Charge Study. The Master Plans will identify the preferred servicing solution and associated infrastructure needs to support projected growth as set out in the Municipal Comprehensive Review.

1.3 Master Servicing Plan Update Objectives

The Master Servicing Plan Update comprehensively documents the development, evaluation and selection of the preferred water and wastewater servicing strategies to meet the servicing needs of existing users and future development to 2041. The Master Servicing Plan Update evaluates the ability of existing and planned water and wastewater infrastructure in Niagara Region to efficiently and effectively service the Region’s existing users, service anticipated growth, and to evaluate and develop recommended servicing strategies.

The key objectives of the 2016 Master Servicing Plan Update are as follows:

- Review planning forecasts to 2041 and determine the impacts on servicing needs for the Region’s lake-based water and wastewater infrastructure;

- Evaluate the ability of existing and planned water and wastewater infrastructure to efficiently and effectively service the Region’s existing users and anticipated growth;
- Undertake a comprehensive review and analysis for both water and wastewater servicing requirements;
- Address key servicing considerations as part of the development and evaluation of water and wastewater servicing strategies including:
 - Level of service to existing users and approved growth
 - Operational flexibility and system security and reliability
 - Mitigation of impacts to natural, social and economic environments
 - Opportunity to meet policy, policy statements, regulations and technical criteria
 - Opportunity to optimize existing infrastructure and servicing strategies
 - Ensuring the strategies are cost effective
- Consider and develop sustainable servicing solutions with lifecycle considerations;
- Update the capital program cost estimating methodology and utilize updated industry trends and more detailed information from relevant Region studies and projects to provide appropriate capital cost estimates;
- Utilize the updated water and wastewater hydraulic models for the analysis of servicing alternatives;
- Establish a complete and implementable water and wastewater capital program;
- Provide extensive consultation with the public and stakeholders; and
- Complete the Master Servicing Plan Update in accordance with the MEA Class EA process for Master Plans.

1.4 Master Servicing Plan Update Report Outline

The 2016 Water and Wastewater Master Servicing Plan Update Report, including all supporting volumes, is the documentation placed on public record for the prescribed review period. The documentation, in its entirety, describes all required phases of the planning process and incorporates the procedure considered essential for compliance with the Environmental Assessment Act.

The 2016 Master Servicing Plan Update documentation is organized into five volumes as illustrated in the following Figure and as described below:

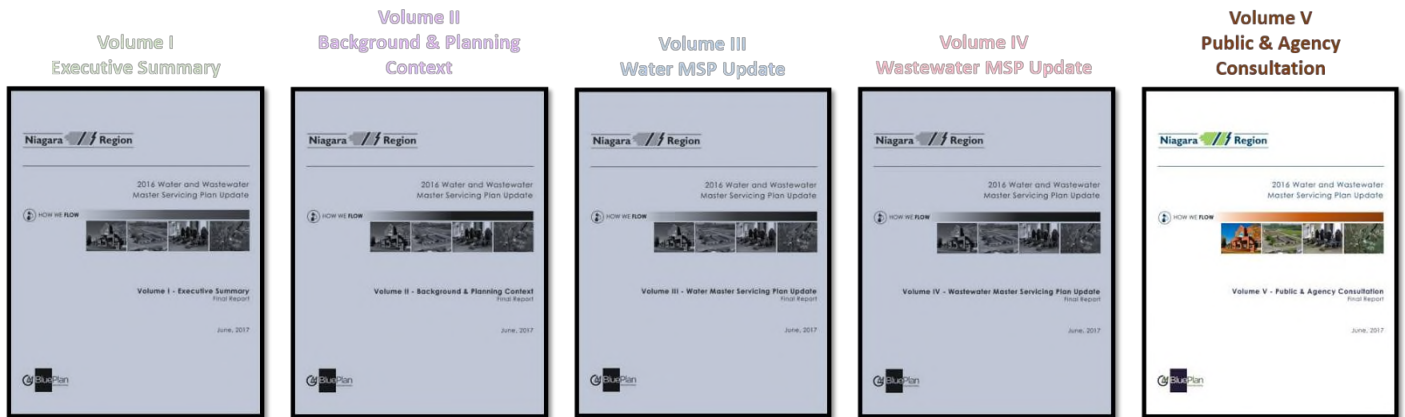


Figure 5.1 Master Servicing Plan Document Layout

Volume I – Executive Summary

Volume I provides a brief overview of the 2016 Master Servicing Plan Update. It summarizes the information contained in Volumes II, III, IV and V, including problem statement, purpose of the study, significant planning, policy and technical considerations, and description of the preferred water and wastewater servicing strategies including depiction of the projects and documentation of the capital programs.

Volume II – Background and Planning Context

Volume II details the master planning process including the Master Plan Class EA process, related studies, legislative and policy planning context, water and wastewater servicing principles and policies, population and employment growth forecasts, existing environmental and servicing conditions and future considerations.

Volume III – Water Master Servicing Plan Update and Project File

Volume III is the principle document summarizing the study objectives, approach, methodologies, technical analyses, evaluation and selection of the preferred water servicing strategy for each of the water systems. This volume contains baseline water system data and performance information. This volume documents the water servicing strategy development with detailed information on the projects and capital program associated with the preferred water servicing strategy.

Volume IV – Wastewater Master Servicing Plan Update and Project File

Volume IV is the principle document summarizing the study objectives, approach, methodologies, technical analyses, evaluation and selection of the preferred wastewater servicing strategy for each of the wastewater systems. This volume contains baseline wastewater system data and performance information. This volume documents the wastewater servicing strategy development with detailed information on the projects and capital program associated with the preferred wastewater servicing strategy.

Volume V – Public and Agency Consultation

Volume V contains all relevant documentation of the public consultation process including notices, comments and responses, and distribution information. Presentation material from all Public Information Centres (PICs) held during the process is included. Other presentation material and discussion information from workshops held with relevant agencies, approval bodies and other stakeholders are also included.

2. MASTER SERVICING PLAN REPORT VOLUME V

The current volume, Volume V, is a compilation of all relevant documentation related to public, stakeholder and agency consultation. It also provides the background support for satisfying Public Consultation for the Class EA Process.

All relevant materials have been consolidated and organized into separate appendices to this volume. These include:

- A. Notice of Study Commencement
- B. Master Contact List
- C. PIC #1
- D. PIC #2
- E. PIC #3
- F. Agencies – Government Consultation
- G. First Nations Consultation
- H. Report to Council
- I. Notice of Study Completion
- J. 45 Day Review

Volume V is one of five volumes that make up the complete Master Servicing Plan Class EA Study Report and should be read in conjunction with the other volumes.

APPENDIX A
Notice of Study Commencement

Get Involved in Niagara's Future: Attend a Public Information Centre

In the next 25 years, Niagara is expected to grow, bringing a possible 168,000 new residents and 80,000 new jobs to the region.

Niagara Region is making sure we're prepared for this growth through three projects that will help us plan where and how that growth will occur, and how it will be accommodated.



HOW WE GROW:

The Municipal Comprehensive Review will look at the land we have available across Niagara, and will ensure we have enough to sustain our expected growth to the year 2041. It will also examine how that land is distributed throughout Niagara.



HOW WE FLOW:

The Water and Wastewater Master Servicing Plan will ensure Niagara has the infrastructure to provide critical water and wastewater services to our growing region in a sustainable and financially responsible way.



HOW WE GO:

The Transportation Master Plan will look at how we currently travel in and around Niagara and how we can improve our transportation systems, including options for walking, cycling and public transit, to better serve Niagara's future needs.

GET INVOLVED:

Residents are invited to attend a Public Information Centre to learn how each of these projects contribute to Niagara's overall growth plan for the next 25 years, and how you can have your voice heard.

Nov. 17, 2015

Town of Grimsby
Council Chambers
160 Livingston Ave.
4 – 8 p.m.

Nov. 18, 2015

City of Port Colborne
Vale Health & Wellness Centre
550 Elizabeth St.
4 - 8 p.m.

Nov. 19, 2015

City of St. Catharines
Kiwans Aquatic Centre
425 Carlton St.
4 – 8 p.m.

There is an opportunity at any time during this process for interested persons to bring comments and concerns to the attention of the project managers, and to review outstanding issues. If you have any questions or comments or wish to be added to the study mailing list, please contact us:

HOW WE GROW

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HOW WE FLOW

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HOW WE GO

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If you require any accommodations for a disability in order to attend and participate in meetings or events, please let us know in advance so that arrangements can be made in a timely manner. Special accessibility accommodations and materials in alternate formats can be arranged by contacting the Niagara Region's Accessibility Advisory Coordinator at 905-685-4225 ext. 3252 or accessibility@niagararegion.ca.

The Transportation and Water and Wastewater studies follow 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 and 2011). The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning. The Master Servicing Plan will satisfy the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.

APPENDIX B

Master Contact List

Title	First Name	Last Name	Company/Organization	Department	Job Title	Street	City	Province	Postal Code	Email
ABORIGINAL COMMUNITIES										
	Isadore	Day	Assembly of First Nations		Regional Chief	111 Peter Street	Toronto	ON	M5V 2H1	
Mr.	Allan	MacNaughton	Haudenosaunee Confederacy		Chief	16 Sunrise Court, Suite 407, P.O. Box 714	Oshweken	ON	N0A 1M0	
Dr.	Mark	Knell	Metis Nation of Ontario	Environmental Assessments and Regulatory Issues	Manager	311-75 Sherborne Street	Toronto	ON	M5A 2P9	
Mr.	Derek	Pont	Niagara Region Metis Council		President	46 King Street, Suite 201-203	Welland	ON	L3B 3H9	pontdj@hotmail.com
Ms.	Joanne	Thomas	Six Nations of The Grand River Territory	Land and Resources		2498 Chiefswood Road, P.O. Box 5000	Oshweken	ON	N0A 1M0	
Mr.	Matthew	Jocko	Six Nations of The Grand River Territory	Land and Resources						mjocko@sixnations.ca
Mr.	Lonny	Bomberry	Six Nations of The Grand River Territory	Land and Resources	Director	1695 Chiefswood Road, P.O. Box 5000	Oshweken	ON	N0A 1M0	
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Mr.	Geoffery	Skafffeld	Niagara Regional Police	Executive Services	Superintendent	68 Church Street, Executive Services	St. Catharines	ON	L2R 3C6	
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Title	First Name	Last Name	Company/Organization	Department	Job Title	Street	City	Province	Postal Code	Email
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Title	First Name	Last Name	Company/Organization	Department	Job Title	Street	City	Province	Postal Code	Email
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Mr.	Ron	Hanson	City of Port Colborne	Engineering and Operations	Director	66 Charlotte Street	Port Colborne	ON	L3K 3C8	ronhanson@portcolborne.ca
Mr.	Dan	Aquilina	City of Port Colborne	Planning & Development	Director	66 Charlotte Street	Port Colborne	ON	L3K 3C8	danaquilina@portcolborne.ca
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Mr.	Craig	Manley	Haldimand County	Planning and Economic Development	General Manager	45 Munseee Street North, P.O. Box 400, Cayuga Administration Office	Cayuga	ON	N0A 1E0	
Mayor	Fred	Eisenberger	City of Hamilton		Mayor	77 James Street North, Suite 203, Office of the Mayor	Hamilton	ON	L8R 2K3	
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Mr.	Dan	McKinnon	City of Hamilton	Hamilton Water	Director					

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			Pelham (Ridgeville)		
			Pelham (Ridgeville)		
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			Pelham (Fonthill)		
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			Lincoln (Beamsville)		
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			Smithville		

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			St. Catharines		
			Welland		
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			Niagara Falls		
			St. Catharines		
			Welland		
			Fort Erie		
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			Fort Erie		
			St. Catharines		
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			Grimsby		
			St. Catharines		

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			St. Catharines		
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			Mississauga		
			Fort Erie (Stevensville)		
			Grimsby		
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			Lincoln (Beamsville)		
			Lincoln (Vineland)		
			Niagara-on-the-Lake		
			Lincoln (Beamsville)		
			St. Catharines		
			West Lincoln (Smithville)		

Title	First Name	Last Name	Municipality	Address	Email
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			Port Colborne		
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			Grimsby		
			Toronto		
			Welland		
			St. Catharines		
			Grimsby		
			Welland		
			Lincoln (Beamsville)		
			Lincoln (Beamsville)		
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Title	First Name	Last Name	Municipality	Address	Email
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			Lincoln (Jordan Station)		
			St. Catharines		
			Fort Erie		
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			Lincoln (Beamsville)		
			St. Catharines		
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			Grimsby		
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			Welland		

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			Welland		
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			St. Catharines		
			St. Catharines		
			St. Catharines		
			Lincoln		

2016 Water and Wastewater Master Servicing Plan Update
 Public Request Contact List - Mail 6/6/2017



Title	First Name	Last Name	Address	Municipality	Province	Postal Code	Email
				St. Catharines	ON		
				St. Catharines	ON		
				St. Catharines	ON		
				St. Catharines	ON		
				Fort Erie	ON		
				Fort Erie	ON		
				Fort Erie	ON		
				Smithville	ON		
				Welland	ON		
				Welland	ON		
				Vineland	ON		
				Niagara Falls	ON		
				Grimsby	ON		
				Grimsby	ON		
				West Lincoln (Smithville)	ON		
				Beamsville	ON		
				Hamilton (Ancaster)	ON		
				Welland	ON		

APPENDIX C

PIC #1

Get Involved in Niagara's Future: Attend a Public Information Centre

In the next 25 years, Niagara is expected to grow, bringing a possible 168,000 new residents and 80,000 new jobs to the region.

Niagara Region is making sure we're prepared for this growth through three projects that will help us plan where and how that growth will occur, and how it will be accommodated.



HOW WE GROW:

The Municipal Comprehensive Review will look at the land we have available across Niagara, and will ensure we have enough to sustain our expected growth to the year 2041. It will also examine how that land is distributed throughout Niagara.



HOW WE FLOW:

The Water and Wastewater Master Servicing Plan will ensure Niagara has the infrastructure to provide critical water and wastewater services to our growing region in a sustainable and financially responsible way.



HOW WE GO:

The Transportation Master Plan will look at how we currently travel in and around Niagara and how we can improve our transportation systems, including options for walking, cycling and public transit, to better serve Niagara's future needs.

GET INVOLVED:

Residents are invited to attend a Public Information Centre to learn how each of these projects contribute to Niagara's overall growth plan for the next 25 years, and how you can have your voice heard.

Nov. 17, 2015

Town of Grimsby
Council Chambers
160 Livingston Ave.
4 – 8 p.m.

Nov. 18, 2015

City of Port Colborne
Vale Health & Wellness Centre
550 Elizabeth St.
4 - 8 p.m.

Nov. 19, 2015

City of St. Catharines
Kiwans Aquatic Centre
425 Carlton St.
4 – 8 p.m.

There is an opportunity at any time during this process for interested persons to bring comments and concerns to the attention of the project managers, and to review outstanding issues. If you have any questions or comments or wish to be added to the study mailing list, please contact us:

HOW WE GROW

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Planner
Greg.Bowie@niagararegion.ca
905-980-6000 ext. 3375

HOW WE FLOW

David Shen
Planning Engineer
David.Shen@niagararegion.ca
905-980-6000 ext. 3777

HOW WE GO

Loy Cheah
Transportation Strategic
Projects Lead
Loy.Cheah@niagararegion.ca
905-980-6000 ext. 3482

If you require any accommodations for a disability in order to attend and participate in meetings or events, please let us know in advance so that arrangements can be made in a timely manner. Special accessibility accommodations and materials in alternate formats can be arranged by contacting the Niagara Region's Accessibility Advisory Coordinator at 905-685-4225 ext. 3252 or accessibility@niagararegion.ca.

The Transportation and Water and Wastewater studies follow 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 and 2011). The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning. The Master Servicing Plan will satisfy the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.



HOW WE FLOW

WHAT IS DRIVING THE MASTER PLAN STRATEGY UPDATE?



NIAGARA
2041

Fostering an Environment for Economic Prosperity



HOW WE FLOW

WHY ARE WE DOING A WATER AND WASTEWATER MASTER PLAN?

- **The Region of Niagara has initiated a Region-Wide Water and Wastewater Master Servicing Plan (MSP) to provide safe, sustainable and optimized Water and Wastewater services that support growth.**
- **The MSP will provide the business case for the need, timing and cost of servicing and infrastructure while doing so through a fully integrated process with Niagara 2041.**
- **The MSP will provide a detailed Regional water and wastewater capital program vetted through the comprehensive Municipal Engineers Association (MEA) Class Environmental Assessment process for Master Plans - Approach #2.**

NIAGARA
2041

Fostering an Environment for Economic Prosperity

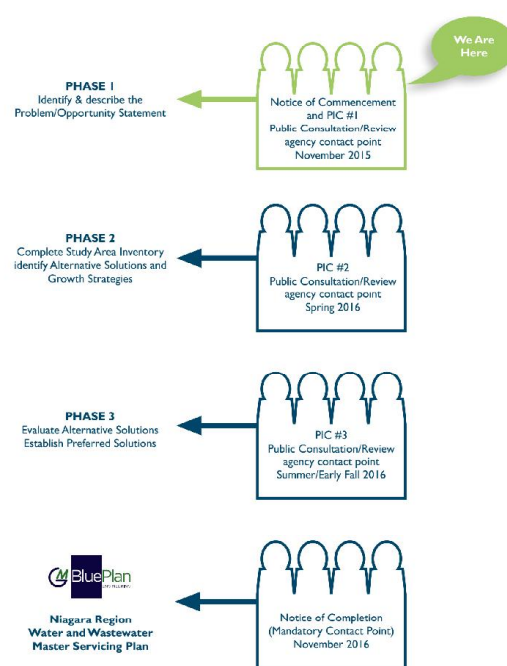
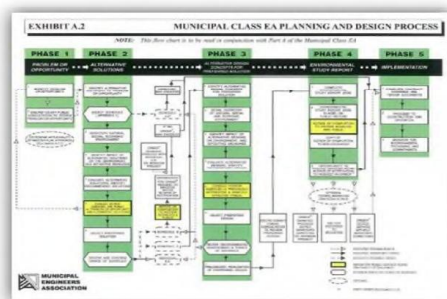


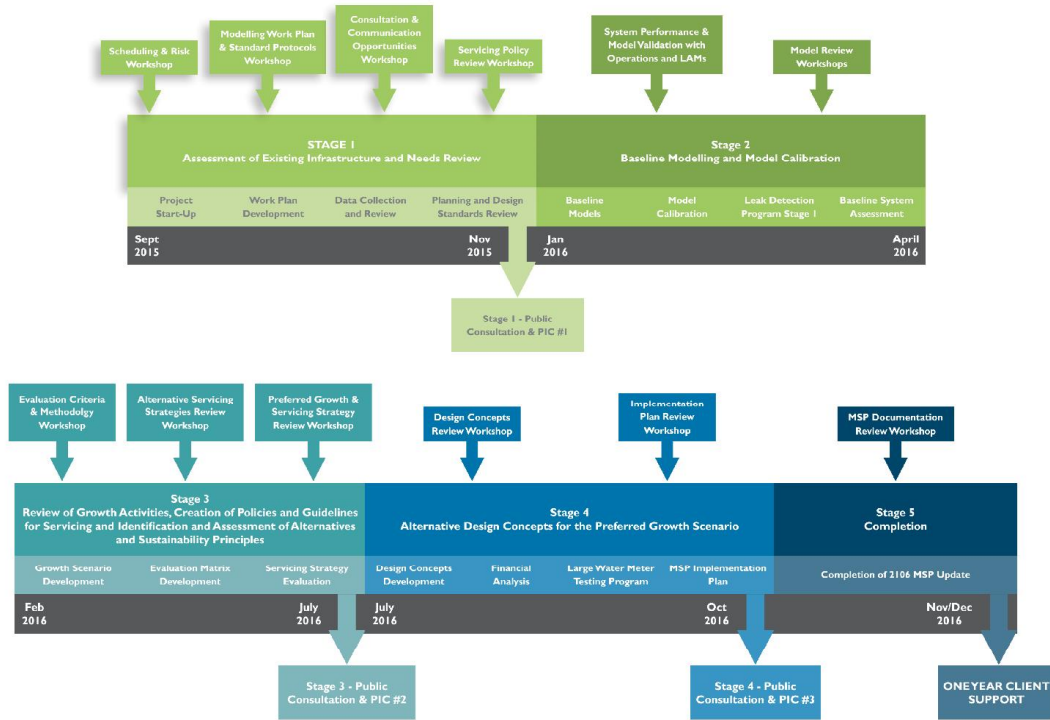


- In 2011, the Region completed a Water and Wastewater Master Servicing Plan (MSP) update which looked at planned growth to 2031.
- With an updated planning horizon to 2041, the MSP needs to be updated to determine how the Region's Water and Wastewater Infrastructure will support growth in a sustainable and financially responsible manner.
- The MSP will develop a long term servicing strategy and capital forecast to ensure the maintenance of services for existing residents and businesses as well as to support future growth in the community.



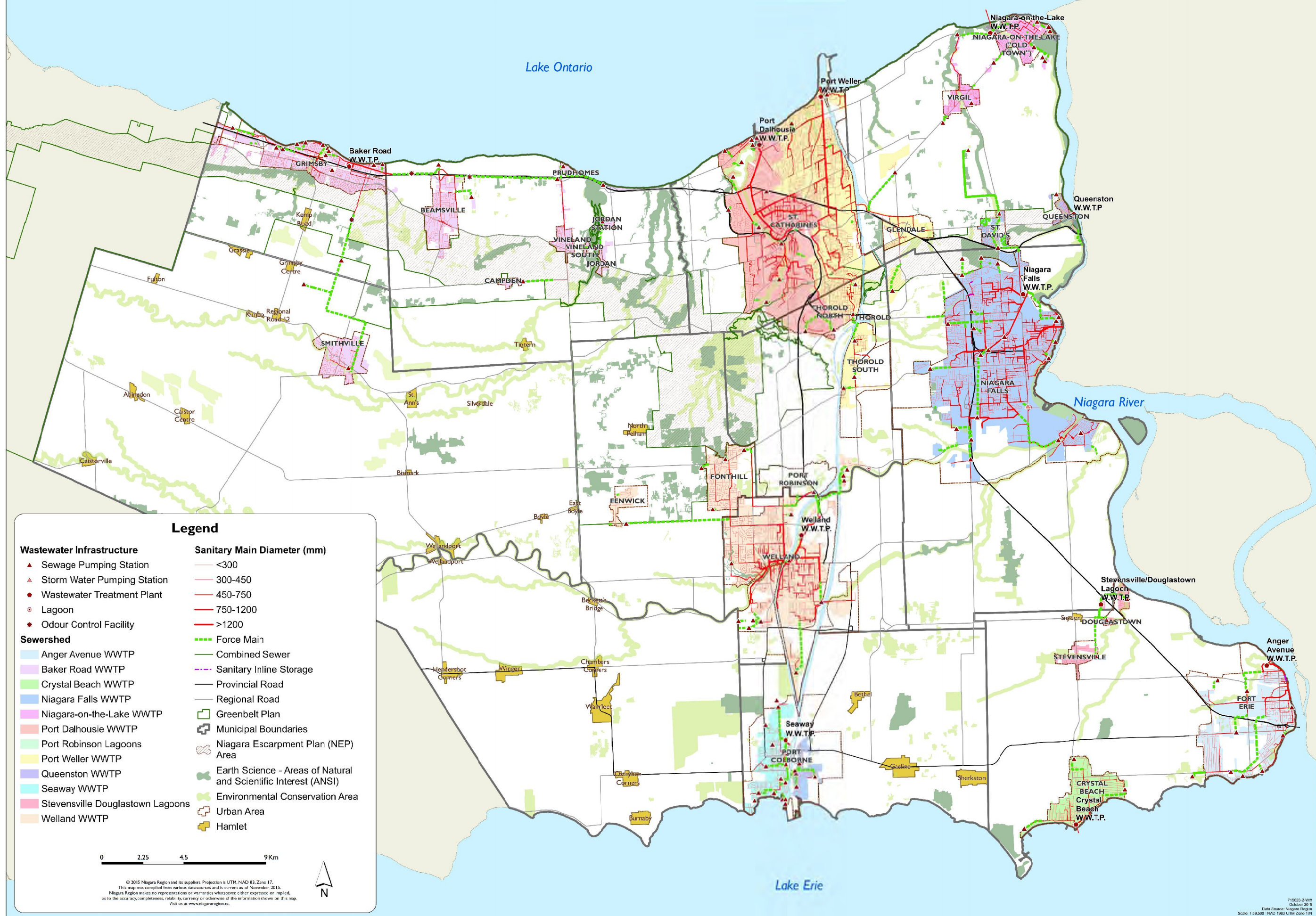
- The study follows the Master Plan process as outlined in Section A.2.7 of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (Oct 2000, as amended in 2007 and 2011).
- The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning.
- The Master Servicing Plan will meet the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.





- **Sound Decision Making for Growth Area Selection**
- **Continuous Improvement in Master Planning**
- **Integrated Process with Niagara 2041**
- **Balance between Infrastructure and Policy**
- **Greenfield and Intensification Servicing Impacts**
- **Existing Infrastructure Optimization and New Infrastructure Balance**
- **Appropriate and Supported Policy**
- **Managing Capacity both Regionally and Locally**
- **Clear Communication and Engagement**



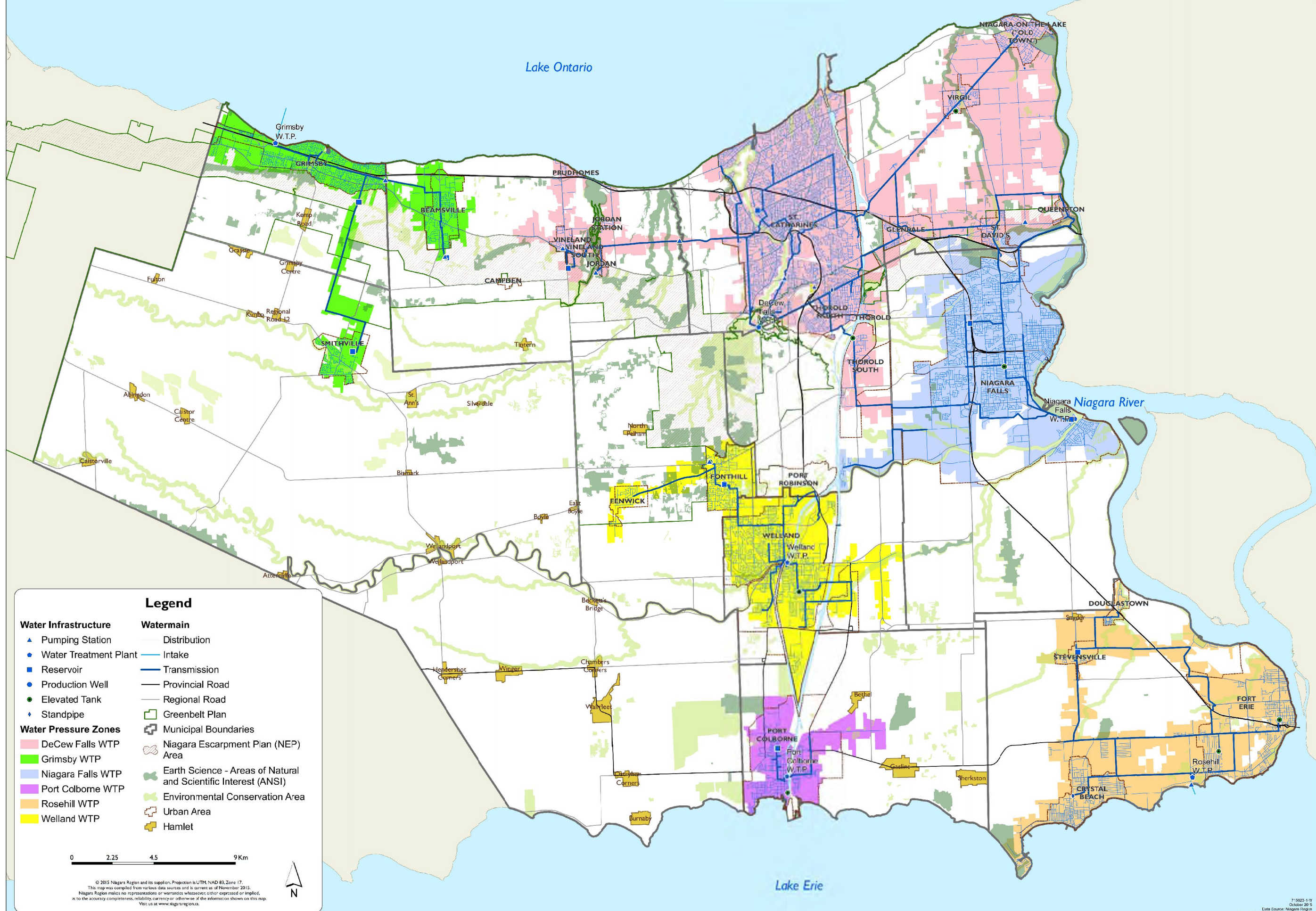


Legend

Wastewater Infrastructure	Sanitary Main Diameter (mm)
▲ Sewage Pumping Station	<300
▲ Storm Water Pumping Station	300-450
● Wastewater Treatment Plant	450-750
○ Lagoon	750-1200
* Odour Control Facility	>1200
Sewershed	--- Force Main
Anger Avenue WWTP	--- Combined Sewer
Baker Road WWTP	--- Sanitary Inline Storage
Crystal Beach WWTP	--- Provincial Road
Niagara Falls WWTP	--- Regional Road
Niagara-on-the-Lake WWTP	Greenbelt Plan
Port Dalhousie WWTP	Municipal Boundaries
Port Robinson Lagoons	Niagara Escarpment Plan (NEP) Area
Port Weller WWTP	Earth Science - Areas of Natural and Scientific Interest (ANSI)
Queenston WWTP	Environmental Conservation Area
Seaway WWTP	Urban Area
Stevensville Douglastown Lagoons	Hamlet
Welland WWTP	

0 2.25 4.5 9Km

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Legend

Water Infrastructure	Watermain
▲ Pumping Station	— Distribution
● Water Treatment Plant	— Intake
■ Reservoir	— Transmission
● Production Well	— Provincial Road
● Elevated Tank	— Regional Road
◆ Standpipe	□ Greenbelt Plan
Water Pressure Zones	□ Municipal Boundaries
■ DeCew Falls WTP	□ Niagara Escarpment Plan (NEP) Area
■ Grimsby WTP	■ Earth Science - Areas of Natural and Scientific Interest (ANSI)
■ Niagara Falls WTP	■ Environmental Conservation Area
■ Port Colborne WTP	■ Urban Area
■ Rosehill WTP	■ Hamlet
■ Welland WTP	

0 2.25 4.5 9 Km

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Summary Report
PIC #1



The Regional Municipality of Niagara

January 2016

Prepared by:



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Appendices

Appendix A

1. Background and Introduction

The Regional Municipality of Niagara is an upper-tier municipality comprised of twelve local area municipalities including West Lincoln, Lincoln, Grimsby, St. Catharines, Niagara Falls, Welland, Thorold, Niagara-on-the-Lake, Pelham, Port Colborne, Fort Erie and Wainfleet. The water and wastewater systems are operated in conjunction with the local area municipalities under the two-tier governance system. Niagara Region is responsible for operating all water and wastewater treatment plants, sanitary pump stations, trunk sewers, water transmission mains, booster pump stations and water storage facilities.

The Region has identified the need to undertake a 2016 Water and Wastewater Master Servicing Plan Update as there has been several significant changes since the completion of the 2011 study which impact the servicing strategy adopted as a result of that study.

Since the completion of the 2011 Master Servicing Plan, the Province's Places to Grow Plan Amendment 2 has been adopted, which outlines the Regional growth targets out to 2041. Further, the Region through the Regional Council Strategic Priorities, is focused on fostering an environment for economic prosperity in Niagara and using the relationships between residential and employment growth, and transportation to change how, when, and where growth is expected to occur and be supported. The Region is currently undertaking a Municipal Comprehensive Review (Niagara 2041) that will outline the Region's Growth Plans moving forward.

The Regional Municipality of Niagara has initiated the Water and Wastewater Master Servicing Plan Update Class Environmental Assessment (EA) Study, Approach 2 to identify several alternative design concepts to provide water and wastewater servicing for the Region to 2041.

The study area for the Water and Wastewater Servicing Study Update is shown in Figure 1 and Figure 2.

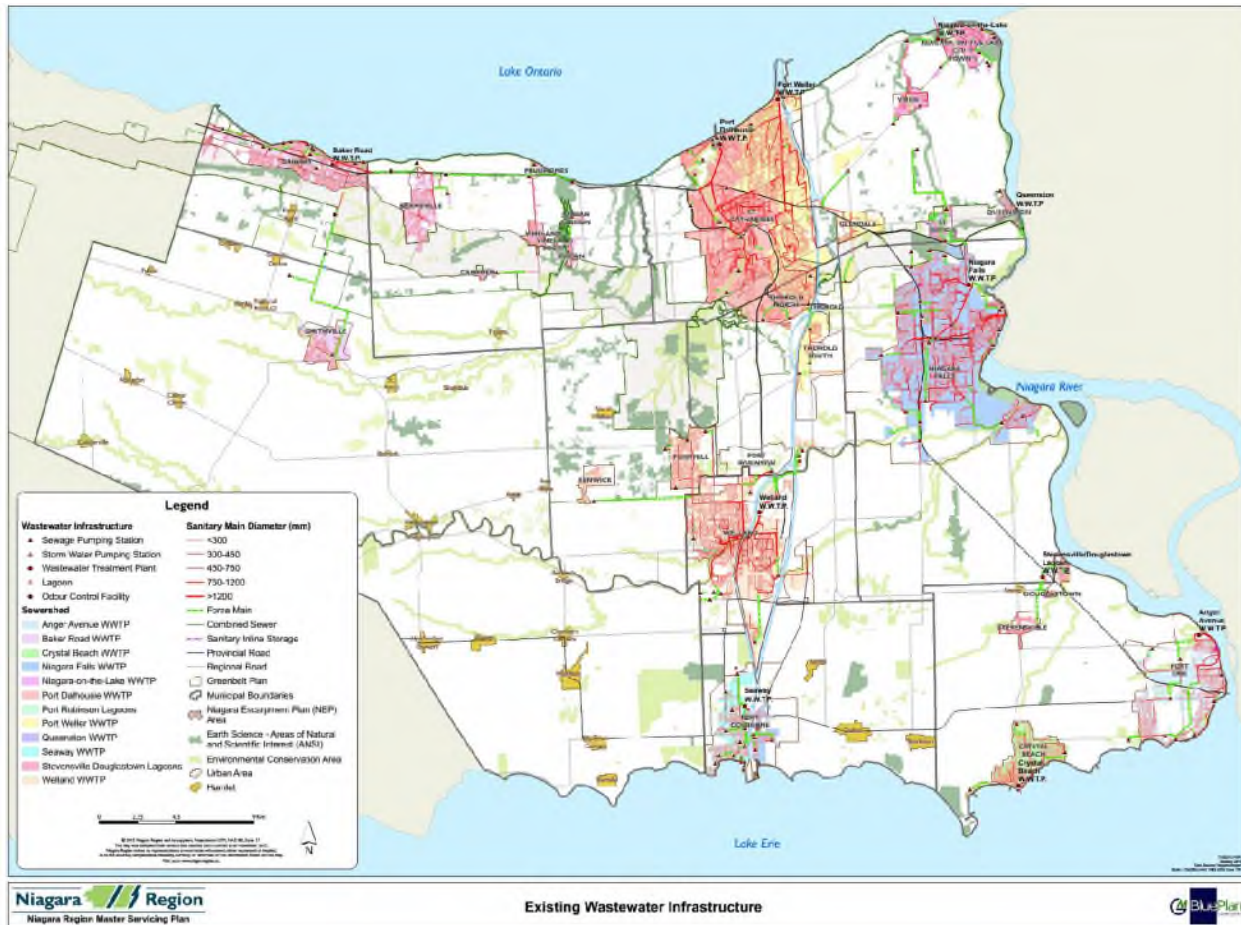


Figure 1. Study Area – Wastewater Infrastructure

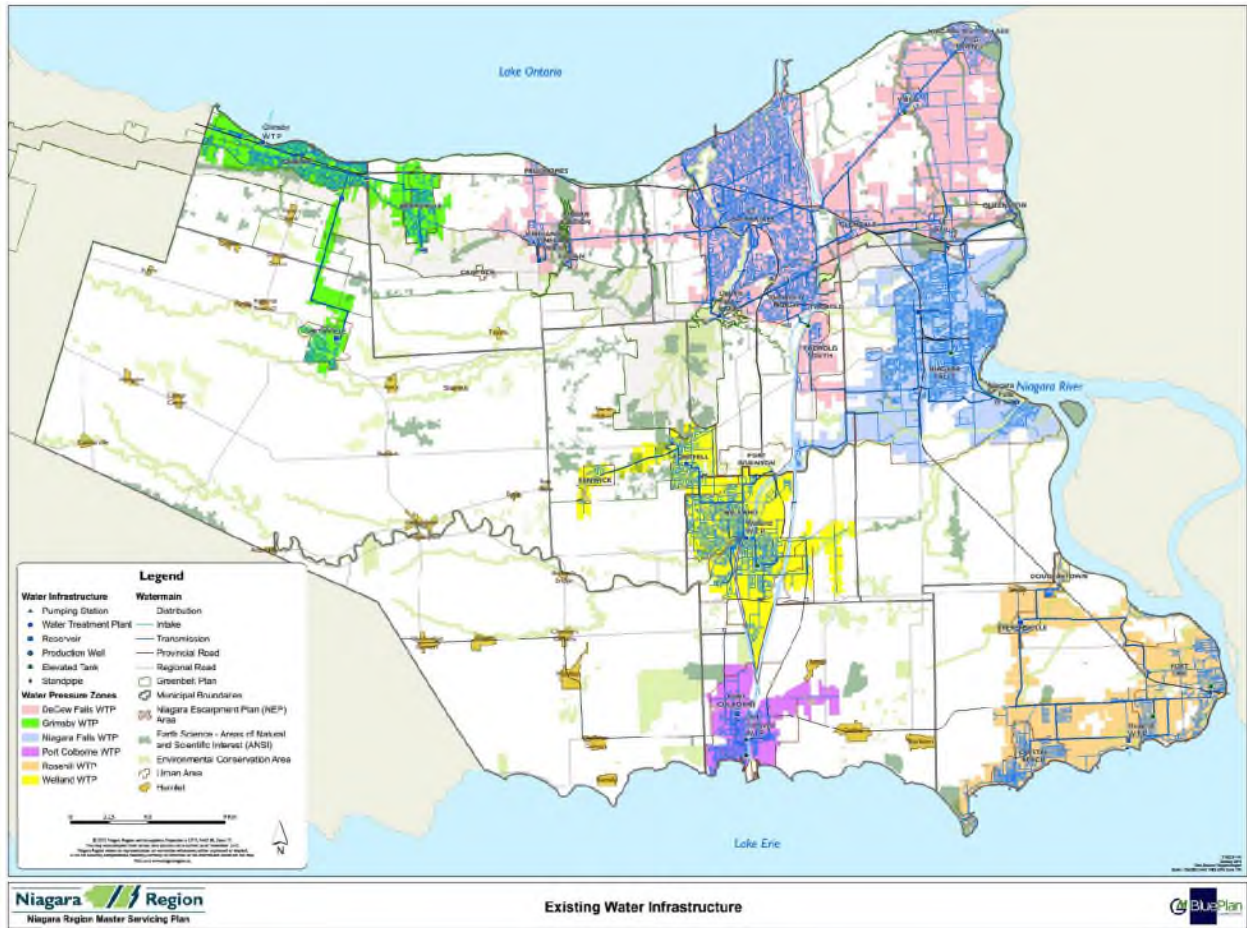


Figure 2. Study Area – Water Infrastructure

The Class EA study follows the Municipal Class Environmental Assessment process (October 2000, as amended in 2007 and 2011), Approach #2 for Master Servicing Plans as seen in Figure 3. The Class EA process includes public and review agency consultation, evaluation of alternatives, impact assessment of proposed alternatives, and identification of measures to mitigate adverse impacts.

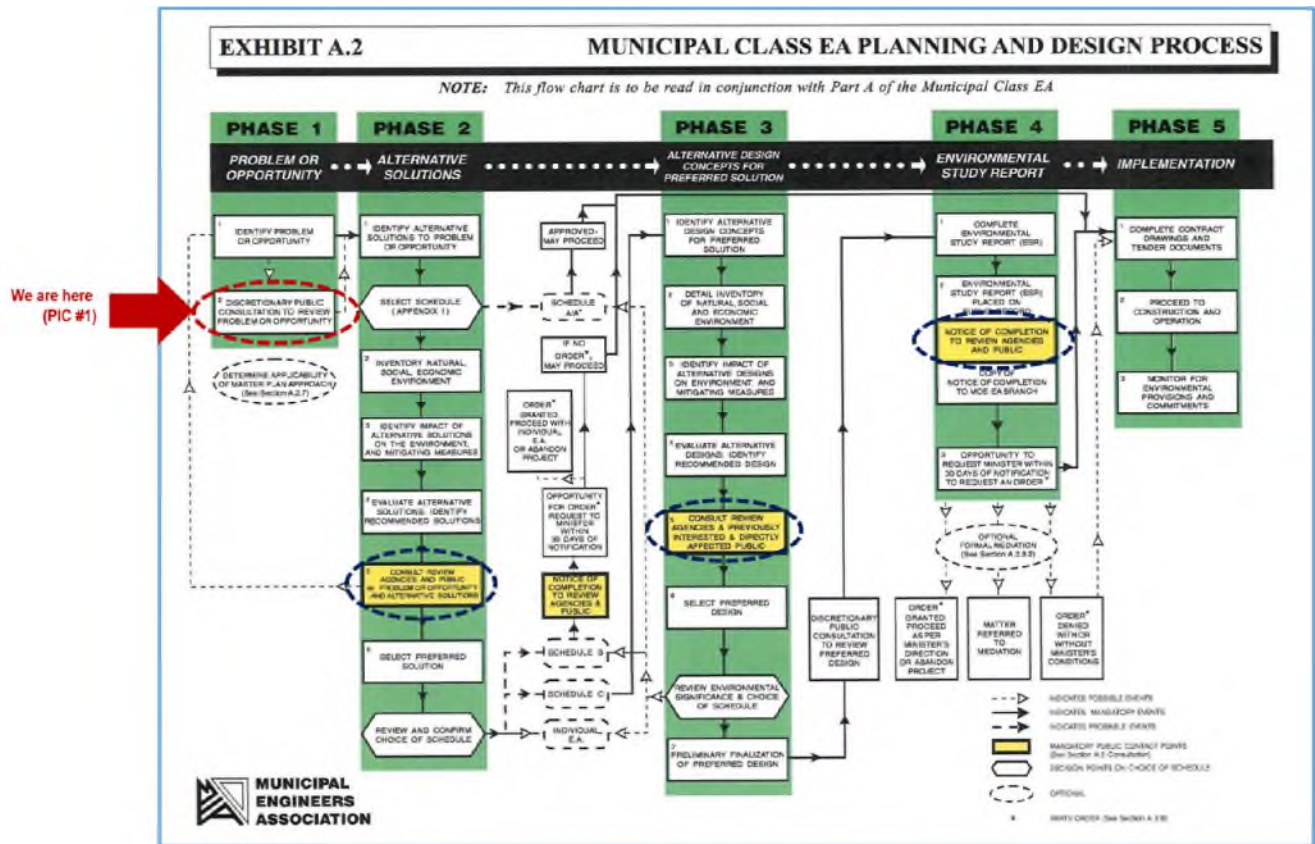


Figure 3. Municipal Class EA Planning and Design Process

A key part of the public consultation component is the Public Information Centre (PIC), which serves as a forum for information exchange between the public/stakeholders and the project team. Three rounds of PICs are planned during the course of this study.

The *Public Information Centre #1 Summary Report* focuses on PIC #1 and represents one element of the overall public consultation process. The report documents the following:

- Notice of PIC#1
- Information materials presented at PIC #1
- Summary of attendance
- All comments received and responses provided
- Communications tracking sheet to track correspondence in a transparent and traceable manner

1.1. Class EA Context

The Class EA Study follows the approved process as outlined in Section A.2.7, of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment Act

(October 2000, as amended in 2007 and 2011) . The Master Servicing Plan Study is being carried out as an Approach #2 for Master Servicing Plans.

Public consultation is a vital component of the Class EA process and ensures transparency by encouraging stakeholder and public involvement. The three rounds of Public Information Centres (PICs) are included in Figure 4 below.

The first round of Public Information Centres (PIC #1) was held on November 17, November 18 and November 19, 2015. PIC#1 was intended to introduce the project, present the background and overall study process, generate interest and solicit feedback for the process.

PIC#2 will be held in summer 2016 and will provide an overview of the baseline system assessment, growth scenario development, and evaluation matrix development.

PIC#3 will be held in fall 2016 and will identify the alternative design concepts for the preferred growth scenario.

The final project report, the Environmental Study Report (ESR), will be prepared in November/December 2016, at which point a Notice of Completion will be issued; making the documentation available for public review.

PROPOSED WORK PLAN PROCESS

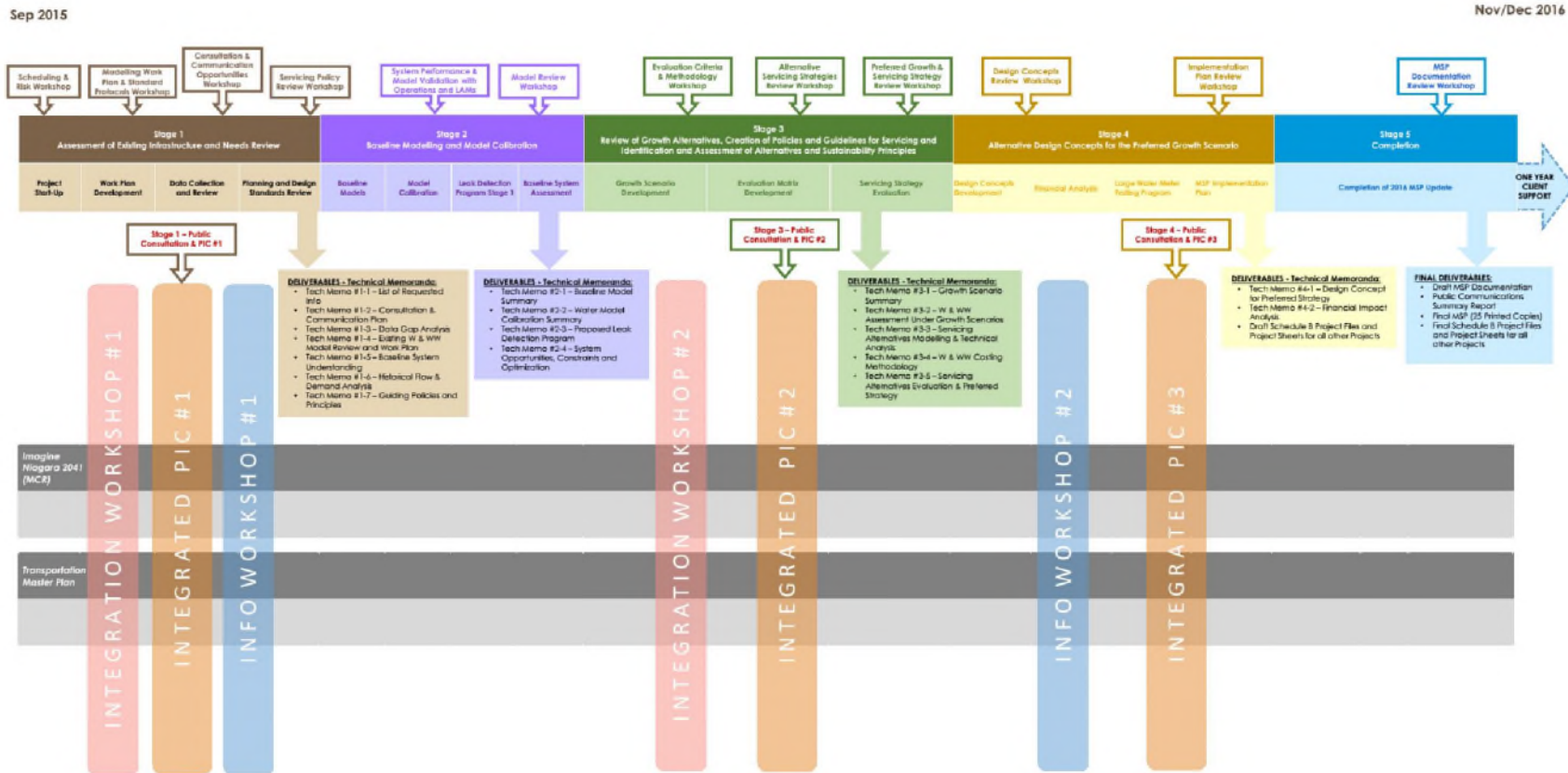
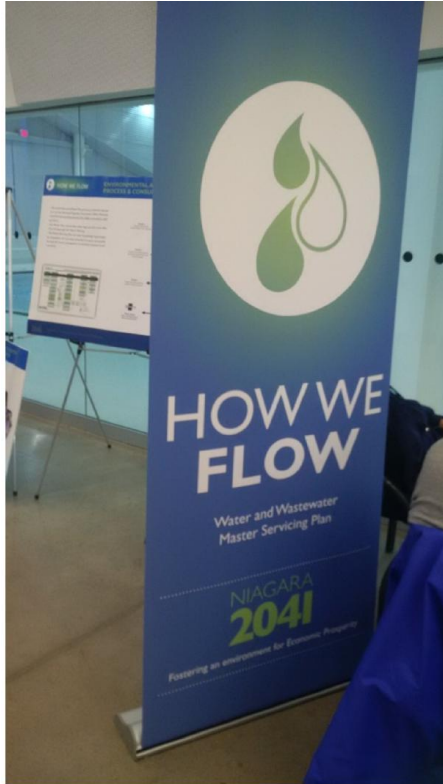


Figure 4. Study Process

2. Public Information Centre #1

2.1. Purpose



The first Public Information Centre (PIC #1) was intended to:

- Introduce the study to the public
- Describe the Class EA process
- Identify the problem and opportunity statement
- Outline the overall study process
- Provide baseline information such as existing systems, land use, catchment areas and environmental features
- Obtain public input and answer any questions

2.2. Notifications

Agency stakeholders and the public were informed of PIC #1 through newspaper advertisements and mail. The combined Notice of Commencement and PIC #1 are provided in Appendix B.

2.2.1 Newspaper and Online Advertisement

The combined Notice of Commencement and Public Information Centre #1 was published in the following local newspapers:

- Fort Erie Times – November 5, 2015
- Port Colborne – In Port News – November 5, 2015
- Niagara Advance – November 5, 2015
- News Now (which serves Grimsby, Lincoln, West Lincoln, Winona) – November 5, 2015
- Niagara Falls Review – November 5, 2015
- Thorold News – November 5, 2015
- Pelham News – November 5, 2015
- St. Catharines Standard – November 5, 2015
- The Tribune – November 5, 2015

2.2.2 Mail Out

The Notice of PIC #1 was mailed to local government, review agencies and other stakeholders on November 10, 2015.

2.3. Dates, Times, and Locations

PIC #1 was held at three locations within the study area. Table 1 identifies the dates, times, and locations for PIC #1.

Table 1. PIC #1 Dates, Times, and Locations

Municipality	Date	Time	Location
Town of Grimsby	Tuesday, November 17, 2015	4:00 – 8:00 p.m.	Town of Grimsby Town Hall Council Chambers 160 Livingston Ave Grimsby, ON
City of Port Colborne	Wednesday, November 18, 2015	4:00 – 8:00 p.m.	Vale Health and Wellness Centre 550 Elizabeth Street Port Colborne, ON
City of St. Catharines	Thursday, November 19, 2015	4:00 – 8:00 p.m.	Kiwanis Aquatic Centre 425 Carlton Street St. Catharines, ON

Representatives from the Regional Municipality of Niagara and its Consultant, GM BluePlan Engineering, were present at the PIC to provide information and answer questions.

PIC #1 was integrated with other related and ongoing Regional projects including the Transportation Master Serving Plan and the Municipal Comprehensive Review (Niagara 2041). Representatives from IBI Group, as well as Hemson Consulting Ltd. were present at PIC #1 to address their projects.

2.4. Display Panels

The information presented at PIC #1 included the following printed display panels:

1. Purpose of the Study
2. Problem and Opportunity Statement
3. Class EA Process
4. Project Work Plan and Schedule
5. Key Servicing Issues and Considerations
6. What is driving the Master Plan Study?
7. Existing Wastewater System Map
8. Existing Water System Map

2.5. Attendance

A total of 105 people attended PIC #1. 44 attendees signed in at the Grimsby location, 8 in Port Colborne and 54 in St. Catharines.

2.6. Comments and Responses

Attendees were encouraged to provide input on the PIC and/or study in a comment sheet provided via email or at the PIC using post-it notes on the boards.

A list of all notes that were provided at the PIC's via affixed post-it's are listed below.

- Stop basing growth on ever increasing sprawl
- Preserve and expand natural areas for inexpensive green infrastructure
- Stay off greenfields
- Greater permeability of soils, increase water carrying capacity
- Slow sprawl
- Follow Ian Smith's guidance for reducing need for infrastructure upgrades
- Work toward disconnection of roof drains. Reward owners with less sewer bills. Huge savings in pipe costs.

- Permeable surfaces for storm drainage, green infrastructure and decrease pipe decrease concrete therefore less climate impacts
- Put infrastructure where there is market interest and demand, N/W not South
- Servicing should be in Chippawa area within urban boundaries.
- Preserve wetlands reduce floods
- Reduce the need for greater infrastructure



Table 2. Summary of Comments Received

Last Name	First Name	Location	Future Consultation	Projects	Comments
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<p>Specific project comments: Grimsby is being pinched to the point that it's starting to hurt. Let's focus on expanding to the south - Mid-Peninsula Corridor, new infrastructure to accommodate the future growth.</p>
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<p>Specific project comments: Needs to be more discussion on spreading of bio-solids as fertilizer. New and emerging science on the subject. More study by independent scientists - not connect to EPA or the sludge industry - is required. Incineration and ash seems to be a viable - if expensive - solution. However, investment now may save significantly in the future.</p>
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<p>Specific project comments: Sugarloaf and Schofile</p> <p>Suggestions regarding consultation/PIC: The water is not strong enough to wash hair.</p>
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<p>Specific project comments: Cess pool (sewage lagoon)! Water - pressure Loss of too many buildings because of low pressure! Transportation (apps)</p> <p>Suggestions regarding consultation/PIC: I am happy that Region has a long term - priority list - important in good planning!</p>
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<p>Specific project comments: Everything in general - to keep in the know.</p>
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<p>Specific project comments: The fact that most recent population projection still 12,000 below 2011 target shows billions (?) report is conclusions that urban boundary expansions being unwarranted still valid. Also shows that existing Provincially Significant Wetlands should remain protected. Transportation as part of whole streets bioswales should be encouraged. This would both make street easier for cyclist, and reduce storm water effluent by encouraging treatment through what in effect would become, linear constructed wetlands. Roof gardens should also be encouraged to reduce storm water volumes.</p>

Last Name	First Name	Location	Future Consultation	Projects	Comments
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<p>Specific project comments: How We Grow - Agricultural Land Base Map needs to be made accurate to reflect finding of 1979 OMB decision. It is strange that soils mapping is missing from this information session. Has the Region FORGOTTEN that their original MANDATE was to protect prime farm lands and natural heritage features such as forests, wetlands, streams and rivers. Preservation of PRIMARY INDUSTRY should be the basis for all plans - farming, fishing, mining, and forestry. These form basis for all employment which politicians claim to want to create.</p>
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<p>Specific project comments: TMP - Keep old rail right of way available for fast electric rail that worked so much better than the highway system that replaced it. MCR - Save the best agricultural land on the Lake Ontario plain. Shift development south to Thorold, Welland, Port Colborne which have lots of land vacated by industry. there is no need to expand Grimsby, St. Catharines, Niagara-on-the-Lake when there is enough urban land available for 40+ years. MSP - Surface drainage from streets and parking lots should go onto green medians to be cooled and filtered before going into drains. See parking lot of environmental office on Schmon Parkway compared to brock, which drains greenspace to pavement to carry heat, dirt and salt to Lake Gibson. TMP - The long run plan should be to put utilities underground so streets and be shaded by trees to prevent global warming. Technologies to put utilities underground has improved to make the cost more reasonable. The increasing severity and frequency of storms makes overhead wires much less reliable.</p>
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<p>Specific project comments: How We Grow: Maintaining and expansion of Greenbelt - should be considered - is needed. Protection of significant wetlands. More urban trees. How We Go: Alternatives to Mid-Peninsula Highway should be used - improve existing highways. Go Train to Niagara Falls. Regional Transit System.</p>

Last Name	First Name	Location	Future Consultation	Projects	Comments
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	Specific project comments: Protecting wetlands and biodiversity is most important. Intensification would make it easier to provide transit and services for an aging population. Consider including bus passes as part of property tax so more people would take transit and there would be fewer cars on the road.
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	Specific project comments: Hoping you are looking at a seniors friendly strategy as part of your growth planning.
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	Specific project comments: Hoping you are looking at a seniors friendly strategy as part of your growth planning.

3. Next Steps

Following the first round of public consultation, the project team will provide the following:

- Baseline modelling and model calibration
- Growth scenario development
- Evaluation matrix development
- Servicing Strategy evaluation
- Prepare for PIC #2 (tentatively Summer 2016)

Memorandum

C8335 Revised

Date: October 22, 2015
To: Regional Council
From: Diana Morreale, Manager, Community Planning
Subject: Niagara 2041 - Joint Public Information Centres in November 2015

Overview

Niagara, as a whole, must proactively plan for and facilitate growth in order to conform with Provincial land use plans (*Places to Grow*). The Region is currently planning the best way to accommodate anticipated and targeted population and employment growth over the next 25 years. Under the umbrella "Niagara 2041" the Region will be establishing a growth strategy that will be urban in nature. The establishment of the growth strategy involves completing (3) three projects:

- 1) Municipal Comprehensive Review (MCR) – **How We Grow**
- 2) Transportation Master Plan (TMP) – **How We Go**
- 3) Water and Wastewater Master Servicing Plan (MSP) – **How We Flow**

These three projects are inter-connected and collectively form the foundation to support and foster Niagara's growth and input into Development Charge Study. The Master Plans will identify the preferred servicing solution and associated infrastructure needs to support projected growth as set out in the Municipal Comprehensive Review. All three projects have recently been launched and Niagara Region will be hosting a joint **Public Information Centre for the MCR, TMP, MSP**. Three (3) Public Information Centres are planned in November 2015 as an opportunity for all members of the public to learn about the MCR, TMP, and MSP. The public information centres will be hosted in three locations across the Region on the following dates:

- 1) **Grimsby: Nov 17, 2015** (4pm to 8pm), **Town of Grimsby Council Chambers, 160 Livingston Ave**
- 2) **Port Colborne: Nov 18, 2015**(4pm to 8pm), Vale Health & Wellness Centre, 550 Elizabeth Street
- 3) **St. Catharines: Nov 19, 2015** (4pm to 8pm), Kiwanis Aquatic Centre, 425 Carlton Street

Municipal Comprehensive Review (MCR)

The MCR will critically examine growth potential and local priorities for growth and development over the long term. It will also plan for where and how that growth will be accommodated. A MCR is an official plan review initiated by the municipality and it comprehensively applies the policies and schedules of the *Growth Plan for the Greater Golden Horseshoe, 2006*.

Water and Wastewater Master Plan (MSP)

The MSP update will develop the capital forecasts over the next 25 years for how Region's water/wastewater infrastructure will support growth in a sustainable and financially responsible manner.

The MSP will evaluate the growth strategy options that are identified by the MCR and will provide a proposed project list and capital forecast based on the preferred growth option. The MCR and will be a direct input into the Development Charges Study. The MSP will also investigate some key water and wastewater operation issues and provide guidance to operation optimization. The MSP will be coordinated with the local municipalities to synchronize infrastructure and servicing capacity information.

Transportation Master Plan (TMP)

The TMP directs how the Niagara transportation system will be designed, define the users that it will accommodate (pedestrian, cyclist, transit, rail, air, freight, automobile), and the investments that will be needed to achieve it. The TMP will provide a data model of future transportation needs, inform strategic infrastructure investments (roads, bridges, transit services) through the Class Environmental Assessment (EA) process and provide a new vision for how residents will move within and through Niagara.

The vision and recommendations of the TMP will be complementary to the preferred growth option developed through the Municipal Comprehensive Review (MCR) and will be direct inputs to the Development Charges Study.

Local Municipal Involvement

Local staff will be actively involved throughout the Regions Master Plan process to ensure alignment with the local municipal master plan processes with respect to where growth will occur and the timing of infrastructure.

For more information on the mandatory projects please contact:

- **Municipal Comprehensive Review:** Greg Bowie, Planner, Planning and Development Services at ext. 3375 or greg.bowie@niagararegion.ca
- **Transportation Master Plan:** Loy Cheah, Transportation Lead, Strategic Initiatives and Projects, Public Works at ext. 3482 or loy.cheah@niagararegion.ca
- **Water and Wastewater Master Servicing Plan:** David Shen, Development Planning Engineer, Public Works at ext. 3777 or david.shen@niagararegion.ca

Respectfully submitted and signed by,

Diana Morreale, MCIP, RPP
Manager, Community Planning

cc: LAM Planners, LAM Public Works Officials, LAM Clerks

APPENDIX D

PIC #2

Get Involved in Niagara's Future: Attend Public Information Centre #2

In the next 25 years, Niagara is expected to grow, bringing a possible 168,000 new residents and 79,000 new jobs to the region.

Niagara Region is making sure we're prepared for this growth through three projects that will help us plan where and how that growth will occur, and how it will be accommodated.



HOW WE GROW:

The Municipal Comprehensive Review will look at the land we have available across Niagara, and will ensure we have enough to sustain our expected growth to the year 2041. It will also examine how that land is distributed throughout Niagara.



HOW WE FLOW:

The Water and Wastewater Master Servicing Plan will ensure Niagara has the infrastructure to provide critical water and wastewater services to our growing region in a sustainable and financially responsible way.



HOW WE GO:

The Transportation Master Plan will look at how we currently travel in and around Niagara and how we can improve our transportation systems, including options for walking, cycling and public transit, to better serve Niagara's future needs.

GET INVOLVED:

Residents are invited to attend a Public Information Centre in their community to learn how each of these projects contribute to Niagara's overall growth plan for the next 25 years, and how you can have your voice heard.

June 15, 2016

Town of Fort Erie
Leisureplex Banquet Hall
3 Municipal Centre Dr.
4 - 8 p.m.

June 16, 2016

Township of West Lincoln
Council Chambers
318 Canborough St.
4 - 8 p.m.

June 22, 2016

City of Welland
Civic Square – Front Foyer
60 East Main St.
4 - 8 p.m.

There is an opportunity at any time during this process for interested persons to bring comments and concerns to the attention of the project managers, and to review outstanding issues. If you have any questions or comments or wish to be added to the study mailing list, please contact us:

HOW WE GROW

Brian Dick
Senior Planner
Brian.Dick@niagararegion.ca
905-980-6000 ext. 3365

HOW WE FLOW

David Shen
Planning Engineer
David.Shen@niagararegion.ca
905-980-6000 ext. 3777

HOW WE GO

Loy Cheah
Strategic Projects Lead
Loy.Cheah@niagararegion.ca
905-980-6000 ext. 3482

If you require any accommodations for a disability in order to attend and participate in meetings or events, please let us know in advance so that arrangements can be made in a timely manner. Special accessibility accommodations and materials in alternate formats can be arranged by contacting the Niagara Region's Accessibility Advisory Coordinator at 905-980-6000 ext. 3252 or accessibility@niagararegion.ca.

If you are unable to attend, or would like more information, please go to the project website <https://www.niagararegion.ca/2041>.

The Transportation and Water and Wastewater studies follow 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 and 2011). The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning. The Master Servicing Plan will satisfy the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.



- **The Region of Niagara has initiated a Region-Wide Water and Wastewater Master Servicing Plan (MSP) to provide safe, sustainable and optimized Water and Wastewater services that support growth.**
- **The MSP will provide the business case for the need, timing and cost of servicing and infrastructure while doing so through a fully integrated process with Niagara 2041.**
- **The MSP will provide a detailed Regional water and wastewater capital program vetted through the comprehensive Municipal Engineers Association (MEA) Class Environmental Assessment process for Master Plans - Approach #2.**



PROVIDING FOR TODAY, VISION FOR TOMORROW

To establish a cost-effective infrastructure program that meets the service needs of existing users; meets regulatory and legislative requirements; supports growth; and addresses the priority areas of climate change, energy management, infrastructure optimization, system security and resiliency.

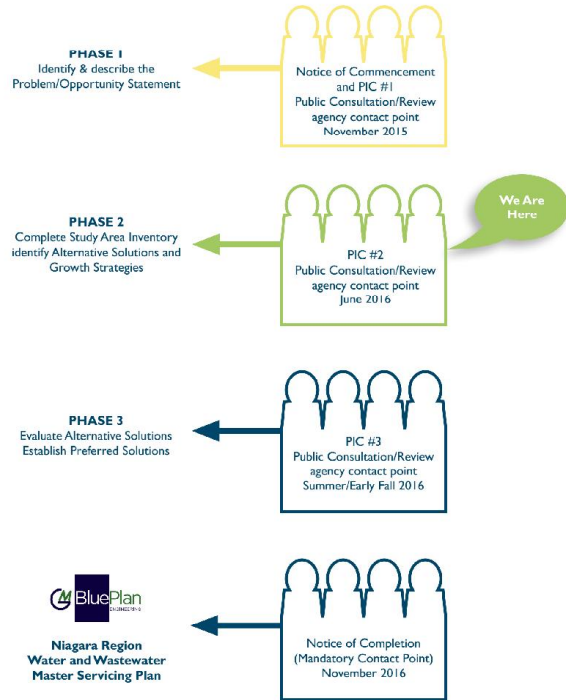
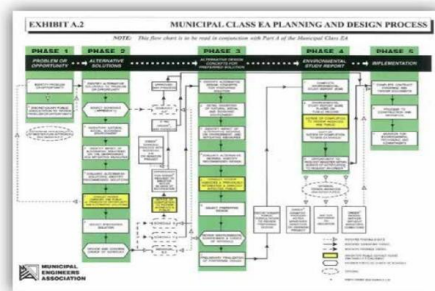


- **In 2011, the Region completed a Water and Wastewater Master Servicing Plan (MSP) update which looked at planned growth to 2031.**
- **With an updated planning horizon to 2041, the MSP needs to be updated to determine how the Region's Water and Wastewater Infrastructure will support growth in a sustainable and financially responsible manner.**
- **The MSP will develop a long-term servicing strategy and capital forecast to ensure the maintenance of services for existing residents and businesses as well as to support future growth in the community.**





- 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 and 2011).
- The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning.
- The Master Servicing Plan will meet the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.



- As part of the integrated planning and servicing process, servicing perspective has been developed for each Growth Approach.
- The servicing review addresses:
 - Water and wastewater treatment capacity;
 - Water and wastewater pumping capacity;
 - Water storage capacity;
 - Water distribution capacity;
 - Wastewater conveyance capacity; and
 - Overall servicing conditions.
- Relative scoring for each service area has been developed.

Servicing Score		
- 1 -	- 2 -	- 3 -
Very Supportive of Growth	Supportive of Growth	Constrained
<ul style="list-style-type: none"> Existing Infrastructure has Available Capacity to Support Growth. Upgrades May Be Required to Support Full Land Supply Build-Out. 	<ul style="list-style-type: none"> Existing Infrastructure has Available Capacity to Support Growth. Upgrades Will Be Required to Support Full Land Supply Build-Out. 	<ul style="list-style-type: none"> Existing Infrastructure Has Limited Capacity to Support Growth. Short-Term Upgrades Are Required to Support Growth.

EVALUATION OF DETAILED SERVICING ALTERNATIVES

The MSP will use the preferred growth option, once available, to develop and evaluate detailed servicing alternatives. Final servicing strategies will be reviewed in Fall 2016.





- **Address issues related to the full life-cycle of water and wastewater services from the water source to the customer, from the customer to the treated wastewater discharge, and final discharge to recipient water body.**
- **Ensure appropriate design and costing criteria are utilized for developing and evaluating servicing strategies for the Water and Wastewater Master Plan Update.**
- **Focus on priority policy areas:**
 - Health and safety;
 - System reliability and security;
 - Reserve capacity for operational flexibility and level of services;
 - Impacts of climate change;
 - Considerations to energy use and efficiency;
 - Recognition of impacts from water efficiency and conservation.
- Establish appropriate wet weather criteria and system planning for the wastewater and combined systems;
- Integrated servicing and policy within the Region and with Local Municipalities;
- Enhance water storage capacity for operational flexibility, level of service and system security; and
- Overall sustainability.

WATER AND WASTEWATER PRINCIPLES AND POLICIES

Development of water and wastewater principles and policies are integral to provide guidelines and direction to the Master Servicing Plan Update process, as well as to the identification and evaluation of servicing strategies.



Servicing Area		Water Servicing
Grimsby	Town	1
	Kemp Hamlet	NA
	Treatment Plant	1

Servicing Area		Water Servicing
Lincoln	Beamsville	2
	Vineland	1
	Jordan	1
	Prudhomes	3
	Campden	NA
	Treatment Plant	1

Servicing Area		Water Servicing
St. Catharines	City	1
	Treatment Plant	1

Servicing Area		Water Servicing
NOTL	Glendale	1
	Queenston	1
	St. David's	1
	Virgil	1
	Old Town	1
	Treatment Plant	1

Servicing Area		Water Servicing
Niagara Falls	City North	1
	City South	2
	Miller Estates	NA
	Treatment Plant	1

Servicing Area		Water Servicing
West Lincoln	Smithville	2
	Treatment Plant	1

Servicing Area		Water Servicing
Pelham	Fonthill	2/3
	Fenwick	3
	Treatment Plant	1

Servicing Area		Water Servicing
Welland	City	1
	Treatment Plant	1

Servicing Area		Water Servicing
Port Colborne	West of Canal	3
	East of Canal	3
	Treatment Plant	1

Servicing Area		Water Servicing
Thorold	City North	1
	City South	1
	Port Robinson	1
	Treatment Plant	1

Servicing Area		Water Servicing
Fort Erie	Douglstown	2
	Stevensville	1
	Fort Erie	1
	Crystal Beach	1
	Treatment Plant	1

Legend

Water Infrastructure

- Pumping Station
- Water Treatment Plant
- Reservoir
- Production Well
- Elevated Tank
- Standpipe

Water Pressure Zones

- DeCew Falls WTP
- Grimsby WTP
- Niagara Falls WTP
- Port Colborne WTP
- Rosehill WTP
- Welland WTP

Servicing Score

- Very Supportive of Growth
- Supportive of Growth
- Constrained

Watermain

- Distribution
- Intake
- Transmission
- Provincial Road
- Regional Road
- Greenbelt Plan
- Municipal Boundaries
- Niagara Escarpment Plan (NEP) Area
- Earth Science - Areas of Natural and Scientific Interest (ANSI)
- Environmental Conservation Area
- Urban Area
- Hamlet

Scale: 0, 2.25, 4.5, 9 Km

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Servicing Area	Wastewater Servicing
Grimsby	2
Kemp Hamlet	NA
Treatment Plant	2

Servicing Area	Wastewater Servicing
Lincoln	1
Beamsville	2
Vineland	1
Jordan	3
Prudhomes	1
Campden	2
Treatment Plant	2

Servicing Area	Wastewater Servicing
St. Catharines	2
Treatment Plant	1

Servicing Area	Wastewater Servicing
NOTL	2
Glendale	1
Queenston	2
St. David's	1
Virgil	1
Old Town	1
Treatment Plant	1

Servicing Area	Wastewater Servicing
West Lincoln	2
Smithville	2
Treatment Plant	2

Servicing Area	Wastewater Servicing
Pelham	2
Fonthill	3
Fenwick	1
Treatment Plant	1

Servicing Area	Wastewater Servicing
Thorold	2
City North	2
City South	2
Port Robinson	2
Treatment Plant	1

Servicing Area	Wastewater Servicing
Welland	2
City	1
Treatment Plant	1

Servicing Area	Wastewater Servicing
Port Colborne	2
West of Canal	3
East of Canal	1
Treatment Plant	1

Servicing Area	Wastewater Servicing
Fort Erie	1
Douglstown	2
Stevensville	2
Fort Erie	2
Crystal Beach	2
Treatment Plant	2

Servicing Area	Wastewater Servicing
Niagara Falls	2
City North	3
City South	NA
Miller Estates	2
Treatment Plant	2

Legend

- Wastewater Infrastructure**
- ▲ Sewage Pumping Station
 - ▲ Storm Water Pumping Station
 - Wastewater Treatment Plant
 - Lagoon
 - * Odour Control Facility
- Sewershed**
- Anger Avenue WWTP
 - Baker Road WWTP
 - Crystal Beach WWTP
 - Niagara Falls WWTP
 - Niagara-on-the-Lake WWTP
 - Port Dalhousie WWTP
 - Port Robinson Lagoons
 - Port Weller WWTP
 - Queenston WWTP
 - Seaway WWTP
 - Stevensville Douglstown Lagoons
 - Welland WWTP
- Sanitary Main Diameter (mm)**
- <300
 - 300-450
 - 450-750
 - 750-1200
 - >1200
- Other Infrastructure**
- Force Main
 - Combined Sewer
 - Sanitary In-line Storage
 - Provincial Road
 - Regional Road
 - Greenbelt Plan
 - Municipal Boundaries
 - Niagara Escarpment Plan (NEP) Area
 - Earth Science - Areas of Natural and Scientific Interest (ANSI)
 - Environmental Conservation Area
 - Urban Area
 - Hamlet
- Servicing Score**
- Very Supportive of Growth
 - Supportive of Growth
 - Constrained

0 2.25 4.5 9Km

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Summary Report
PIC #2



The Regional Municipality of Niagara

June 2016

Prepared by:



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1. Background and Introduction

The Region of Niagara is an upper-tier municipality comprised of twelve local area municipalities including West Lincoln, Lincoln, Grimsby, St. Catharines, Niagara Falls, Welland, Thorold, Niagara-on-the-Lake, Pelham, Port Colborne, Fort Erie and Wainfleet. The water and wastewater system is operated in conjunction with the local area municipalities under the two-tier governance system. Niagara Region is responsible for operating all water and wastewater treatment plants, sanitary pump stations, trunk sewers, water transmission mains, booster pump stations and water storage facilities.

The Region has identified the need to undertake a 2016 Water and Wastewater Master Servicing Plan update as there has been several significant changes since the completion of the 2011 study that impact the servicing strategy adopted through that study.

Since the completion of the 2011 Master Plan, the province's "Places to Grow Plan Amendment 2" has been adopted, which outlines the Regional growth targets out to 2041. Further, the Region through the Regional Council Strategic Priorities is using the relationships between residential growth, employment, and transportation to change how, when, and where growth is expected to occur and be supported. The Region is currently undertaking a Municipal Comprehensive Review that will outline the Region's Growth Plans moving forward.

The Region of Niagara has initiated the Water and Wastewater Master Servicing Plan update Class Environmental Assessment (EA) Study, Approach 2 to determine several alternative design concepts to provide water and wastewater servicing for the Region to 2041.

The study area for the Water and Wastewater Servicing Study update is shown in Figure 1 and Figure 2.

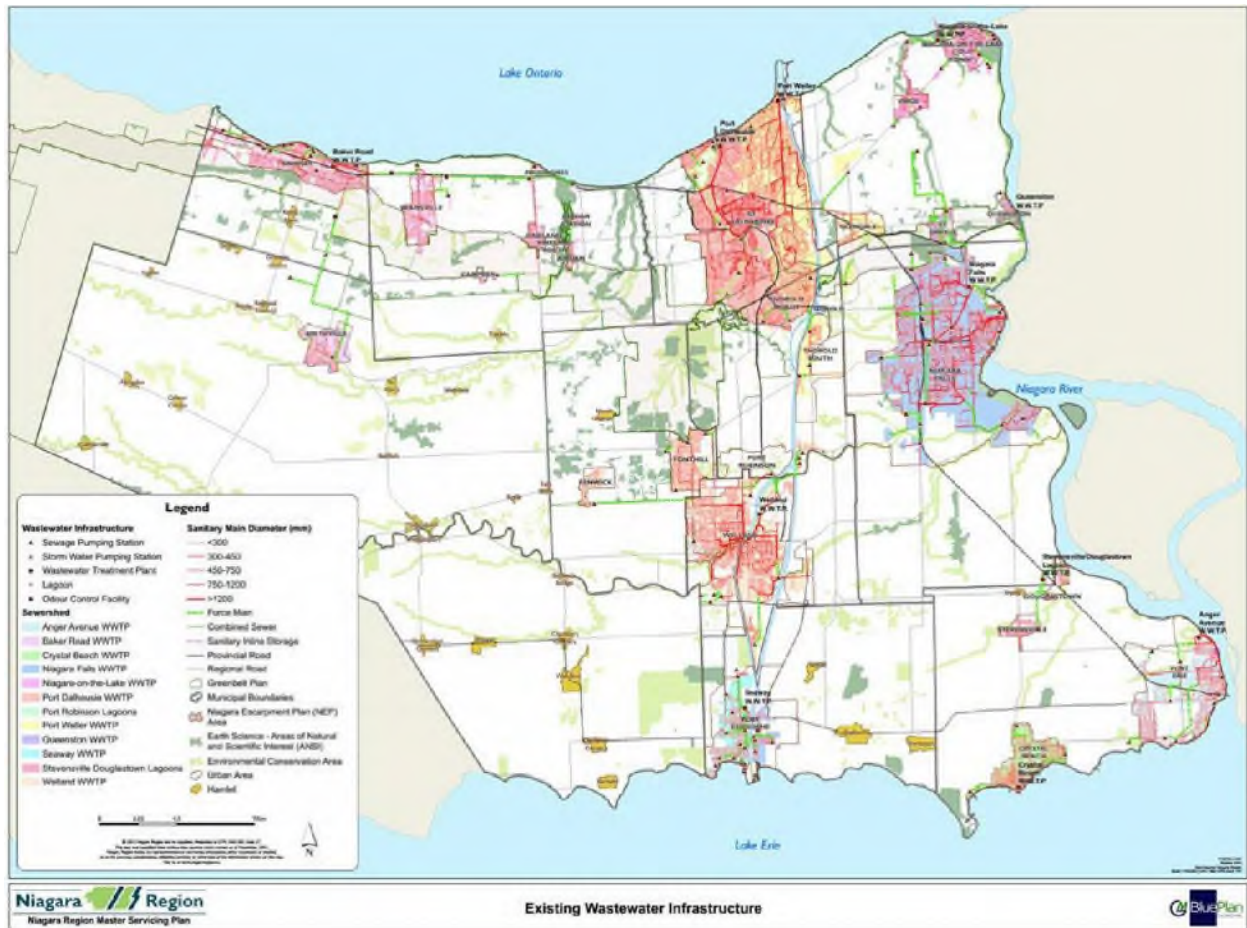


Figure 1. Study Area – Wastewater Infrastructure

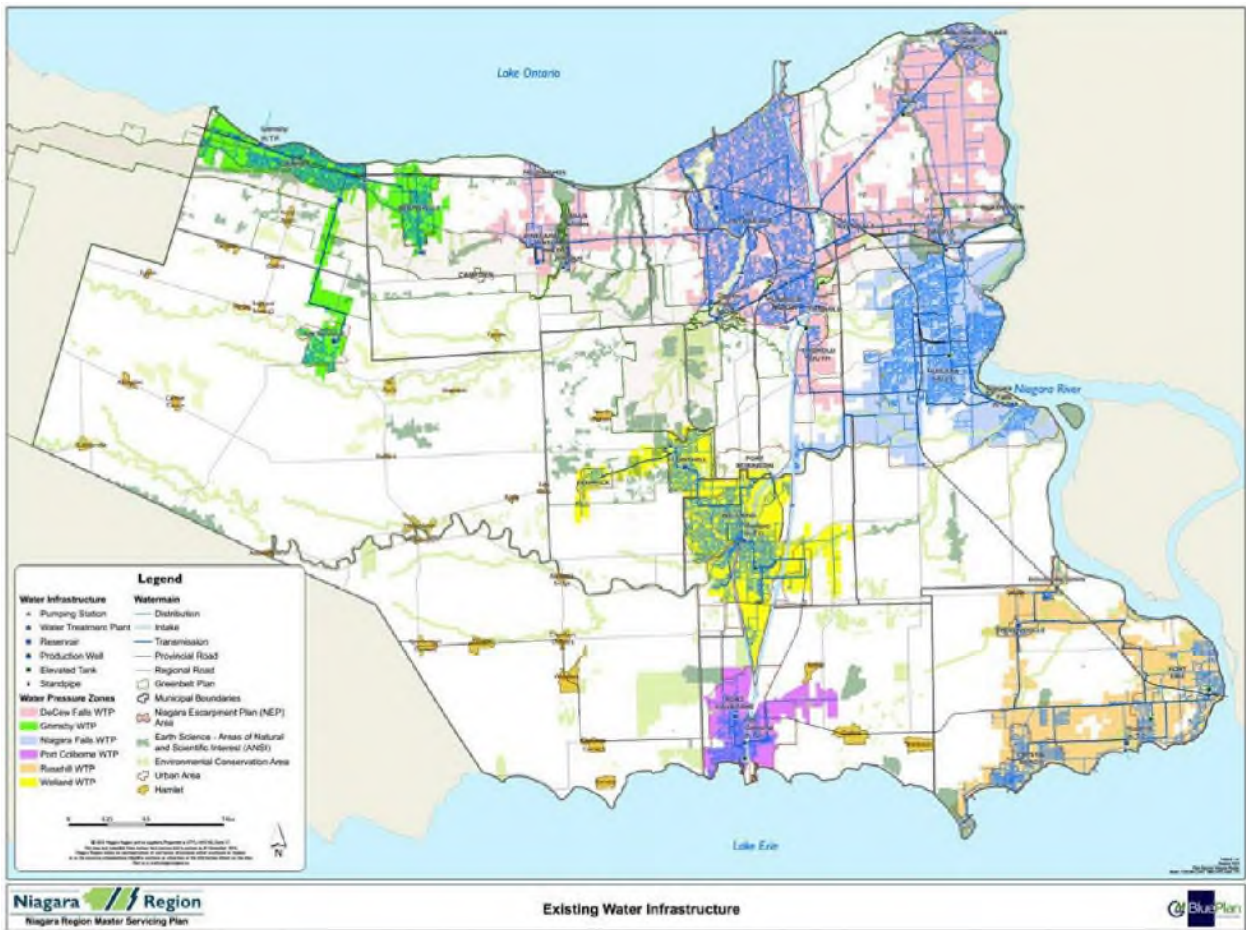


Figure 2. Study Area – Water Infrastructure

The Class EA study is following the Municipal Class Environmental Assessment process (October 2000, as amended in 2007 and 2011), Approach #2 for Master Plans as seen in Figure 3. The Class EA process includes public and review agency consultation, evaluation of alternatives, impact assessment of proposed alternatives, and identification of measures to mitigate adverse impacts.

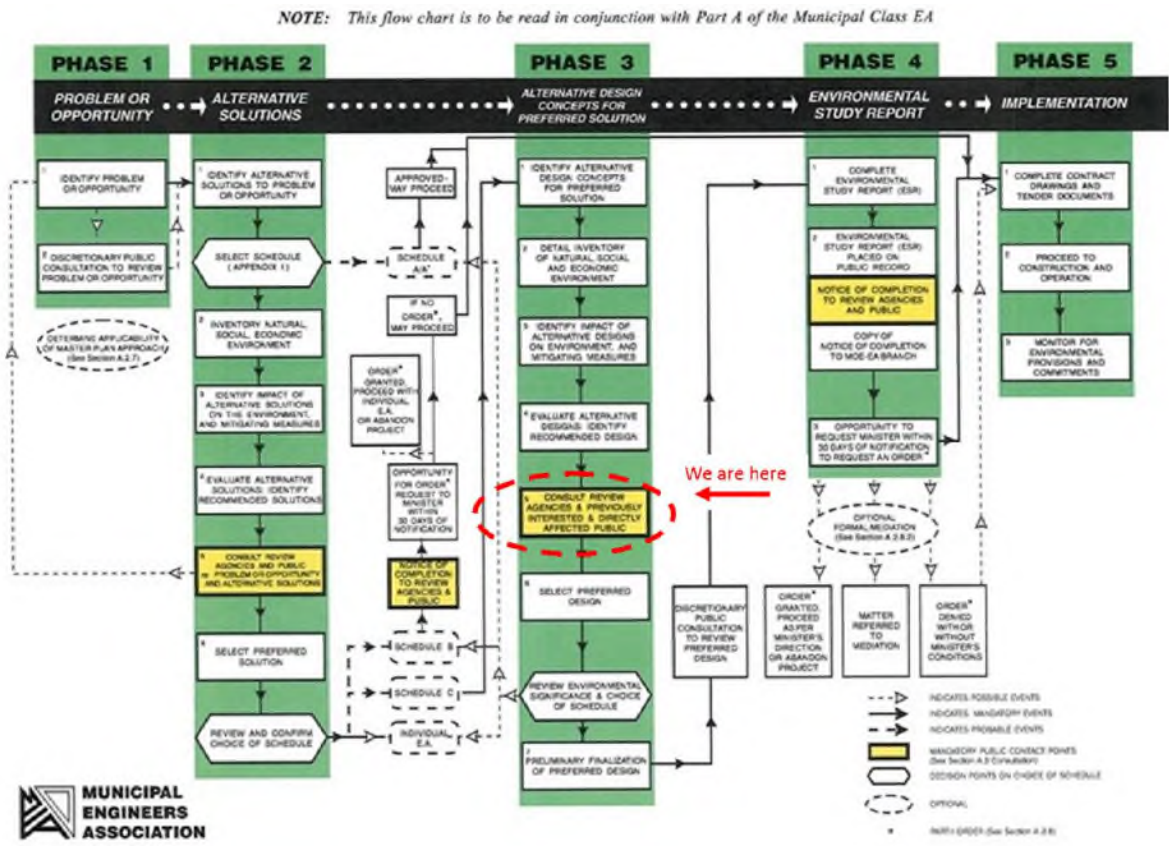


Figure 3. Municipal Class EA Planning and Design Process

A key part of the public consultation component is the Public Information Centre (PIC), which serves as a forum for information exchange between the public/stakeholders and the project team. Three rounds of PICs were conducted during the course of this study.

The **Public Information Centre #2 Summary Report** focuses on PIC #2 and represents one element of the overall public consultation documentation. The report documents the following:

- Notice of PIC#2
- Information materials presented at PIC #2
- Summary of attendance
- All comments received and responses provided
- Communications tracking sheet to track correspondence in a transparent and traceable manner

1.1. Class EA Context

The Class EA Study follows the approved process as outlined in Section A.2.7, of the Municipal

Engineers Association (MEA) Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011 and 2015) document. The Master Plan study is being carried out as an Approach #2 for Master Plans.

Public consultation is a vital component of the Class EA process and ensures transparency through encouraging stakeholder and public involvement. The study work plan provided for three rounds of Public Information Centres (PICs) (see Appendix A).

PIC#1 was held on November 17, 18, and 19, 2015 and introduced the project and presented the overall study process and background to solicit interest and feedback into the process.

2. Public Information Centre #2

2.1. Purpose

The second Public Information Centre (PIC #2) was intended to:

- Review the progress on the study to date
- Describe the Class EA process
- Outline the overall study process
- Identify the Key Principals and Policies
- Provide baseline information such as existing systems, land use, catchment areas and environmental features
- Identify the current state and projected future state of water and wastewater infrastructure to accommodate anticipated growth
- Identify and seek input in to water and wastewater servicing alternatives to meet future needs
- Receive public input and answer any questions

2.2. Notifications

Agency stakeholders and the public were informed of PIC #2 by newspaper advertisements, mail, email, Niagara Region's Facebook and Twitter posts, website and Public Service Announcement. The Public Notice for PIC #2 combined is provided in Appendix B.

2.2.1 Newspaper and Online Advertisement

The combined Notice of Commencement and Public Information Centre #2 was published on June 2 and 9, 2016 in the following local newspapers:

- Fort Erie Times
- Port Colborne
- Niagara Advance
- News Now (which serves Grimsby, Lincoln, West Lincoln, Winona)
- Thorold News
- Pelham News
- Niagara This Week
- Niagara Falls Review
- St. Catharines Standard
- The Welland Tribune

PIC #2 was also advertised on the Niagara Region website at least 3 weeks prior to the events as well as being posted on the Niagara Region Facebook and Twitter accounts.

2.2.2 Mail Out

The Notice of PIC #2 was and mailed or emailed to local government, review agencies and other stakeholders. Notices delivered by mail were provided to Canada Post prior to the event. Notices that were delivered by email for provided also provided prior to the events.

2.2.3 Memo to Council and Public Service Announcement

Niagara Region Council received a memo regarding PIC#2 on June 3, 2016, Local Area Municipal planners, public works officials and clerks were copied on the memo. A public service announcement was issued by Niagara Region’s corporate communications to local area media outlets and it was posted on Niagara Region’s website.

2.3. Dates, Times, and Locations

PIC #2 was held at three locations within the study area. Table 1 identifies the dates, times, and locations for PIC #2.

Table 1. PIC #2 Dates, Times, and Locations

Municipality	Date	Time	Location
Town of Fort Erie	June 15, 2016	4 – 8 p.m.	Fort Erie Leisureplex Banquet Hall 3 Municipal Centre Dr.
Township of West Lincoln	June 16, 2016	4 – 8 p.m.	West Lincoln Council Chambers 318 Canborough St.
City of Welland	June 22, 2016	4 – 8 p.m.	Welland Civic Square Front Foyer 60 East Main St.

Representatives from the Region of Niagara were present at the PIC to provide information and answer questions.

2.4. Display Panels

The information presented at PIC #2 included the following printed display panels:

1. Purpose of the Study
2. Water and Wastewater MSP Vision Statement
3. Class EA Process and Project Timeline
4. Servicing Opportunities and Constraints of Existing Systems
5. Water and Wastewater MSP Principles and Policy
6. Anticipated Growth Impacts on Water & Wastewater System Capacity

7. How to Get Involved and Contact Information for the Region’s Project Manager

2.5. Attendance

A total of approximately of 64 people attended PIC #2 at the various locations. It is estimated that approximately 15 attendees chose not to sign in at the PIC meetings.

2.6. Comments and Responses

Attendees were encouraged to provide input on the PIC and/or study in a comment sheet provided or on a post-it note directly on the display board.

A summary of the comments received is provided in Table 2 below. Follow up consultation will be tracked in future updates of the tracking sheet.

Table 2. Summary of Comments Received

No.	Correspondent	Type	Comment	Date Received	Status/Response/Action Item
1	Not identified	Post-It Note	<ul style="list-style-type: none"> Why doesn't the Region have lagoons in the west? We need it in spring 	June 16, 2016	<ul style="list-style-type: none"> N/A
2	Not identified	Post-It Note	<ul style="list-style-type: none"> Alternative way of treating biosolids instead of sending it to dry/dewatering facilities 	June 16, 2016	<ul style="list-style-type: none"> N/A
3	Not identified	Post-It Note	<ul style="list-style-type: none"> Where is the irrigation channels in and from Lake Ontario for the farms to irrigate crops 	June 16, 2016	<ul style="list-style-type: none"> N/A
4	Not identified	Post-It Note	<ul style="list-style-type: none"> Make sure Smithville has sanitary capacity to grow 	June 16, 2016	<ul style="list-style-type: none"> N/A
5	Not identified	Post-It Note	<ul style="list-style-type: none"> Upgrade west end St. Catharines facilities to support growth 	June 16, 2016	<ul style="list-style-type: none"> N/A

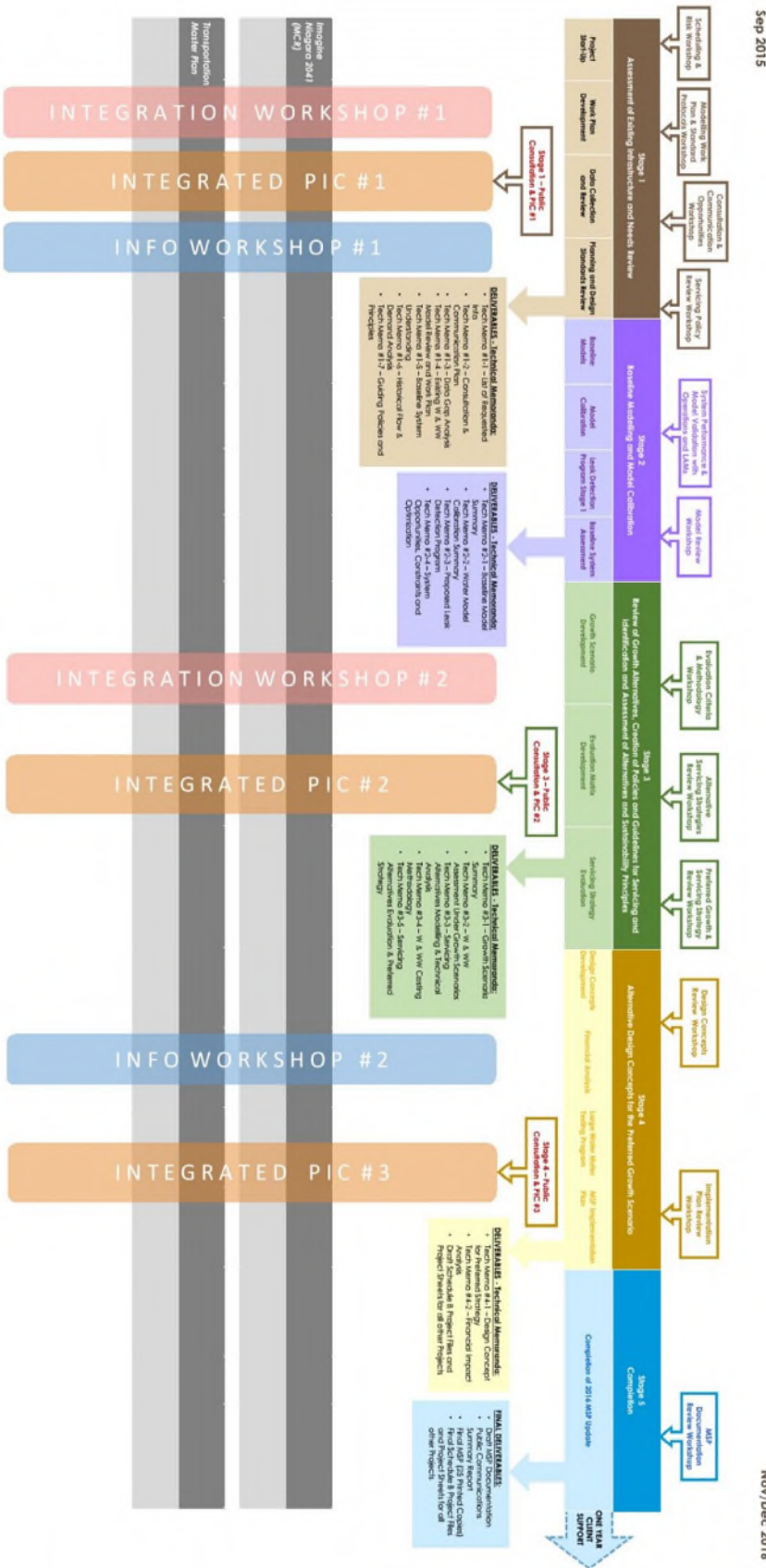
6	Not identified	Post-It Note	<ul style="list-style-type: none"> Douglas Town facilities should be modernized before increasing capacity. 	June 15, 2016	<ul style="list-style-type: none"> N/A
7	Not identified	Post-It Note	<ul style="list-style-type: none"> Decentralize lagoon, put on in west 	June 15, 2016	<ul style="list-style-type: none"> N/A
8	Not identified	Post-It Note	<ul style="list-style-type: none"> Please help out Fennwood Forest community because we have lots of pressure issues 	June 15, 2016	<ul style="list-style-type: none"> N/A
9	Not identified	Post-It Note	<ul style="list-style-type: none"> There are wrong servicing boundaries as outlined on water map. Environmental features should be accurately represented. 	June 15, 2016	<ul style="list-style-type: none"> N/A

3.0 Next Steps

Following the second round of public consultation, the project team will:

- Take growth allocations from Niagara 2041 and apply them to traffic zones across serviced areas to determine preferred servicing alternatives
- Complete water and wastewater modelling servicing analysis with growth scenario
- Develop supporting capital project lists options to accommodate growth
- Collaborate with local municipal partners to review and improve upon proposed servicing scenarios
- Prepare for and present PIC #3 in Fall 2016

Appendix A



NIAGARA 2041

Fostering an Environment for Economic Prosperity

Get Involved in Niagara's Future: Attend Public Information Centre #2

In the next 25 years, Niagara is expected to grow, bringing a possible 168,000 new residents and 79,000 new jobs to the region.

Niagara Region is making sure we're prepared for this growth through three projects that will help us plan where and how that growth will occur, and how it will be accommodated.



HOW WE GROW:

The Municipal Comprehensive Review will look at the land we have available across Niagara, and will ensure we have enough to sustain our expected growth to the year 2041. It will also examine how that land is distributed throughout Niagara.



HOW WE FLOW:

The Water and Wastewater Master Servicing Plan will ensure Niagara has the infrastructure to provide critical water and wastewater services to our growing region in a sustainable and financially responsible way.



HOW WE GO:

The Transportation Master Plan will look at how we currently travel in and around Niagara and how we can improve our transportation systems, including options for walking, cycling and public transit, to better serve Niagara's future needs.

GET INVOLVED:

Residents are invited to attend a Public Information Centre in their community to learn how each of these projects contribute to Niagara's overall growth plan for the next 25 years, and how you can have your voice heard.

June 15, 2016

Town of Fort Erie
Leisureplex Banquet Hall
3 Municipal Centre Dr.
4 - 8 p.m.

June 16, 2016

Township of West Lincoln
Council Chambers
318 Canborough St.
4 - 8 p.m.

June 22, 2016

City of Welland
Civic Square – Front Foyer
60 East Main St.
4 - 8 p.m.

There is an opportunity at any time during this process for interested persons to bring comments and concerns to the attention of the project managers, and to review outstanding issues. If you have any questions or comments or wish to be added to the study mailing list, please contact us:

HOW WE GROW

Brian Dick
Senior Planner
Brian.Dick@niagararegion.ca
905-980-6000 ext. 3365

HOW WE FLOW

David Shen
Planning Engineer
David.Shen@niagararegion.ca
905-980-6000 ext. 3777

HOW WE GO

Loy Cheah
Strategic Projects Lead
Loy.Cheah@niagararegion.ca
905-980-6000 ext. 3482

If you require any accommodations for a disability in order to attend and participate in meetings or events, please let us know in advance so that arrangements can be made in a timely manner. Special accessibility accommodations and materials in alternate formats can be arranged by contacting the Niagara Region's Accessibility Advisory Coordinator at 905-980-6000 ext. 3252 or accessibility@niagararegion.ca.

If you are unable to attend, or would like more information, please go to the project website <https://www.niagararegion.ca/2041>.

The Transportation and Water and Wastewater studies follow 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 and 2011). The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning. The Master Servicing Plan will satisfy the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.

Memorandum

Date: Friday, June 3rd, 2016
To: **Regional Council**
From: **Diana Morreale, Manager, Community Planning**
Subject: **Niagara 2041 - Joint Public Information Centres in June 2016**

Overview

Under the umbrella “Niagara 2041” the Region is establishing a growth strategy that supports urban growth. The Niagara 2041 Growth Strategy involves completing (3) three coordinated projects:

- 1) Municipal Comprehensive Review (MCR) – ***How We Grow***
- 2) Transportation Master Plan (TMP) – ***How We Go***
- 3) Water and Wastewater Master Servicing Plan (MSP) – ***How We Flow***

The purpose of this memo is to update Regional Council on the next round of public engagement. The first round of Public Information Centres (PIC) was held in November 2015 (in Port Colborne, Grimsby, and St. Catharines). The second round of PICs will be held in June 2016 at three locations across the Region as follows:

- 1) ***Fort Erie: June 15, 2016*** (4pm to 8pm), Town of Fort Erie Council Chambers, 1 Municipal Centre Drive
- 2) ***West Lincoln: June 16, 2016*** (4pm to 8pm), Town of West Lincoln Council Chambers, 318 Canborough Street
- 3) ***Welland: June 22, 2016*** (4pm to 8pm), Welland Civic Square, Front Foyer, 60 East Main Street

PIC No. 2 Information

The following information will be displayed at PIC No. 2:

- An overview of Niagara Region’s socio-economic, existing demographic and travel trends and what this means for growth, and existing infrastructure in the Region;
- An overview of the challenges and the opportunities that face Niagara Region’s existing infrastructure and future considerations for growth;
- A summary of what we’ve heard from the public so far; and,
- A chance for public input on growth approaches, transportation opportunities, and water and wastewater infrastructure servicing opportunities.

Friday June 3, 2016

Page 2

Local Area Municipalities

As previously mentioned in memo **C8335Revised**, local staff continue to be actively involved throughout the Region's Niagara 2041 Growth Strategy. The project team is currently working with local staff to ensure alignment with local municipal plans and options for how growth will be managed. Also, we will continue to work with all area municipalities throughout the various stages of these projects to acquire their input.

For more information on the mandatory projects please contact:

- **Municipal Comprehensive Review:** Brian Dick, Senior Planner, Planning and Development Services at ext. 3365 or brian.dick@niagararegion.ca
- **Transportation Master Plan:** Loy Cheah, Transportation Lead, Strategic Initiatives and Projects, Public Works at ext. 3482 or loy.cheah@niagararegion.ca
- **Water and Wastewater Master Servicing Plan:** David Shen, Development Planning Engineer, Public Works at ext. 3777 or david.shen@niagararegion.ca

Respectfully submitted and signed by,

Diana Morreale, MCIP, RPP
Manager, Community Planning

cc: LAM Planners, LAM Public Works Officials, LAM Clerks

How We Flow

I appreciate the opportunity to document my concerns and trust that you too will determine the need for sustainable innovative techniques and approaches.

Existing Handling Methods of Sewage Sludge:

1. Methods are outdated for today's needs. The sludge going into the system contains many residuals coming from households, industry and hospitals which contains an overwhelming list of toxins and contaminants. However, costly lab testing is limited to a short list of substances being tested. Also, there is reason to believe, the composition of sewage sludge will change as new products emerge into the system. What effects will they present? How is it possible for government to keep up with these changes?
2. There are negative effects on our non-renewable resources of air, water and land that are vital for life.

As part of a citizens' group from Lincoln opposing a project for open lagoon storage of biosolids, it became apparent that there is enough *non-biased* scientific research to support the need for change.

<http://blogs.theprovince.com/2016/02/21/john-werring-richard-honour-sierra-rayne-and-steven-vincent-we-dont-know-enough-to-dump-sewage-sludge/>

Land Application of Sewage Biosolids:

Since the existing sewage sludge processing does not decontaminate all harmful elements, they become transferred back into the environment through land application and end up back in the food chain through the products produced on the land.

Assessing the Fate & Significance of Micro-constituents & Pathogens in Biosolids, a report for Water Environment Association of Ontario (WEAO) was reviewed by experts from across North America. The 2010 report was supported by funds from the Ontario Ministry of the Environment. Every attempt was made to access the latest scientific data: to review and synthesize; and to provide direction as to new substances of interest and area of further research.

One example from this report, the Stakeholder Advisory Group expressed a high level of concern in regards to pathogens and their potential for disease transmission resulting from land application of sewage biosolids. Based on that concern and limited available study information, it was concluded that pathogens in land applied sewage biosolids are Group II contaminants requiring additional research:

<http://www.weao.org/assets/docs/residuals/Biosolids/assessing-the-fate-report-2010.pdf>

The list of harmful elements is extensive but I have identified these also for your attention.

1. High radiation levels are harmful to the industry workers and others.
2. High levels of disproportionate amounts of Phosphorous / Nitrogen results in over land application resulting in runoff into water ways
3. Presence of harmful airborne nano particles

A recently publicized news article outlines the addition of dissolved human bodies to be washed into the sewage system so now, that too becomes part of the sewage fertilizing our food chain. I found this disturbing as, from the look on your faces, you did too. Why? People can relate to this much easier than a list of toxins and contaminates that are just words. However, with the human element, all of sudden things seem outrageous. As the news article states, nothing different than what other industries put into the system - Wow, that is the problem and it just keeps getting worse! Where does this end?

<http://www.cbc.ca/news/canada/ottawa/bodies-dissolved-sewers-smiths-falls-funeral-1.3635063>

In Ontario, the sewage sludge biosolids spreading guidelines permit its use to fertilize every food crop except tobacco. The land application of sewage biosolids along with regulations that allow this practise suggest that they are outdated for today's needs. Our survival does not only depend on air and water, but also on the health of the world's soil? Soil is more than dirt, it hosts one quarter of the world's biodiversity, mixes water, air and tens of thousands of micro organisms. Soil has key functions in the carbon cycle and in controlling flooding and drought. Maintenance and restoration of soil is essential to the food security of the world.

As each of you stated at the Public Forum, there is the Ministry of Environment and there are regulations but from what I have read, seen and heard, are the regulations to meet the needs of society or the needs of an industry?

<https://www.thestar.com/opinion/commentary/2016/06/23/how-to-restore-trust-in-canadas-environmental-regulations.html>

It is very clear that the time has come for a paradigm shift in the handling methods of sewage sludge. Why not promote innovative technology that can effectively extract needed elements i.e. phosphorus and nitrogen, which should not be lost forever, as well as, other elements that are deemed advantageous . The remainder to be decontaminated for use in a separate marketable product? Propose that government and stakeholders set guidelines and criteria for new technology to meet today's needs and present this challenge to design/engineering companies/institutions? In the meantime, implement the "Precautionary Principle".

Here are two examples of many existing technologies that are available:

<http://www.offgridquest.com/energy/worlds-largest-waste-to-energy-system-tu>

<http://www.cement-lock.com/>

There are many articles of interest to support the need for change in the handling methods of sewage sludge, the following is a more recent one for your review.

<http://www.guelphmercury.com/news-story/4271984-grand-river-has-highest-levels-of-artificial-sweetener-pollution-on-record/>

Thank you, and will look forward to your next public information regarding Niagara's future.

Regards,
Sandra Kandracs

APPENDIX E

PIC #3



HOW WE FLOW

What is driving the Master Plan Strategy Update?



NIAGARA
2041

Fostering an Environment for Economic Prosperity



HOW WE FLOW

Why are we Doing a Water and Wastewater Master Plan?

- The Region of Niagara has initiated a Region-Wide Water and Wastewater Master Servicing Plan (MSP) to provide safe, sustainable and optimized Water and Wastewater services that support growth.
- The MSP will provide the business case for the need, timing and cost of servicing and infrastructure while doing so through a fully integrated process with Niagara 2041.
- The MSP will provide a detailed Regional water and wastewater capital program vetted through the comprehensive Municipal Engineers Association (MEA) Class Environmental Assessment process for Master Plans - Approach #2.

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2041

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Water and Wastewater Master Servicing Plan Vision Statement

Providing for Today, Vision for Tomorrow

To establish a cost-effective infrastructure program that meets the service needs of existing users; meets regulatory and legislative requirements; supports growth; and addresses the priority areas of climate change, energy management, infrastructure optimization, system security and resiliency.

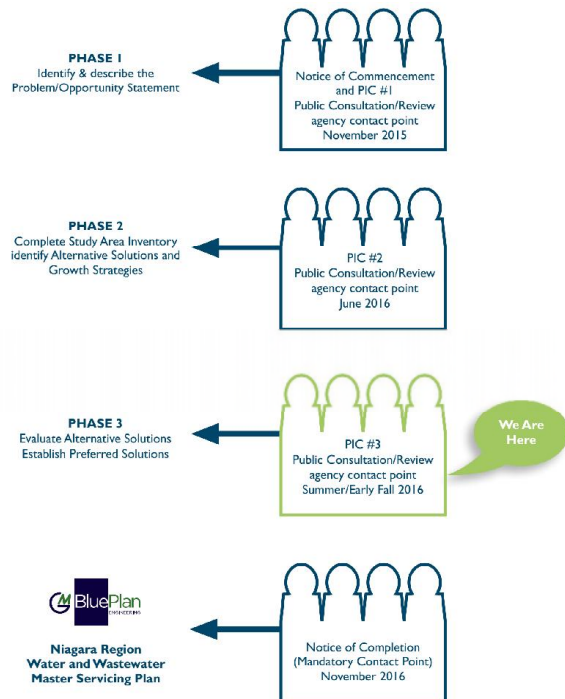
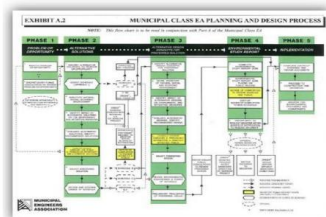
- In 2011, the Region completed a Water and Wastewater Master Servicing Plan (MSP) update which looked at planned growth to 2031.
- With an updated planning horizon to 2041, the MSP needs to be updated to determine how the Region's Water and Wastewater Infrastructure will support growth in a sustainable and financially responsible manner.
- The MSP will develop a long-term servicing strategy and capital forecast to ensure the maintenance of services for existing residents and businesses as well as to support future growth in the community.



Environmental Assessment

Process & Consultation

- 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 and 2011).
- The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning.
- The Master Servicing Plan will meet the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.





WATER AND WASTEWATER MASTER SERVICING PLAN KEY PRINCIPLES AND POLICY

Development of water and wastewater principles and policies are integral to provide guidelines and direction to the Master Servicing Plan Update process, as well as to the identification and evaluation of servicing strategies.

- Niagara Region will endeavor to maintain sufficient reserve capacity in its water and wastewater infrastructure and facilities to provide operational flexibility and meet potential changes in servicing conditions
- Niagara region shall endeavor to provide reliability, redundancy and security in its water and wastewater systems with attention to high risk and critical areas
- Niagara Region shall be aware of and consider the potential impact of climate change on the planning and sizing of infrastructure
- Niagara region shall design water and wastewater facilities with consideration to energy use
- Niagara Region will consider levels of storage beyond MOE Guidelines where appropriate in order to provide operational flexibility, energy management and system security
- Niagara Region will review a combination of servicing strategies including infrastructure and non-infrastructure (e.g. I/I reduction) solutions to meet wet weather level of service and provide sufficient wastewater capacity
- Niagara Region will approach Guidelines F-5-5 and F-5-1 such that new development will not put the Region out of compliance with regulations and the Region will consider opportunities to not increase wet weather overflows beyond current conditions



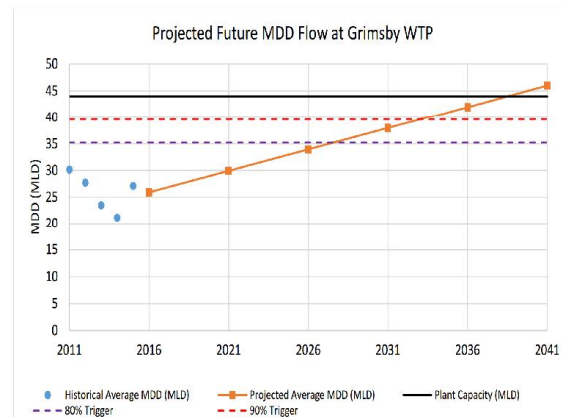
WATER SERVICING

GRIMSBY WATER TREATMENT PLANT SYSTEM Grimsby | Lincoln | West Lincoln

- Treatment: **Deficit**
- Pumping: **Deficit**
- Storage: **Surplus**
- Pressures:
 - » Majority **50-90 psi**
 - » High (> 90 psi) minimum pressures in Grimsby and Lincoln
 - » < **40 psi** in Smithville with growth
- Fire Flow:
 - » Issues in Smithville
- Security of Supply:
 - » Single branch trunk system

Challenges

- Significant growth
- Pumping capacity and treatment plant capacity limitation
- High pressures in Grimsby and Lincoln
- Conveyance capacity in Smithville
- Single branch trunk system



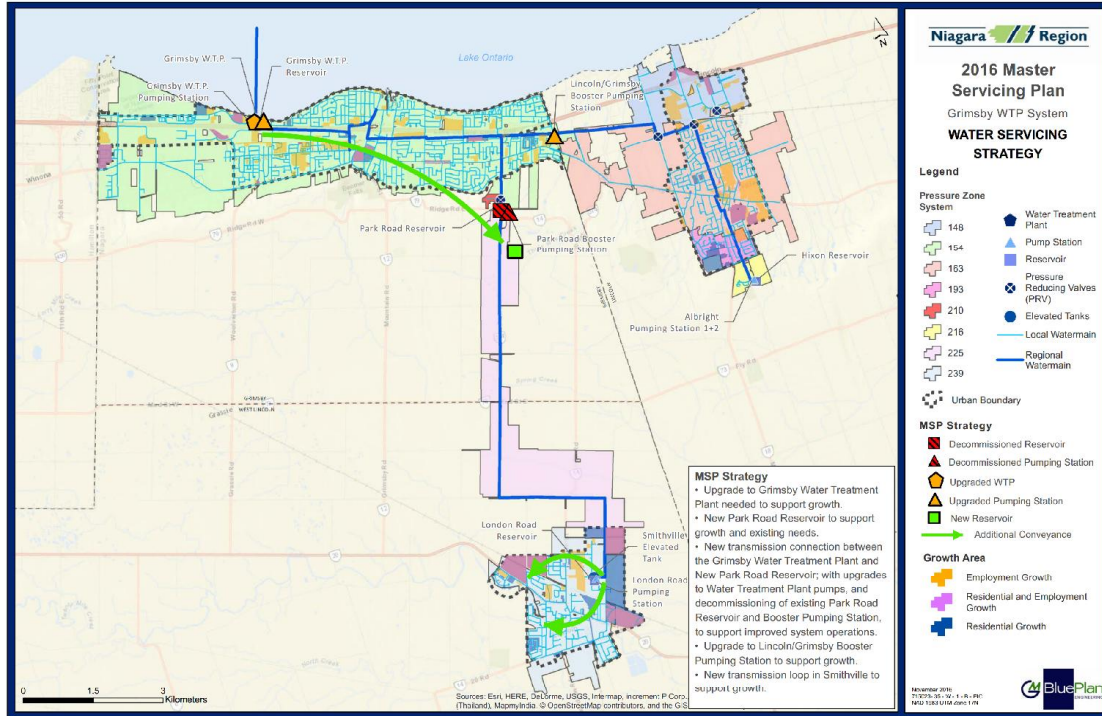
	2014	2041	Growth
Equivalent Population	62,468	101,442	38,974





HOW WE FLOW

Grimsby Water Treatment Plant System



NIAGARA 2041

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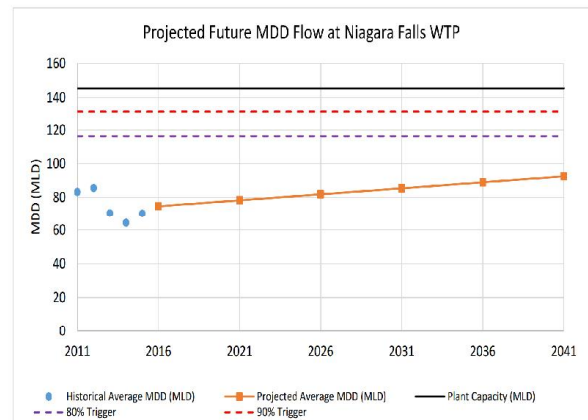


HOW WE FLOW

WATER SERVICING

NIAGARA FALLS WATER TREATMENT PLANT SYSTEM Niagara Falls | Niagara-on-the-Lake | Thorold

- Treatment: **Surplus**
- Pumping:
 - » Existing **surplus**
 - » Future peak pumping **deficit**
- Storage:
 - » Existing **surplus**; balancing storage **deficit**
 - » Future **deficit**
- Pressures: **50-90 psi**
- Fire Flow:
 - » Adequate capacity within the local system
- Security of Supply:
 - » Connections to growth in South
 - » Additional trunk lines to Decew
 - » High friction losses in distribution system



Challenges

- Significant growth in South
- Future storage deficit and existing balancing storage deficit = stress on existing pump capacity at treatment plant

	2014	2041	Growth
Equivalent Population	131,081	185,070	53,989

NIAGARA 2041

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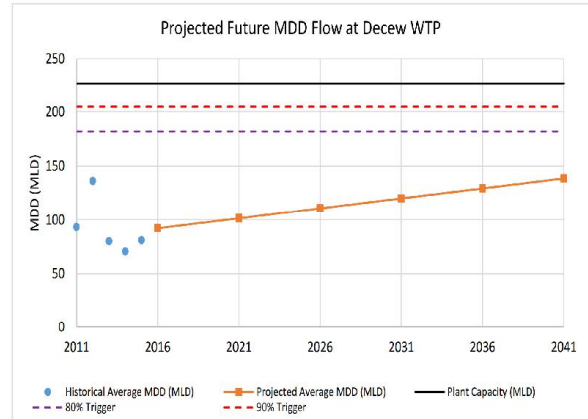


HOW WE FLOW

WATER SERVICING

DECEW WATER TREATMENT PLANT SYSTEM Niagara-on-the-Lake | St. Catharines | Lincoln | Thorold

- Treatment: **Surplus**
- Pumping: **Surplus**
- Storage:
 - » **Surplus** in 154 and 164
 - » **Deficit** in all other zones
- Pressures: **50-90 psi**
- Fire Flow:
 - » Adequate capacity within the local system
- Security of Supply:
 - » Single trunk to Niagara-on-the-Lake
 - » Single trunk to Lincoln



Challenges

- Significant built boundary growth
- Managing storage deficits via pumping and conveyance
- Conveyance and storage to Niagara-on-the-Lake
- Growth related conveyance limitations

	2014	2041	Growth
Equivalent Population	264,332	342,669	78,337

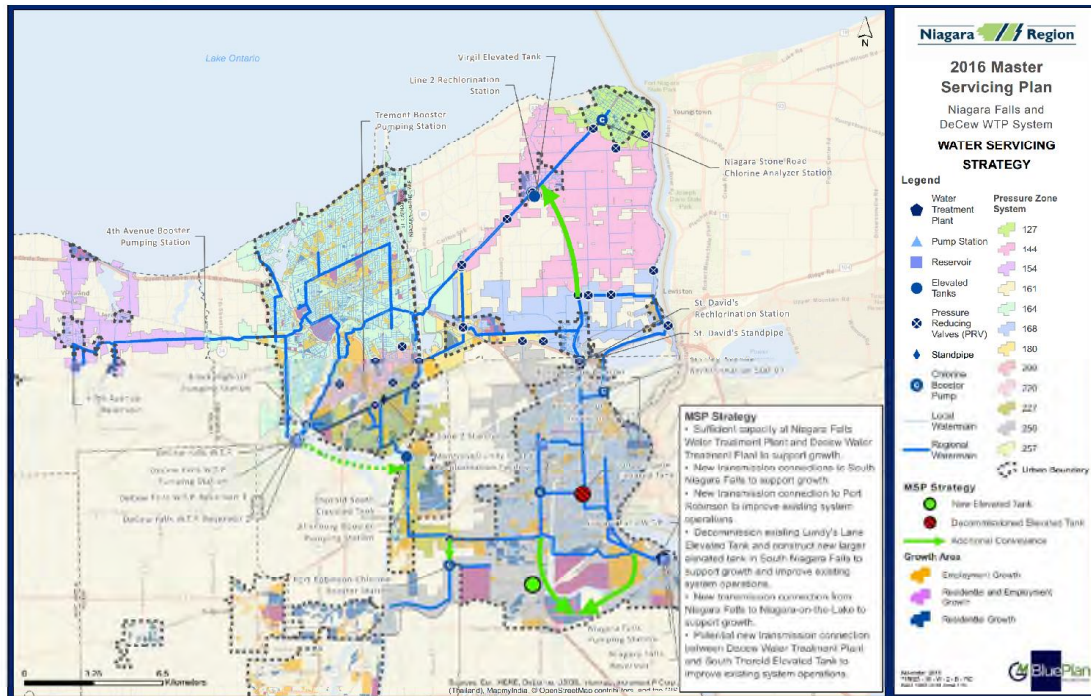


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HOW WE FLOW

Niagara Falls and Decew Water Treatment Plant System



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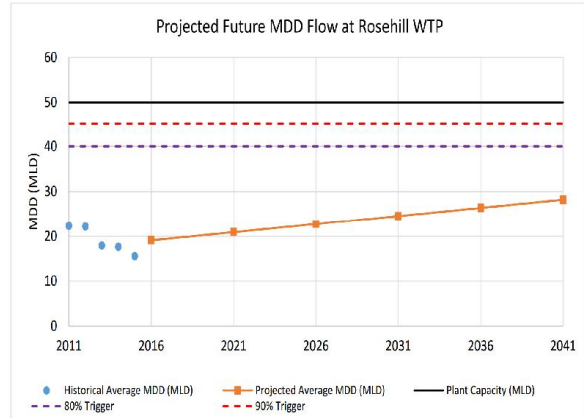
HOW WE FLOW

WATER SERVICING

ROSEHILL WATER TREATMENT PLANT SYSTEM

Fort Erie

- Treatment: **Surplus**
- Pumping: **Surplus**
- Storage: **Deficit**
- Pressures: **50-90 psi**
- Fire Flow:
 - » < 40 psi along trunk
 - » Adequate capacity within the local system
- Security of Supply:
 - » Single trunk feed to Downtown
 - » Single trunk feed to Crystal Beach



Challenges

- Significant growth
- Large employment growth in central Fort Erie
- Limited floating storage = sub-optimal pumping strategy and energy management
- Existing and increasing storage deficit

	2014	2041	Growth
Equivalent Population	43,008	61,792	18,784

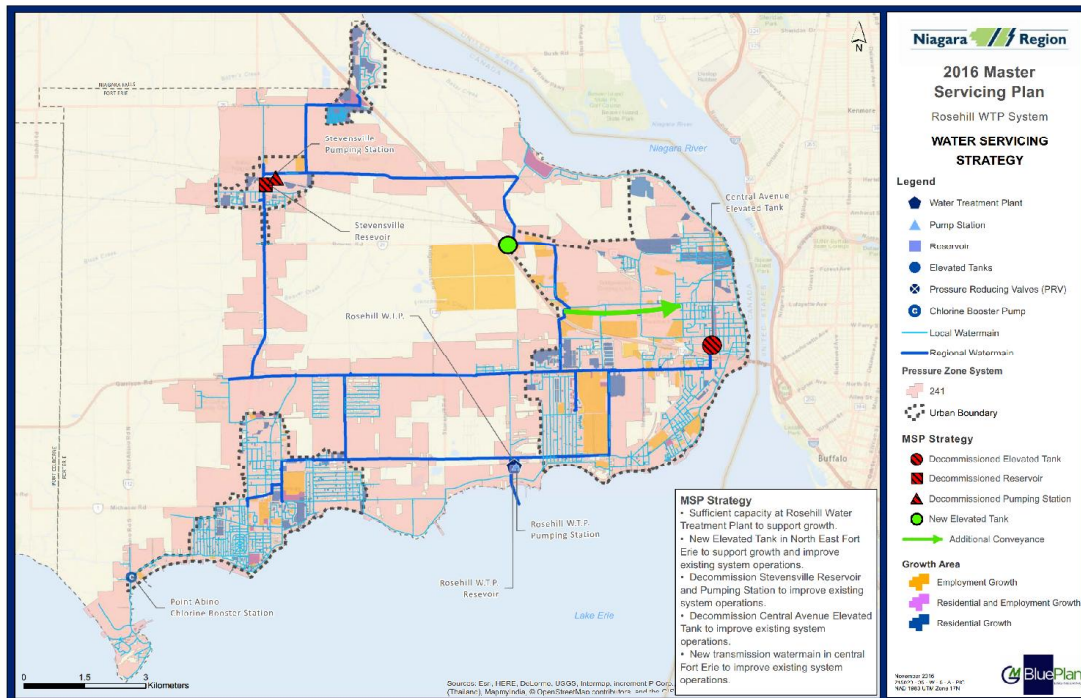


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HOW WE FLOW

ROSEHILL WATER TREATMENT PLANT SYSTEM



Fostering an Environment for Economic Prosperity





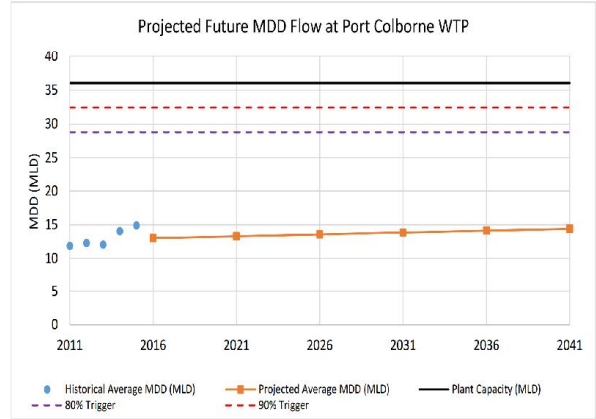
HOW WE FLOW

WATER SERVICING

PORT COLBORNE WATER TREATMENT PLANT

SYSTEM Port Colborne

- Treatment: **Surplus**
- Pumping: **Surplus**
- Storage:
 - » Existing **deficit***
 - » Future surplus
- Pressures:
 - » Majority **50-90 psi**
 - » Localized **40-50 psi**
- Fire Flow:
 - » **< 40 psi** in NE
 - » Limitations in NE growth area
- Security of Supply:
 - » **Single trunk feed** to East side of canal
 - » **No storage** on East side of canal



Challenges

- Limited floating storage = sub-optimal pumping strategy and energy management
- Low pressure areas
- Limited security of supply to East of canal

	2014	2041	Growth
Equivalent Population	24,891	29,527	4,635

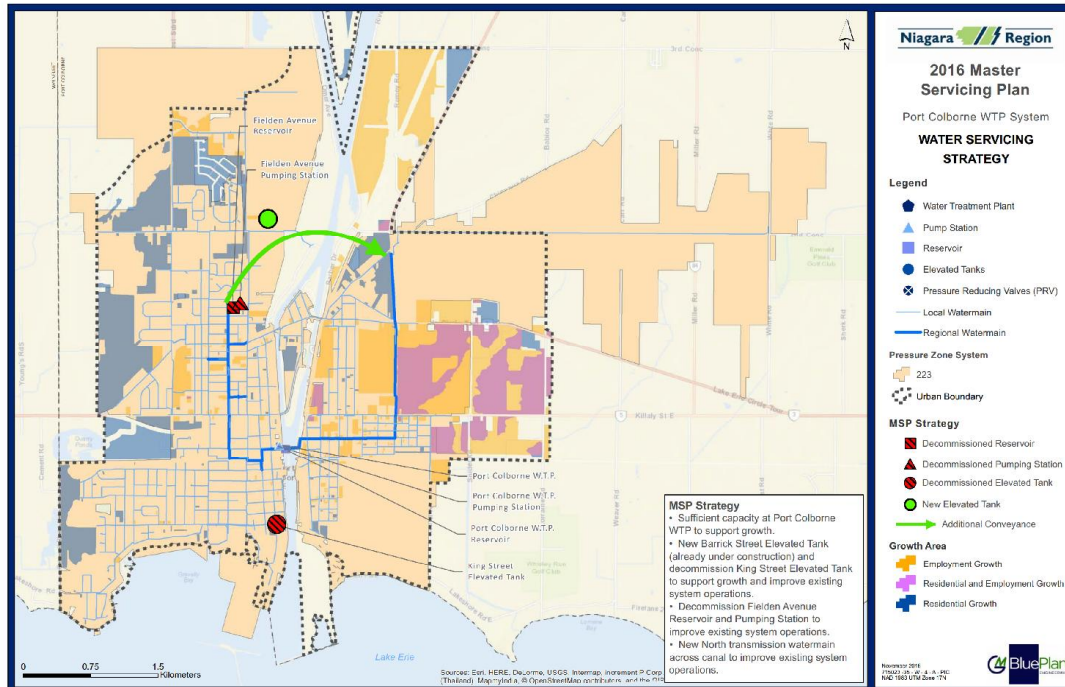


Fostering an Environment for Economic Prosperity



HOW WE FLOW

PORT COLBORNE WATER TREATMENT PLANT SYSTEM



Fostering an Environment for Economic Prosperity





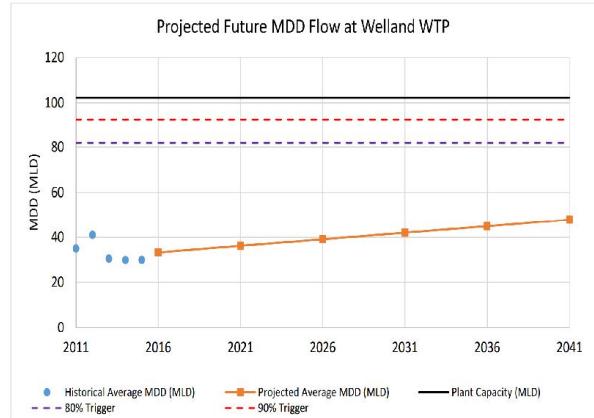
HOW WE FLOW

WATER SERVICING

WELLAND WATER TREATMENT PLANT SYSTEM

Welland | Pelham

- Treatment: **Surplus**
- Pumping:
 - »Upper zones (Pelham) **deficit**
 - »Lower zone (Welland) **surplus**
- Storage:
 - »Upper zones (Pelham) **deficit**
 - »Lower zone (Welland) **surplus**
- Pressures:
 - »Majority **50-90 psi**
 - »Growth pressure issue in Fonhill
 - »Pressures outside optimal along zone boundaries
- Fire Flow:
 - »< 40 psi in North
 - »FF limitations in Pelham
- Security of Supply:
 - »Single trunk feed to Fenwick



Challenges

- Pumping and storage deficits in upper zones (Pelham)
- Shoalt's Pumping Station operational limitations
- Bemis Elevated Tank operational issues
- Limited distribution capacity in Fonhill
- Pressures outside optimal along zone boundaries

	2014	2041	Growth
Equivalent Population	97,321	129,532	32,211

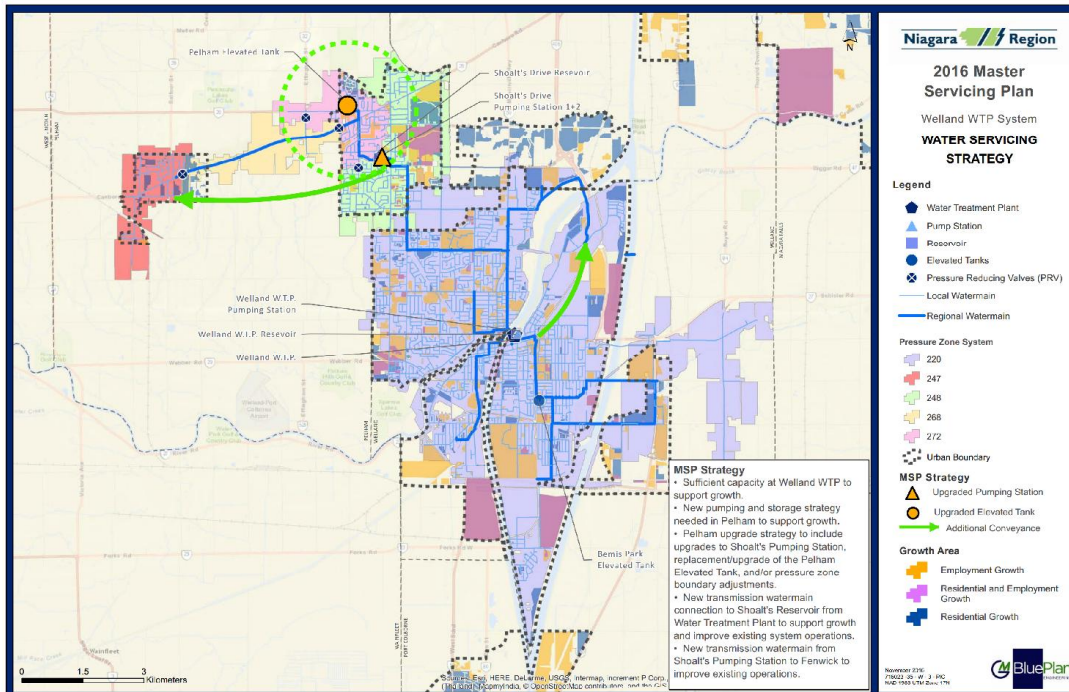


Fostering an Environment for Economic Prosperity



HOW WE FLOW

WELLAND WATER TREATMENT PLANT SYSTEM



Fostering an Environment for Economic Prosperity





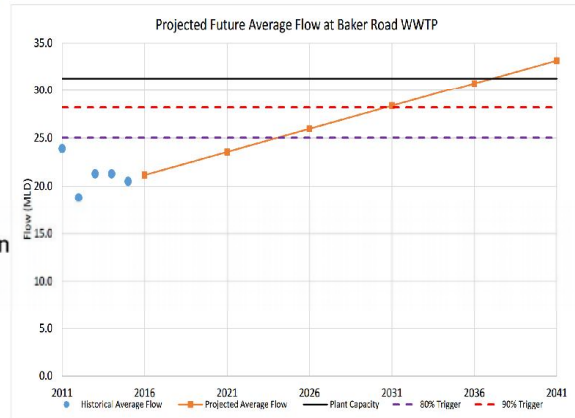
HOW WE FLOW

WASTEWATER SERVICING

BAKER ROAD WASTEWATER TREATMENT PLANT SYSTEM

Grimsby | Lincoln | West Lincoln

- Treatment: **Deficit**
- Pumping Stations:
 - » Several PS **impacted** under criteria
 - » Numerous pumping stations
- Conveyance: Greatest impact downstream of Smithville
- Wet Weather Commentary:
 - » West Grimsby: Pockets of High Inflow and Infiltration
 - » Smithville: Demonstrated Inflow and Infiltration impacts
 - » Lincoln: High Inflow and Infiltration



Challenges

- Residential and employment growth spread out along highway and service road corridors
- Large number of pumping stations and cascading impact
- Significant growth in Smithville impacting pumping station and forcemain
- Areas of high Inflow and Infiltration

	2014	2041	Growth
Equivalent Population	75,773	119,441	43,667

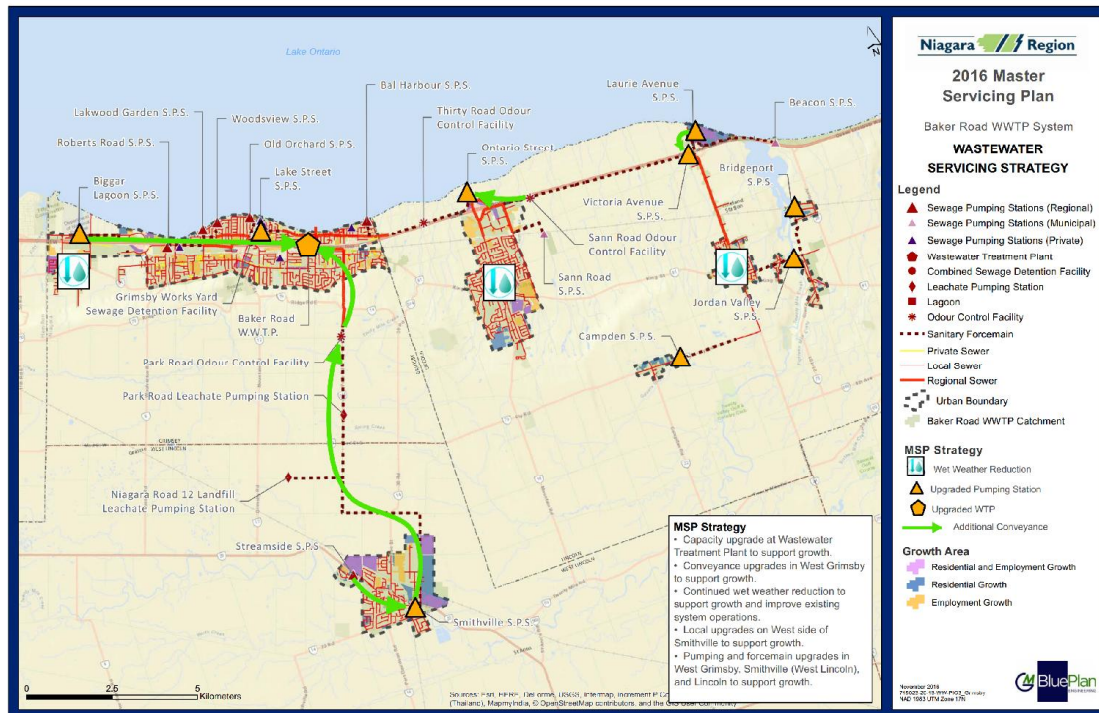


Fostering an Environment for Economic Prosperity



HOW WE FLOW

GRIMSBY WASTEWATER TREATMENT PLANT SYSTEM



Fostering an Environment for Economic Prosperity





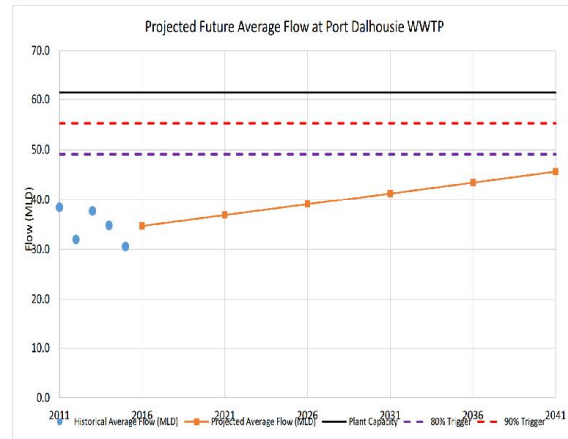
HOW WE FLOW

WASTEWATER SERVICING

PORT DALHOUSIE WASTEWATER TREATMENT PLANT SYSTEM

St. Catharines | Thorold

- Treatment: **Okay**
- Pumping Stations:
 - » Generally **okay** under criteria
 - » **Impacted** under wet weather
- Conveyance:
 - » Generally **okay** under criteria
 - » **Impacted** under wet weather
- Wet Weather Commentary:
 - » Significant combined areas
 - » **Very high** wet weather impacts
 - » Greater need for inter-municipal solutions



Challenges

- Primarily built boundary growth
- Significant combined areas
- Trunk follows river system and in escarpment area

	2014	2041	Growth
Equivalent Population	116,309	156,164	39,852

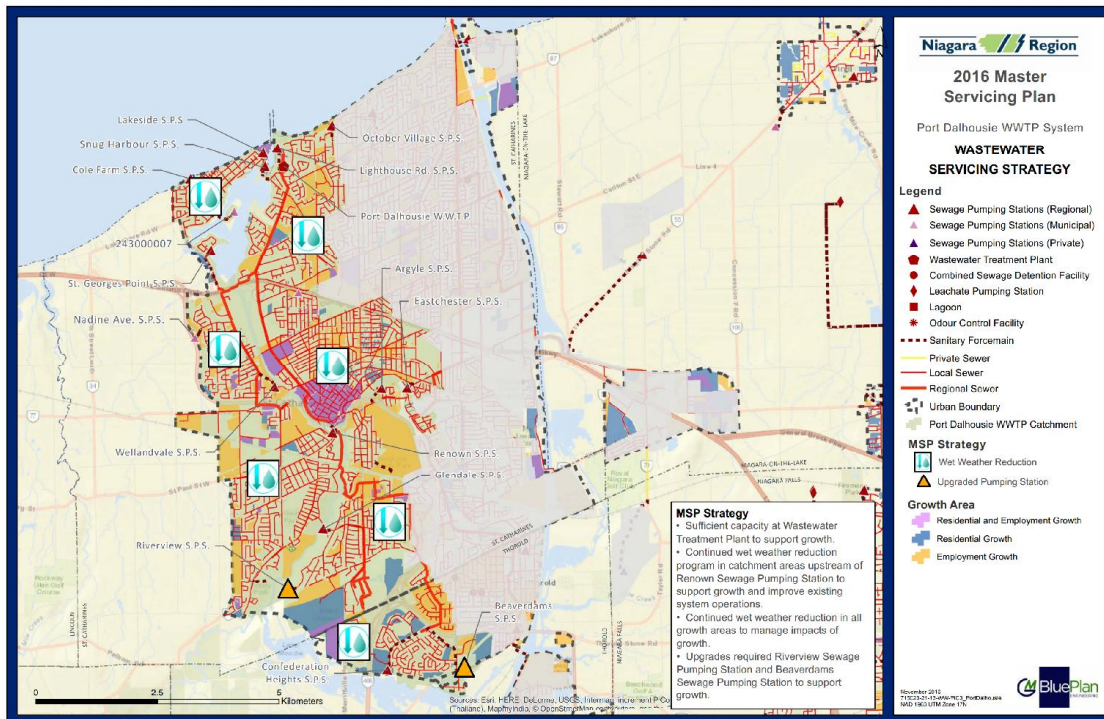


Fostering an Environment for Economic Prosperity



HOW WE FLOW

PORT DALHOUSIE WASTEWATER TREATMENT PLANT SYSTEM



Fostering an Environment for Economic Prosperity





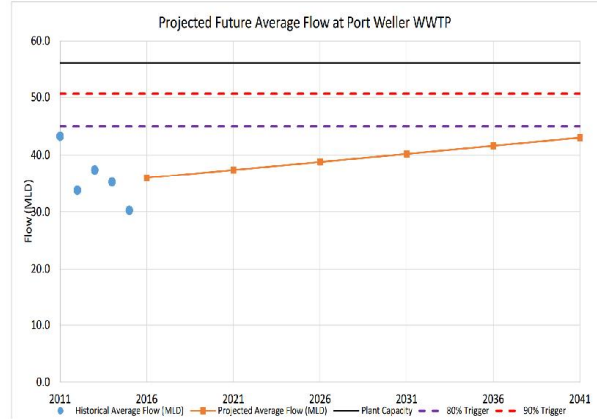
HOW WE FLOW

WASTEWATER SERVICING

PORT WELLER WASTEWATER TREATMENT PLANT SYSTEM

St. Catharines | Thorold

- Treatment: **Okay**
- Pumping Stations:
 - » Generally **okay** under criteria
 - » **Impacted** under wet weather
- Conveyance:
 - » Generally okay under criteria
 - » **Impacted** under wet weather
- Wet Weather Commentary:
 - » Significant combined areas
 - » **Very high** wet weather impacts
 - » Greater need for inter-municipal solutions



	2014	2041	Growth
Equivalent Population	116,309	156,164	39,852

Challenges

- Primarily built boundary growth
- Significant combined areas
- Trunk within built up areas with known CSO issues
- Thorold growth impacts Port Weller system
- Growth in South Thorold

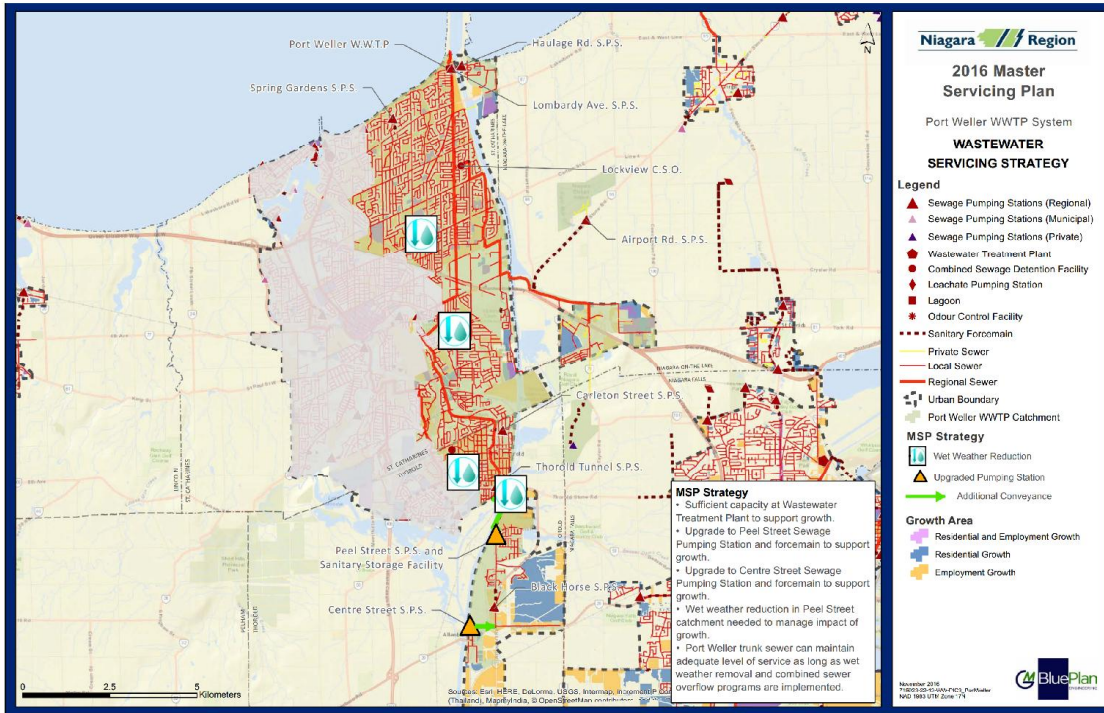


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HOW WE FLOW

PORT WELLER WASTEWATER TREATMENT PLANT SYSTEM



Fostering an Environment for Economic Prosperity





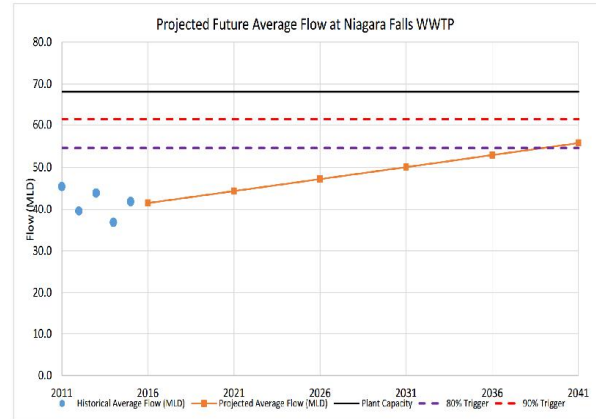
HOW WE FLOW

WASTEWATER SERVICING

NIAGARA FALLS WWTP SYSTEM

Niagara Falls

- Treatment: **Approaching** capacity
- Pumping Stations:
 - » Capacity **impacts** under design criteria
 - » **Significant** wet weather impacts
- Conveyance:
 - » Generally **okay** under criteria
 - » **Impacted** under wet weather
- Wet Weather Commentary:
 - » Existing combined areas
 - » **Very high** wet weather impacts
 - » Greater need for inter-municipal solutions



Challenges

- Significant greenfield growth areas in South – at upstream limit of existing system
- Significant cascading impacts due to size of system
- Constraints in neighbouring systems – could require integrated solutions with Niagara Falls

	2014	2041	Growth
Equivalent Population	128,263	179,848	51,585

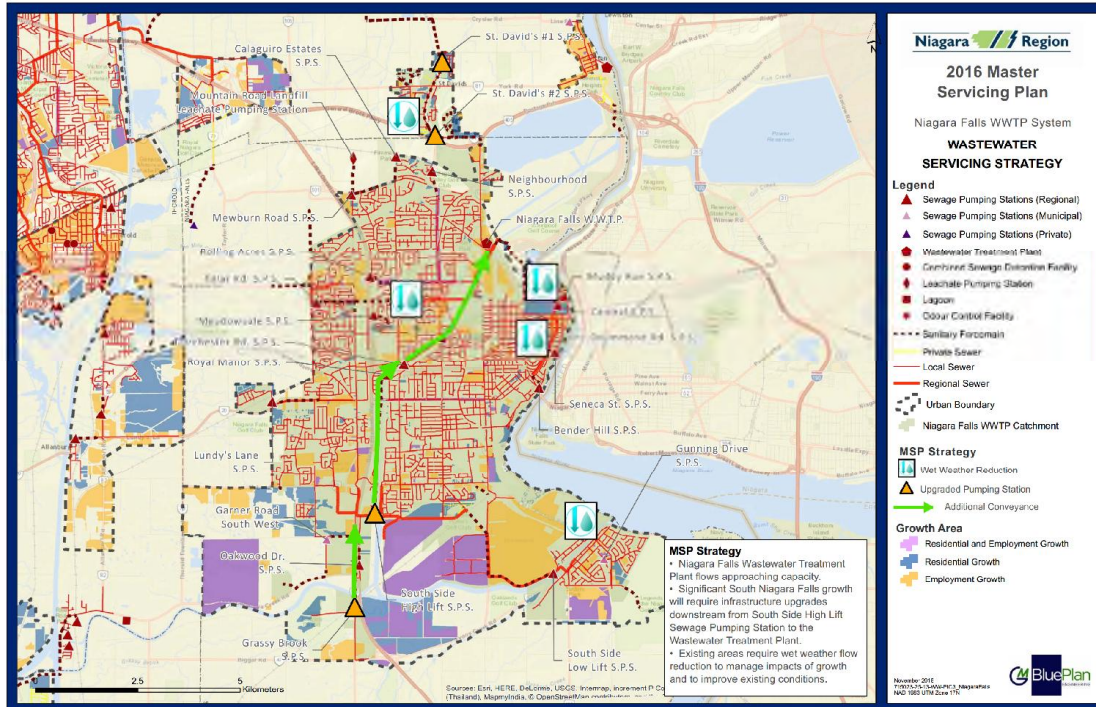


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HOW WE FLOW

NIAGARA FALLS WASTEWATER TREATMENT PLANT SYSTEM



Fostering an Environment for Economic Prosperity





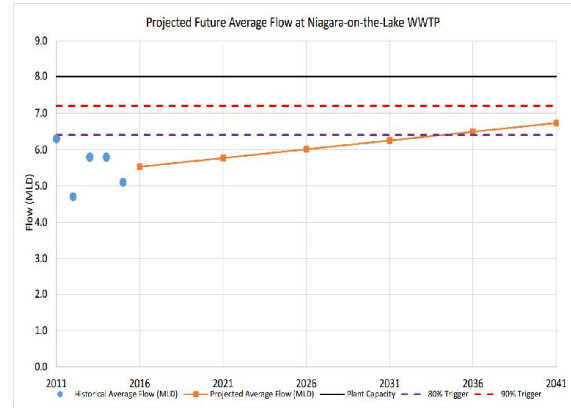
HOW WE FLOW

WASTEWATER SERVICING

NIAGARA-ON-THE-LAKE WASTEWATER TREATMENT PLANT SYSTEM

Niagara-on-the-Lake

- Treatment: **Approaching** capacity
- Pumping Stations:
 - » Virgil: **Impacted** by growth
 - » Old Town: **Good** under criteria
- Conveyance:
 - » Generally **okay** under criteria
 - » Impacted under wet weather
- Wet Weather Commentary:
 - » Virgil: **Impacted** under wet weather
 - » Old Town: Wet weather **in line** with criteria



Challenges

- Development outside of urban boundary
- Pump discharges to WWTP
- Joint ownership pump stations

	2014	2041	Growth
Equivalent Population	17,204	21,532	4,328

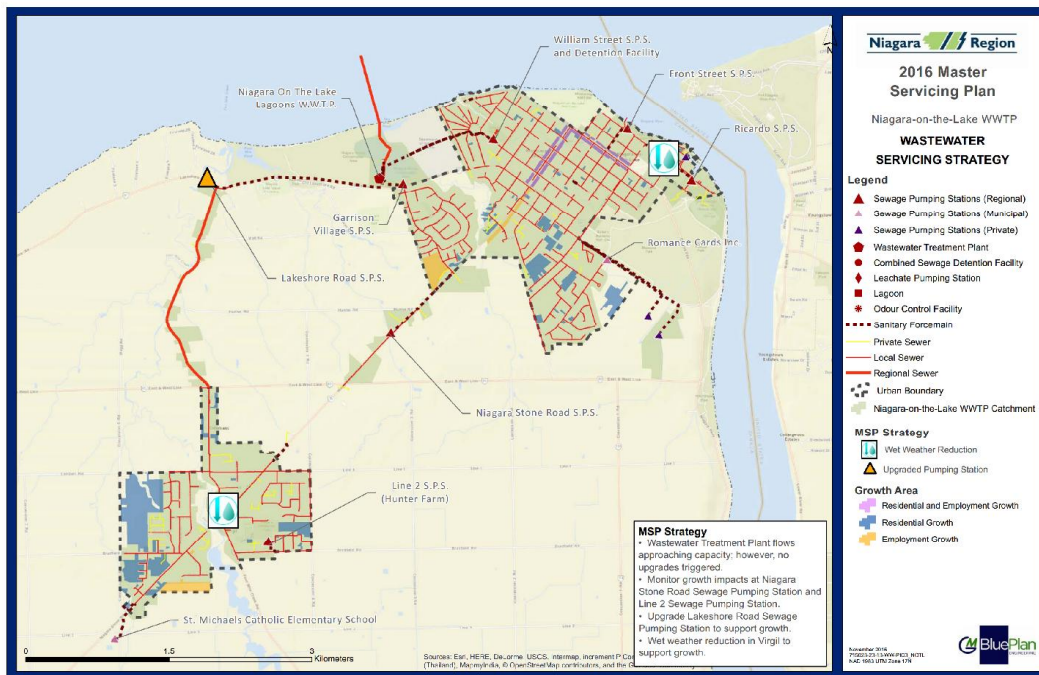


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HOW WE FLOW

NIAGARA-ON-THE-LAKE WASTEWATER TREATMENT PLANT SYSTEM



Fostering an Environment for Economic Prosperity





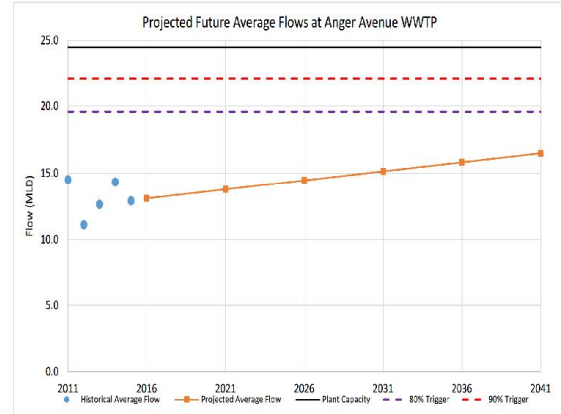
HOW WE FLOW

WASTEWATER SERVICING

ANGER AVENUE WASTEWATER TREATMENT PLANT SYSTEM

Fort Erie

- Treatment: **Okay**
- Pumping Stations:
 - » Alliston: **Impacted** by growth
 - » East Fort Erie: Wet weather **impacts**
- Conveyance:
 - » Generally **okay** under criteria
 - » **Impacted** under wet weather
- Wet Weather Commentary:
 - » **High** Inflow and Infiltration to Eastern pumping stations



Challenges

- Servicing of Northwest growth areas
- Trunks through existing built areas

	2014	2041	Growth
Equivalent Population	25,148	37,507	12,359

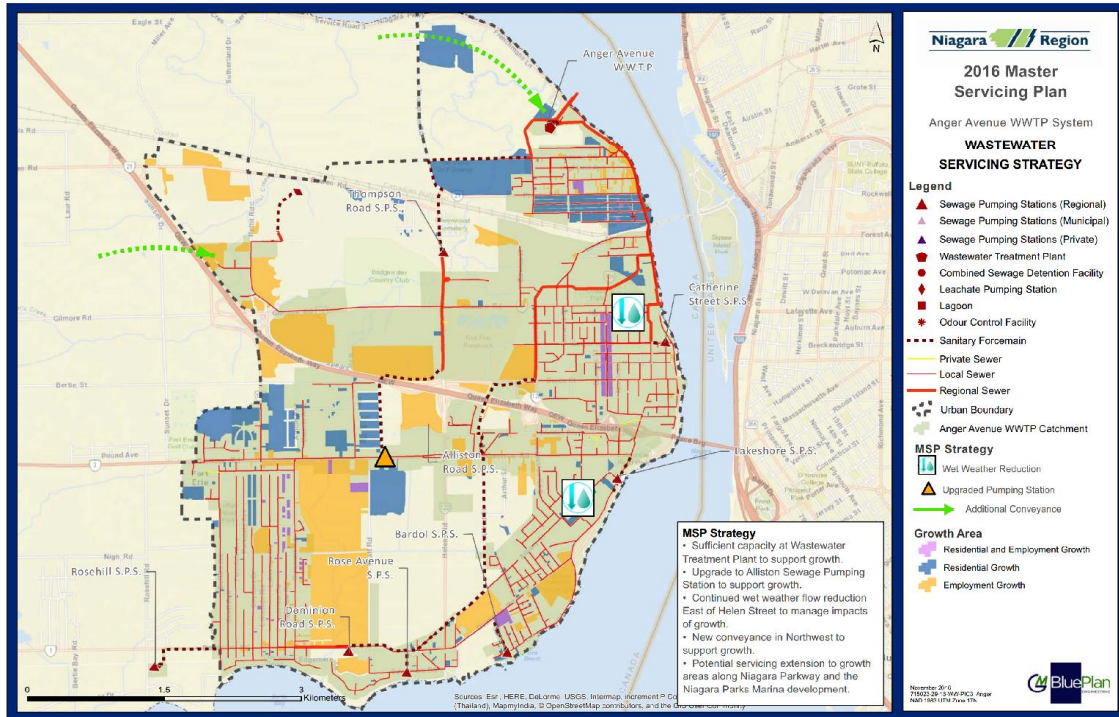


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HOW WE FLOW

ANGER AVENUE WASTEWATER TREATMENT PLANT SYSTEM



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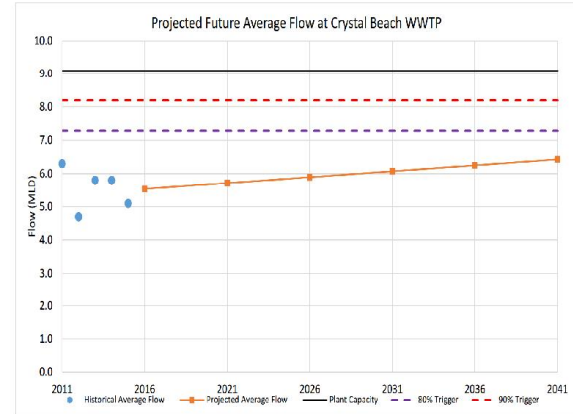
HOW WE FLOW

WASTEWATER SERVICING

CRYSTAL BEACH WASTEWATER TREATMENT PLANT SYSTEM

Fort Erie

- Treatment: **Okay**
- Pumping Stations:
 - » Generally **okay** under criteria
 - » Shirley Rd: **Not meeting criteria**
- Conveyance:
 - » Generally **okay** under criteria
 - » **Impacted** under wet weather
- Wet Weather Commentary:
 - » Erie Road and Nigh Road **impacted** under wet weather



Challenges

- Primarily built boundary growth

	2014	2041	Growth
Equivalent Population	10,918	14,163	3,246

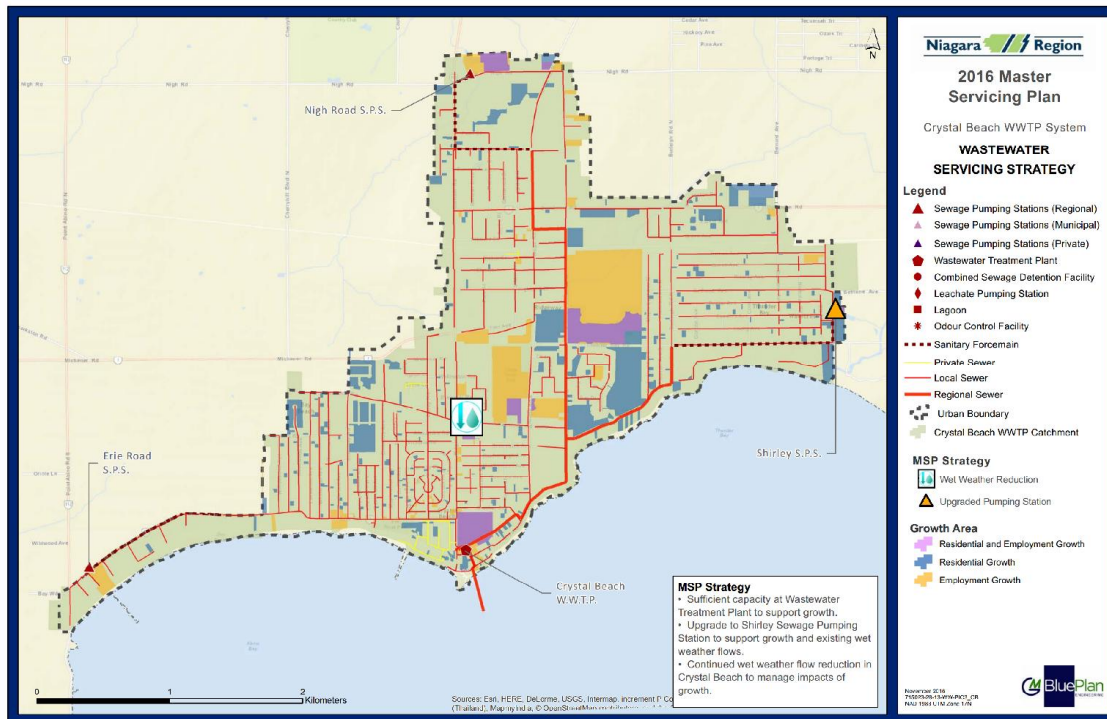


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HOW WE FLOW

CRYSTAL BEACH WASTEWATER TREATMENT PLANT SYSTEM



Fostering an Environment for Economic Prosperity



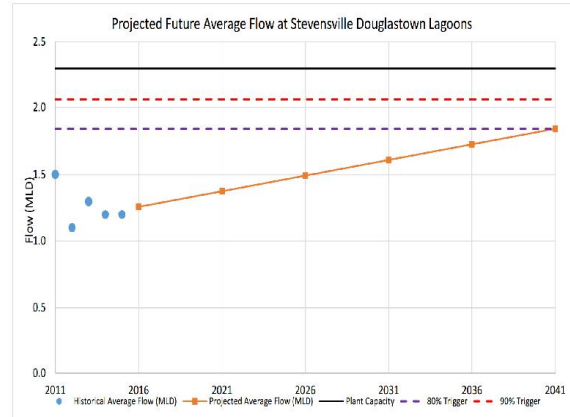


HOW WE FLOW

WASTEWATER SERVICING

STEVENSVILLE AND DOUGLASTOWN WASTEWATER TREATMENT SYSTEM Fort Erie

- Treatment: **Okay**
- Pumping Stations:
 - » Douglastown: Generally **okay** under criteria
 - » Stevensville: **Impacted** under criteria
- Conveyance:
 - » Generally **okay** under criteria
 - » **Impacted** under wet weather
- Wet Weather Commentary:
 - » Inflow and infiltration reduction opportunity



Challenges

- Limited growth capacity

	2014	2041	Growth
Equivalent Population	5,294	7,408	2,114

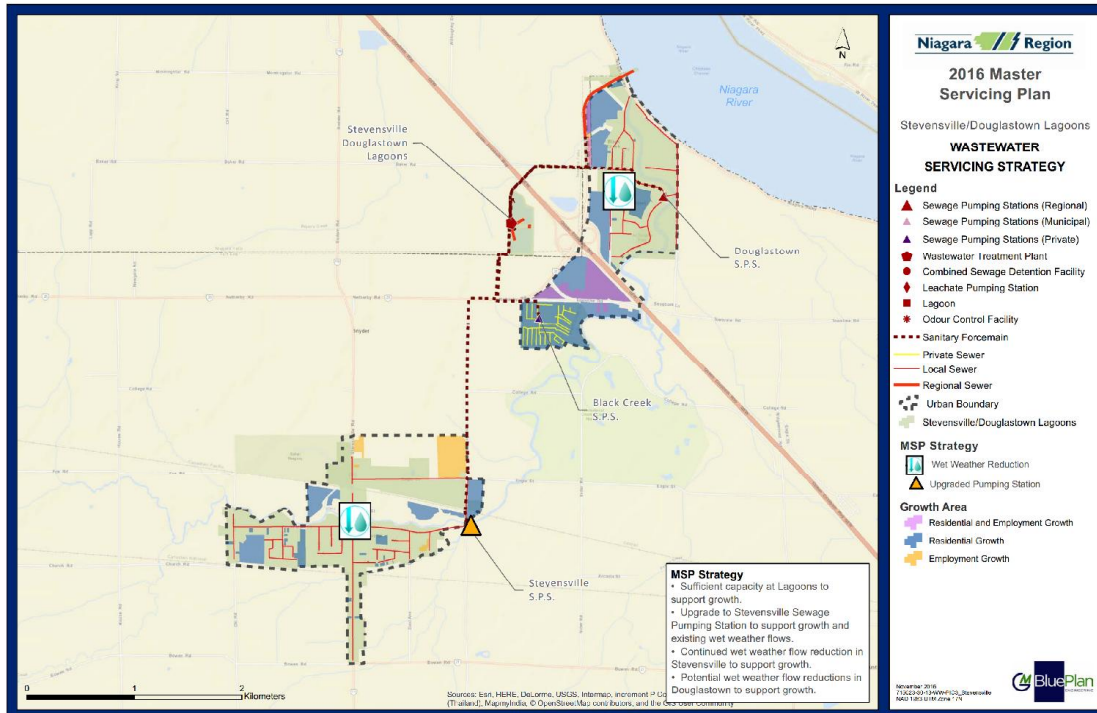


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HOW WE FLOW

STEVENSVILLE | DOUGLASTOWN LAGOONS



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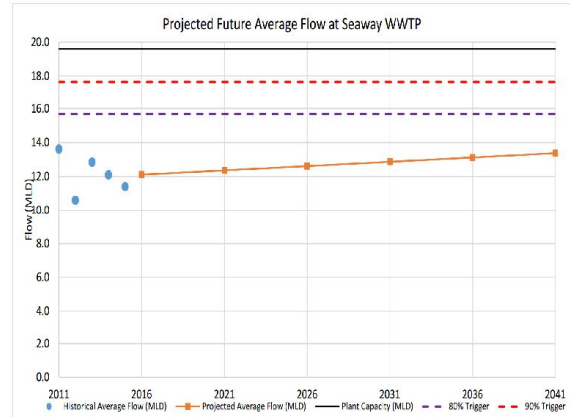
HOW WE FLOW

WASTEWATER SERVICING

SEAWAY WASTEWATER TREATMENT PLANT SYSTEM

Port Colborne

- Treatment: **Okay**
- Pumping Stations:
 - » **Impacted** by growth
 - » Existing capacity **limitation** at Steele and Rosemount South
- Conveyance:
 - » Generally **okay** under criteria
 - » **Impacted** under wet weather
- Wet Weather Commentary:
 - » Large growth land area relative to growth population



Challenges

- Small growth attribute to large areas
- Large greenfield areas potential to trigger Inflow and Infiltration related upgrades
- Canal crossing capacity to service East side growth

	2014	2041	Growth
Equivalent Population	24,087	28,678	4,591

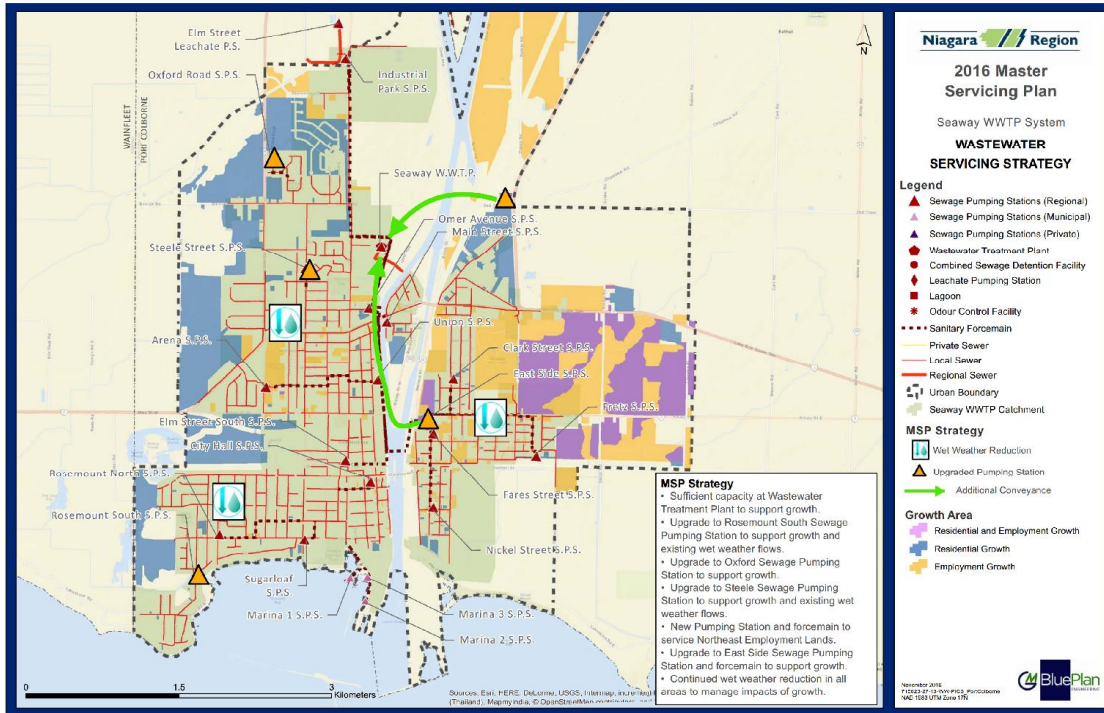


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HOW WE FLOW

PORT COLBORNE WASTEWATER TREATMENT PLANT SYSTEM



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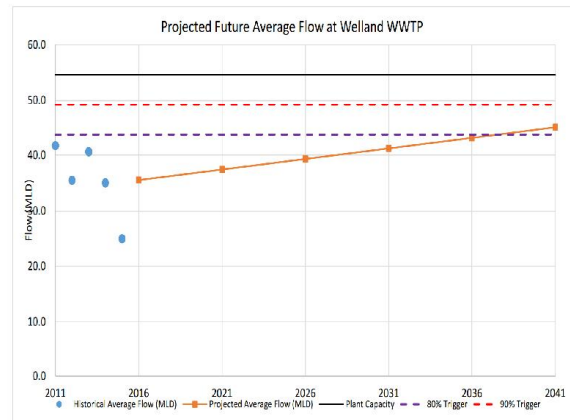
HOW WE FLOW

WASTEWATER SERVICING

WELLAND WWTP SYSTEM

Welland | Pelham

- Treatment: **Approaching capacity**
- Pumping Stations:
 - » **Impacted** by growth
 - » Existing capacity **limitations** at Park Lane and Foss under design
- Conveyance:
 - » Generally **okay** under criteria
 - » **Impacted** under wet weather
- Wet Weather Commentary:
 - » **High** wet weather impacts
 - » **Significant** combined areas



Challenges

- Combined areas
- Areas of high Inflow and Infiltration
- Canal crossing

	2014	2041	Growth
Equivalent Population	98,686	132,953	34,267

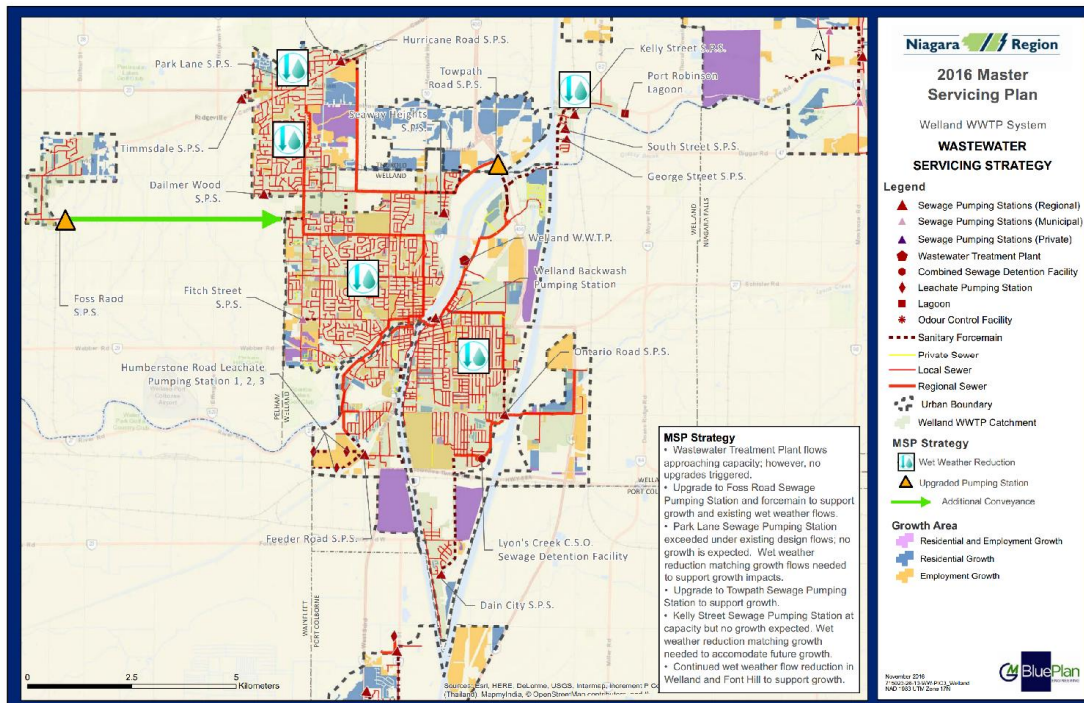


Fostering an Environment for Economic Prosperity



HOW WE FLOW

WELLAND WASTEWATER TREATMENT PLANT SYSTEM

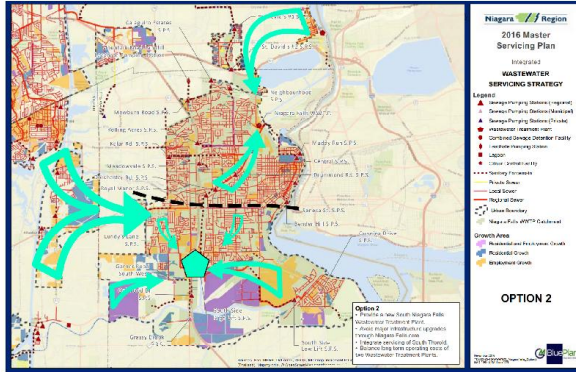
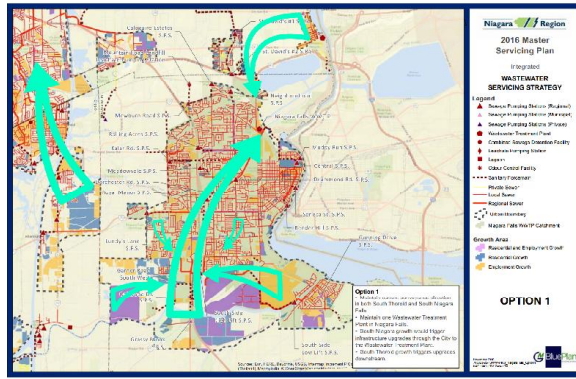


Fostering an Environment for Economic Prosperity





HOW WE FLOW



Integrated South Niagara Falls Servicing Concepts

NIAGARA
2041

Fostering an Environment for Economic Prosperity



Summary Report
PIC #3



The Regional Municipality of Niagara

November 2016

Prepared by:



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Appendices

Appendix A	Project Workplan
Appendix B	Sign In Sheet
Appendix C	Registration Sheets

1. Background and Introduction

The Region of Niagara is an upper-tier municipality comprised of twelve local area municipalities including West Lincoln, Lincoln, Grimsby, St. Catharines, Niagara Falls, Welland, Thorold, Niagara-on-the-Lake, Pelham, Port Colborne, Fort Erie and Wainfleet. The water and wastewater system is operated in conjunction with the local area municipalities under the two-tier governance system. Niagara Region is responsible for operating all water and wastewater treatment plants, sanitary pump stations, trunk sewers, water transmission mains, booster pump stations and water storage facilities.

The Region has identified the need to undertake a 2016 Water and Wastewater Master Servicing Plan update as there has been several significant changes since the completion of the 2011 study that impact the servicing strategy adopted through that study.

Since the completion of the 2011 Master Plan, the province's "Places to Grow Plan Amendment 2" has been adopted, which outlines the Regional growth targets out to 2041. Further, the Region through the Regional Council Strategic Priorities is using the relationships between residential growth, employment, and transportation to change how, when, and where growth is expected to occur and be supported. The Region is currently undertaking a Municipal Comprehensive Review that will outline the Region's Growth Plans moving forward.

The Region of Niagara has initiated the Water and Wastewater Master Servicing Plan update Class Environmental Assessment (EA) Study, Approach 2 to determine several alternative design concepts to provide water and wastewater servicing for the Region to 2041.

The study area for the Water and Wastewater Servicing Study update is shown in Figure 1 and Figure 2.

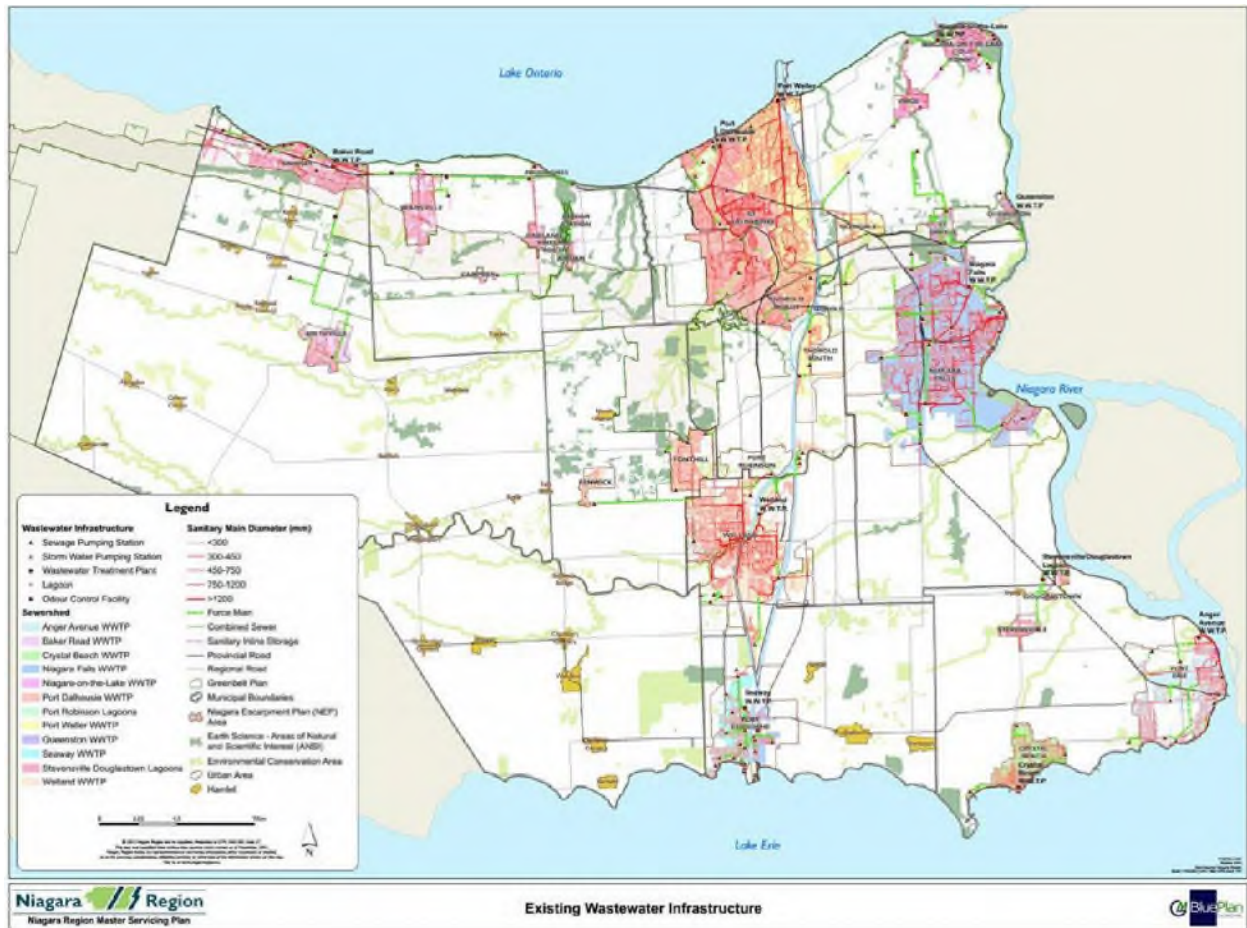


Figure 1. Study Area – Wastewater Infrastructure

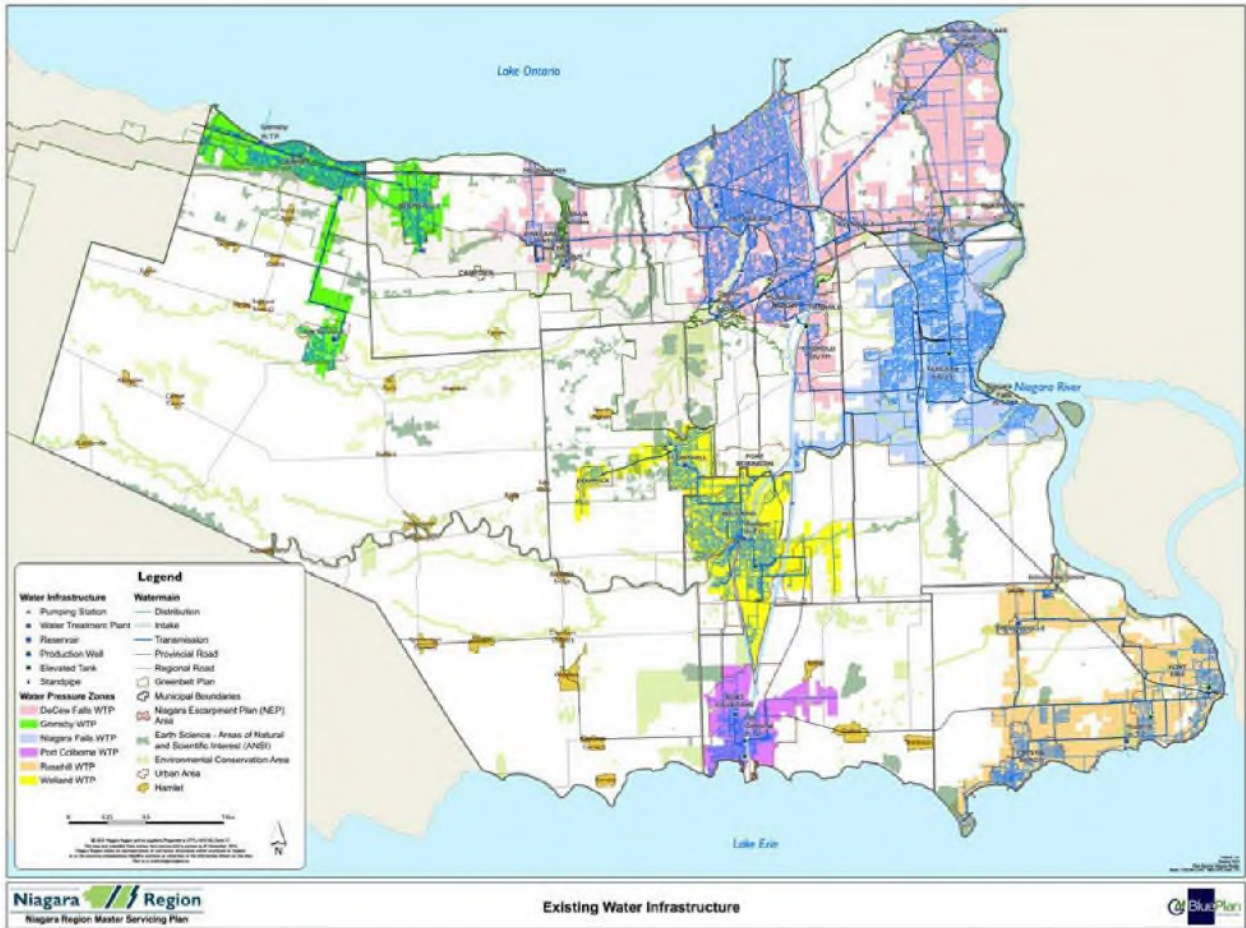


Figure 2. Study Area – Water Infrastructure

The Class EA study is following the Municipal Class Environmental Assessment process (October 2000, as amended in 2007 and 2011), Approach #2 for Master Plans as seen in Figure 3. The Class EA process includes public and review agency consultation, evaluation of alternatives, impact assessment of proposed alternatives, and identification of measures to mitigate adverse impacts.

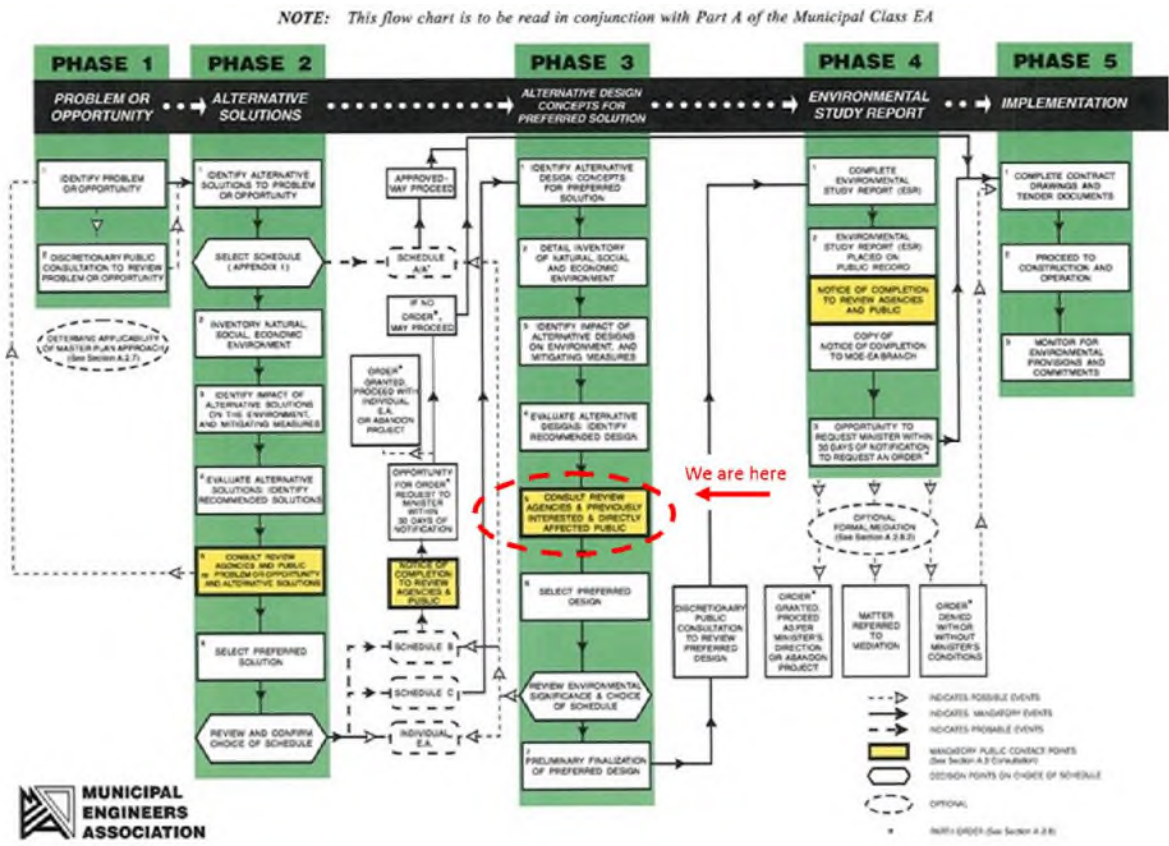


Figure 3. Municipal Class EA Planning and Design Process

A key part of the public consultation component is the Public Information Centre (PIC), which serves as a forum for information exchange between the public/stakeholders and the project team. Three rounds of PICs were conducted during the course of this study.

The **Public Information Centre #3 Summary Report** focuses on PIC #3 and represents one element of the overall public consultation documentation. The report documents the following:

- Notice of PIC#3
- Information materials presented at PIC #3
- Summary of attendance
- All comments received and responses provided
- Communications tracking sheet to track correspondence in a transparent and traceable manner

1.1. Class EA Context

The Class EA Study follows the approved process as outlined in Section A.2.7, of the Municipal

Engineers Association (MEA) Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011 and 2015) document. The Master Plan study is being carried out as an Approach #2 for Master Plans.

Public consultation is a vital component of the Class EA process and ensures transparency through encouraging stakeholder and public involvement. The study work plan provided for three rounds of Public Information Centres (PICs) (see Appendix A).

PIC#1 was held on November 17, 18, and 19, 2015 and introduced the project and presented the overall study process and background to solicit interest and feedback into the process.

PIC#2 was held on June 15, 16, and 22, 2016 and provided an overview of the baseline system assessment, growth scenario development, and evaluation matrix development.

PIC#3 was held on November 30, December 6, 7, and 8, 2016 and presented and elicited feedback on servicing alternatives for each water and wastewater treatment plant to accommodate future growth and servicing needs.

The final project report, the Environmental Study Report (ESR), will be prepared in Spring 2017, at which point a Notice of Completion will be issued making the documentation available for public review

2. Public Information Centre #3

2.1. Purpose

The third Public Information Centre (PIC #3) was intended to:

- Review the progress on the study to date
- Describe the Class EA process
- Outline the overall study process
- Identify the Key Principals and Policies
- Provide baseline information such as existing systems, land use, catchment areas and environmental features
- Identify the current state and projected future state of water and wastewater infrastructure
- Identify and seek input in to water and wastewater servicing alternatives to meet future needs
- Receive public input and answer any questions

2.2. Notifications

Agency stakeholders and the public were informed of PIC #3 by newspaper advertisements, mail, email, Niagara Region's Facebook and Twitter posts, website and Public Service Announcement. The Public Notice for PIC #3 combined is provided in Appendix B.

2.2.1 Newspaper and Online Advertisement

The combined Notice of Commencement and Public Information Centre #3 was published on November 17 and 24, 2016 in the following local newspapers:

- Fort Erie Times
- Port Colborne
- Niagara Advance
- News Now (which serves Grimsby, Lincoln, West Lincoln, Winona)
- Thorold News
- Pelham News
- Niagara This Week
- Niagara Falls Review
- St. Catharines Standard
- The Tribune

PIC #3 was also advertised on the Niagara Region website beginning on November 10, 2016 and posted on the Niagara Region Facebook and Twitter accounts on November 25, December 6, 7&8.

2.2.2 Mail Out

The Notice of PIC #3 was and mailed or emailed to local government, review agencies and other stakeholders. Notices delivered by mail were provided to Canada Post on November 25, 2016. Notices that were delivered by email for provided on Monday, November 28.

2.2.3 Memo to Council and Public Service Announcement

Niagara Region Council received a memo regarding PIC#3 on November 25, 2016, Local Area Municipal planners, public works officials and clerks were copied on the memo. A public service announcement was issued by Niagara Region’s corporate communications to local area media outlets and it was posted on Niagara Region’s website on November 28, 2016.

2.3. Dates, Times, and Locations

PIC #3 was held at four locations within the study area. Table 1 identifies the dates, times, and locations for PIC #3.

Table 1. PIC #3 Dates, Times, and Locations

Municipality	Date	Time	Location
City of Niagara Falls	Wednesday, November 30, 2016	4 – 8 p.m.	Gale Centre 5152 Thorold Stone Rd. Niagara Falls, ON
City of Thorold	Tuesday, December 6, 2016	4 – 8 p.m.	Niagara Region Headquarters 1815 Sir Isaac Brock Way Thorold, ON
Town of Niagara- on- the-Lake	Wednesday, December 7, 2016	4 – 8 p.m.	Community Centre 14 Anderson Lane Niagara – on – the – Lake , ON
Town of Lincoln	Thursday, December 8, 2016	4 – 8 p.m.	Fleming Centre 5020 Serena Drive Beamsville, ON

Representatives from the Region of Niagara and its Consultant, GM BluePlan Engineering, were present at the PIC to provide information and answer questions.

2.4. Display Panels

The information presented at PIC #3 included the following printed display panels:

1. Purpose of the Study
2. Study Area
3. Project Timeline
4. Class EA Process
5. Existing Systems Study Process
6. Servicing Information and Alternatives (for each water and wastewater treatment plant)
7. Existing Systems
8. Project Schedule & Next Steps
9. How to Get Involved and Contact Information for the Region's Project Manager

2.5. Attendance

A total of 123 people attended PIC #3. The sign-in sheets are provided in Appendix C.

2.6. Comments and Responses

Attendees were encouraged to provide input on the PIC and/or study in a comment sheet provided or on a post-it note directly on the display board. Comments were subsequently received via email and letter correspondence.

A summary of the comments received is provided in Table 2 below. Follow up consultation will be tracked in future updates of the tracking sheet.

Table 2. Summary of Comments Received

No.	Correspondent	Type	Comment	Date Receive	Status/Response/Action Item
1	J. Grandoni City of Niagara Falls	Comment Card	<ul style="list-style-type: none"> • Should put a new wastewater treatment Plant south of the Welland River. • This would eliminate need for P stations as land flows this way. • All urban orientated. Fear more prime soil will be lost 	Nov 30, 2016	<ul style="list-style-type: none"> • N/A
2	R. Taylor City of St. Catharines	Comment Card	<ul style="list-style-type: none"> • Fantastic, Exciting. • Keep up Great Work 	Nov 30, 2016	<ul style="list-style-type: none"> • N/A
3	M. Dickman Welland (Welland River Keepers)	Written submission	<ul style="list-style-type: none"> • The importance of preserving Niagara's Carolinian forests and wetlands along with its farmlands • The need for protecting the Welland River and its tributaries. • Environmental and Health concerns of CSOs 	Dec 6, 2016	<ul style="list-style-type: none"> • N/A
4	J. Bucknall Town of Campden	Comment Card	<ul style="list-style-type: none"> • Connecting Decew and Grimsby Pumping Stations. • Send a new line West up Reg. 73 (Fly Rd. to Park Rd. and intersect line from Grimsby to Smithville + a line off to Hixon St. Reservoir 	Dec 8, 2016	<ul style="list-style-type: none"> • N/A

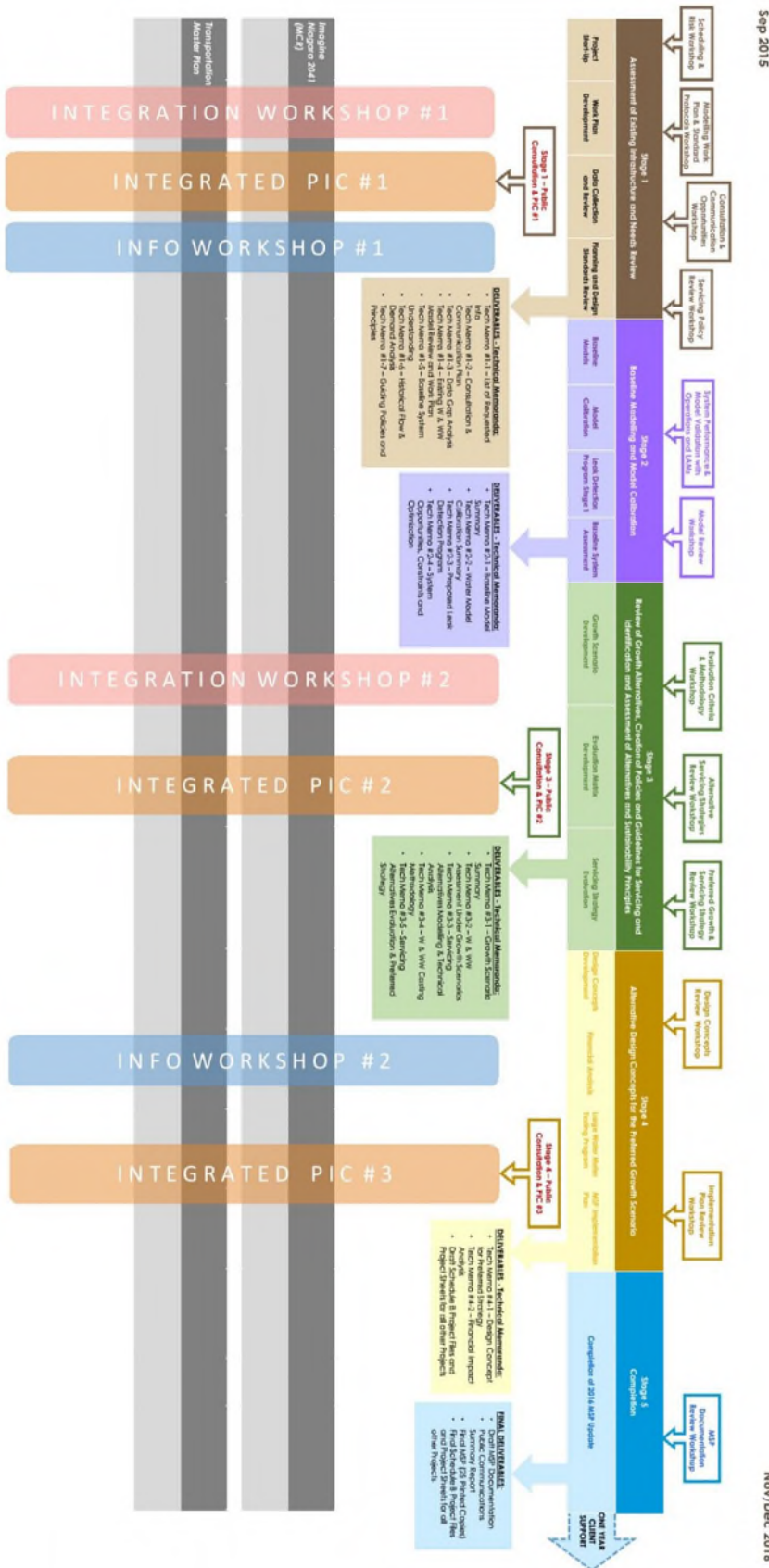
No.	Correspondent	Type	Comment	Date Receive	Status/Response/Action Item
5	A. Witteveen GM West Niagara Agriculture Society	E-mail	<ul style="list-style-type: none"> Enquiring if a formal presentation will be part of the PIC meetings 	Nov 30, 2016	<ul style="list-style-type: none"> Niagara Region responded with details of PIC meeting
6	Leigh Whyte Fort Erie	E-mail	<ul style="list-style-type: none"> Requested digital copy of PIC display boards 	Dec 1, 2016	<ul style="list-style-type: none"> Region emailed digital copy of the display boards
7	Not identified	Post-It Note	<ul style="list-style-type: none"> Environmental Conservation Areas not fully mapped on existing infrastructure map 	N/A	<ul style="list-style-type: none"> N/A
8	Not identified	Post-It Note	<ul style="list-style-type: none"> All the sewer systems are burdened by having non-separated storm/san. Systems. Is there any impetus to make separation of these systems mandatory? 	Nov 30-Dec. 8 (exact date N/A)	<ul style="list-style-type: none"> N/A
9	Not identified	Post-It Note	<ul style="list-style-type: none"> What would be capacity of N.Falls W.W.T.P. and other pumping stations such as Kalar Rd. S.P.S., if all raw sewage overflows were plugged that are related to them. This includes overflows both in P.S. and sanitary sewers. Should be Option 3 Put a Wastewater Treatment plant in Chippawa south of the Welland River and eliminate all the expensive pumping of Option 1 and 2 land of Option 3 flows by gravity. 	Nov 30-Dec. 8 (exact date N/A)	<ul style="list-style-type: none"> N/A
10	Resident of St. Catharines	E-mail/ Phone	<ul style="list-style-type: none"> Resident expressed concerns in regards to sewage going back to Lake Ontario Mentioned that Government will need to provide money for infrastructure improvements as it is not affordable for taxpayers 	Dec 6, 2016	<ul style="list-style-type: none"> Region called and left message with contact information
11	Resident of St. Catharines	Phone	<ul style="list-style-type: none"> Follow up conversation with previous resident to discuss concerns with sewage overflowing or discharging into Lake Ontario and impacting the environment Similar phone call received by the City of St. Catharines with resident 	May 18, 2017	<ul style="list-style-type: none"> Region explained w & WW MSP and work to address concern

3. Next Steps

Following the third round of public consultation, the project team will:

- Refine preferred alternative design concepts and capital project lists options
- Finalize MSP documentation and Final MSP Report
- Niagara Region Committee and Council Presentations of Final MSP Report
- Notice, Advertisements, and letter for filing of Final MSP Report

Appendix A



Appendix B

NIAGARA 2041



Fostering an Environment for Economic Prosperity

Get Involved In Niagara's Future: Attend Public Information Centre #3

In the next 25 years, Niagara is expected to grow, bringing a possible 168,000 new residents and 79,000 new jobs to the region.

Niagara Region is making sure we're prepared for this growth through four projects that will help us plan where and how that growth will occur, and how it will be accommodated.



HOW WE GROW: MUNICIPAL COMPREHENSIVE REVIEW

The Municipal Comprehensive Review will look at the land we have available across Niagara, and will ensure we have enough to sustain our expected growth to the year 2041. It will also examine how that land is distributed throughout Niagara.



HOW WE FLOW:

The Water and Wastewater Master Servicing Plan will ensure Niagara has the infrastructure to provide critical water and wastewater services to our growing region in a sustainable and financially responsible way. This PIC will be presenting alternative design concepts.



HOW WE GROW: DEVELOPMENT CHARGES BY-LAW

The new Development Charges Background Study and By-law will align the infrastructure for our expected growth and how we will pay for it. It will connect with and reflect how we plan to grow, flow and go.



HOW WE GO:

The Transportation Master Plan will look at how we currently travel in and around Niagara and how we can improve our transportation systems, including options for walking, cycling and public transit, to better serve Niagara's future needs.

Get Involved:

Residents are invited to attend a Public Information Centre in their community to learn how each of these projects contribute to Niagara's overall growth plan for the next 25 years, and how you can have your voice heard.

Nov. 30, 2016

City of Niagara Falls
 Gale Centre
 5152 Thorold Stone Rd.,
 4-8 p.m.

Dec. 6, 2016

City of Thorold
 Niagara Region Headquarters
 (Atrium)
 1815 Sir Isaac Brock Way
 4-8 p.m.

Dec. 7, 2016

Town of Niagara-on-the-Lake
 Community Centre
 14 Anderson Lane,
 4-8 p.m.

Dec. 8, 2016

Town of Lincoln
 Fleming Centre
 5020 Serena Dr.,
 4-8 p.m.

There is an opportunity at any time during this process for interested persons to bring comments and concerns to the attention of the project managers, and to review outstanding issues. If you have any questions or comments or wish to be added to the study mailing list, please contact us:

HOW WE GROW: MUNICIPAL COMPREHENSIVE REVIEW

Brian Dick | Senior Planner
 brian.dick@niagararegion.ca | 905-980-6000 ext. 3365

DEVELOPMENT CHARGES BY-LAW:
 Adam Smith | Senior Tax and Revenue Analyst
 adam.smith@niagararegion.ca | 905-980-6000 ext. 3272

HOW WE FLOW:

David Shen | Planning Engineer
 david.shen@niagararegion.ca | 905-980-6000 ext. 3777

HOW WE GO:

Ron Tripp | Commissioner, Public Works
 ron.tripp@niagararegion.ca | 905-980-6000 ext. 3335

The Transportation and Water and Wastewater studies follow 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 2000, 2011 and 2015). The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning. The Master Servicing Plan will satisfy the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.

If you require any accommodations for a disability in order to access the project documents, contact the Accessibility Advisory Coordinator at 905-980-6000- ext. 3252 or 1-800-263-7215 or accessibility@niagararegion.ca to make the appropriate arrangements.

Memorandum

Date: November 25, 2016
To: Regional Council
From: Diana Morreale, MCIP, RPP, Manager Community Planning
Subject: Niagara 2041 - Public Information Centres in November/December 2016

The purpose of this memo is to update Regional Council on the upcoming third round of public engagement for the Niagara 2041 Growth Strategy. The first round of Public Information Centres (PICs) was held in November 2015 in Port Colborne, Grimsby, and St. Catharines. The second round of PICs was held in June 2016 in Fort Erie, West Lincoln and Welland.

The third round of engagement will be happening in four locations across the Region on the following dates:

1. **Niagara Falls: November 30, 2016** (4pm to 8pm), Gale Centre, 5152 Thorold Stone Road
2. **Thorold: December 6, 2016** (4pm to 8pm), Niagara Region Headquarters (Atrium), 1815 Sir Isaac Brock Parkway
3. **Niagara-on-the-Lake: December 7, 2016** (4pm to 8pm), Community Centre, 14 Anderson Lane
4. **Lincoln: December 8, 2016** (4pm to 8pm), Fleming Centre, 5020 Serena Drive

Information to be displayed at PIC No. 3

- The Municipal Comprehensive Review (MCR) will be presenting the preferred growth option and how future population and employment growth is to be allocated to the local municipalities in order to meet Niagara's strategic objectives.
- The Water and Wastewater Master Servicing Plan (MSP) will be presenting alternative design concepts to accommodate this growth.
- The Transportation Master Plan (TMP) will be providing a project status update as to how the TMP is addressing the challenges and the opportunities associated with the Niagara Region's transportation system.
- The Development Charges (DC) By-law Review will provide background on what Development Charges are, how they are calculated, and how the MSP, TMP, MCR and DC Study are all interrelated. It will also highlight opportunities for public input that will exist in 2017.

Local Area Municipalities

As previously mentioned in memo **C8335Revised**, local staff have been actively engaged throughout the Region's Master Plan processes to ensure alignment with the local municipal master plan processes with respect to where growth will occur and the

timing of infrastructure. Also, we will continue to work with all area municipalities throughout the various stages of these projects to solicit their input.

For more information on the projects please contact:

- **Municipal Comprehensive Review:** Brian Dick, Senior Planner, Planning and Development Services at ext. 3365 or brian.dick@niagararegion.ca
- **Transportation Master Plan:** Jack Thompson, Transportation Lead, Strategic Initiatives and Projects, Public Works at ext. 3482 or jack.thompson@niagararegion.ca
- **Water and Wastewater Master Servicing Plan:** David Shen, Development Planning Engineer, Public Works at ext. 3777 or david.shen@niagraregion.ca
- **Development Charges By-law Review:** Adam Smith, Senior Tax & Revenue Analyst, Corporate Services at ext. 3272 adam.smith@niagraregion.ca

Respectfully submitted and signed by,

Diana Morreale, MCIP, RPP
Manager, Community Planning

cc: LAM Planners, LAM Public Works Officials, LAM Clerks

APPENDIX F

Agencies – Government Consultation



Canadian Environmental
Assessment Agency

Agence canadienne
d'évaluation environnementale

55 St. Clair Avenue East
Suite 907
Toronto, Ontario
M4T 1M2

55, avenue St-Clair Est
Bureau 907
Toronto (Ontario)
M4T 1M2

December 21, 2015

Sent by E-mail

Mr. Greg Bowie
Niagara Region
2201 St. David's Road
Thorold, ON, L2V4T7
Greg.bowie@niagararegion.ca

Dear Mr. Bowie:

Re: Information on the *Canadian Environmental Assessment Act, 2012*

Thank you for your correspondence regarding Niagara 2041 fostering an environment for economic prosperity:

- The Municipal Comprehensive Review
- The Water and Wastewater Master Servicing Plan
- The Transportation Master Plan

The *Canadian Environmental Assessment Act, 2012* (CEAA 2012) focuses federal environmental reviews on projects that have the potential to cause significant adverse environmental effects in areas of federal jurisdiction and applies to physical activities described in the *Regulations Designating Physical Activities* (the Regulations). **Kindly review the Regulations to confirm applicability to the proposed project.**

If you believe the project or projects are not subject to a federal environmental assessment, and do not submit a project description, we kindly request that you remove the Canadian Environmental Assessment Agency from your distribution list.

If you have questions, please get in touch with our office through the switchboard at 416-952-1576. The attachment that follows provides web links to useful legislation, regulation, and guidance documents.

Sincerely,

Anjala Puvananathan
Director, Ontario Region
Canadian Environmental Assessment Agency

Attachment – Useful Legislation, Regulation, and Guidance Documents



Attachment – Useful Legislation, Regulation, and Guidance Documents

For more information on CEEA 2012, please access the following links on the Canadian Environmental Assessment Agency's (the Agency) website:

Overview of CEEA 2012

<http://www.ceaa.gc.ca/default.asp?lang=En&n=16254939-1>

Regulations Designating Physical Activities, and
Prescribed Information for a Description of a Designated Project Regulations
<http://www.ceaa.gc.ca/default.asp?lang=En&n=9EC7CAD2-1>

If your project is in a federally designated wildlife area or migratory bird sanctuary please check section 1 of the Regulations, which details the designated projects specific to those locations.

If it appears that CEEA 2012 may apply to your proposed project, you must provide the Agency with a description of the proposed project. Please see the link below to the Agency's guide to preparing a project description.

Guide to Preparing a Description of a Designated Project

[http://www.ceaa.gc.ca/63D3D025-2236-49C9-A169-DD89A36DA0E6/Guide to Preparing a Description of a Designated Project under CEEA 2012.pdf](http://www.ceaa.gc.ca/63D3D025-2236-49C9-A169-DD89A36DA0E6/Guide%20to%20Preparing%20a%20Description%20of%20a%20Designated%20Project%20under%20CEAA%202012.pdf)

NIAGARA 2041

Fostering an Environment for Economic Prosperity

Get Involved in Niagara's Future: Attend a Public Information Centre

In the next 25 years, Niagara is expected to grow, bringing a possible 168,000 new residents and 80,000 new jobs to the region.

Niagara Region is making sure we're prepared for this growth through three projects that will help us plan where and how that growth will occur, and how it will be accommodated.



HOW WE GROW:

The Municipal Comprehensive Review will look at the land we have available across Niagara, and will ensure we have enough to sustain our expected growth to the year 2041. It will also examine how that land is distributed throughout Niagara.



HOW WE FLOW:

The Water and Wastewater Master Servicing Plan will ensure Niagara has the infrastructure to provide critical water and wastewater services to our growing region in a sustainable and financially responsible way.



HOW WE GO:

The Transportation Master Plan will look at how we currently travel in and around Niagara and how we can improve our transportation systems, including options for walking, cycling and public transit, to better serve Niagara's future needs.

GET INVOLVED:

Residents are invited to attend a Public Information Centre to learn how each of these projects contribute to Niagara's overall growth plan for the next 25 years, and how you can have your voice heard.

Nov. 17, 2015

Town of Grimsby
Council Chambers
160 Livingston Ave.
4 – 8 p.m.

Nov. 18, 2015

City of Port Colborne
Vale Health & Wellness Centre
550 Elizabeth St.
4 - 8 p.m.

Nov. 19, 2015

City of St. Catharines
Kiwani Aquatic Centre
425 Carlton St.
4 – 8 p.m.

There is an opportunity at any time during this process for interested persons to bring comments and concerns to the attention of the project managers, and to review outstanding issues. If you have any questions or comments or wish to be added to the study mailing list, please contact us:

HOW WE GROW

Greg Bowie
Planner
Greg.Bowie@niagararegion.ca
905-980-6000 ext. 3375

HOW WE FLOW

David Shen
Planning Engineer
David.Shen@niagararegion.ca
905-980-6000 ext. 3777

HOW WE GO

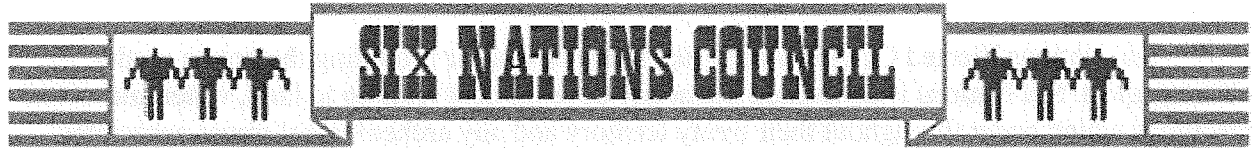
Loy Cheah
Transportation Strategic
Projects Lead
Loy.Cheah@niagararegion.ca
905-980-6000 ext. 3482

If you require any accommodations for a disability in order to attend and participate in meetings or events, please let us know in advance so that arrangements can be made in a timely manner. Special accessibility accommodations and materials in alternate formats can be arranged by contacting the Niagara Region's Accessibility Advisory Coordinator at 905-685-4225 ext. 3252 or accessibility@niagararegion.ca.

The Transportation and Water and Wastewater studies follow 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 and 2011). The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning. The Master Servicing Plan will satisfy the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.

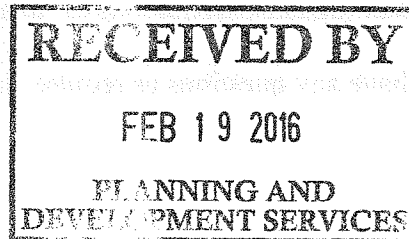
APPENDIX G

First Nations Consultation



February 17, 2016

Greg Bowie, Planner
Niagara Region
1815 Sir Isaac Brock Way
(Formerly 2201 St. David's Rd.)
P.O. Box 1042
Thorold, ON
L2V 4T7



Dear Mr. Bowie:

**RE: How We Grow, How We Flow, How We Go – Comprehensive Review,
Water/Wastewater and Transportation Master Plans**

The Six Nations of the Grand River (Six Nations) is in receipt of the above notice. Be advised, these projects are located within the treaty lands and are subject to the unresolved land rights issues of the Six Nations of the Grand River and litigations against Canada and Ontario.

The Six Nations' rights and interests in relation to these lands are defined in our Haldimand Treaty of 1784 being six miles deep from each side of the River, beginning at Lake Erie and extending in the proportion to the Head of the said River, which *Them and Their Posterity are to enjoy forever*. The terms and conditions of the Haldimand Treaty are affirmed and protected in Canada's Constitution. The above noted lands for your project are in the 1701 Fort Albany Treaty area of the Six Nations. These lands are to assure Six Nations' economic, cultural, sustenance and other rights. Additionally, these rights are affirmed and protected in Canada's Constitution.

I trust you are also aware of Six Nation's unresolved Land Rights that are the responsibility of the Crown in Right of Canada and the Crown in Right of Ontario to resolve. Unfortunately, no negotiations to restore justice towards a productive resolution relating to these particular lands are taking place with Canada or Ontario. Instead Canada and Ontario appear to have delegated responsibility for their legal duty to consult and accommodate us to proponents and municipalities.

The Supreme Court of Canada's key court cases Haida Nation, Taku River Tlingit First Nation, Mikisew Cree, Tsilhqot'in and Keewatin among other legal decisions confirm the legal obligation to consult and accommodate with First Nations. Six Nations Elected Council (SNEC) requires that the Crown, proponents and municipalities consult with SNEC in good faith in order to obtain its free, prior and informed consent.

Six Nations Elected Council would like to thank you for providing the notice on the above project. Six Nations is concerned about any development relating to land, water and resources which occur throughout their treaty territory and any archeological issues associated with such development(s). At this time, we request a meeting with the Niagara Region to talk the above noted plans and projects. Please contact Joanne Thomas, Consultation Supervisor at 519-753-0665 or email jthomas@sixnations.ca to arrange this important meeting.

Should you have any questions or require clarification please feel free to contact me at (519) 753-0665.

Respectfully Yours,



Lonny Bomberry, Director
Six Nations Lands and Resources

CC: Minister David Zimmer, Ontario Ministry of Aboriginal Affairs
Minister Carolyn Bennett, Indigenous and Northern Affairs Canada

This letter is without prejudice to the positions that Six Nations has and may take in respect to its claims and litigation in relation to the Six Nations Tract/ Haldimand Proclamation Land and the 1701 Fort Albany Treaty.

**SUBJECT: Niagara 2041 Projects Aboriginal Consultation Summary –
Second Round**

Background

Aboriginal Consultation is an essential and important component in the process of Public and Stakeholder consultation.

Targets

Attached stakeholder sheet lists the aboriginal consultation targeted organizations.

Methods

1. Regular mails

Mailed out on June 6th.

2. Phone Calls

The following phone calls have been made by region staff:

June 27th: Haudenosaunee Confederacy Chiefs Council: Allen MacNaughton
Messages left

June 27th: Metis Nation of Ontario: Aly Alibhai
Messages left

June 27th: Niagara Region Metis Council: Derrick Pont
Messages left

June 28th: Six Nations of the Grand River Territory: Lonny Bomberry
Conservation. Directed to Contact other staff

June 28th: Mississaugas of the New Credit First Nation: Mark LaForme
Messages left

July 20th: Haudenosaunee Confederacy Chiefs Council: Allen MacNaughton
Messages left

July 20th: Metis Nation of Ontario: Linda Norheim
Conversation. Advised the letter has been received. Will contact the Region if any
question

July 20th: Niagara Region Metis Council: Derrick Pont
Messages left

July 20th: Six Nations of the Grand River Territory: Joanne Thomas
Conservation. Discussed the next onsite consultation scheduling

July 20th: Mississaugas of the New Credit First Nation: Fawn Sault
Conversation. Advised the letter has been received. Will contact the Region if any
question

3. Email

July 6th: Six Nations of the Grand River Territory: Joanne Thomas
Email sent.

Next Step

The second round on site consultation is being scheduled with Six Nations of the Grand
River Territory.

Six Nations of the Grand River Consultation Meeting

Jan.18, 2017

10 a.m. – 12 p.m.

Meeting Notes

Attendees:

Six Nations of Grand River:

Paul General

Matt Jocko

Caron Smith

Lonny Bomberry

Phil Monture

Joanne Thomas

Dawn

Niagara Region:

Janet Rose

David Shen

Jack Thompson

Brian Dick

Meeting Discussion Items:

1. Introductions
2. Municipal Comprehensive Review
 - Brian conducted an overview of the information contained in print outs of the “How We GROW” Public Information Centre boards
 - Q1. Paul: If growth is projected through the QEW corridor what is the capacity for the infrastructure in that area to accommodate growth?
 - A1. Yes there is currently enough infrastructure to accommodate growth
 - Q2. Paul: Which communities are expected to grow?
 - A2. Grimby, St. Catharines, Niagara Falls
 - Q3. Caron: Is there a possibility of extension of current Urban Boundaries?

- 90 per cent of growth is planned for within current Urban Boundaries
 - Discussion on the obligation of developers to consult with First Nations
3. Public Consultation Process
- Janet provided an overview of the Public Information Centres and consultations with stakeholders and local area municipalities including the consultation activities undertaken by Niagara 2041 to date
4. Transportation Master Plan
- Jack provided an overview of the information contained in print outs of the “How We GO” Public Information Centre Boards
 - *Q1. Caron: Has consideration been given to modes of water transportation for the Region?
 - A1. Some modes of transportation by water have been piloted in the past with little success. Water travel has not really been considered as there is not enough demand for these services
 - Q2. Caron: How do you work with MTO?
 - A2. The Region meets with MTO representatives on a semi-annual basis and they are part of our Transportation Master Plan Stakeholder group. With respect to the NGTA corridor:
 - i. MTO has not identified plan for this area (NGTA West)
 - ii. Region is looking at taking a lead on the EA process for the NGTA East section
 - iii. Region is proposing that a Role and Function Study be undertaken for RR20/Hwy 20 as an interim solution to addressing the MTO not having a defined plan for delivering the NGTA transportation corridor.
 - *Q3. Joanne: What about Fonthill? Has there been any review of Fonthill and easing traffic congestion due to new development, such as a by-pass?
 - A3. This area was not noted as an area of focus for the Regional TMP. However, Fonthill would have completed their own review of traffic in the area as part of their Municipal Plan. It is not possible to by-pass every community but options for improving traffic flow may be considered.
5. Master Servicing Plan
- David provide an overview of the new methodology used for calculating anticipated flow requirements and the new expectations for local area municipalities to reduce the rain water infiltration into the sanitary sewer system. Also reviewed Region potential financial support options for municipalities undertaking projects to reduce rain water infiltration. Copies of the “How we FLOW” Public Information Centre boards were distributed.
 - Q1. Caron: What is the source water in Niagara?
 - A1. Source water is from surface water sources (rivers, lakes

- Q2. Paul: What if everything is done by municipality/development to meet the Region's new specifications and meets requirements but there is a major rain event that exceeds flow requirements?
 - A2. In those cases it would be a storm sewer issue. For sanitary sewer and waste water treatment purposes a 5 year average is enough of a projection. 100 year storm events may be considered when planning or storm water sewers.
 - Q3. Phil: The projects proposed in the Master Servicing Plan will be funded by Development Charges?
 - A3. Yes, it is 100 per cent funded by development charges because it is infrastructure to support new development
 - Discussion about options in South Niagara Falls for Pumping Station and Sewer main upgrades or new Wastewater Treatment Plant.
 - Q4. Paul: How many pumping stations need to be built /upgraded for that option?
 - A4. There are six pumping stations and 17 km of sewer trunk that would require upgrades
 - Q5. Caron: How do you handle the storage when there is a deficit?
 - New/additional elevated storage units are considered to increase storage or there can be additional pumping stations. Additional pumping capacity is not the most desirable option due to electricity costs associated with this. Pumping on off-peak electricity hours to more storage capacity is the preferred option.
 - Q6. Paul: What about emergencies?
 - A6. This is the main purpose for maintaining adequate storage capacity to ensure there is enough water to maintain fire flow requirements.
6. Archeological Surveys
- Discussion of obligations of conducting archeological surveys.
 - *Paul: Recommendation to develop an archeological master plan that would be used/consulted at the Master Plan level and before project specific Environmental Assessments

Action Items:

Janet: Email Information handouts to Matt – completed – Sent Drop Box link by email notification to Matthew

Janet: Contact Matt to get a copy of the Six Nation of Grand River official consultation process

-completed- email sent on Jan. 31, 2017

Items indicated with a * will be officially noted by the appropriate project manager

Record of Outreach to Stakeholders

Organization	Contact Person	Date	Time	Method of Contact	Result	Notes
Six Nations of Grand River – Six nation Land and Resources Department of the Six Nations Council	Joanne Thomas	2016-11-10	4:11 p.m.	Phone: 519-753-0665 (Land Use Unit phone number provided on the Six Nations website http://www.sixnations.ca/LandsResources/ContactUs.htm)	Left voicemail message on main voicemail that answered. The message I left provided details of who I was trying to contact (Joanne Thomas), my name, phone number and purpose for calling. I return phone call was requested.	This voicemail picked up immediately upon phoning. There was a message indicating that the person at extension 5450 was not available. It did not indicate to whom the extension belonged. I left a message on this voicemail.
Six Nations of Grand River – Six nation Land and Resources Department of the Six Nations Council	Joanne Thomas	2016-11-17		Registered Letter Mailed, mailed to the following address: Joanne Thomas, Consultation Supervisor Six Nations Land and Resources Office Land Use Unit 2498 Chiefswood Road, P. O. Box 5000 Ohsweken ON, NOA 1M0	Tracking number for Joanne Thomas RN 153 425 132 CA	Letter Received -Confirmation saved in N Drive \\Nrfstapp\region\Niagara 2041 Materials\PIC 3 Planning\Six Nations Consultation Outreach\Canada Post Confirmation of Letter Delivery.docx
Six Nations of Grand River – Six nation Land and Resources Department of the Six Nations Council	Joanne Thomas	2016-11-18	10:45 a.m.	Letter sent by Fax to 519-753-3449	Fax confirmed sent ok Se	Link to Fax Confirmation \\Nrfstapp\region\Niagara 2041 Materials\PIC 3 Planning\Six Nations Consultation Outreach\Fax Confirmation for letter to Six Nations.pdf

Organization	Contact Person	Date	Time	Method of Contact	Result	Notes
Six Nations of Grand River – Six nation Land and Resources Department of the Six Nations Council	Joanne Thomas	2016-11-30	11:30 a.m.	Phone call to 519-753-0665	Spoke to reception and was forwarded to Joanne Thomas's personal voicemail. Left voicemail message with details of projects and desire to provide consultation presentation to six nations.	Left my phone number and extension and requested a call back to schedule a meeting time.
Six Nations of Grand River – Six nation Land and Resources Department of the Six Nations Council	Matthew Jocko	2016-12-14	10:55 a.m.	Emailed received	Email indicating receipt of letter and request to set up a consultation meeting	<u>Six Nations Consultation Outreach\Meeting with Six Nations.msg</u>
Six Nations of Grand River – Six nation Land and Resources Department of the Six Nations Council	Matthew Jocko	2016-12-14	1:28 p.m.	Email sent to address: mjocko@sixnations.ca	Email sent noted that we will look at the recommended date and reply with a confirmation	<u>Six Nations Consultation Outreach\RE Meeting with Six Nations.msg</u>

APPENDIX H
Report to Council

Report to Council

Public Works Committee Meeting Minutes

**THE REGIONAL MUNICIPALITY OF NIAGARA
PUBLIC WORKS COMMITTEE
MINUTES**

**PWC 7-2017
Tuesday, May 30, 2017
Council Chamber
Niagara Region Headquarters, Campbell West
1815 Sir Isaac Brock Way, Thorold, ON**

Committee: Augustyn, Bentley, Burroughs, Campion, Caslin (Regional Chair), Diodati, Gale, Grenier, Heit, Hodgson, Jeffs, Luciani, MacGregor, Maloney, Marshall, Maves (Committee Chair), Quirk, Redekop, Rigby (Committee Vice Chair), Sendzik, Volpatti

Absent/Regrets: Joyner, Petrowski, Timms

Staff: C. Carter, General Manager, C. D'Angelo, Chief Administrative Officer, N. Devos, Acting Regional Clerk, C. Habermebl, Director, Waste Management Services, M. Janas, Acting Director, Water & Wastewater Services, A. Jugley, Commissioner, Community Services, P. Lambert, Associate Director, Infrastructure Planning & Development Engineering, S. McCauley, Acting Director, Transportation Services, R. Mostacci, Commissioner, Planning and Development Services, A.-M. Norio, Legislative Coordinator, R. Tripp, Commissioner, Public Works

1. CALL TO ORDER

Committee Chair Maves called the meeting to order at 9:36 a.m.

2. DISCLOSURES OF PECUNIARY INTEREST

There were no disclosures of pecuniary interest.

3. PRESENTATIONS

There were no presentations.

4. DELEGATIONS

There were no delegations.

5. ITEMS FOR CONSIDERATION

5.1 PW 22-2017

2016 Water & Wastewater Master Servicing Plan Update

Chris Hamel, President, and Julien Bell, Infrastructure Planning, Partner, GM BluePlan Engineering Limited, provided information respecting 2016 Water & Wastewater Servicing Plan Update. Topics of the presentation included:

- Master Servicing Plan (MSP) Update Vision
- Planning and Servicing Context
- Water Demand and Wastewater Flow Projections
- Key Servicing Policies
- MSP Update Water Servicing Strategy
- Water Capital Program
- Water Capital Program Development Charge Summary
- Wastewater Servicing Strategy
- New South Niagara Falls Wastewater Treatment Plant
- Wastewater Capital Program
- Wastewater Capital Program Development Charge Summary
- Overall MSP Update Schedule

Moved by Councillor Rigby
Seconded by Councillor Luciani

That Report PW 22-2017, dated May 30, 2017, respecting 2016 Water & Wastewater Master Servicing Plan Update **BE RECEIVED** and the following recommendation **BE APPROVED**:

1. That the 2016 Water & Wastewater Master Plan Recommendations noted in the 2016 Water & Wastewater Master Plan Executive Summary (Appendix 2 of Report PW 22-2017) **BE APPROVED**.

Carried

Councillor Information Request(s):

Provide a map showing the boundaries of the gateway economic zone as related to presentation slide 22. Councillor Volpatti.

Provide background documents related to the Fenwick water supply line. Councillor Augustyn.

5.2 TSC-C 3-2017

Niagara Region Transportation Master Plan

Mr. Bruce Mori, Director, Suzette Bell, IBI Group, John McGill, Parsons, and Jack Thompson, Transportation Lead, Strategic Initiatives and Projects, provided information respecting the Niagara Region Transportation Master Plan. Topics of the presentation included:

- Vision and Goals
- Needs and Opportunities
- Complete Streets
- Active Transportation
- Transit
- Road Network
- Goods Movement
- Implementation
- Transportation Master Plan Financial Considerations

Moved by Councillor MacGregor
Seconded by Councillor Hodgson

That Report TSC-C 3-2017, dated May 17, 2017, respecting Niagara Region Transportation Master Plan and Correspondence Item PWC-C 27-2017 respecting Supplementary Information to TSC-C 3-2017 Niagara Region Transportation Master Plan, **BE DEFERRED** to the Public Works Committee meeting being held on June 20, 2017.

Carried

Councillor Information Request(s):

Circulate Correspondence Item PWC-C 27-2017 to the Transportation Steering Committee. Councillor Quirk.

Provide reports that discussed the Niagara Hamilton Trade Corridor and Niagara Greater Toronto Area east corridor. Councillor Volpatti.

5.3 PWC-C 29-2017

Recommendations for Consideration from the Transportation Steering Committee meeting held on May 17, 2017

Moved by Councillor Quirk
Seconded by Councillor Volpatti

That Correspondence Item PWC-C 29-2017, dated May 30, 2017, being a memorandum from N. Devos, Acting Regional Clerk, respecting Recommendations for Consideration from the Transportation Steering Committee meeting held on May 17, 2017, **BE RECEIVED** and the following recommendations **BE APPROVED**:

1. That reference to the proposed Town of Grimsby Livingston Avenue extension **BE REMOVED** from the Transportation Master Plan;
2. That the Transportation Master Plan Recommendations noted in the Transportation Master Plan Executive Summary (Appendix 1 of Report TSC-C 3-2017) and summarized in Appendix 2 of Report TSC-C 3-2017 **BE APPROVED**; and
3. That Regional Council **CONSIDER** the airports, off-road trails, rapid bus transit and lite rail transit as part of the Transportation Master Plan;
4. That Public Works staff **BE REQUESTED** to engage with Grimsby Active Transportation, the Greenbelt Foundation, the Town of Grimsby, and the MTO in order to determine if the "Wendy Watt Trail" (formerly referred to as the "Fruitland Ramble") is feasible to be signed as a bicycle route; and
5. That all efforts to identify/confirm a route as well as signage designs shall **BE IN ACCORDANCE** with the Region's Transportation Master Plan (TMP) once approval from Regional Council is received.

Moved by Councillor Gale
Seconded by Councillor Rigby

That Correspondence Item PWC-C 29-2017, dated May 30, 2017, being a memorandum from N. Devos, Acting Regional Clerk, respecting Recommendations for Consideration from the Transportation Steering Committee meeting held on May 17, 2017, **BE DEFERRED** to the Public Works Committee meeting being held on June 20, 2017.

Carried

Councillor Quirk provided the Acting Regional Clerk with a copy of a petition for Regional Council to reject plans for the proposed extension of Regional Road 512 (Livingston Avenue) from Casablanca Boulevard to Oakes Road. A copy of the petition has been filed with the Office of the Regional Clerk.

6. CONSENT ITEMS FOR INFORMATION

6.2 PWC-C 26-2017

Acceptance of Recreational Vehicle Wastewater at Port Dalhousie Wastewater Treatment Plant

Moved by Councillor Gale
Seconded by Councillor Quirk

That Correspondence Item PWC-C 26-2017, dated May 30, 2017, being a memorandum from J. Oatley, Acting Associate Director, Wastewater Operations, respecting Acceptance of Recreational Vehicle Wastewater at Port Dalhousie Wastewater Treatment Plant, **BE RECEIVED** for information.

Moved by Councillor Rigby
Seconded by Councillor Volpatti

That Correspondence Item PWC-C 26-2017, dated May 30, 2017, being a memorandum from J. Oatley, Acting Associate Director, Wastewater Operations, respecting Acceptance of Recreational Vehicle Wastewater at Port Dalhousie Wastewater Treatment Plant, **BE REFERRED** to staff for further information on alternative areas that could be used in place of this facility.

Carried

7. OTHER BUSINESS

7.1 Landfills

Councillor Grenier requested an update respecting new regulations for landfill gas put in place by the Ministry of the Environment and Climate Change.

7.2 Urban Canopy Mapping

Councillor Grenier requested information respecting opportunities to have urban canopy mapping done throughout Niagara Region which would assist with tree preservation.

7.3 Niagara Region Transit Schedules

Councillor Gale requested information respecting the schedule for Niagara Region Transit on Sundays.

Councillor Grenier requested information respecting the timing of the last Niagara Region Transit bus leaving the Seaway Mall and Niagara College in Welland as the current schedule has the bus leaving prior to the mall closing and the end of night classes at Niagara College.

8. **CLOSED SESSION**

There were no closed session items.

9. **NEXT MEETING**

The next meeting will be held on Tuesday, June 20, 2017 at 9:30 a.m. in the Council Chamber, Regional Headquarters.

10. **ADJOURNMENT**

There being no further business, the meeting adjourned at 12:15 p.m.

Councillor Maves
Committee Chair

Ann-Marie Norio
Legislative Coordinator

Natasha L. Devos
Acting Regional Clerk

Council Presentation



THE REGIONAL MUNICIPALITY OF NIAGARA
PUBLIC WORKS COMMITTEE
FINAL AGENDA

PWC 7-2017

Tuesday, May 30, 2017

9:30 a.m.

Council Chamber

Niagara Region Headquarters, Campbell West

1815 Sir Isaac Brock Way, Thorold, ON

	Pages
1. <u>CALL TO ORDER</u>	
2. <u>DISCLOSURES OF PECUNIARY INTEREST</u>	
3. <u>PRESENTATIONS</u>	
4. <u>DELEGATIONS</u>	
5. <u>ITEMS FOR CONSIDERATION</u>	
5.1 <u>PW 22-2017</u> 2016 Water & Wastewater Master Servicing Plan Update - A presentation will precede the discussion on this report.	3 - 91
5.2 <u>TSC-C 3-2017</u> Niagara Region Transportation Master Plan - A presentation will precede the consideration of this report.	92 - 171
5.2.1 Niagara Region Transportation Master Plan (Full Document)	172 - 306
5.3 <u>PWC-C 29-2017</u> Recommendations for Consideration from the Transportation Steering Committee meeting held on May 17, 2017	307 - 338

6. CONSENT ITEMS FOR INFORMATION

- 6.1 PWC-C 27-2017 339 - 341
Supplementary Information to TSC-C 3-2017 Niagara Region
Transportation Master Plan
- 6.2 PWC-C 26-2017 342 - 343
Acceptance of Recreational Vehicle Wastewater at Port Dalhousie
Wastewater Treatment Plant

7. OTHER BUSINESS

8. CLOSED SESSION

There are no closed session items.

9. NEXT MEETING

The next meeting will be held on Tuesday, June 20, 2017 at 9:30 a.m. in the Council Chamber, Regional Headquarters.

10. ADJOURNMENT

If you require any accommodations for a disability in order to attend or participate in meetings or events, please contact the Accessibility Advisory Coordinator at 905-980-6000 (office), 289-929-8376 (cellphone) or accessibility@niagararegion.ca (email).

2016 Water Wastewater Master Servicing Plan Update



HOW WE FLOW

What is driving the Master Plan Strategy Update?



Providing for Today, Vision for Tomorrow

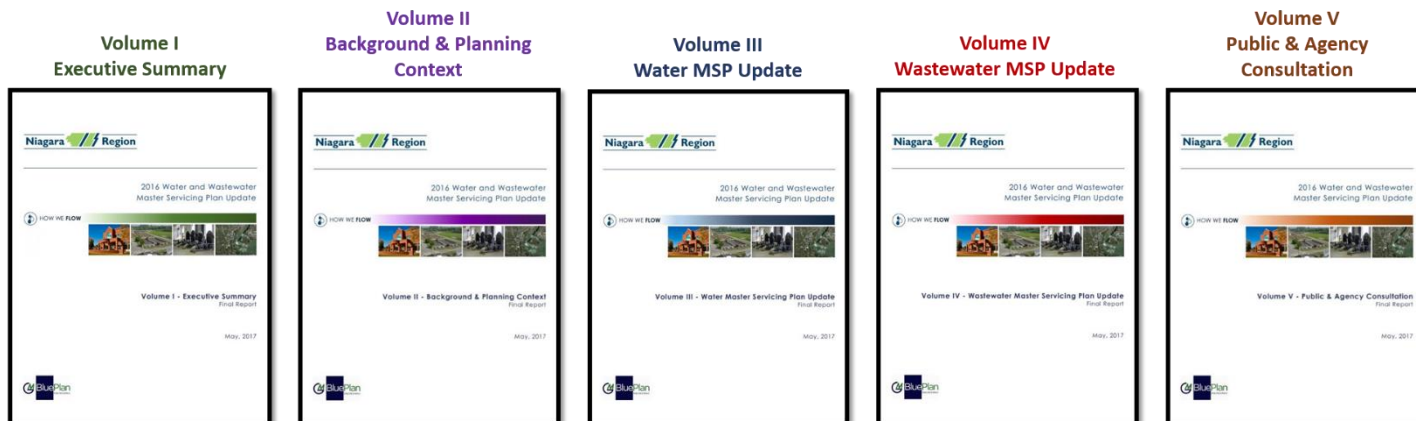
To establish a cost effective infrastructure program that meets the service needs of existing users, meets regulatory and legislative requirements, supports growth, and addresses the priority areas of climate change, energy management, infrastructure optimization, system security, and resiliency.

Problem and Opportunity Statement

- In 2011, the Region completed a Water and Wastewater Master Servicing Plan update which looked at planned growth to 2031.
- With an updated planning horizon to 2041, the Master Servicing Plan needs to be updated to **determine how the Region's Water and Wastewater Infrastructure will support growth in a sustainable and financially responsible manner.**
- The Master Servicing Plan Update will develop a long-term servicing strategy and capital forecast to ensure the maintenance of services for existing residents and businesses as well as to support future growth in the community through 2041.
- The Master Servicing Plan Update will support growth in a sustainable and financially responsible manner.

- Develop water and wastewater servicing strategies for the municipally serviced areas across the Region.
- Includes all local municipalities excluding Wainfleet.
- Utilize planning projections developed through the Municipal Comprehensive Review:
 - Region Total Population Year 2041 610,000 people
 - Region Total Employment Force Year 2041 265,000 employees

- Follow Class EA Process for Master Plans
- Provide background information and context for servicing needs
- Outline existing baseline conditions for the systems, demonstrate impact from growth
- Establish preferred servicing strategies
- Provide technical information to support staff through implementation



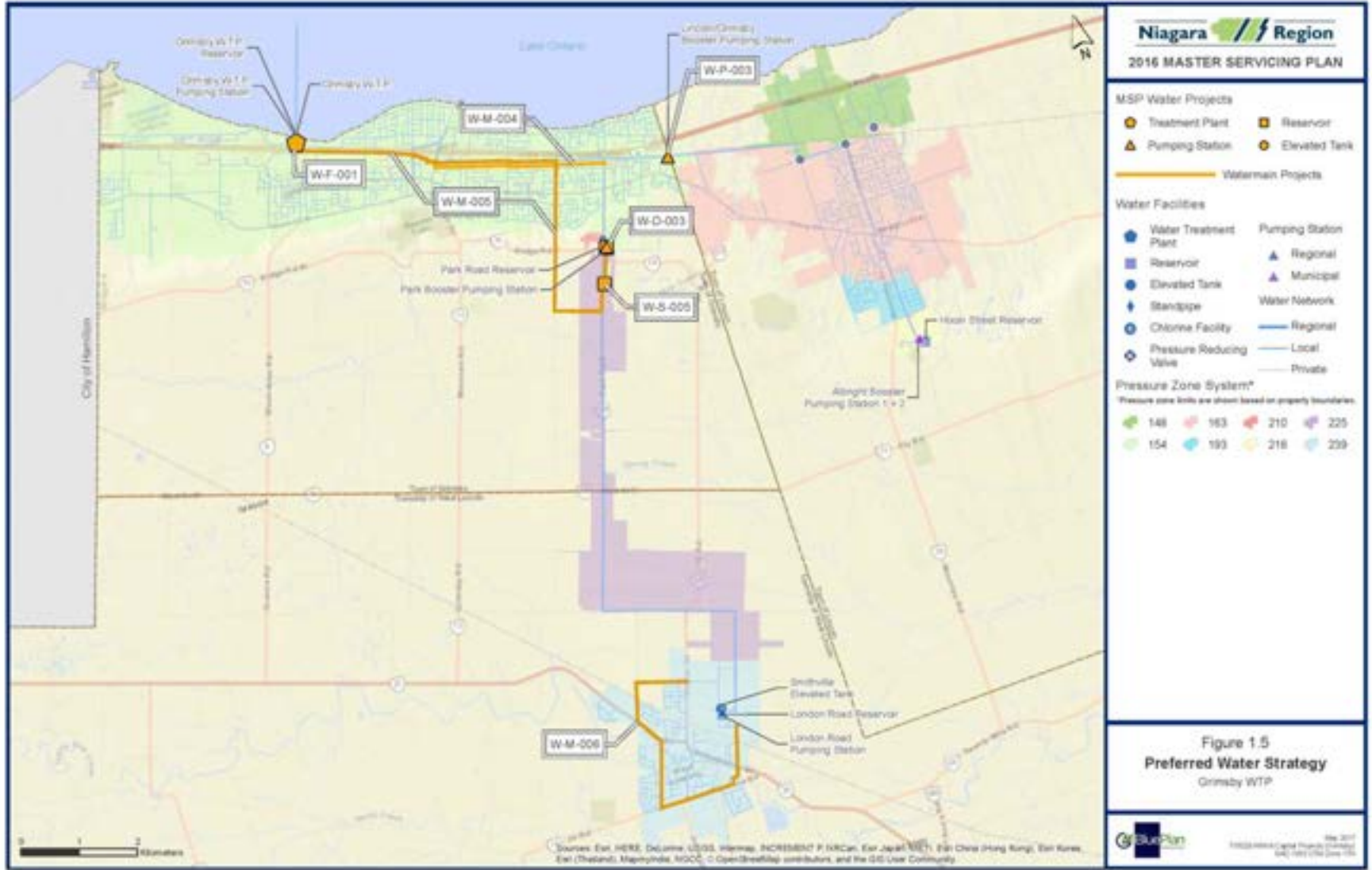
- Residential Average Day Demand: 300 Lpcd
- Employment Average Day Demand: 300 Lped
- Maximum Day Factors: based on rolling average for each system from last 5 years
- Residential Peak Hour Factor: 4
- Employment Peak Hour Factor: 2

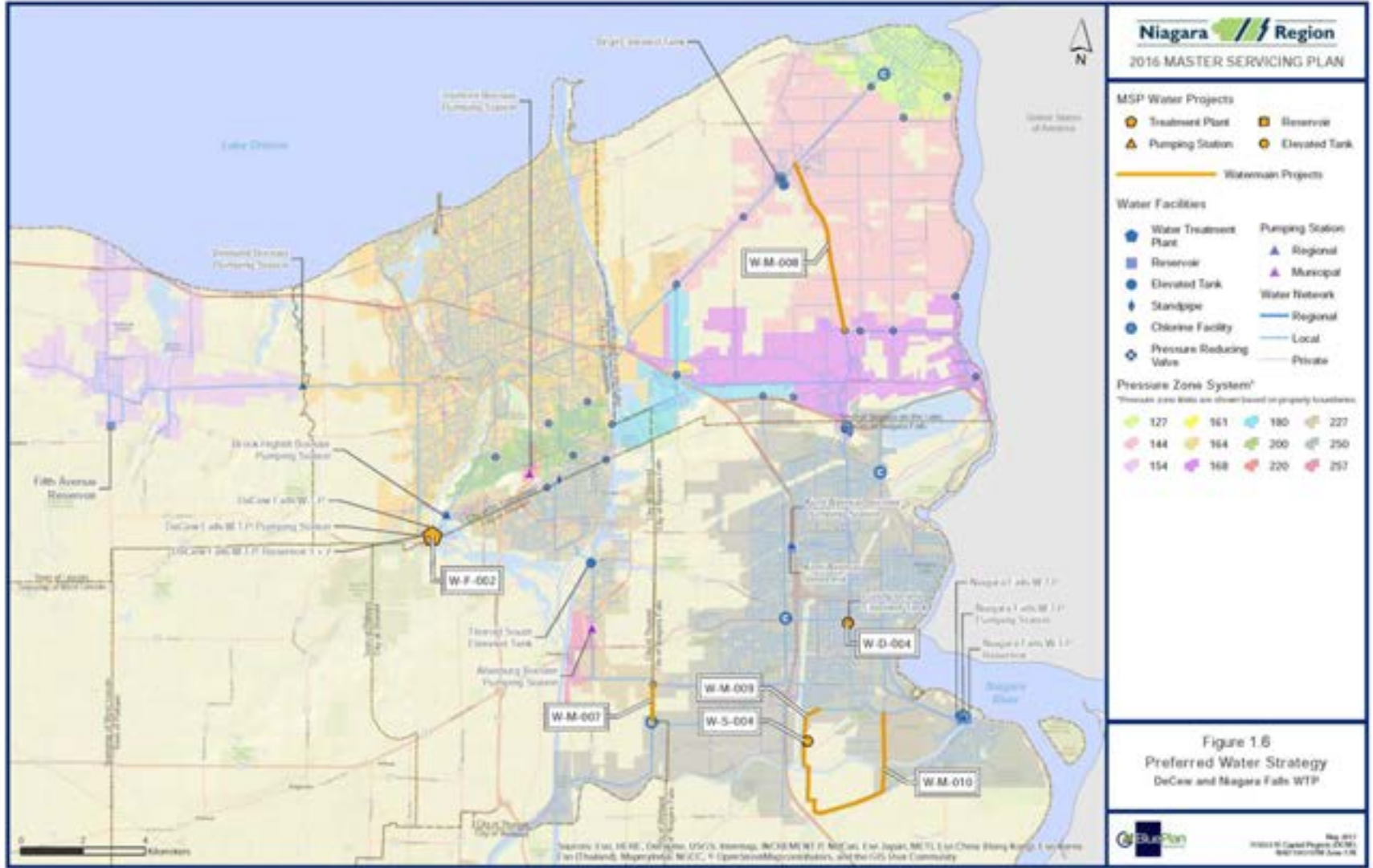
Water System	2014 – 2041 Growth *			2014 Demands		2041 Demands	
	Growth Population	Growth Employment	Total Equivalent Growth	ADD (MLD)	MDD (MLD)	ADD (MLD)	MDD (MLD)
Grimsby WTP	27,245	11,159	38,404	14.9	25.9	26.4	45.9
Decew WTP	53,246	25,790	79,036	60.4	93.6	84.1	130.4
Niagara Falls WTP	35,350	13,587	48,937	41.7	64.2	56.4	86.9
Fort Erie WTP	12,715	3,859	16,574	12.4	19.1	17.4	26.8
Port Colborne WTP	3,011	1,024	4,035	8.3	12.9	9.5	14.8
Welland WTP	23,485	8,473	31,958	21.7	33.2	31.3	47.9

- Residential Average Day Demand: 275 Lpcd
- Employment Average Day Demand: 275 Lped
- Peak Factor based on Harmon formula with values between 2 and 4 with consideration to the catchment area performance
- Utilize an extraneous flow rate of 0.286 L/ha/s as the wet weather level of service for triggering and sizing Regional wastewater infrastructure

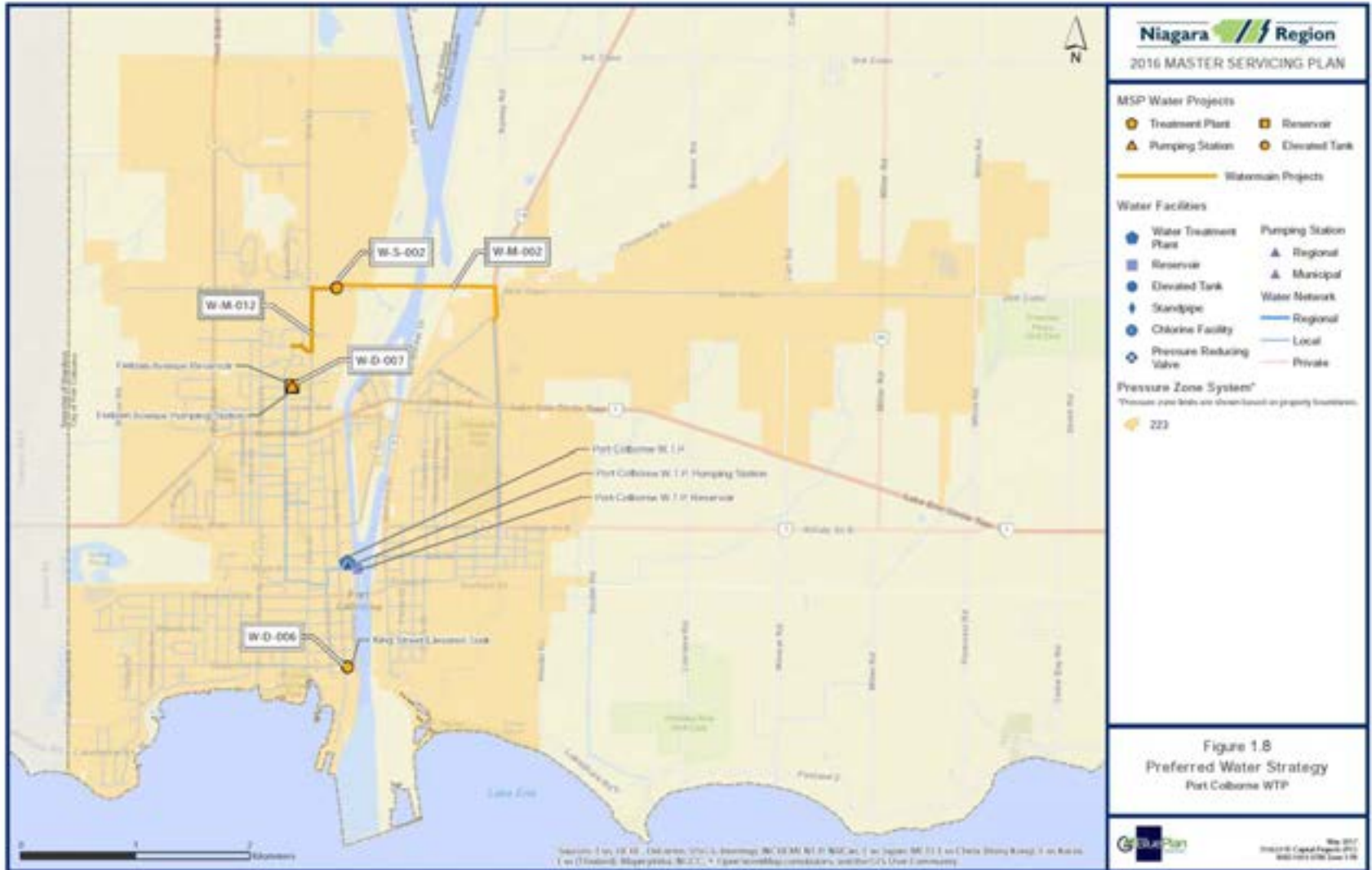
Wastewater System	2014 – 2041 Growth *			2014 ADD (MLD)	2041 ADD (MLD)
	Growth Population	Growth Employment	Total Equivalent Growth		
Baker Road WWTP	31,425	12,231	43,656	20.5	32.5
Port Dalhousie WWTP	24,252	14,760	39,012	34.7	45.4
Port Weller WWTP	18,460	8,535	26,995	36.0	43.4
Niagara-on-the-Lake WWTP	5,138	1,736	6,874	4.4	6.3
Niagara Falls WWTP	38,323	13,626	51,949	41.5	55.8
Stevensville and Douglastown WWTP	1,544	524	2,068	1.3	1.9
Anger Avenue WWTP	7,663	3,456	11,119	13.1	16.2
Crystal Beach WWTP	3,496	256	3,752	5.5	6.5
Seaway WWTP	3,014	1,202	4,216	12.1	13.3
Welland WWTP	25,064	8,507	33,571	35.6	44.8

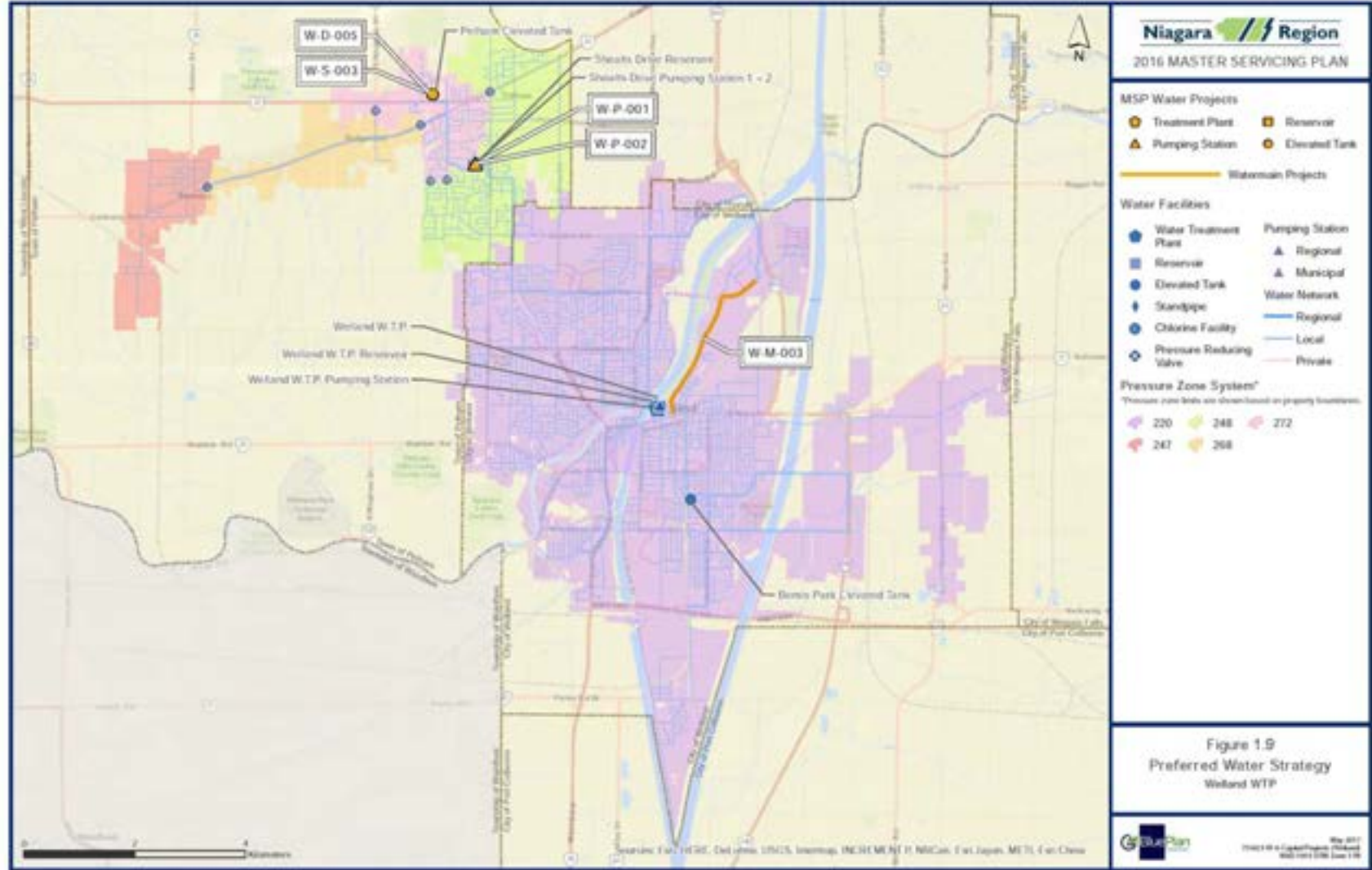
- Niagara Region will endeavor to maintain sufficient reserve capacity in its water and wastewater infrastructure and facilities to provide operational flexibility and meet potential changes in servicing conditions
- Niagara Region shall endeavor to provide reliability, redundancy and security in its water and wastewater systems with attention to high risk and critical areas
- Niagara Region shall be aware of and consider the potential impact of climate change on the planning and sizing of infrastructure
- Niagara Region shall design water and wastewater facilities with consideration to energy use
- Niagara Region will consider levels of storage beyond MOE Guidelines where appropriate in order to provide operational flexibility, energy management and system security
- Niagara Region will review a combination of servicing strategies including infrastructure and non-infrastructure (e.g. i/i reduction) solutions to meet wet weather level of service and provide sufficient wastewater capacity
- Niagara Region will approach Guidelines F-5-5 and F-5-1 such that new development will not put the Region out of compliance with regulations and the Region will consider opportunities to not increase wet weather overflows beyond current conditions







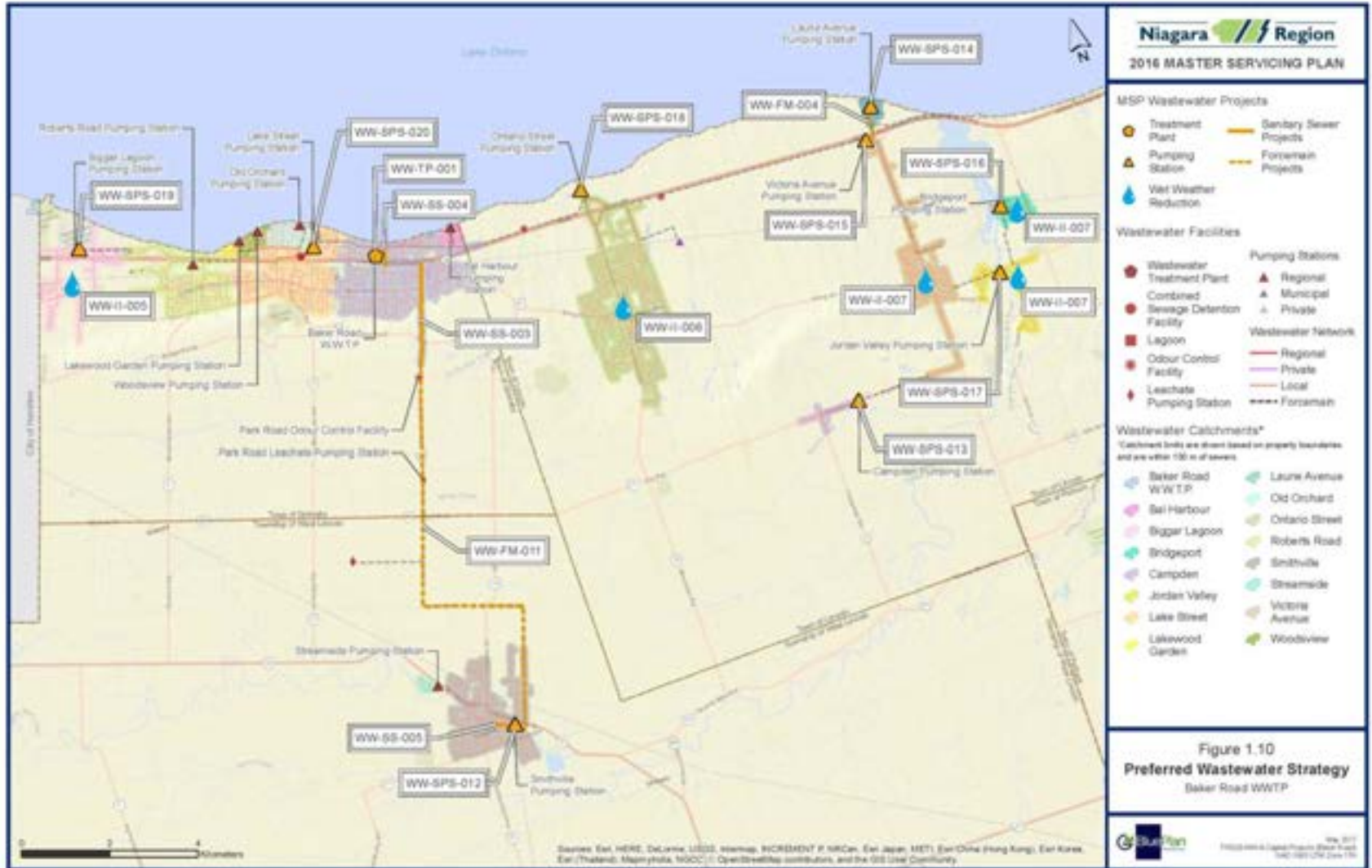


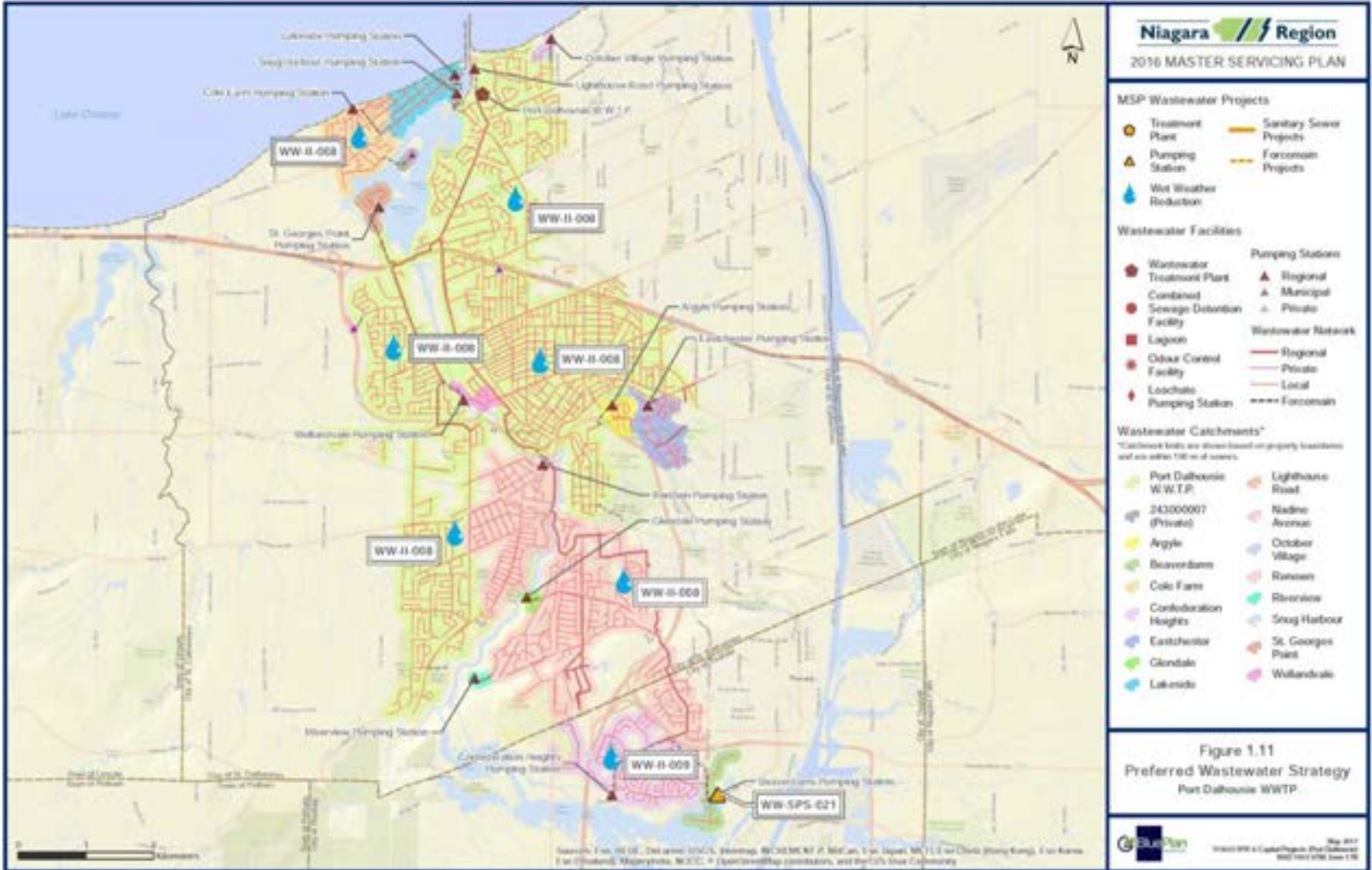


Master Plan ID	Description	Year in Service	System	Total Component Estimated Cost
W-D-001	Decommissioning of Central Ave (Fort Erie South) ET	2022 - 2031	Rosehill	\$ 1,979,000
W-D-002	Decommissioning of Stevensville Res + PS	2022 - 2031	Rosehill	\$ 2,913,000
W-D-003	Decommissioning of Park Road Res + PS	2022 - 2031	Grimsby	\$ 523,000
W-D-004	Decommissioning of Lundy's Lane ET	2032 - 2041	Niagara Falls	\$ 1,979,000
W-D-005	Decommissioning of Pelham ET	2022 - 2031	Weland	\$ 1,028,000
W-D-006	Decommissioning of King Street ET	2017 - 2021	Port Colborne	\$ 1,979,000
W-D-007	Decommissioning of Fielden Ave Res + PS	2032 - 2041	Port Colborne	\$ 2,913,000
W-F-001	Grimsby WTP Expansion	2022 - 2031	Grimsby	\$ 51,496,000
W-F-002	Decew inlet channel	2017 - 2021	Decew	\$ 22,969,000
W-M-001	New trunk main in Central Fort Erie	2022 - 2031	Rosehill	\$ 9,479,000
W-M-002	New conveyance to Port Colborne East side	2017 - 2021	Port Colborne	\$ 11,548,000
W-M-003	New trunk main from Weland WTP to North	2032 - 2041	Weland	\$ 7,556,000
W-M-004	Upgrade trunk main from Elizabeth Street to Park Road	2017 - 2021	Grimsby	\$ 13,139,000
W-M-005	New trunk main from Grimsby WTP to New Grimsby Reservoir	2022 - 2031	Grimsby	\$ 42,044,000
W-M-006	New trunk main in Smithville	2022 - 2031	Grimsby	\$ 14,357,000
W-M-007	New trunk main from PRV to Port Robinson Chlorine BPS	2017 - 2021	Niagara Falls	\$ 2,543,000
W-M-008	Trunk main from South NOTL to Virgil ET	2032 - 2041	Decew	\$ 13,535,000
W-M-009	New Niagara Falls South trunk main to New Elevated Tank	2032 - 2041	Niagara Falls	\$ 4,858,000
W-M-010	New Niagara Falls South trunk main	2032 - 2041	Niagara Falls	\$ 18,316,000
W-M-011	New trunk main to Fort Erie Elevated Tank	2017 - 2021	Rosehill	\$ 4,107,000
W-M-012	Upgrade watermain in Port Colborne to new Barrick Road ET	2017 - 2021	Port Colborne	\$ 2,185,000
W-P-001	Upgrade Shoalt's Drive LLPS	2017 - 2021	Weland	\$ 3,062,000
W-P-002	Upgrade Shoalt's Drive HLPS	2017 - 2021	Weland	\$ 7,882,000
W-P-003	Upgrade Lincoln/Grimsby BPS	2032 - 2041	Grimsby	\$ 989,000
W-S-001	New Fort Erie ET	2017 - 2021	Rosehill	\$ 12,838,000
W-S-002	New Barrick Road ET in Port Colborne	2017 - 2021	Port Colborne	\$ 8,022,000
W-S-003	New Pelham ET	2022 - 2031	Weland	\$ 9,307,000
W-S-004	New South Niagara Falls ET	2032 - 2041	Niagara Falls	\$ 9,629,000
W-S-005	New Grimsby Reservoir	2017 - 2021	Grimsby	\$ 23,474,000
	Total			\$ 306,649,000

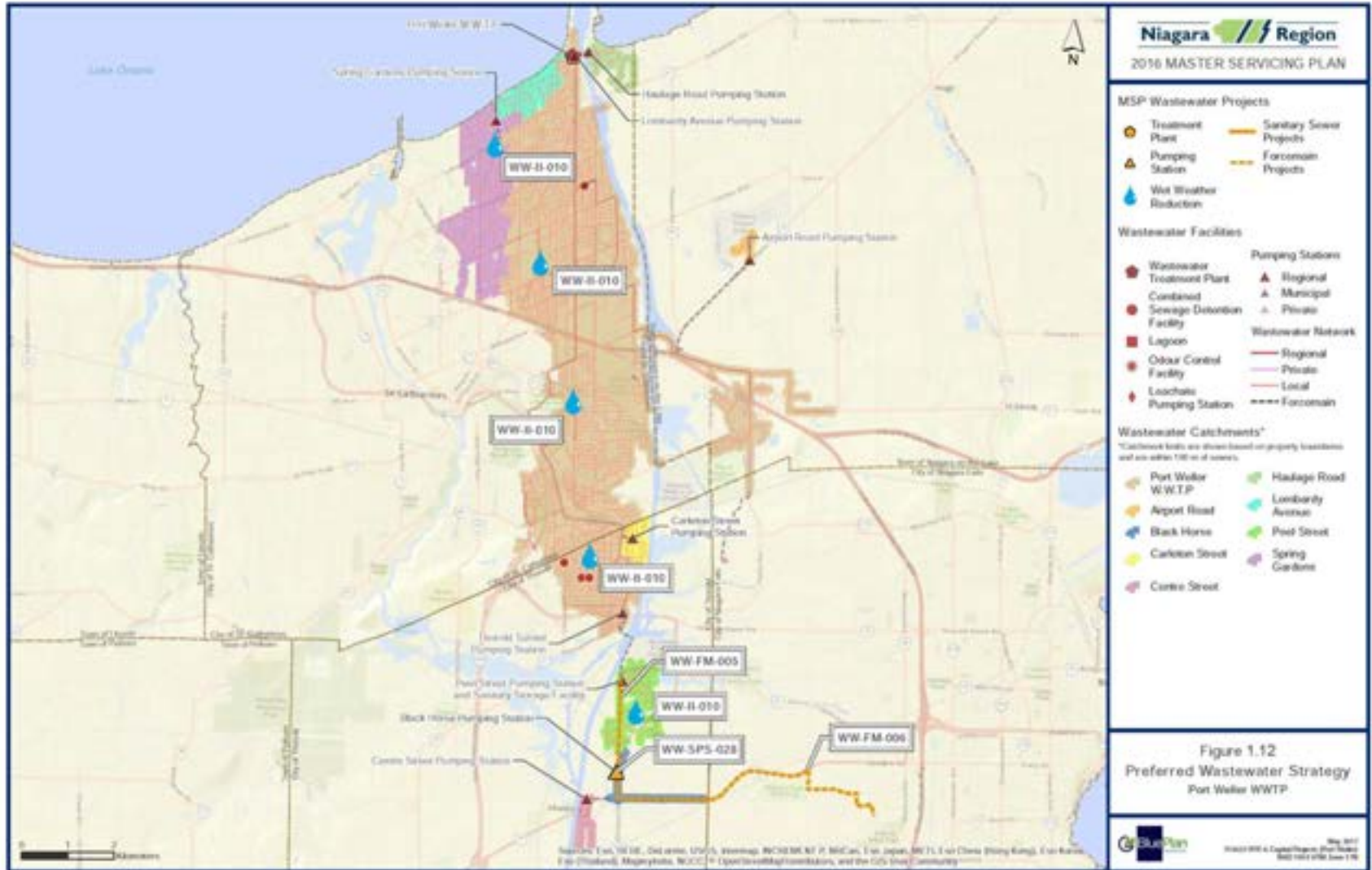
- DC policy was established for:
 - Benefit to Existing (BTE)
 - Oversizing beyond 2041 (Post Period Benefit, PPB)
 - Residential and Non-Residential Share
 - Local Service Policy

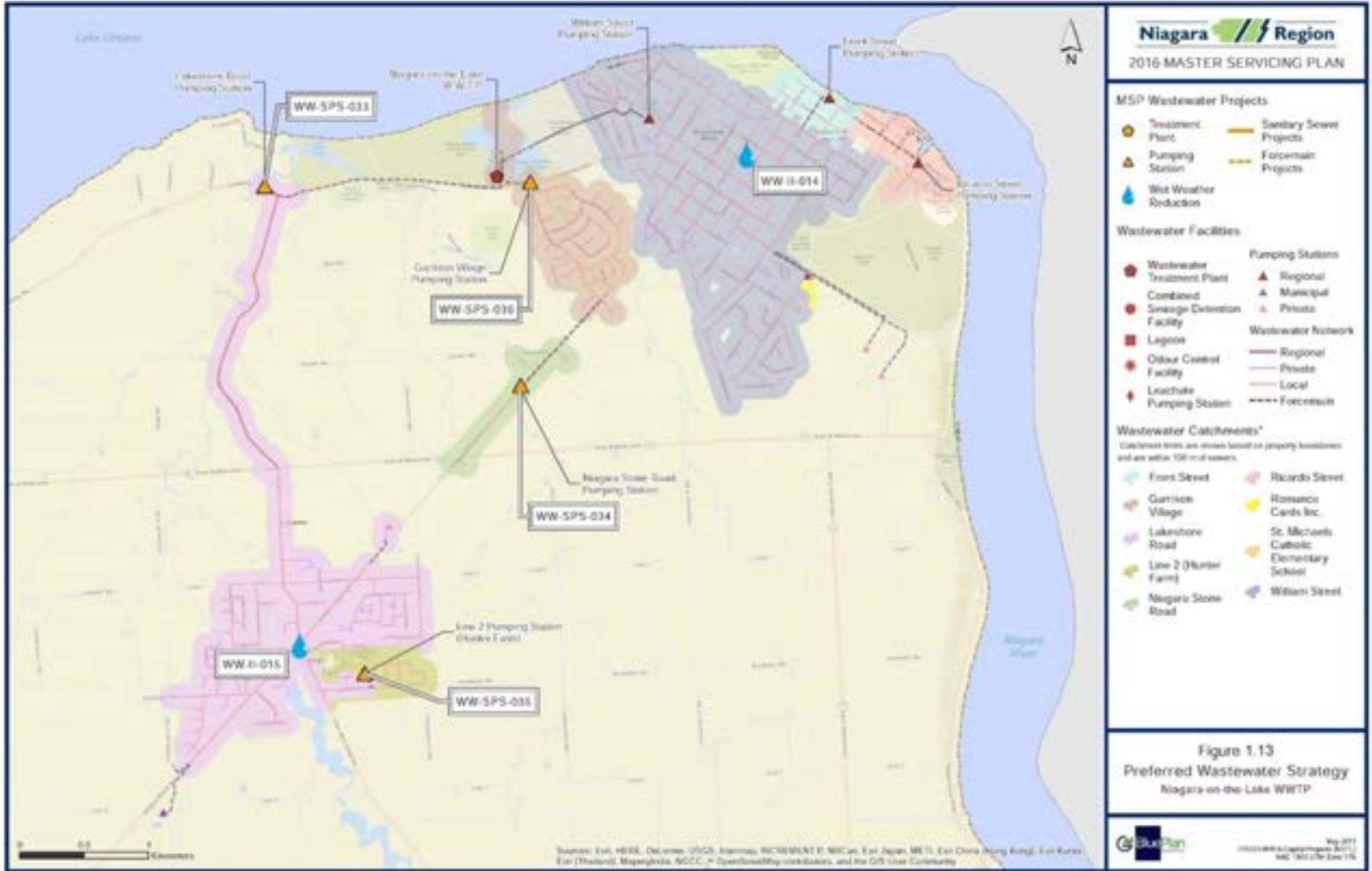
Total Component Estimated Cost	Benefit to Existing Development	Beyond 2041 Oversizing	Grants & Contributions	DC Recoverable 2017 - 2041
\$ 306,649,000	\$ 75,594,200	\$ 5,149,600	\$ 18,500,000	\$ 207,405,200

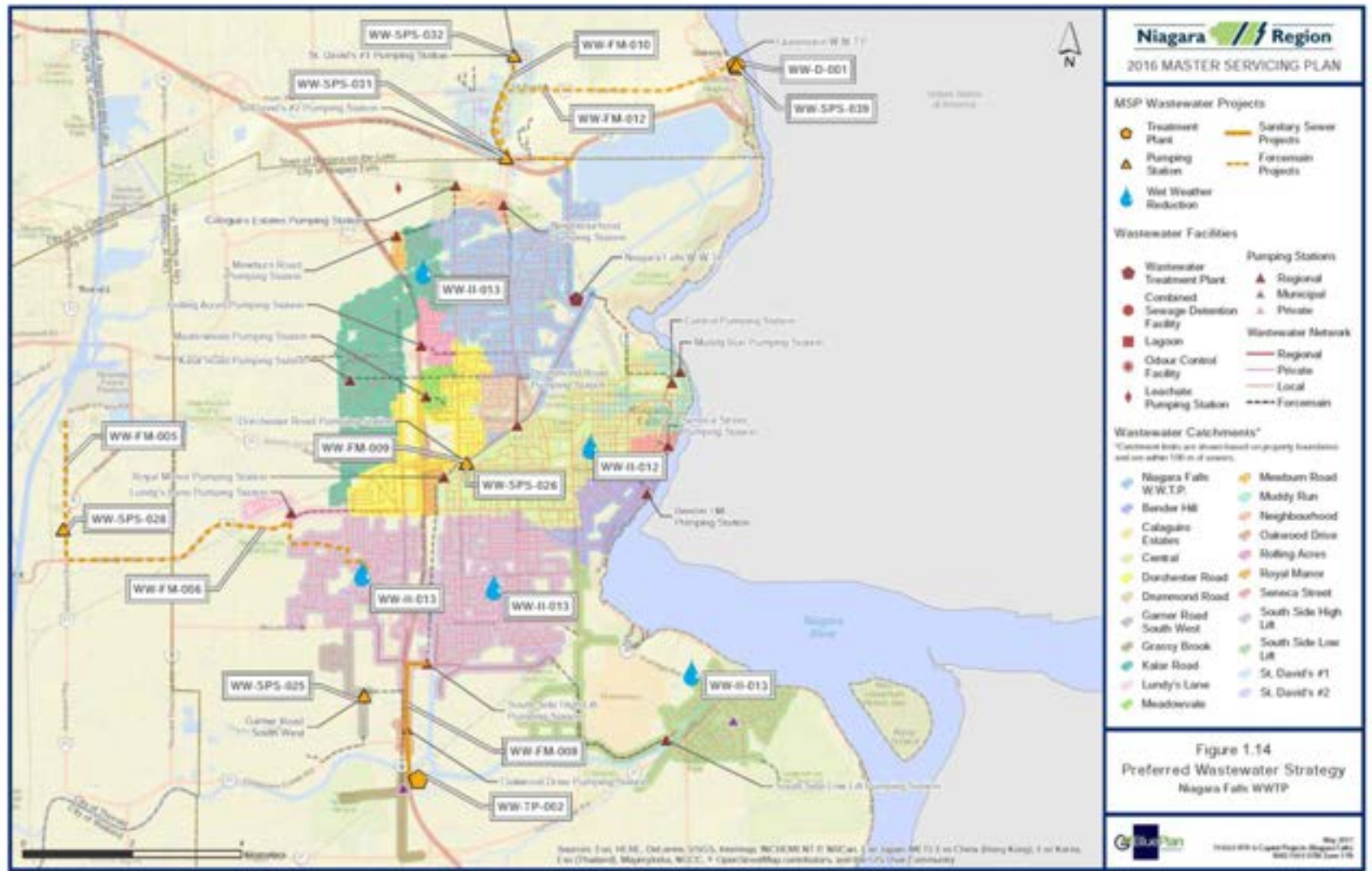


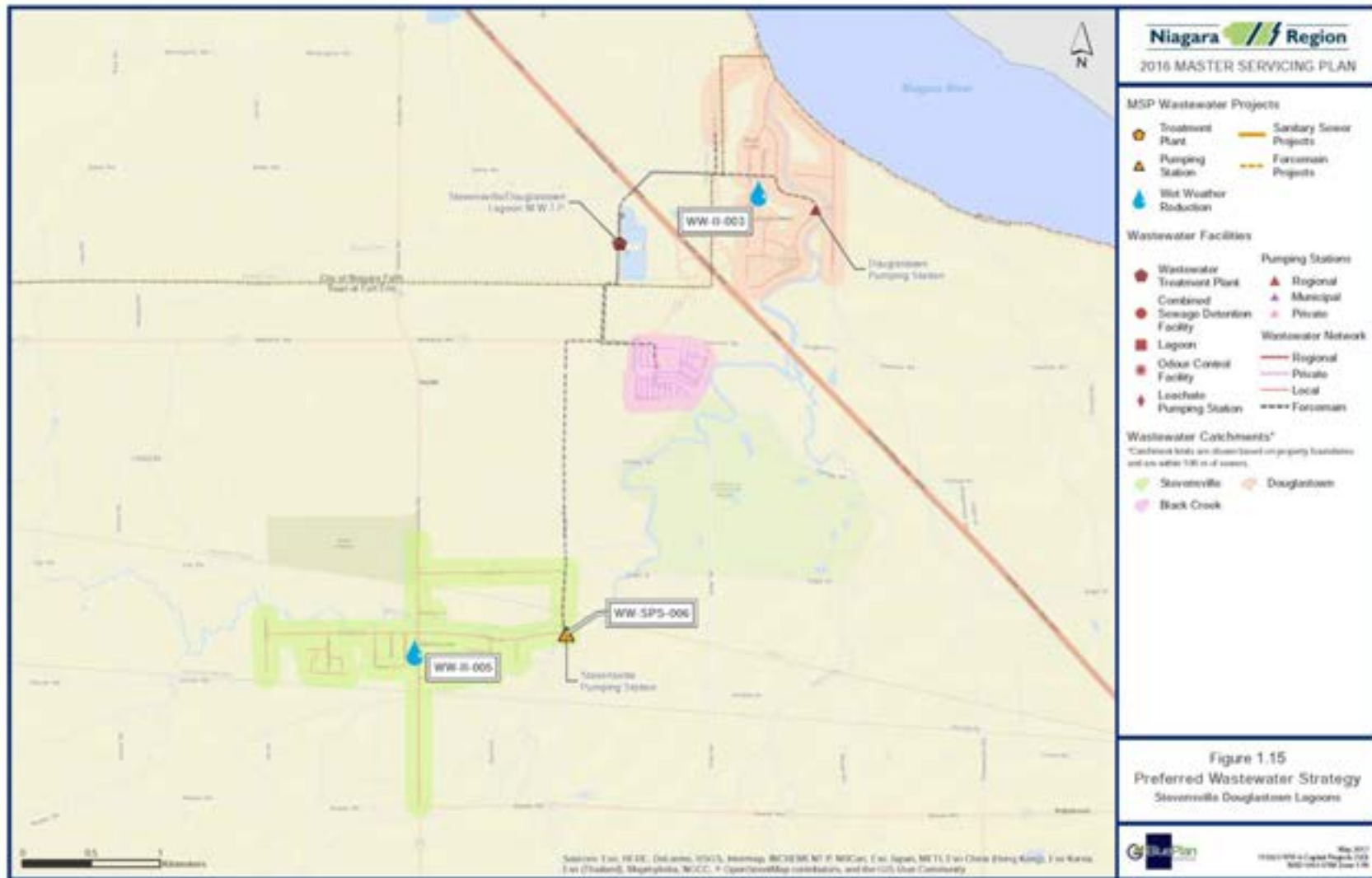


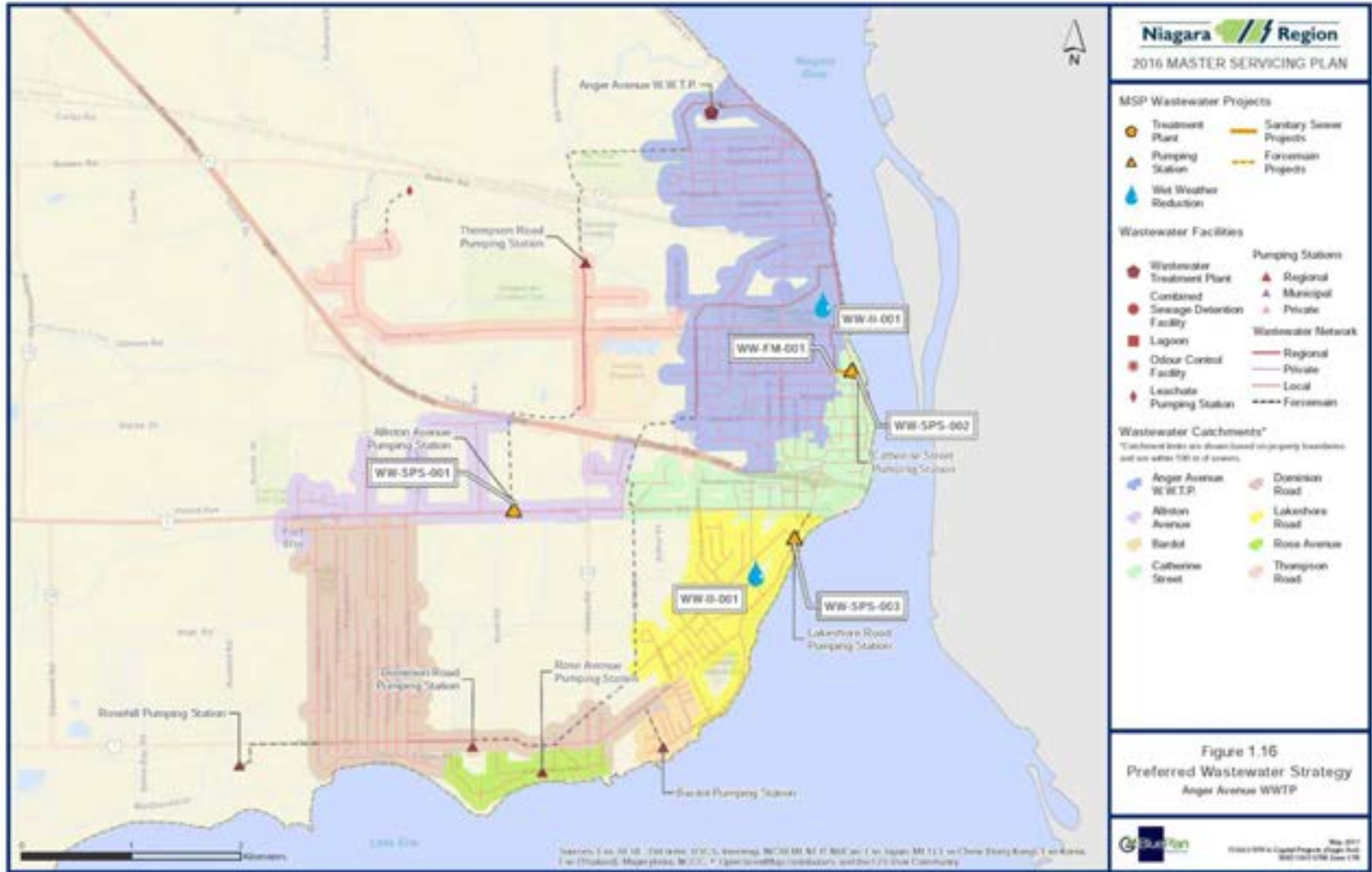
MSP Update Wastewater Servicing Strategy

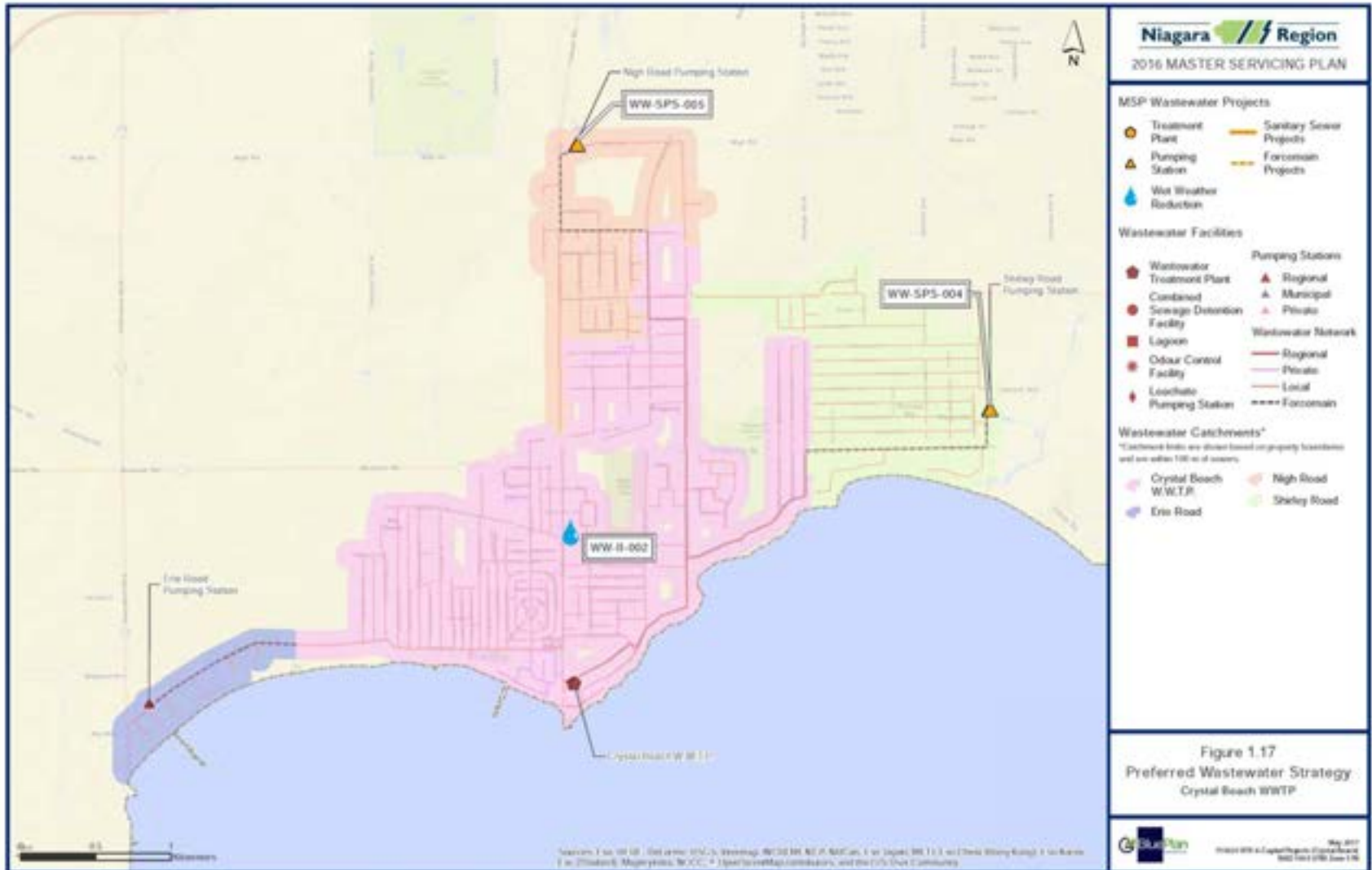


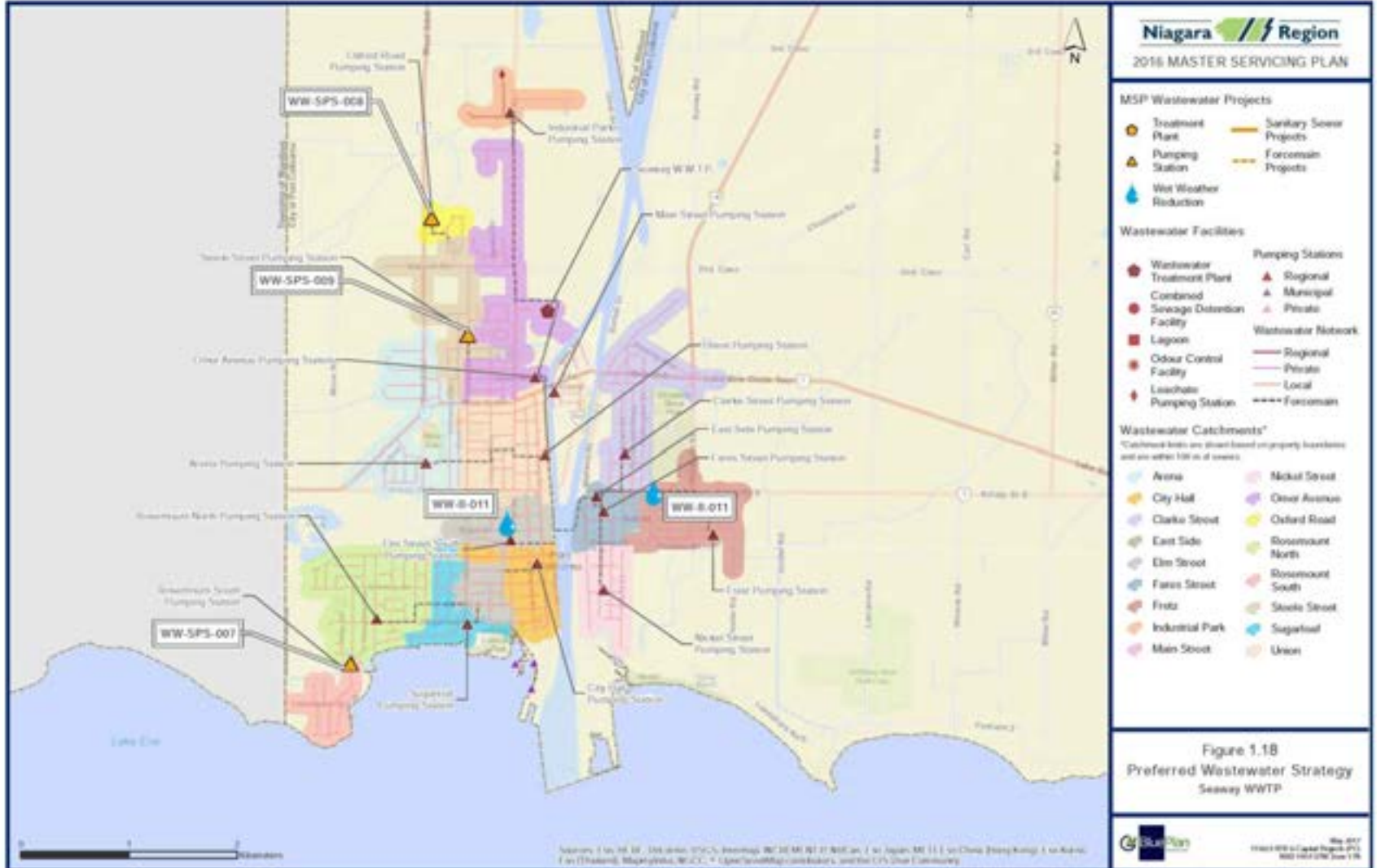


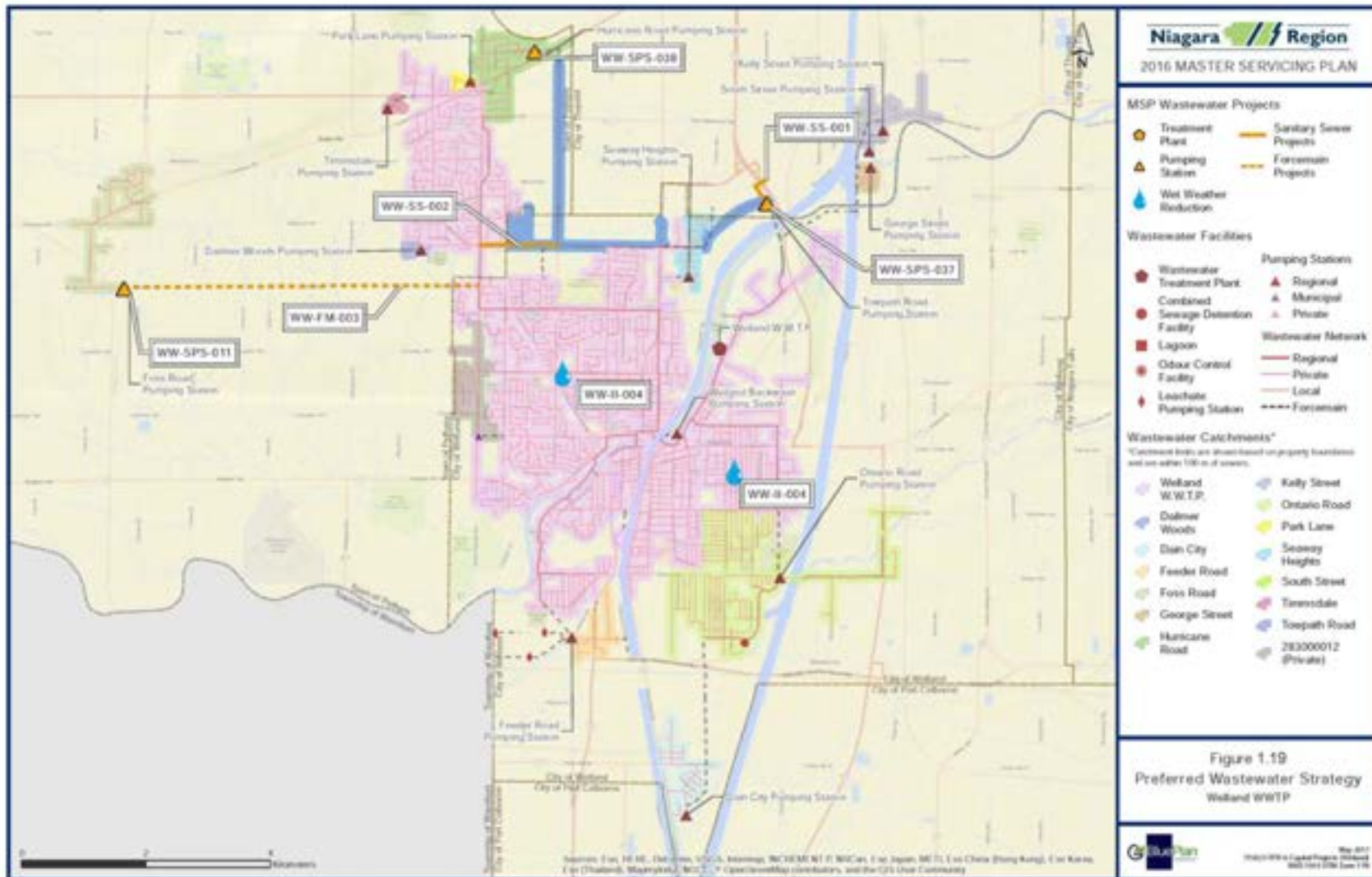












South Niagara Falls wastewater servicing strategy has a significant impact on the Niagara Falls system as well as areas in St. Catharines, Thorold, and Niagara on the Lake



- “Go North” and “New Plant” options were developed and evaluated
- The “New Plant” was determined to be the preferred strategy.
- Key Decision Making Considerations are as follows:
 - The “New Plant” does have higher capital costs for 2041 program and higher annual lifecycle costs
 - However, the “New Plant” can provide more flexible and less expensive post 2041 costs
 - The “New Plant” provides opportunity for other funding sources similar to the NOTL plant and based on implementing green technologies
 - The “New Plant” provides the greatest flexibility and support for long term servicing and benefit to the Niagara Falls and surrounding systems
 - The “New Plant” provides the greatest opportunity to mitigate risks
 - Under either option, continued sustainability upgrades will be required for existing infrastructure

MSP Update Wastewater Capital Program

Master Plan ID	Description	Year in Service	System	Total Component Estimated Cost
WW-D-001	Decommissioning of Queenston WWTP	2022-2031	Queenston	\$ 1,979,000
WW-FM-001	Upgrade Catherine St. SPS Force main	2032-2041	Anger Ave	\$ 467,000
WW-FM-003	Upgrade Foss Road SPS Force main	2022-2031	Welland	\$ 4,500,000
WW-FM-004	Laurie Avenue SPS Force main Upgrade	2017-2021	Baker Road	\$ 2,981,000
WW-FM-005	New Peel Street SPS Force main	2022-2031	South Niagara Falls	\$ 4,889,000
WW-FM-006	New Black Horse Force main to Niagara Falls	2022-2031	South Niagara Falls	\$ 9,820,000
WW-FM-008	South Side High Lift conveyance	2022-2031	South Niagara Falls	\$ 38,039,000
WW-FM-009	Dorchester Force main twinning	2022-2031	Niagara Falls	\$ 303,000
WW-FM-010	St. Davids #1 Force main twinning	2022-2031	Niagara Falls	\$ 3,923,000
WW-FM-011	Smithville Force main twinning	2022-2031	Baker Road	\$ 18,132,000
WW-FM-012	New Queenston Force main	2022-2031	Niagara Falls	\$ 11,136,000
WW-I-001	Wet weather reduction in East Fort Erie	2022-2031	Anger Ave	\$ 4,500,000
WW-I-002	Wet weather reduction in Crystal Beach	2022-2031	Crystal Beach	\$ 4,500,000
WW-I-003	Wet weather reduction in Stevensville/Douglstown	2022-2031	Stev / Doug	\$ 4,500,000
WW-I-004	Wet weather reduction in Central Welland	2022-2031	Welland	\$ 30,000,000
WW-I-005	Wet weather reduction in West Grimsby	2022-2031	Baker Road	\$ 7,500,000
WW-I-006	Wet weather reduction in Beamsville	2022-2031	Baker Road	\$ 3,000,000
WW-I-007	Wet weather reduction in Vineland	2022-2031	Baker Road	\$ 1,500,000
WW-I-008	Wet weather reduction in St. Catharines - Port Dalhousie	2022-2031	Port Dalhousie	\$ 30,000,000
WW-I-009	Wet weather reduction in Thorold North	2022-2031	Port Dalhousie	\$ 13,500,000
WW-I-010	Wet weather reduction in St. Catharines and Thorold South - Port Weller	2017-2021	Port Weller	\$ 20,100,000
WW-I-011	Wet weather reduction in Central Port Colborne	2022-2031	Seaway	\$ 3,000,000
WW-I-012	Wet weather reduction in Central Niagara Falls	2022-2031	Niagara Falls	\$ 15,000,000
WW-I-013	Wet weather reduction in South Side Niagara Falls	2017-2021	South Niagara Falls	\$ 15,000,000
WW-I-014	Wet weather reduction in Northeast Niagara-on-the-Lake	2022-2031	NOTL	\$ 750,000
WW-I-015	Wet weather reduction in Virgil	2022-2031	NOTL	\$ 750,000
WW-SPS-001	Alliston SPS Pump Replacement - Anger Avenue	2022-2031	Anger Ave	\$ 989,000
WW-SPS-002	Catherine St. SPS Expansion - Anger Avenue	2032-2041	Anger Ave	\$ 2,945,000
WW-SPS-003	Lakeshore SPS Upgrade - Anger Avenue	2022-2031	Anger Ave	\$ 2,618,000
WW-SPS-004	Shirley SPS Upgrade - Crystal Beach	2032-2041	Crystal Beach	\$ 2,889,000
WW-SPS-005	Nigh Rd. SPS Pump Replacement - Crystal Beach	2022-2031	Crystal Beach	\$ 989,000

Master Plan ID	Description	Year in Service	System	Total Component Estimated Cost
WW-SPS-006	Stevensville SPS Upgrade - Stevensville Douglstown	2022-2031	Stev / Doug	\$ 1,022,000
WW-SPS-007	Rosemount South SPS Pump Replacement - Seaway	2017-2021	Seaway	\$ 665,000
WW-SPS-008	Oxford SPS Pump Replacement - Seaway	2032-2041	Seaway	\$ 665,000
WW-SPS-009	Steele SPS Pump Replacement - Seaway	2032-2041	Seaway	\$ 989,000
WW-SPS-011	Foss Road SPS Upgrade - Welland	2022-2031	Welland	\$ 1,866,000
WW-SPS-012	Smithville SPS Expansion - Baker Road	2022-2031	Baker Road	\$ 8,241,000
WW-SPS-013	Campden SPS Pump Replacement - Baker Road	2022-2031	Baker Road	\$ 1,299,000
WW-SPS-014	Laurie Avenue SPS Expansion - Baker Road	2017-2021	Baker Road	\$ 1,814,000
WW-SPS-015	Victoria Avenue SPS Upgrade - Baker Road	2017-2021	Baker Road	\$ 4,051,000
WW-SPS-016	Bridgeport SPS Pump Replacement - Baker Road	2022-2031	Baker Road	\$ 834,000
WW-SPS-017	Jordan Valley SPS Pump Replacement - Baker Road	2022-2031	Baker Road	\$ 1,145,000
WW-SPS-018	Ontario Street SPS Upgrade - Baker Road	2032-2041	Baker Road	\$ 3,755,000
WW-SPS-019	Biggar Lagoon Pump Replacement - Baker Road	2017-2021	Baker Road	\$ 3,902,000
WW-SPS-020	Lake St SPS Upgrade - Baker Road	2017-2021	Baker Road	\$ 4,410,000
WW-SPS-021	Beaverdams SPS Pump Replacement - Port Dalhousie	2017-2021	Port Dalhousie	\$ 665,000
WW-SPS-025	Gamer Road SPS Pump Replacement - Niagara Falls	2032-2041	Niagara Falls	\$ 824,000
WW-SPS-026	Dorchester SPS Pump Replacement - Niagara Falls	2022-2031	Niagara Falls	\$ 2,414,000
WW-SPS-028	Black Horse SPS Upgrade - South Niagara Falls	2022-2031	South Niagara Falls	\$ 4,620,000
WW-SPS-031	St. Davids #2 SPS Expansion - Niagara Falls	2022-2031	Niagara Falls	\$ 3,836,000
WW-SPS-032	St. Davids #1 SPS Upgrade - Niagara Falls	2022-2031	Niagara Falls	\$ 1,794,000
WW-SPS-033	Lakeshore Road SPS Pump Replacement - NOTL	2032-2041	NOTL	\$ 1,512,000
WW-SPS-034	Niagara Stone Road SPS Pump Replacement - NOTL	2032-2041	NOTL	\$ 834,000
WW-SPS-035	Line 2 SPS Pump Replacement - NOTL	2017-2021	NOTL	\$ 665,000
WW-SPS-036	Garrison Village SPS Pump Replacement - NOTL	2032-2041	NOTL	\$ 1,250,000
WW-SPS-037	Tow path SPS Pump Replacement - Welland	2022-2031	Welland	\$ 834,000
WW-SPS-038	Hurricane Road SPS Pump Replacement - Welland	2022-2031	Welland	\$ 1,250,000
WW-SPS-039	Queenston SPS	2022-2031	Niagara Falls	\$ 2,996,000
WW-SS-001	Highway 406 Trunk Sewer Crossing	2017-2021	Welland	\$ 1,450,000
WW-SS-002	Quaker Road Trunk Sewer	2022-2031	Welland	\$ 1,725,000
WW-SS-003	Gravity Sewer upgrade in Grimsby	2022-2031	Baker Road	\$ 5,667,000
WW-SS-004	Gravity Sewer upgrade in Grimsby	2022-2031	Baker Road	\$ 923,000
WW-SS-005	Gravity Sewer upgrade in Smithville	2022-2031	Baker Road	\$ 2,286,000
WW-TP-001	Baker Road WWTP Upgrade	2022-2031	Baker Road	\$ 41,730,000
WW-TP-002	South Niagara Falls WWTP	2022-2031	Niagara Falls	\$ 128,186,000
Total				\$500,318,000

- DC policy was established for:
 - Benefit to Existing (BTE)
 - Oversizing beyond 2041 (Post Period Benefit, PPB)
 - Residential and Non-Residential Share
 - Local Service Policy

Total Component Estimated Cost	Benefit to Existing Development	Beyond 2041 Oversizing	Grants & Contributions	DC Recoverable 2017 - 2041
\$500,318,000	\$199,437,700	\$16,991,600	\$0	\$283,888,700

- Servicing Strategy Refinement completed Winter 2017
- Input to DC process completed Spring 2017
- Local Municipality Final Workshop May 17, 2017
- Niagara Region Public Works Committee Presentation May 30, 2017
- MSP Update Notice of Completion June 1, 2017
- Niagara Region Council Adoption June 8, 2017
- MSP Update Filing for Public Review and 45 Day Review Period June 15 – July 31, 2017

- Thank You
- Q&A



Subject: 2016 Water & Wastewater Master Servicing Plan Update

Report to: Public Works Committee

Report date: Tuesday, May 30, 2017

Recommendations

1. That the 2016 Water & Wastewater Master Plan Recommendations noted in the 2016 Water & Wastewater Master Plan Executive Summary (Appendix 2 of Report PW 22-2017) **BE APPROVED**.

Key Facts

- The purpose of this report is to update Council on the status of the 2016 Water & Wastewater Master Servicing Plan Update which will be placed on the public record for review in accordance with the Municipal Engineers Association Class Environment Assessment (EA) process for Master Plans.
- Under the umbrella “Niagara 2041” (*How we Grow, Flow, and Go*), the Niagara Region is proactively planning to facilitate the anticipated growth for a total of 610,000 people and 265,000 employments/jobs by 2041 in the Niagara Region in conformance with the *Provincial Places To Grow*.
- The 2016 Water and Wastewater Master Serving Plan Update (*How we Flow*) evaluates the ability of existing and planned water and wastewater infrastructure to efficiently and effectively service the Region’s existing users, service anticipated growth, and to evaluate and develop recommended strategies.
- The recommended capital water and wastewater projects have been included in the 2017 Development Charges Background Study & By-law to support growth.
- The largest projects include the Baker Road Wastewater Treatment Plant Upgrade, a new South Niagara Falls Wastewater Treatment Plant, and the Grimsby Water Treatment Plant Upgrade.

Financial Considerations

The estimated capital cost of the recommended projects in the 2016 Water & Wastewater Master Servicing Plan Update (MSP) over the 25-year forecast period have been included in the 2017 Development Charges Background Study and By-law. Where possible, growth capital projects have been combined with sustainability works for existing infrastructure, but it should be noted that the Asset Management Plan

focuses on existing water and wastewater infrastructure and the funding levels required to support sustainability, whereas the 2016 MSP is for future looking infrastructure improvements over the 25-forecast period to support growth and economic prosperity. The total MSP capital project cost of \$811 million is identified in 2017 dollars and is broken down as follows.

For Water, a gross total of \$308.6 million is required with \$75.8 million identified as “benefit to existing” development within the Region, \$18.5 million in grant funding has been identified, and \$5.15 million has been identified as post-period benefit (Water Treatment Plant upgrades). The grand total to be included in the DC calculation for all of these water components is \$214.4 million.

For Wastewater, a gross total of \$502.3 million with \$200.2 million identified as “benefit to existing” development and \$16.9 million that has been identified as costs that benefit development post-2041 (Wastewater Treatment Plant upgrades). The grand total to be included in the DC calculation for all of these wastewater components is \$302.7 million.

2017 budget forecasts and recent Asset Management Plan data confirm that current water and wastewater infrastructure reserves levels and base funding allocations are inadequate to fund the Region’s share being the “benefit to existing” development therefore debt financing will be required. Water and wastewater rates and development charges are the funding sources available for to implement the 2016 MSP. A funding strategy will need to be developed to implement the 2016 MSP recommendations.

The timing for these 2016 MSP investments will be refined through on-going monitoring of the active building/growth and development approvals, actual demands and flows, the performance of the water and wastewater systems, and the annual capital budget process.

Analysis

Niagara Region provides water and wastewater services to the urban area of the municipalities of Grimsby, West Lincoln, Lincoln, St. Catharines, Thorold, Welland, Pelham, Port Colborne, Niagara-on-the-Lake, Niagara Falls, and Fort Erie. Water and wastewater servicing is operated under a two-tier system. Niagara Region is responsible for water treatment, transmission mains, storage facilities and major booster pumping stations; as well as wastewater treatment, trunk sewers, forcemains, and sewage pumping stations. The area municipalities are responsible for local water distribution networks and local sewer collection systems.

The Niagara Region retained GM Blue Plan Engineering to complete the MSP. The 2016 Master Servicing Plan Update builds on previous work undertaken as part of the 2011 Master Servicing Plan (which looked at growth out to 2031) and previous long term infrastructure planning studies. The 2016 Master Servicing Plan Update is a critical

component in the Region's planning for growth and will provide the framework and vision for the water and wastewater servicing needs for the lakebased service areas of the Region to year 2041.

Under the umbrella "Niagara 2041" (*How we Grow, Flow, and Go*), the Niagara Region is proactively planning to facilitate the anticipated growth to a total of 610,000 people and 265,000 employments/jobs by 2041, in conformance with the *Provincial Places To Grow*. The 2016 Water and Wastewater Master Servicing Plan Update (How we Flow) evaluates the ability of existing and planned water and wastewater infrastructure to efficiently and effectively service the Region's existing users, service anticipated growth, and to evaluate and develop recommended strategies.

To set the stage for completing the MSP and to develop a foundation principle for the study, a vision statement was established:

Providing for Today, Vision for Tomorrow

To establish a cost effective infrastructure program that meets the service needs of existing users, meets regulatory and legislative requirements, supports growth, and addresses the priority areas of climate change, energy management, infrastructure optimization, system security, and resiliency.

A key component of the MSP involves consultation with interested stakeholders including local municipal partners, the public, special interest groups and regulatory agencies. The study included three rounds of Public Information Centres (PICs) which were integrated with Niagara 2041 (Municipal Comprehensive Review, Water & Wastewater Master Servicing Pan Update, and the Transportation Master Plan) as well as the 2017 Development Charges Background Study and By-law update.

Significant efforts, collaboration, and meetings with local municipal partners was paramount to the success of this MSP. They should be acknowledged for their time and commitment to providing insight and information during the MSP process. Moving forward, there will be continued partnerships to address wet weather responses through Inflow & Infiltration Reduction Projects to ensure that capacity is available for growth. In addition to regular updates to the Public Works Official of Niagara, a brief list of official MSP meetings with local municipal partners are as follows:

DATE	MEETING TOPIC
Nov. 17, 18, & 19, 2015	PIC #1 at Grimsby, Port Colborne, and St. Catharines
Dec. 15, 2015	Servicing Policy Review Workshop
June 15, 16, & 22, 2016	PIC #2 at Fort Erie, West Lincoln, and Welland
Oct. 21, 2016	Preliminary Servicing Review Workshop
Nov.1, 2016	Water & Wastewater Servicing Strategies Workshop (Grimsby, Lincoln, West Lincoln- Morning Session & Niagara Falls and Fort Erie – Afternoon Session)
Nov.8, 2016	Water & Wastewater Servicing Strategies Workshop (Pelham, Welland, Port Colborne - Morning Session & NOTL, St. Catharines, Thorold– Afternoon Session)
Nov. 30, Dec 6, 7, & 8, 2016	PIC #3 at Niagara Falls, Thorold, NOTL, Lincoln
May 17, 2017	Final Draft MSP Review Workshop

The design criteria used for the MSP is based on data from recent historical flows and operational records, and the current Niagara Design Standards. These criteria, together with the Niagara 2041 growth projections were used to evaluate system capacities, predict future flows, and determine the implementation schedule. For both water and wastewater systems, historical data from the previous five years was used to establish baseline demands and flows.

The water and wastewater computer simulation models were used to assess the impact of future growth on the Region’s linear infrastructure (i.e., trunk watermains, water storage, trunk sewers, sewage pumping stations, etc.). The wastewater model was also used to review the impact of wet weather on the wastewater system and to identify areas with significant exposure.

Consideration for capacity upgrades (upgrades to trunk sewers, pumping station capacities, etc.), upstream management (storage, peak shaving, diversion), and peak flow management (flow reduction, Inflow & infiltration (I&I) reduction projects) were investigated for every wastewater system. Based on this review, there are wet weather projects listed with identified areas for targeted I&I removal to offset the requirement to upgrade and expand more expensive infrastructure all the way to the wastewater treatment plants. It is crucial to achieve the I&I reductions in order to offset the capacity needs from growth, to protect the environment, and mitigate potential basement flooding.

Within the MSP, alternatives for servicing the anticipated growth in each water and wastewater service area within the urban boundaries were reviewed. A summary of the water and wastewater capital projects from the MSP are outlined in Appendix 1. Where upgrades are recommended, the Region will monitor the active building/growth and

development approvals occurring as well as the actual flows to confirm project need and timing prior to implementation.

The largest recommended capital projects include the Baker Road Wastewater Treatment Plant Upgrade, a new South Niagara Falls Wastewater Treatment Plant, and the Grimsby Water Treatment Plant Upgrade.

New South Niagara Falls Wastewater Treatment Plant

The South Niagara Falls servicing strategy has been highlighted based on the significant change in servicing strategy from previous Master Plans. A presentation and memorandum specifically for this topic was provided at a Special Council meeting on March 23, 2017.

The Niagara 2041 planning exercise resulted in significant growth in South Niagara Falls partly based on the extension of the planning horizon from 2031 to 2041. It is noted that 64% of the growth in Niagara Falls is projected south of Lundy's Lane and 22.5% of the growth is projected south of the Welland River. This growth in combination with wet weather issues in South Niagara Falls as well as servicing constraints in adjacent wastewater systems including Thorold South and St. Catharines, prompted a broader review of wastewater servicing strategies for the area.

The analysis for the South Niagara Falls servicing strategy followed these principal steps:

- Review of system integration opportunities
- Hydraulic analysis of the systems
- Preliminary identification of infrastructure needs and alignments/sites
- Detailed cost benefit analysis considering capital, lifecycle and offsetting cost components
- Multiple bottom line evaluation process

The analysis developed and evaluated two options for the servicing of future growth:

1. Accommodate only the south Niagara Falls growth through the existing Niagara Falls Wastewater Treatment Plant (Go North) including all necessary upgrades / upsizing of existing infrastructure.
2. Construct a new South Niagara Falls Wastewater Treatment Plant (New Plant), divide the Niagara Falls service area into two, provide additional capacity suitable for the servicing of Thorold South, introduce additional capacity in the Port Weller sewer shed area of St. Catharines, create the opportunity to service future growth in the St. David's area of Niagara-on-the-Lake, and introduce significant capacity in the north sewer shed area of Niagara Falls for intensification and growth.

Option 2 – New Plant was selected as the preferred South Niagara Falls servicing strategy. Overall comments related to the selection of the New Plant option are:

- Providing a new South Niagara Falls WWTP provides the greatest flexibility and support for long term servicing and benefit to the Niagara Falls and surrounding systems.
- A new plant provides the greatest opportunity to mitigate risks including cost risks, implementation risks, and capacity risks.
- The New Plant option does have higher capital costs for 2041 program and higher annual lifecycle costs than the Go North option. However, the New Plant can provide more flexible and less expensive post 2041 costs.
- Based on the opportunity to implement green technologies and address wet weather issues, the New Plant provides opportunity for other funding sources similar to the NOTL plant
- Under either option, continued sustainability upgrades will be required for existing infrastructure including the existing Niagara Falls WWTP.

Next Steps

The next steps for the MSP process includes finalizing the MSP documents and filing the documents for a mandatory 30-day review period. It is anticipated that the documents will be filed in summer 2017. A copy of the draft MSP executive summary is attached as Appendix 2.

Alternatives Reviewed

No alternatives were reviewed for Council to receive this report for information.

Relationship to Council Strategic Priorities

The integration of the MSP with Niagara 2041 and the 2017 Development Charges Background Study and By-Law has ensured that the Niagara Region will be positioned to support economic prosperity ensuring capacity is available to accommodate growth, investment, and infrastructure.

Other Pertinent Reports

PW 36-2015, June 2, 2015, Water & Wastewater Master Servicing Plan Study
CL-C 24-2017, March 23, 2017, Memorandum from Ron Tripp, re Water & Wastewater Services Master Servicing Plan (How We Flow) Project Update – South Niagara Falls Treatment Plant Review

Prepared by:

Phill Lambert, P.Eng.
Associate Director, Infrastructure
Planning & Development Engineering
Planning & Development Services

Recommended by:

Ron Tripp, P.Eng.
Commissioner
Public Works Department

Submitted by:

Carmelo D'Angelo, BSc, MPA
Chief Administrative Officer

This report reviewed by Michael Leckey, Program Financial Specialist, Mike Janas, Director Water & Wastewater Services, and Ron Tripp, Commissioner Public Works.

Appendices

Appendix 1	Recommended Water & Wastewater MSP Projects	page 8
Appendix 2	Executive Summary of 2016 W&WW MSP Final Report	page 12

APPENDIX 1
RECOMMENDED WATER & WASTEWATER MSP PROJECTS

Water Capital Program

Master Plan ID	Description	Year in Service	System	Total Component Estimated Cost
W-D-001	Decommissioning of Central Ave (Fort Erie South) ET	2022 - 2031	Rosehill	\$ 1,979,000
W-D-002	Decommissioning of Stevensville Res + PS	2022 - 2031	Rosehill	\$ 2,913,000
W-D-003	Decommissioning of Park Road Res + PS	2022 - 2031	Grimsby	\$ 523,000
W-D-004	Decommissioning of Lundy's Lane ET	2032 - 2041	Niagara Falls	\$ 1,979,000
W-D-005	Decommissioning of Pelham ET	2022 - 2031	Welland	\$ 1,028,000
W-D-006	Decommissioning of King Street ET	2017 - 2021	Port Colborne	\$ 1,979,000
W-D-007	Decommissioning of Fielden Ave Res + PS	2032 - 2041	Port Colborne	\$ 2,913,000
W-F-001	Grimsby WTP Expansion	2022 - 2031	Grimsby	\$ 51,496,000
W-F-002	Decew inlet channel	2017 - 2021	Decew	\$ 22,969,000
W-M-001	New trunk main in Central Fort Erie	2022 - 2031	Rosehill	\$ 9,479,000
W-M-002	New Conveyance to Port Colborne East side	2017 - 2021	Port Colborne	\$ 11,548,000
W-M-003	New trunk main from Welland WTP to North	2032 - 2041	Welland	\$ 7,556,000
W-M-004	Upgrade trunk main - Elizabeth Street to Park Road	2017 - 2021	Grimsby	\$ 13,139,000
W-M-005	New trunk main - Grimsby WTP to New Grimsby Reservoir	2022 - 2031	Grimsby	\$ 42,044,000
W-M-006	New trunk main in Smithville	2022 - 2031	Grimsby	\$ 14,357,000
W-M-007	New trunk main from PRV to Port Robinson Chlorine BPS	2017 - 2021	Niagara Falls	\$ 2,543,000
W-M-008	Trunk main from South NOTL to Virgil ET	2032 - 2041	Decew	\$ 13,535,000
W-M-009	New Niagara Falls South trunk main to New Elevated Tank	2032 - 2041	Niagara Falls	\$ 4,858,000
W-M-010	New Niagara Falls South trunk main	2032 - 2041	Niagara Falls	\$ 18,316,000
W-M-011	New trunk main to Fort Erie Elevated Tank	2017 - 2021	Rosehill	\$ 4,107,000
W-M-012	Upgrade watermain - Port Colborne to new Barrick Road ET	2017 - 2021	Port Colborne	\$ 2,185,000
W-P-001	Upgrade Shoalt's Drive LLPS	2017 - 2021	Welland	\$ 3,062,000
W-P-002	Upgrade Shoalt's Drive HLPS	2017 - 2021	Welland	\$ 7,882,000
W-P-003	Upgrade Lincoln/Grimsby BPS	2032 - 2041	Grimsby	\$ 989,000
W-S-001	New Fort Erie ET	2017 - 2021	Rosehill	\$ 12,838,000
W-S-002	New Barrick Road ET in Port Colborne	2017 - 2021	Port Colborne	\$ 8,022,000
W-S-003	New Pelham ET	2022 - 2031	Welland	\$ 9,307,000
W-S-004	New South Niagara Falls ET	2032 - 2041	Niagara Falls	\$ 9,629,000
W-S-005	New Grimsby Reservoir	2017 - 2021	Grimsby	\$ 23,474,000
	Total			\$ 306,649,000

Wastewater Capital Program

Master Plan ID	Description	Year in Service	System	Total Component Estimated Cost
WW-D-001	Decommissioning of Queenston WWTP	2022-2031	Queenston	\$ 1,979,000
WW-FM-001	Upgrade Catherine St. SPS Forcemain	2032-2041	Anger Ave	\$ 467,000
WW-FM-003	Upgrade Foss Road SPS Forcemain	2022-2031	Welland	\$ 4,500,000
WW-FM-004	Laurie Avenue SPS Forcemain Upgrade	2017-2021	Baker Road	\$ 2,981,000
WW-FM-005	New Peel Street SPS Forcemain	2022-2031	South Niagara Falls	\$ 4,889,000
WW-FM-006	New Black Horse Forcemain to Niagara Falls	2022-2031	South Niagara Falls	\$ 9,820,000
WW-FM-008	South Side High Lift conveyance	2022-2031	South Niagara Falls	\$ 38,039,000
WW-FM-009	Dorchester Forcemain twinning	2022-2031	Niagara Falls	\$ 303,000
WW-FM-010	St. Davids #1 Forcemain twinning	2022-2031	Niagara Falls	\$ 3,923,000
WW-FM-011	Smithville Forcemain twinning	2022-2031	Baker Road	\$ 18,132,000
WW-FM-012	New Queenston Forcemain	2022-2031	Niagara Falls	\$ 11,136,000
WW-II-001	Wet weather reduction in East Fort Erie	2022-2031	Anger Ave	\$ 4,500,000
WW-II-002	Wet weather reduction in Crystal Beach	2022-2031	Crystal Beach	\$ 4,500,000
WW-II-003	Wet weather reduction in Stevensville/Douglastown	2022-2031	Stev / Doug	\$ 4,500,000
WW-II-004	Wet weather reduction in Central Welland	2022-2031	Welland	\$ 30,000,000
WW-II-005	Wet weather reduction in West Grimsby	2022-2031	Baker Road	\$ 7,500,000
WW-II-006	Wet weather reduction in Beamsville	2022-2031	Baker Road	\$ 3,000,000
WW-II-007	Wet weather reduction in Vineland	2022-2031	Baker Road	\$ 1,500,000
WW-II-008	Wet weather reduction in St. Catharines - Port Dalhousie	2022-2031	Port Dalhousie	\$ 30,000,000
WW-II-009	Wet weather reduction in Thorold North	2022-2031	Port Dalhousie	\$ 13,500,000
WW-II-010	Wet weather reduction in St. Catharines and Thorold South - Port Weller	2017-2021	Port Weller	\$ 20,100,000
WW-II-011	Wet weather reduction in Central Port Colborne	2022-2031	Seaway	\$ 3,000,000
WW-II-012	Wet weather reduction in Central Niagara Falls	2022-2031	Niagara Falls	\$ 15,000,000
WW-II-013	Wet weather reduction in South Side Niagara Falls	2017-2021	South Niagara Falls	\$ 15,000,000
WW-II-014	Wet weather reduction in Northeast Niagara-on-the-Lake	2022-2031	NOTL	\$ 750,000
WW-II-015	Wet weather reduction in Virgil	2022-2031	NOTL	\$ 750,000
WW-SPS-001	Alliston SPS Pump Replacement - Anger Avenue	2022-2031	Anger Ave	\$ 989,000
WW-SPS-002	Catherine St. SPS Expansion - Anger Avenue	2032-2041	Anger Ave	\$ 2,945,000
WW-SPS-003	Lakeshore SPS Upgrade - Anger Avenue	2022-2031	Anger Ave	\$ 2,618,000
WW-SPS-004	Shirley SPS Upgrade - Crystal Beach	2032-2041	Crystal Beach	\$ 2,889,000
WW-SPS-005	Nigh Rd. SPS Pump Replacement - Crystal Beach	2022-2031	Crystal Beach	\$ 989,000
WW-SPS-006	Stevensville SPS Upgrade - Stevensville Douglastown	2022-2031	Stev / Doug	\$ 1,022,000

Master Plan ID	Description	Year in Service	System	Total Component Estimated Cost
WW-SPS-007	Rosemount South SPS Pump Replacement - Seaway	2017-2021	Seaway	\$ 665,000
WW-SPS-008	Oxford SPS Pump Replacement - Seaway	2032-2041	Seaway	\$ 665,000
WW-SPS-009	Steele SPS Pump Replacement - Seaway	2032-2041	Seaway	\$ 989,000
WW-SPS-011	Foss Road SPS Upgrade - Welland	2022-2031	Welland	\$ 1,866,000
WW-SPS-012	Smithville SPS Expansion - Baker Road	2022-2031	Baker Road	\$ 8,241,000
WW-SPS-013	Campden SPS Pump Replacement - Baker Road	2022-2031	Baker Road	\$ 1,299,000
WW-SPS-014	Laurie Avenue SPS Expansion - Baker Road	2017-2021	Baker Road	\$ 1,814,000
WW-SPS-015	Victoria Avenue SPS Upgrade - Baker Road	2017-2021	Baker Road	\$ 4,051,000
WW-SPS-016	Bridgeport SPS Pump Replacement - Baker Road	2022-2031	Baker Road	\$ 834,000
WW-SPS-017	Jordan Valley SPS Pump Replacement - Baker Road	2022-2031	Baker Road	\$ 1,145,000
WW-SPS-018	Ontario Street SPS Upgrade - Baker Road	2032-2041	Baker Road	\$ 3,755,000
WW-SPS-019	Biggar Lagoon Pump Replacement - Baker Road	2017-2021	Baker Road	\$ 3,902,000
WW-SPS-020	Lake St SPS Upgrade - Baker Road	2017-2021	Baker Road	\$ 4,410,000
WW-SPS-021	Beaverdams SPS Pump Replacement - Port Dalhousie	2017-2021	Port Dalhousie	\$ 665,000
WW-SPS-025	Garner Road SPS Pump Replacement - Niagara Falls	2032-2041	Niagara Falls	\$ 824,000
WW-SPS-026	Dorchester SPS Pump Replacement - Niagara Falls	2022-2031	Niagara Falls	\$ 2,414,000
WW-SPS-028	Black Horse SPS Upgrade - South Niagara Falls	2022-2031	South Niagara Falls	\$ 4,620,000
WW-SPS-031	St. Davids #2 SPS Expansion - Niagara Falls	2022-2031	Niagara Falls	\$ 3,836,000
WW-SPS-032	St. Davids #1 SPS Upgrade - Niagara Falls	2022-2031	Niagara Falls	\$ 1,794,000
WW-SPS-033	Lakeshore Road SPS Pump Replacement - NOTL	2032-2041	NOTL	\$ 1,512,000
WW-SPS-034	Niagara Stone Road SPS Pump Replacement - NOTL	2032-2041	NOTL	\$ 834,000
WW-SPS-035	Line 2 SPS Pump Replacement - NOTL	2017-2021	NOTL	\$ 665,000
WW-SPS-036	Garrison Village SPS Pump Replacement - NOTL	2032-2041	NOTL	\$ 1,250,000
WW-SPS-037	Towpath SPS Pump Replacement - Welland	2022-2031	Welland	\$ 834,000
WW-SPS-038	Hurricane Road SPS Pump Replacement - Welland	2022-2031	Welland	\$ 1,250,000
WW-SPS-039	Queenston SPS	2022-2031	Niagara Falls	\$ 2,996,000
WW-SS-001	Highway 406 Trunk Sewer Crossing	2017-2021	Welland	\$ 1,450,000
WW-SS-002	Quaker Road Trunk Sewer	2022-2031	Welland	\$ 1,725,000
WW-SS-003	Gravity Sewer upgrade in Grimsby	2022-2031	Baker Road	\$ 5,667,000
WW-SS-004	Gravity Sewer upgrade in Grimsby	2022-2031	Baker Road	\$ 923,000
WW-SS-005	Gravity Sewer upgrade in Smithville	2022-2031	Baker Road	\$ 2,286,000
WW-TP-001	Baker Road WWTP Upgrade	2022-2031	Baker Road	\$ 41,730,000
WW-TP-002	South Niagara Falls WWTP	2022-2031	Niagara Falls	\$ 128,186,000
	Total			\$500,318,000

APPENDIX 2

EXECUTIVE SUMMARY OF 2016 WATER & WASTEWATER MSP FINAL REPORT

For Full Report see Volume 1 of the 2016 Water & Wastewater MSP Final Report

APPENDIX I
Notice of Study Completion

NOTICE OF STUDY COMPLETION

Once the study drew completion in July 2017, a Notice of Study Completion was prepared. The purpose of this Notice was to announce the study's completion, summarize the preferred solution, and begin the 45-day public review period for the final Class EA report. Copies of the final report were filed at agreed public facilities and made available for a 45-day review period beginning on June 15, 2017 to July 31, 2017.

The Notices were published in two editions of the local newspapers, similar to the Notices of Commencement and Public Information Centre. The Notice was also published on the Region's website. The GM BluePlan Team also prepared a Notice in letter form and mailed to the established list of stakeholders, as attached below.



Niagara's Future: Notice of Completion

The Study

Niagara Region has prepared for expected growth within the next 25 years with the completion of a Water and Wastewater Master Servicing Plan (HOW WE FLOW). Niagara Region is a part of the Greater Golden Horseshoe (GGH) and currently services the urban area of the

municipalities of Grimsby, West Lincoln, Lincoln, St. Catharines, Thorold, Welland, Pelham, Port Colborne, Niagara-on-the Lake, Niagara Falls, and Fort Erie. The Government of Ontario legislative growth plan, Places to Grow Act 2005, identified substantial population and employment

growth for the GGH to year 2041. To meet the growing demands and needs of its communities, Niagara 2041 has been introduced to balance the needs of growth with the protection and preservation of natural, environmental and heritage resources.



HOW WE FLOW:

The Water and Wastewater Master Servicing Plan provides a strategic vision over the next 25 years to accommodate future growth, and ensure safe, clean drinking water and effective environmental protection. It will ensure safe, sustainable and optimized water and wastewater services that support growth, development of a long term servicing strategy that meets today's needs while planning for tomorrow, and will provide a business case for the need, timing and cost of maintaining infrastructure in a fully integrated process.

The Process

The Water and Wastewater study follows the Master Plan process as outlined in Section A.2.7 of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (October 2000, as amended in 2000, 2011 and 2015). The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning. The Master Servicing Plan will satisfy the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.

The Completion

The Water and Wastewater Master Servicing Plan has been prepared to document the planning and decision making process undertaken for this study. If after consulting with the Niagara Region, you have significant unresolved concerns with the study, you have the right to make a written request to the Minister of the Environment and Climate Change (The Honourable Glen R. Murray, 11th Floor, Ferguson Block, 77 Wellesley Street West, Toronto, ON, M7A 2T5) to appeal the study results – also known as Part II Order request. The Part II Order request must be received by the Minister of the Environment and Climate Change's Environmental Approvals Branch (Director, MOECC Environmental Approvals

Branch, 135 St. Clair Avenue West, 1st Floor, Toronto, ON, M4V 1P5) and the Niagara Region. If there are no outstanding concerns after the end of the public review period, the study will be considered to have met the requirements of the Municipal Class EA, and the project may proceed to implementation.

With the exception of personal information, all comments will become part of the public record of the study. The study is being conducted according to the requirements of the Municipal Class Environmental Assessment, which is a planning process approved under Ontario's Environmental Assessment Act.

Thank you for your involvement in the Water and Wastewater Master Servicing Plan projects. Your time and input were appreciated. Copies of the Water and Wastewater Master Servicing Plan documents are available for your information on niagararegion.ca/2041 and at the following locations:

Niagara Region

Clerk's Department
1815 Sir Isaac Brock Way
Thorold, ON
L2V 4T7

City of St. Catharines

Clerk's Department
50 Church Street
St. Catharines, ON
L2R 7C2

City of Niagara Falls

Clerk's Department
4310 Queen Street
Niagara Falls, ON
L2E 6X5

Town of Grimsby

Clerk's Department
160 Livingston Avenue
Grimsby, ON
L3M 4G3

Town of Pelham

Clerk's Department
20 Pelham Town Square
Fonthill, ON
L0S 1E0

City of Port Colborne

Clerk's Department
66 Charlotte Street
Port Colborne, ON
L3K 3C8

If you require any accommodations for a disability in order to access the project documents, contact the Accessibility Advisory Coordinator at 905-980-6000 ext. 3252 or 1-800-263-7215 or accessibility@niagararegion.ca to make the appropriate arrangements.

Niagara  Region

niagararegion.ca/2041



Niagara's Future: Notice of Completion - CONTINUED

Further information

Requests or comments can be directed to:

Water and Wastewater Master Servicing Plan

Mr. Phill Lambert, P.Eng.
Associate Director,
Infrastructure Planning and Engineering
1815 Sir Isaac Brock Way,
P.O. Box 1042
Thorold, ON L2V 4T7
Phone: 905-980-6000
Fax: 905-687-8056
phill.lambert@niagararegion.ca

The Master Plan is providing a 45 day review period starting on June 15, 2017. Please provide all written comments to Niagara Region by Monday, July 31, 2017 (within 45 days of this Notice).

This Notice of Completion is issued on June 15 and June 22, 2017.

This Notice of Completion is issued with respect to meeting Phases 1 and 2 of the Class EA Process for the Water and Wastewater Master Servicing Plan. The list of Scheduled A, A+, Master Plan projects can be accessed electronically at the study web page previously noted. The Schedule B and C Master Plan projects where Phases 1 and 2 are being satisfied under the Water and Wastewater Master Servicing Plan are noted to the right.

ACTIVITIES THAT WERE SUBJECT TO THE SCREENING PROCESS UNDER PHASES 1 AND 2 OF THE CLASS EA PROCESS

Wastewater (WW)

Pelham

WW-SPS-011	Increase station capacity at the Foss Road Sewage Pumping Station
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West Lincoln

WW-SPS-012	Increase station capacity at the Smithville Sewage Pumping Station
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Lincoln

WW-SPS-014	Increase station capacity at the Laurie Avenue Sewage Pumping Station
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WW-SPS-015	Increase station capacity at the Victoria Avenue Sewage Pumping Station
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WW-SPS-018	Increase station capacity at the Ontario Street Sewage Pumping Station
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Grimsby

WW-SPS-020	Increase station capacity at the Lake St Sewage Pumping Station
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Niagara Falls

WW-SPS-025	Increase station capacity at the Garner Road Sewage Pumping Station
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WW-TP-002	New South Niagara Falls Wastewater Treatment Plant
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Water (W)

Fort Erie

W-S-001	New Fort Erie Elevated Tank
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Pelham

W-S-003	New Pelham Elevated Tank
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APPENDIX J
45 Day Review

NOTICE OF COMMENTS RECEIVED Following Completion of the Public Review Period

The Regional Municipality of Niagara filed the 2016 Water and Wastewater Master Servicing Plan Update report for the 45-day public review period from **Thursday June 15, 2017** to **Monday July 31, 2017**.

All comments received were tracked in the attached summary table and responses were issued where required. A copy of all comments and responses are attached in Volume 5. Revisions to the 2016 Water and Wastewater Master Servicing Plan Update include the following:

Volume 1

- **Figure 1.15** to reflect decommissioning/ownership of the Grassy Brook Sewage Pumping Station

Volume 3

- Capital Project **W-P-001** and **W-P-002** Municipality ownership revised from Welland to Pelham
- Capital Project **W-P-003** Municipality ownership revised from Lincoln to Grimsby
- Modifications to *2041 Collection Schematics* including **Figure 3.A.19**, **Figure 3.B.20**, **Figure 3.C.17**, **Figure 3.D.18**, **Figure 3.E.18**, and **Figure 3.F.19** to reflect the updated water system schematics

Volume 4

- Table of Contents – Spelling correction
- Tables: 1,7,8,9,10,11,12,13 in all parts
- Existing serviced population and employment numbers in introductions for all parts
- Example calculations for peak dry weather flow and peak wet weather flow for all parts
- Capital Project **WW-FM-003** Municipality ownership revised from Welland to Pelham
- Capital Project **WW-SPS-037** Municipality ownership revised from Pelham to Thorold
- Capital Project **WW-SS-003** and **WW-SS-004** Municipality ownership revised from West Lincoln to Grimsby
- Capital Project **WW-II-006**, **WW-II-007** Municipality ownership revised from West Lincoln to Lincoln
- Modifications to **Figure 4.F.1**, **Figure 4.F.2**, **Figure 4.F.4**, **Figure 4.F.5**, **Figure 4.F.6**, **Figure 4.F.7** to reflect decommissioning/ownership of the Grassy Brook Sewage Pumping Station
- Modifications to *2041 Collection Schematics* including **Figure 4.A.13**, **Figure 4.C.8**, **Figure 4.E.6**, **Figure 4.F.8**, **Figure 4.K.8** to reflect the updated wastewater system schematics
- Part F – *Niagara Falls Wastewater System*, **F.6.2 Pumping Stations** text change to reflect decommissioning of Grassy Brook Pumping Sewage Pumping Station.

#	From	To	Date Received	Type	Comment	Action	Status
1	Nancy Bozzato (Town of Pelham)	Natasha Devos (Regional Municipality of Niagara)	6/6/2017	E-mail	<ul style="list-style-type: none"> Attached letter from Town of Pelham relating to the Fenwick Supply - Regional Water/Wastewater Master Plan Includes a report considered by Pelham Council (June 5, 2017). Pelham Council reviewed this together with the 2016 Water and Wastewater Regional Master Servicing Plan Update information 	<ul style="list-style-type: none"> Request that steps be taken to ensure Regional Council is aware of this correspondence No further action required 	Complete
2	Andrea Clemencio (Town of Pelham)	Phill Lambert (Regional Municipality of Niagara)	6/6/2017	E-mail	<ul style="list-style-type: none"> Council requested to see if other capital solutions for security concerns can be considered To verify if an additional main or twinned main can serve as a return, rather than a feed to integrate and loop Fenwick into the system as a whole, rather than at the end of the Feeder main had been considered 	<ul style="list-style-type: none"> Phill Lambert provided response and forwarded email to GM BluePlan, Mayor of Pelham, Ron Tripp, & Regional contacts Following 45-day review period, GM BluePlan will instigate and provide an additional response 	Follow-up will be provided to Council
3	Dave Augustyn (Mayor - Town of Pelham)	Phill Lambert (Regional Municipality of Niagara)	6/6/2017	E-mail	<ul style="list-style-type: none"> Highlighted that the "Security of Supply" project is currently in the Region's 2012 bylaw Expressed interest to continue with Security of Supply project and will be informing Council 	<ul style="list-style-type: none"> Mayor to inform Council No further action required 	Complete
4	Tikvah Mindorff (Niagara Sustainability Initiative)	Natasha Devos (Regional Municipality of Niagara)	6/9/2017	E-mail	<ul style="list-style-type: none"> Shared formal letter from Board of Directors - Niagara Sustainability Initiative "Comments on Niagara 2041" Includes summary of How We Grow - Municipal Comprehensive Review, How We Go - Transportation Master Plan, and How We Flow - Water and Wastewater Master Servicing Plan (MSP) 	<ul style="list-style-type: none"> Region forwarded presentation to Ron Tripp (Niagara Region) to confirm in Council Agenda Recommended action: Refer to consideration of PWC - Formal letter response provided to Niagara Sustainability Initiative from Niagara 2041 team and signed by Ron Tripp 	Complete
5	Phill Lambert (Regional Municipality of Niagara)	Julien Bell, Chris Hamel (GM BluePlan)	6/12/2017	E-mail	<ul style="list-style-type: none"> Recap of Regional Council meeting held June 8, 2017 Mayor of Pelham spoke about Town's concerns for security of supply to Fenwick Mayor Dave and Pelham Council believes this should be in the new DC bylaw 	<ul style="list-style-type: none"> To be discussed and evaluated following the 45-day review period 	Follow-up will be provided to Council
6	[Redacted] (Resident)	Phill Lambert (Regional Municipality of Niagara)	6/22/2017	E-mail	<ul style="list-style-type: none"> Would like to know when the Region plans to decommission the Sewage Lagoon servicing Stevensville and Douglastown/Black Creek 	<ul style="list-style-type: none"> Phill responded with a brief summary of the Water and Wastewater MSP Stevensville/Douglastown Lagoons Provided link with direction to Volume 4- Part G Stevensville-Douglastown Wastewater System for additional information 	Complete
7	Carmela Dipardo (City of Thorold)	Phill Lambert (Regional Municipality of Niagara)	6/23/2017	E-mail	<ul style="list-style-type: none"> Confirmed receipt of 2016 Water and Wastewater MSP Update on June 20, 2017 at Thorold City Council meeting 	<ul style="list-style-type: none"> No further action required 	Complete
8	[Redacted] (Resident)	Phill Lambert (Regional Municipality of Niagara)	6/26/2017	E-mail	<ul style="list-style-type: none"> Attached correspondence regarding the decommissioning of the Stevensville/Douglastown Sewage Waste Lagoon To clarify why criteria for closure was different than closure of Port Robinson and Niagara-on-the-Lake 	<ul style="list-style-type: none"> Phill responded with a brief summary of the Water and Wastewater MSP Stevensville/Douglastown Lagoons Provided link with direction to the Volume 4- Part G Stevensville-Douglastown Wastewater System for additional information 	Complete
9	Phill Lambert (Regional Municipality of Niagara)	Lindsay Bowman (GM BluePlan)	6/29/2017	E-mail	<ul style="list-style-type: none"> Provided recap of meeting with Richard Epp held at Regional Headquarters Discussed analysis of Volume 4 in great detail to provide a good system understanding 	<ul style="list-style-type: none"> Resident may provide formal written comments to MOECC regarding the 1982 OMB decision in that the Lagoon should be decommissioned 	Complete
10	Kelly M. Walsh (Town of Fort Erie)	Phill Lambert (Regional Municipality of Niagara)	7/6/2017	E-mail	<ul style="list-style-type: none"> Would like clarification on two items: The need for Region to provide a new main on Gilmore from Petit to Concession The security of supply to Ridgeway/Crystal Beach Provided attachment which includes a suggested alternative for the new main 	<ul style="list-style-type: none"> Detailed review was completed based on Fort Erie submission by GM BluePlan and Regional Staff Response memo provided to Town of Fort Erie No further action required 	Complete
11	Suzanne McInnes (Niagara Peninsula Conservation Authority)	Phill Lambert (Regional Municipality of Niagara)	7/7/2017	E-mail	<ul style="list-style-type: none"> NPCA comments are focused on the proposed inlet channel upgrades at the Decew Water Treatment Plant scheduled for 2017-2021 Would like more information about channel upgrades because it may require some work for NPCA to update modelling for the intake protection zone within the work plan Provided link to a workshop held in June regarding the Source Protection Plan work plan 	<ul style="list-style-type: none"> Regional W&WW staff met with NPCA staff to review 	Complete
12	Nicole Coffey (Regional Municipality of Niagara)	Tikvah Mindorff (Niagara Sustainability Initiative)	7/6/2017	E-mail	<ul style="list-style-type: none"> Attached letter from Ron Tripp that includes commentary and response to Niagara 2041- How We Grow, How We Flow, and How We Go Copy was shared with Regional Council through email distribution 	<ul style="list-style-type: none"> Phill forwarded email to GM BluePlan No further action required 	Complete
13	[Redacted] (Resident)	Phill Lambert (Regional Municipality of Niagara)	7/10/2017	E-mail	<ul style="list-style-type: none"> Expressed concerns for the omission of the Sewage Lagoon closure Requested response promptly to clarify omission 	<ul style="list-style-type: none"> Phill forwarded email to GM BluePlan Phill responded to concerned resident with further context of the Study on June 26, 2017 	Complete
14	[Redacted] (Resident)	Phill Lambert (Regional Municipality of Niagara)	7/17/2017	E-mail	<ul style="list-style-type: none"> Provided context on the area of Provincially Significant Wetlands (PSWs) noted within the Niagara MSP Request that revisions be made to reflect PSW's in Figure 2.16 of the MSP 	<ul style="list-style-type: none"> Phill responded to email - Figure 2.16 was intended to provide an approximate location of potential future development in the Urban Area Boundary Natural existing conditions are listed within Section 9 of the report Provided opportunity to continue conversation 	Complete
15	Tammy Cheyne (Regional Municipality of Niagara)	Phill Lambert (Regional Municipality of Niagara)	7/17/2017	E-mail	<ul style="list-style-type: none"> [Redacted] (Resident) provided written letter expressing concerns for the omission of the Sewage Lagoon closure [Redacted] (Resident) attached a Health and Safety letter with newspaper articles and additional information for Stevensville/Douglastown Lagoons 	<ul style="list-style-type: none"> Phill responded to concerned resident with further context of the W&WW MSP Study which focused on accommodating growth to 2041 on June 26, 2017 Lagoon is operating in accordance with MOECC ECA 	Complete
16	Phill Lambert (Regional Municipality of Niagara)	Lindsay Bowman (GM BluePlan)	7/26/2017	E-mail	<ul style="list-style-type: none"> Would like clarification for Stevensville Lagoon's rated capacity values (Regional vs. ECA data) 	<ul style="list-style-type: none"> Rated capacity will be revised based on MOECC ECA values No further action required 	Complete
17	Garry Hunter (Hunter and Associates)	Phill Lambert (Regional Municipality of Niagara)	7/31/2017	E-mail	<ul style="list-style-type: none"> Would like information on determination of the capacity of the Kalar Pumping Station in the City of Niagara Falls Enclosed previous hydrographs of Wet Well Water Levels and Dry Weather Flows prepared from pumping station data supplied by the Region 	<ul style="list-style-type: none"> Phill responded following consultation with GM BluePlan Provided additional context and references to areas of the report in which the capacity was calculated 	Complete
18	[Redacted] (Resident)	Phill Lambert (Regional Municipality of Niagara)	8/1/2017	E-mail	<ul style="list-style-type: none"> To consider green infrastructure and reductions before overloaded stormwater systems Advocate for conservation and restoration of Niagara's natural lands 	<ul style="list-style-type: none"> Phill forwarded email to GM BluePlan 	Complete
19	Garry Hunter (Hunter and Associates)	Phill Lambert (Regional Municipality of Niagara)	8/3/2017	E-mail/Phone	<ul style="list-style-type: none"> Provided summary and follow-up to previous phone conversation Enclosed prior explanatory letter to Region for the Hydrographs Believes the Kalar Road SPS Projected Peak Weather Flows by Catchment are significantly underestimated based on existing conditions and monitoring history 	<ul style="list-style-type: none"> Phone conversation with Mr. Hunter took place Phill discussed content with GM BluePlan 	Complete
20	Phill Lambert (Regional Municipality of Niagara)	Lindsay Bowman (GM BluePlan)	8/15/2017	E-mail	<ul style="list-style-type: none"> Reviewed Secondary Plan in Niagara Falls for Grassy Brook SPS and Volume 4 MSP Area was flagged for SPS capacity and FM upgrades, but projects were not carried forward To revise for final version of MSP 	<ul style="list-style-type: none"> Would like verification on Grassy Brook Sewage Pumping Station ownership Information forwarded to Greg Epp (Regional Municipality of Niagara) 	Complete
21	Greg Epp (Regional Municipality of Niagara)	Phill Lambert (Regional Municipality of Niagara)	8/15/2017	E-mail	<ul style="list-style-type: none"> Confirmed that Niagara Region has ownership of Grassy Brook Sewage Pumping Station To include new information within the final Master Servicing Plan document 	<ul style="list-style-type: none"> Region provided information to GM BluePlan GM BluePlan suggested decommissioning the station and convey flows via gravity to the new South Niagara Falls Wastewater Treatment Plant GM BluePlan updated MSP Volume 4 respective text, figures, and project sheet for further clarification 	Complete

Danielle MacKinnon - GM BluePlan

From: Chris Campbell - GM BluePlan
Sent: Wednesday, June 07, 2017 10:33 AM
To: Danielle Anders - GM BluePlan
Cc: Chris Hamel - GM BluePlan; Lindsay Bowman - GM BluePlan
Subject: FW: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply
Attachments: June 6 2017 RMON re Fenwick Water Wastewater Master Plan.pdf

Hi Danielle

Please file with 45 day comments.

Thanks
Chris

Chris Campbell, MTP, MCIP, RPP, MRTPI
Infrastructure Planning, Partner

GM BluePlan Engineering Limited
Royal Centre | 3300 Highway No. 7, Suite 402 | Vaughan ON L4K 4M3
t: 416.703.0667 | c: 289.388.7499
chris.campbell@gmblueplan.ca | www.gmblueplan.ca



From: Lambert, Phill [mailto:Phill.Lambert@niagararegion.ca]
Sent: Wednesday, June 07, 2017 10:29 AM
To: Chris Campbell - GM BluePlan <chris.campbell@gmblueplan.ca>
Subject: FW: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply

FYI – I discussed this briefly with Lindsay and our approach will be to receive this feedback and include it in the 45 day review period comments. During the review period, we can further investigate this and provide an additional response.

From: Lambert, Phill
Sent: Wednesday, June 07, 2017 10:26 AM
To: Andrea Clemencio <AClemencio@pelham.ca>; Devos, Natasha <Natasha.Devos@niagararegion.ca>; MayorDave <MayorDave@pelham.ca>; Tripp, Ron <Ron.Tripp@niagararegion.ca>; Janas, Mike <mike.janas@niagararegion.ca>; Tonellato, Joseph <Joseph.Tonellato@niagararegion.ca>
Cc: 'chris.hamel@gmblueplan.ca' <chris.hamel@gmblueplan.ca>; Julien Bell - GM BluePlan <julien.bell@gmblueplan.ca>; Lindsay Bowman - GM BluePlan (Lindsay.Bowman@gmblueplan.ca) <Lindsay.Bowman@gmblueplan.ca>
Subject: RE: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply

Hello Andrea

Thank you for forwarding this to my attention.

I have provided this to GM BluePlan Engineering Consultants for the W&WW MSP.

We appreciate your feedback and will be including these comments in the 45 day review period for the W&WW MSP. During this review period, we will be further investigating options such as the ones you have suggested below for the security of supply concerns for Fenwick.

Thanks again for your continued support and collaboration during this W&WW MSP process.

Regards

Phill Lambert, P. Eng.

Associate Director, Infrastructure Planning & Development Engineering
Planning and Development Services

Niagara Region

Phone: 905-685-4225 ext. 3627 Toll-free: 1-800-263-7215

www.niagararegion.ca

From: Andrea Clemencio [<mailto:AClemencio@pelham.ca>]

Sent: Tuesday, June 06, 2017 3:12 PM

To: Lambert, Phill <Phill.Lambert@niagararegion.ca>

Subject: FW: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply

Importance: High

Hi Phil,

Please know that Council would like to see if other capital solutions for security concerns can be considered. As an example, if an additional main or twinned main can serve as a return, rather than a feed, to integrate and loop Fenwick into the system as a whole, rather than at the end of the feeder main. Was this considered?

Thanks,

Andrea



Andrea Clemencio, P.Eng
Director
Public Works

e: aclemencio@pelham.ca
p: 905.892.2607 x313
pelham.ca

20 Pelham Town Square
P.O. Box 400
Fonthill, ON L0S 1E0

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From: Nancy Bozzato
Sent: Tuesday, June 06, 2017 10:29 AM
To: 'Devos, Natasha'
Cc: MayorDave; Andrea Clemencio
Subject: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply
Importance: High


Dear Ms. Devos;

Attached please find correspondence from the Town of Pelham relating to the Fenwick Supply – Regional Water/Wastewater Master Plan which includes a report considered by Pelham Council June 5th. Pelham Council reviewed this together with the 2016 Water and Wastewater Regional Master Servicing Plan Update information.

Please take the steps necessary to ensure that Regional Council is aware of this correspondence at the earliest opportunity.

Your anticipated assistance is most appreciated.

Best regards,
Nancy Bozzato

 <p>Pelham NIAGARA</p> <p><i>Vibrant · Creative · Caring</i></p>	<p>Nancy Bozzato, Dipl.M.M. <i>Town Clerk</i> Administration Services</p>	<p>e: njbozzato@pelham.ca p: 905.892.2607 x315 pelham.ca</p>	<p>20 Pelham Town Square P.O. Box 400 Fonthill, ON L0S 1E0</p>
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June 6, 2017

Natasha Devos, Acting Regional Clerk
Niagara Region
1815 Sir Isaac Brock Way
PO Box 1042
Thorold, ON L2V 4T7

Dear Ms. Devos,

Regional Water / Wastewater Master Plan: Fenwick Supply

At their regular meeting of June 5th, 2017, the Council of the Town of Pelham endorsed the following resolution:

BE IT RESOLVED that Council receive the Public Works report 'Regional Water/Wastewater Master Plan: Fenwick Supply' for information; and

THAT Council request the Region of Niagara re-consider capital projects to increase the Fenwick drinking water supply security, and incorporate these projects into the Water/Wastewater Master Servicing Plan.

On behalf of Council, thank you for your correspondence.

Yours very truly,

A handwritten signature in blue ink, appearing to read "Nancy J. Bozzato".

(Mrs.) Nancy J. Bozzato, *Dipl.M.M., AMCT*
Town Clerk

/js

Cc: Andrea Clemencio, Director of Public Works & Utilities, Town of Pelham

From the Clerk's Department

The logo for Administrative Services is a circular emblem with overlapping segments in orange, green, and purple, identical to the Pelham Niagara logo.

**Administrative
Services**

Concept: How Might We Increase Drinking Water Supply Security in Fenwick?

Background:

Under the umbrella “Niagara 2041” (How we Grow, Flow, and Go), the Niagara Region is proactively planning to facilitate the anticipated growth for a total of 610,000 people and 265,000 employments/jobs by 2041 in the Niagara Region in conformance with the Provincial Places To Grow.

The 2016 Water and Wastewater Master Serving Plan Update (How we Flow) is intended to evaluate the ability of existing and planned water and wastewater infrastructure to efficiently and effectively service the Region’s existing users, service anticipated growth, and to evaluate and develop recommended strategies.

During the consultation process for the Master Servicing Plan, and earlier, the Town communicated concerns to the Region, related to the existing single trunk feed of drinking water to Fenwick. One watermain supplies all of Fenwick, which is an area experiencing significant growth. Relying on a single source supply of drinking water to a community increases risk, and risk management is a core element in drinking water quality management in Ontario. The drinking water quality management standard requires that hazards be identified, associated risk be identified, and redundancy be considered. Since there is no redundancy in the Fenwick water supply, this is currently identified as a risk in the Town’s ongoing water risk assessment.

The drinking water distribution system is considered the ‘final physical barrier’ in the Ministry of the Environment’s ‘multi-barrier approach’ to safe drinking water. After treated water leaves the treatment plant, its quality must be maintained throughout the distribution system. The Town’s drinking water quality management system acknowledges this hazard related to system’s ability to provide that final physical barrier.

Some potential solutions discussed in the past that may minimize the security risk in the supply to Fenwick is the twinning the existing main along Canboro Road, or construction of a trunk main along Welland Road.

This security risk was communicated to the Region, and acknowledged during the consultation process (see attachment ‘D’ , an excerpt from Servicing Review workshop, October 2016). Security risks related

to single trunk feeds in the other four water treatment plant systems, Decew, Grimsby, Fort Erie (Rosehill) and Port Colborne, were also identified in the consultation process.

A report was presented May 30 2017 to The Region of Niagara Public Works Committee which included the Water and Wastewater Master Servicing Plan - Executive Summary, the Public Works Committee report and the Presentation for the Regional Public Works Committee, all of which were approved (see attached A, B, C). This will go to Regional Council June 8 2017.

The presented summary includes capital plans for all areas, in water and wastewater projects, including several Pelham water and wastewater projects related to capacity. **The executive summary and presentation do not include any plans for addressing the supply security risk in Fenwick.** It is not certain at this time if any of the proposed trunk main capital projects proposed in other systems are based on supply security risks.

The full plan will be placed on the public record for review in accordance with the Municipal Engineers Association Class Environment Assessment (EA) process for Master Plans, between June 15 and July 30 2017. During that time, the following locations were being considered for having hard copies available for review at the municipal offices:

- Region Offices (Thorold)
- St. Catharines (NOTL)
- Niagara Falls
- Town of Grimsby (West Lincoln, Lincoln)
- Pelham (Welland)
- Port Colborne (Fort Erie, Wainfleet)

It will also be available on-line. **Pelham Public Works staff will be reviewing the Pelham copy in detail, once provided.**

According to Regional staff, the water strategy to support Fenwick was reviewed in great detail along with supporting growth in Fonthill. Several alternatives were reviewed and the preferred alternative consists of a combination of optimization of pumping and storage upgrades. It is not clear at this time if these upgrades and optimization plans include any plans for the Fenwick supply.

Regional staff also noted that the Town will be provided with the details regarding the water servicing strategy and alternatives review for Fenwick. They noted that staff are working on the final report appendices for the W&WW MSP and should be able to provide more information in the coming weeks.

The Challenge:

How might we increase drinking water supply security in Fenwick?

How might we ensure supply risks in Fenwick are addressed in the Region's Water/Wastewater Master Plan?

Our Recommended Solution:

BE IT RESOLVED that Council receive the Public Works report 'Regional Water/Wastewater Master Plan: Fenwick Supply' for information,

AND THAT Council request the Region of Niagara re-consider capital projects to increase the Fenwick drinking water supply security, and incorporate these projects into the Water/Wastewater Master Servicing Plan.

Rationale:

Including capital projects that can reduce the security risk aligns with the Town's Drinking Water Quality Management System Policy. Inclusion of these capital projects in the Region's Master Water/Wastewater Servicing Plan can help ensure funding is planned for and sufficiently provided in the future for these projects.

Measure of Success:

Reduction of security risk in the drinking water supply to Fenwick

Milestones:

Inclusion of capital projects in the Master Plan to address the supply risk, approval of the Master Plan, budgetary approvals for capital projects, and completion of construction of capital projects.

Danielle MacKinnon - GM BluePlan

From: MayorDave <MayorDave@pelham.ca>
Sent: Wednesday, June 07, 2017 4:58 PM
To: Lambert, Phill; Andrea Clemencio; Devos, Natasha; Tripp, Ron; Janas, Mike; Tonellato, Joseph
Cc: Chris Hamel - GM BluePlan; Julien Bell - GM BluePlan; Lindsay Bowman - GM BluePlan
Subject: RE: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply

Thanks, Mr. Lambert, for copying me on this email.

As you may recall, we currently have been collecting for this project: page 80 shows that the "security of supply" project is currently in the Region's (2012) bylaw – at \$8M.

<http://www.niagararegion.ca/business/property/pdf/2012-background-study.pdf>

I believe we should continue with the project.

I will be asking about this at Council tomorrow.

Thanks,

D



Dave Augustyn
Mayor
Town Council

e: mayordave@pelham.ca
p: 905.892.2607 x317
pelham.ca

20 Pelham Town Square
P.O. Box 400
Fonthill, ON L0S 1E0

Mayor Dave Augustyn

"Working with you to make Pelham a vibrant, creative, and caring community in Niagara."

Town of Pelham

[20 Pelham Town Square](#)

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[905-892-2607 x 317](#)

fax [905-892-5055](#)

mayordave@pelham.ca

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www.facebook.com/mayordaveaugustyn

www.twitter.com/mayordavepelham

Online Column: www.pelhammayordave.blogspot.com

*** Thanks www.MyPelham.com for posting my columns at: <http://www.mypelham.com/mayor-daves-weekly-column>

*** Thanks www.ErieMedia.ca for also posting my columns at:

<http://eriemedia.ca/category/government/themayorsreport/mayordaveaugustyn/>

From: Lambert, Phill [mailto:Phill.Lambert@niagararegion.ca]

Sent: Wednesday, June 07, 2017 10:26 AM

To: Andrea Clemencio <AClemencio@pelham.ca>; Devos, Natasha <Natasha.Devos@niagararegion.ca>; MayorDave <MayorDave@pelham.ca>; Tripp, Ron <Ron.Tripp@niagararegion.ca>; Janas, Mike <mike.janas@niagararegion.ca>; Tonellato, Joseph <Joseph.Tonellato@niagararegion.ca>

Cc: 'chris.hamel@gmblueplan.ca' <chris.hamel@gmblueplan.ca>; Julien Bell - GM BluePlan

<julien.bell@gmblueplan.ca>; Lindsay Bowman - GM BluePlan (Lindsay.Bowman@gmblueplan.ca)

<Lindsay.Bowman@gmblueplan.ca>

Subject: RE: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply

Hello Andrea

Thank you for forwarding this to my attention.

I have provided this to GM BluePlan Engineering Consultants for the W&WW MSP.

We appreciate your feedback and will be including these comments in the 45 day review period for the W&WW MSP. During this review period, we will be further investigating options such as the ones you have suggested below for the security of supply concerns for Fenwick.

Thanks again for your continued support and collaboration during this W&WW MSP process.

Regards

Phill Lambert, P. Eng.

Associate Director, Infrastructure Planning & Development Engineering
Planning and Development Services

Niagara Region

Phone: 905-685-4225 ext. 3627 Toll-free: 1-800-263-7215

www.niagararegion.ca

From: Andrea Clemencio [<mailto:AClemencio@pelham.ca>]

Sent: Tuesday, June 06, 2017 3:12 PM

To: Lambert, Phill <Phill.Lambert@niagararegion.ca>

Subject: FW: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply

Importance: High

Hi Phil,

Please know that Council would like to see if other capital solutions for security concerns can be considered. As an example, if an additional main or twinned main can serve as a return, rather than a feed, to integrate and loop Fenwick into the system as a whole, rather than at the end of the feeder main. Was this considered?

Thanks,

Andrea

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From: Nancy Bozzato
Sent: Tuesday, June 06, 2017 10:29 AM
To: 'Devos, Natasha'
Cc: MayorDave; Andrea Clemencio
Subject: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply
Importance: High

Dear Ms. Devos;

Attached please find correspondence from the Town of Pelham relating to the Fenwick Supply – Regional Water/Wastewater Master Plan which includes a report considered by Pelham Council June 5th. Pelham Council reviewed this together with the 2016 Water and Wastewater Regional Master Servicing Plan Update information.

Please take the steps necessary to ensure that Regional Council is aware of this correspondence at the earliest opportunity.

Your anticipated assistance is most appreciated.

Best regards,
Nancy Bozzato

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Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Thursday, June 08, 2017 12:13 PM
To: Lindsay Bowman - GM BluePlan; Chris Campbell - GM BluePlan; Chris Hamel - GM BluePlan; Julien Bell - GM BluePlan
Subject: Comments to be included in the 45 day review period
Attachments: Niagara 2041_letter_Final.pdf; ATT00001.htm

Hi

Please keep this for our records for the 45 day review period.

Thanks

Phill

From: Tripp, Ron
Sent: Thursday, June 08, 2017 12:11 PM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Subject: Fwd: PPT for this evening

Sent from my iPhone

Begin forwarded message:

From: "Powell, Charlotte" <charlotte.powell@niagararegion.ca>
Date: June 8, 2017 at 10:26:57 AM EDT
To: "Tripp, Ron" <Ron.Tripp@niagararegion.ca>
Cc: "Coffer, Nicole" <nicole.coffer@niagararegion.ca>
Subject: **FW: PPT for this evening**

Good Morning,

Please see the attached. Please advise Ann-Marie and/or Natasha if this is something that should be placed on the Council Agenda, as well as the recommended action (please see Natasha's notes below).

Thank you.

Charlotte Powell, BA
Council Support Assistant
The Office of the Regional Clerk
Niagara Region
Phone: 905-980-6000 ext. 3221 Toll-free: 1-800-263-7215
www.niagararegion.ca

From: Devos, Natasha
Sent: June 7, 2017 4:37 PM
To: Powell, Charlotte
Cc: Norio, Ann-Marie
Subject: FW: PPT for this evening

Please log

Flag with Ron

Confirm this should be placed on the Council agenda. Recommended Action: Refer to consideration of PWC?

Natasha

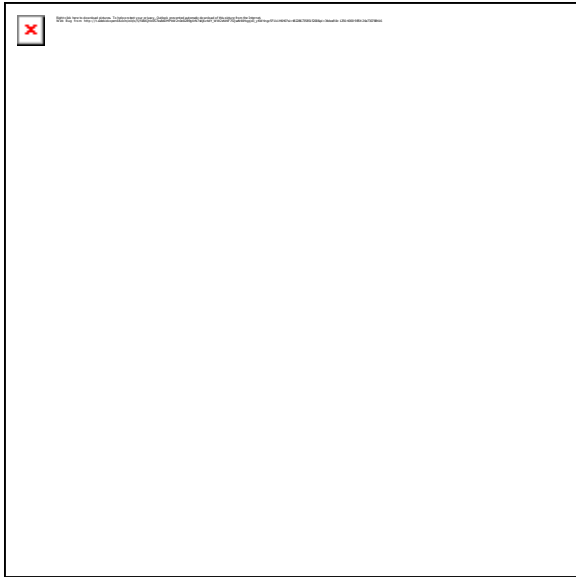
Natasha L. Devos, BA, CMM II
Acting Regional Clerk
Office of the Regional Clerk
Niagara Region
1815 Sir Isaac Brock Way, P.O. Box 1042
Thorold, ON L2V 4T7
Phone: 905-980-6000 ext. 3296
www.niagararegion.ca

From: Tikvah Mindorff [<mailto:tikvah@niagarasustainability.org>]
Sent: Wednesday, June 7, 2017 4:33 PM
To: Devos, Natasha <Natasha.Devos@niagararegion.ca>
Cc: Emily Keene <emily.keene@gmail.com>; Jennifer McKenna <jmckenna@theviolingroup.com>; Laura Dunkley <laura@lauradunkley.com>; Michael Sullivan <sullivanplan@gmail.com>; Neil Freeman <neilbfreeman@outlook.com>; Randy Taylor <randy.taylor@investorsgroup.com>; Robert MacKenzie <rmack@quartekgroup.com>
Subject: Re: PPT for this evening

Hi Natasha,

Please accept the following formal letter on behalf of the board of directors of Niagara Sustainability Initiative regarding tomorrow's agenda item 12.1.

Thank you,
Tikvah



Tikvah Mindorff | Executive Director | 289 786 0970 | niagarasustainability.org |
Niagara Sustainability Initiative | 1 St. Paul Street, Suite 14 | St. Catharines, ON | L2R 3M3 |



Add me to your address book ([Google](#) | [Vcard](#)). Beat the back and forth by scheduling with me online [here](#).

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On Thu, Jun 9, 2016 at 10:05 AM, Tikvah Mindorff <tikvah@niagarasustainability.org> wrote:

Hi Natasha,

I apologize for this coming a bit late. This is the presentation I intend to show this afternoon.

Best,
Tikvah

Tikvah Mindorff | Executive Director | [289 696 5631](tel:2896965631) | niagarasustainability.org |
Niagara Sustainability Initiative | 89-91 St. Paul Street, Suite 301 | St. Catharines, ON | L2R 3M3 |

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Ms. Natasha Devos
Acting Regional Clerk
Office of the Regional Clerk
Niagara Region
1815 Sir Issac Brock Way
P.O. Box 1042
Thorold, ON L2V 4T7

June 7, 2017

RE: Comments on Niagara 2041

To: Members of the Public Works Committee, Niagara Regional Chair Alan Caslin, Members of Niagara Regional Council:

Niagara Sustainability Initiative (NSI) welcomes the opportunity to comment on Niagara 2041. NSI is the go to organization for sustainability in the Niagara region. Our mandate is to advance sustainability measures, both at the corporate and community levels. To do this, we offer some comments towards improving the planning framework for Niagara 2041 “How We Grow, How We Flow and How We Go”.

Our comments and recommendations are outlined below.

How We Grow – Municipal Comprehensive Review

1. **Population Growth Forecast:** The population growth forecasts used as the basis for Niagara 2041 show an increase of 154,000 (1.35%) over the next 25 years. This anticipates a higher growth rate than has been experienced in the last 25 years. For example, Phase 1 and 2 key findings from the Municipal Comprehensive Review (MCR) indicate that Niagara is not growing at the projected rate¹, which manifests itself as a decline in the young adult population, but remaining attractive to people over 60².

We would appreciate some clarity on the rationale for using a higher than historical rate of population growth.

2. **Reconsideration of Settlement Area Boundaries:** Urban density should be increased before any boundaries are considered for expansion. The recently released Growth Plan for the Greater Golden Horseshoe (2017) prohibits the establishment of new settlement areas. Where existing Settlement Area Boundaries are being considered for realignment, this should only occur where prime agricultural lands, significant wetlands, and tender fruit land (Unique Agricultural Lands) are protected. Opportunities for greenfield development should be minimized and intensification should be focused on existing designated urban areas.

¹ <https://www.niagararegion.ca/2041/municipal-comprehensive-review/phase1-2.aspx>

² <https://www.niagararegion.ca/2041/pdf/mcr-pic1-summary.pdf>



Overall, designated urban areas need to provide strong, defensible rationale where expansions are considered. With recently released Provincial policy reinforcing the need for intensification through redevelopment, the need for urban boundary area reconsideration seems limited, at best.

How We Go – Transportation Master Plan

1. Active Transportation: NSI encourages the promotion of active transportation (hiking, bicycling, walking) and healthy communities (complete communities which focus on non-vehicular activities) at the community level. Permitting new development on greenfield lands is contrary to the principles of active transportation. This highlights the need for improved urban design especially within active land development applications.
2. Scalable Public Transit Service: Gaps in transit service, including routes and schedules needs to be improved. The use of Light Rapid Transit (dedicated bus lanes, trams, surface rail) should be seriously considered. This supports the concept of regional transit, which would attract talented workforce and protect agricultural lands.

Scale in public transit is important. Full sized buses may not be appropriate to serve mid and smaller sized communities in Niagara. Using more innovative services involving mini-buses, passenger vans, and even private ride services like Uber should be seriously considered. Using this scalable approach will lead to improved scheduling, a key factor in customer choice.

Linkages between urban areas need to be consistent and reliable in order to minimize travel times, and improve efficiency at transfer points.

3. NGTA/Mid-Peninsula Highway: The provincial Growth Plan for the Greater Golden Horseshoe notes that balanced transportation options should be promoted to reduce car reliance. Promotion of the NGTA highway/mid-peninsula highway would seem to be inconsistent with the Growth Plan policies.

The Growth Plan also states that public transit planning should be a top priority for transportation infrastructure planning and major investments. We recognize these policies are focused on designated urban areas. However, the environmental impacts and loss of prime agricultural lands likely outweigh the benefits from NGTA Highway, especially when the alignment directly affects agricultural lands and sensitive natural features.

Planning for the NGTA Highway seems contrary to the principles of sustainable transportation. However, we recognize the planning of the NGTA is intended to help relieve congestion due to increased demand on the Queen Elizabeth Way. While this could offer greater opportunity for more efficient rates of travel, the Regional Government must seriously weight improved traffic flow against the loss of agricultural lands, loss of wooded area (carbon reduction feature) and potential for increased growth opportunities in the urban areas serviced.



We suggest that the Region place an emphasis on determining alternative opportunities to promote more sustainable transportation options.

4. Travel Demand Management (TDM): This is a good initiative and the key recommendations outlined are in-line with NSI's values and initiatives.

NSI recognizes that personal vehicles will continue to be widely used for some time to come. We, however, believe that their use should be considered less in the planning of major highway infrastructure that may not be built for at least 20 years. Greater effort should be placed on developing innovative and scalable forms of public transit that will be less costly to implement, require lower operating budgets and result in acceptable servicing levels for their regional customer base.

How We Flow – Water and Wastewater Master Servicing Plan

1. Combined Water and Wastewater Infrastructure: The continued use of infrastructure in combination carries increased risk of flooding and sewer overflows. The cost associated with managing sewage overflow is not financially sustainable and allows for effluent to flow directly into Lake Ontario. This results in unexpected impacts, increasing the cost and effort when incidents occur.
2. Managed Sewage Overflows: NSI believes that in addition to managing sewage overflow related to projected increased flooding and water levels associated with climate change, plans should also be in place to manage all water-related impacts in the Niagara Region. These include more frequent and intensive thunderstorms, higher and more frequent spring flooding, and road/pipe failure resulting from conveying sewage flows that are beyond their design flows, including safety factors.

The focus of “How We Flow” should include more than just the two components of water and wastewater and should include all water, wastewater, and storm water concerns within the Region. Water and waste water infrastructure is being replaced based on outdated and ineffective design standards, which do not reflect today's more extreme climatic conditions. The results: local flooding, road failure, and sewage backups, are reported with increasing regularity by the media. It is time that the Region recognizes this increased risk and takes action to ensure that our communities are safe for their citizens.

General Public Consultation

1. Project Documentation: Project reports and documentation are not easily accessible and it is difficult to find complete information on many components of Niagara 2041 (How We Grow, How We Go, and How We Flow).

All publicly-available information including plans, reports, and summaries needs to be readily available on the project website. Some PIC summaries are missing appendices that are listed throughout the report and not all information is available on the website. This makes it difficult to provide thorough comments on certain aspects of the project.



2. Consistency of Public Information: Information on display boards and summaries presented at Project Information Centres is inconsistent. (e.g., population growth forecasts have been noted as 154,000 and 168,000). This inconsistency causes confusion which could result in loss of trust.

This is particularly relevant when background information used for growth projections is not provided.

NSI understands the Region has followed a very aggressive timeline with this important initiative, involving three (3) significant reports. This approach makes the dissemination and public access to valid and consistent information even more important. The lack of reliable information, for whatever reason, results in a negative public perception of this entire undertaking. Those members of the public willing to commit the time and energy to commenting on the Region's information, as presented, will likely get discouraged based on the lack of consistency and availability.

Closing

The NSI Board and staff are grateful for this opportunity to comment on Niagara 2041. We trust our comments are constructive and will be taken in the positive light by which they were offered. After all, we all seek a stronger, better, more sustainable Niagara Region in the future, which can be handed to future generations with confidence and pride.

We welcome the opportunity to discuss these comments further. Please contact the undersigned to determine how and when to meet.

Sincerely,



Tikvah Mindorff, Executive Director, on behalf of the NSI Board of Directors
Niagara Sustainability Initiative

tikvah@niagarasustainability.org
289 786 0970
1 St. Paul St., Suite 14
St. Catharines, ON
L2R 7L2



Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Monday, June 12, 2017 12:47 PM
To: Chris Hamel - GM BluePlan; Julien Bell - GM BluePlan
Cc: Lindsay Bowman - GM BluePlan; Tripp, Ron; Janas, Mike
Subject: Further Response to the security of supply Fenwick
Attachments: FW: Action Required: Regional Water/Wastewater master Plan: Fenwick Supply

Hi

At Regional Council on June 8, Mayor Dave from Pelham spoke about the Town's concerns of security of supply to Fenwick.

If you really want to see this it starts at 3:34 and goes to 3:38.

<https://www.youtube.com/embed/J7xYbaVmiNg?rel=0&autoplay=1>

Town of Pelham wants an elevated tank or another water line to reduce/eliminate the security of supply concerns. The Mayor spoke to concerns over a possible break in the existing water line and leaving Fenwick without water.

He referenced the existing 2012 DC by-law and pointed out that it was listed as an \$8 Million project to be funded 50% by DCs and that we've been collecting this entire time. He points out that 5 years ago it was a good idea, and that it needs to be included in the new DC by-law.

Ron explained that it wasn't required by growth and that water quality would be an issue, but Ron committed to reviewing this and doing further analysis.

Mayor Dave and Pelham Council believes this should be in the new DC bylaw.

Further to the correspondence that we received last week from Pelham, we would like to have a fulsome response to the Town of Pelham on this topic during the 45 day review period.

Thanks

Phill

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Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Monday, June 26, 2017 9:49 AM
To: Lindsay Bowman - GM BluePlan
Subject: FW: City of Thorold - Correspondence Received- W&WW MSP correspondence
Attachments: Region - Planning and Development - Water Wastewater Master Servicing.pdf

[For the records](#)

From: Carmela Dipardo [mailto:clksten2@thorold.com]
Sent: Friday, June 23, 2017 2:48 PM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Subject: City of Thorold - Correspondence Received

Please be guided by the attached letter.

Carmela
City of Thorold
Legislative Assistant
Clerk's Department
905-227-6613, ext. 224

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June 22, 2017

The Regional Municipality of Niagara
Planning and Development Services
1815 Sir Isaac Brock Way, P.O. Box 1042
Thorold, ON L2V 4T7

Phill.Lambert@niagararegion.ca

Attention: Phill Lambert, Associate Director, Infrastructure Planning & Development
Engineering Planning & Development Services

Dear Mr. Lambert:

Re: 2016 Water and Wastewater Master Servicing Plan Update

Please be advised Thorold City Council, at its June 20, 2017 meeting, received for information your correspondence regarding the above-noted subject.

Yours truly,

Donna Delvecchio
City Clerk

DD:cd

cc: M. Dilwaria, Director of Development and Engineering Services/Acting Chief Administrative Officer
S. Dunsmore, Engineering Manager
J. Colasurdo, Water/Wastewater Compliance Supervisor

City of Thorold

P.O. Box 1044, 3540 Schmon Parkway, Thorold, Ontario L2V 4A7

www.thorold.com

Tel: 905-227-6613

Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Monday, June 26, 2017 2:28 PM
To: Lindsay Bowman - GM BluePlan
Subject: FW: Water & Wastewater Master Servicing Plan - Niagara Region
Attachments: RE: Online Form - Enquiry from Region website

Hi

Please include this in the communications section for Vol 5.

Thanks

Phill

From: Lambert, Phill
Sent: Monday, June 26, 2017 2:26 PM
To: [REDACTED]@aol.com; w gates-qp@ndp.on.ca
Subject: RE: Water & Wastewater Master Servicing Plan - Niagara Region

Good Afternoon,

Thank you for your email and interest about the Stevensville/Douglastown Lagoons. Further to the previous email to you from September 2016 (attached), we have now completed the Niagara Region Water & Wastewater (W&WW) Master Servicing Plan (MSP) study to develop a long-term servicing strategy for Niagara Region's water and wastewater systems in coordination with the Niagara 2041 Growth Strategy. The study has followed the Municipal Engineers Association Municipal Class Environmental (Class EA) Master Plan process, and Phases 1 and 2 of the Class EA process have been completed. The purpose of this Study was to address the Region's water and wastewater servicing needs to the year 2041 while incorporating post 2041 visioning.

The W&WW MSP includes the Stevensville/Douglastown Lagoons and a brief summary of this findings are provided below:

- The treatment plant will have sufficient capacity to support growth to 2041.
- The Stevensville Sewage Pumping Station will require additional capacity.
- Wet weather management is recommended for the system.

Additional information can be found at:

<https://www.niagararegion.ca/2041/master-servicing-plan/default.aspx>

Specifically, Volume 4 – Part G Stevensville-Douglastown Wastewater System, has additional details.

Furthermore, the Stevensville & Douglastown Lagoons are being operated in accordance with the Environmental Certificate of Approval issued by the Ministry of Environment and Climate Change.

Regards,

Phill Lambert, P. Eng.

Associate Director, Infrastructure Planning & Development Engineering
Planning and Development Services
Niagara Region
Phone: 905-685-4225 ext. 3627 Toll-free: 1-800-263-7215
www.niagararegion.ca

From: [REDACTED]@aol.com [REDACTED]@aol.com]

Sent: Thursday, June 22, 2017 10:58 PM

To: wgates-gp@ndp.on.ca

Cc: Lambert, Phill <Phill.Lambert@niagararegion.ca>

Subject:

Dear Mr Lambert, June 22 The Post has a comment section about a 2041 completion of planning projects by Region. I have attended most if not all open houses , Port Colborne, Welland and Niagara Falls, have made my position very clear, when does Region intend to decommission the Cess pool (Sewage Lagoon) located within the borders of Niagara Falls , serving Stevensville and Douglastown/Black Creek. rated capacity 2,750 persons testimony given under oath at the O.M.B 1980. decommission date 2002, , the cess pool now serves over 5000 people more when the concerts are on at Safari Niagara ,,are you aware that when Don Tripp was Fort Erie engineer, that thousands of gallons of raw sewage were dumped into Black Creek and now the Niagara River accept thousands of gallons of semi raw sewage, the main and only source of drinking water for the City of Niagara Falls. So please tell me when this health danger is scheduled to be shut down.

[REDACTED]@aol.com
[REDACTED]@aol.com

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Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Thursday, August 04, 2016 4:10 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Online Form - Enquiry from Region website

Hello

Thanks for your enquiry. This has been forwarded to my attention from the Regional website and I can provide the following information:

The Stevensville & Douglastown Lagoons are being operated in accordance with the Environmental Certificate of Approval issued by the Ministry of Environment and Climate Change.

Additionally, we are currently conducting the Niagara Region Water & Wastewater (W&WW) Master Servicing Plan (MSP) study to develop a long-term servicing strategy for Niagara Region's water and wastewater systems in coordination with the Niagara 2041 Growth Strategy. The study will follow the Municipal Engineers Association Municipal Class Environmental (Class EA) Master Plan process, and Phases 1 and 2 of the Class EA process will be completed. The purpose of this Study is to address the Region's water and wastewater servicing needs to the year 2041 while incorporating post 2041 visioning.

Additional information on the Niagara Region Growth Strategy and servicing plans can be found at <https://www.niagararegion.ca/2041/> and the W&WW MSP is under the name "How we flow".

Regards,

Phill Lambert, P. Eng.

Associate Director, Infrastructure Planning & Development Engineering
Planning and Development Services
Niagara Region
Phone: 905-685-4225 ext. 3627 Toll-free: 1-800-263-7215
www.niagararegion.ca

From: Niagara Region Website [<mailto:webmaster@niagararegion.ca>]
Sent: Sunday, July 31, 2016 2:08 AM
To: pworks
Subject: Online Form - Enquiry from Region website

To reply, copy the email address from below and put into 'To'. (if resident entered their email address)

name:	[REDACTED]
phone:	[REDACTED]

email:	[REDACTED]
address:	[REDACTED]
municipality:	Fort Erie
other mun:	
comments:	The Stevensville cess pool was slated to be shut down 2002, sewage pumped down to Anger Road treatment plant, serving the Marina, allowing the Niagara Region to fulfill the promise made to OMB Judge A.J.Chapman 1980, you are in "contempt of Court" by not obeying the rulings.
reply:	yes

Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Monday, June 26, 2017 3:45 PM
To: Lindsay Bowman - GM BluePlan
Subject: FW: Master Plan for sewage
Attachments: sewage.doc

Hi

Please include this in Vol 5.

Thanks

Phill

From: Lambert, Phill
Sent: Monday, June 26, 2017 3:44 PM
To: [REDACTED]@hotmail.com>
Subject: RE: Master Plan for sewage

Good Afternoon,

Thank you for your email and interest about the Stevensville/Douglastown Lagoons. We have just recently completed the Niagara Region Water & Wastewater (W&WW) Master Servicing Plan (MSP) study to develop a long-term servicing strategy for Niagara Region's water and wastewater systems in coordination with the Niagara 2041 Growth Strategy. The study has followed the Municipal Engineers Association Municipal Class Environmental (Class EA) Master Plan process, and Phases 1 and 2 of the Class EA process have been completed. The purpose of this Study was to address the Region's water and wastewater servicing needs to the year 2041 while incorporating post 2041 visioning.

The W&WW MSP includes the Stevensville/Douglastown Lagoons and a brief summary of this findings are provided below:

- The treatment plant will have sufficient capacity to support growth to 2041.
- The Stevensville Sewage Pumping Station will require additional capacity.
- Wet weather management is recommended for the system.

In regards to your concerns about wet weather impacts to the wastewater system including potential overflows, a wet weather management strategy was developed during this W&WW MSP which focused on reducing negative impacts. Please note that wet weather management is recommended for the Stevensville/Douglastown system and the Region continues to partner with the Town of Fort Erie to mitigate these concerns.

Wet Weather Management Strategy

A significant element of the Niagara Region wastewater servicing strategy is the wet weather management program. The Niagara Region wastewater systems are a mix of separated and combined sewer systems. Each system experiences

varying levels of impact during wet weather conditions. Climate change continues to create changing weather conditions and the wastewater systems experience high peak flows under rainfall events in most cases. Providing infrastructure capacity for the peak flow events would require upgrades not only for local sewers, but also trunk sewers, pumping stations and ultimately the treatment plants. The infrastructure capacity approach can prove costly.

The wet weather management program has been developed to identify targeted amounts of inflow and infiltration reduction. The program is intended to deal with existing capacity constraints, and to provide for growth-related capacity without expanding/upgrading existing trunk infrastructure, or by minimizing the required expansion/upgrade.

The wet weather management program currently identifies overall preliminary priority, staging of location and target amount of inflow and infiltration reduction across all systems. This program provides for a proactive and targeted approach to addressing wet weather impacts.

Additional information can be found at:

<https://www.niagararegion.ca/2041/master-servicing-plan/default.aspx>

Specifically, Volume 4 – Part G Stevensville-Douglastown Wastewater System, has additional details.

Furthermore, the Stevensville & Douglastown Lagoons are being operated in accordance with the Environmental Certificate of Approval issued by the Ministry of Environment and Climate Change.

Regards,

Phill Lambert, P. Eng.

Associate Director, Infrastructure Planning & Development Engineering
Planning and Development Services

Niagara Region

Phone: 905-685-4225 ext. 3627 Toll-free: 1-800-263-7215

www.niagararegion.ca

From: [REDACTED] [mailto:\[REDACTED\]@hotmail.com](mailto:[REDACTED]@hotmail.com)

Sent: Monday, June 26, 2017 2:31 PM

To: Lambert, Phill <Phill.Lambert@niagararegion.ca>

Subject: Master Plan for sewage

Hello

Here is a response for your water and waste water master servicing plan. Re: Notice of Completion.

[REDACTED]

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prohibited. If you have received this communication in error, please re-send this communication to the sender and permanently delete the original and any copy of it from your computer system. Thank you.

[REDACTED]
[REDACTED]
Stevensville On
[REDACTED]
[REDACTED]

June 26, 2017

Water & Wastewater Master
Servicing Plan
Mr. Phill Lambert, P. Eng.
Associate Director
Infrastructure Planning and Engineering
1815 Sir Isaac Brock Way
P.O.Box 1042
Thorold ON L2V 4T7

Re: Stevensville Sewage Waste Lagoon

To: Mr. Phill Lambert

This letter is in response to your Water and Wastewater Servicing Plan. Your 2017 “Notice of Completion”, has failed to mention the de-commissioning of the Stevensville/Douglastown sewage waste lagoon, located in the City of Niagara Falls.

Since 1981, this system has serviced and continues to service industrial waste, light commercial waste, tourism waste, large musical venue waste, transfer/dumping of waste from other facilities and a triple population growth of residential waste. All overflows from the lagoon are then piped directly into the Niagara River.

This is the last temporary outgrown sewage waste lagoon that remains in the Niagara region.

Does this lagoon not meet the same criteria that forced the closure of Port Robinson and Niagara On The Lake.

Please respond by mail before July 5, 2017 as to your intent for decommissioning this sewage waste lagoon that was not included in your Master Plan.

Thank-You

[REDACTED]

Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Thursday, July 06, 2017 9:11 AM
To: K Walsh
Cc: Julien Bell - GM BluePlan; Chris Hamel - GM BluePlan; Lindsay Bowman - GM BluePlan; Janas, Mike; Tonellato, Joseph; Tripp, Ron
Subject: FW: Fort Erie Water Supply - Region WMSP - consideration for alternative water projects
Attachments: Region WWWMSP.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

Hi Kelly

Thanks for sending this to us. Via this email, I will ask GM Blue Plan to review what you have proposed on the attached drawing and provide comments. Once we have some feedback, we could meet to review the results.

Phill

From: Kelly Walsh [mailto:KWalsh@forterie.ca]
Sent: Wednesday, July 05, 2017 4:49 PM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Subject: Fort Erie Water Supply - Region WMSP

Phill:

As discussed last week, we would like clarification on two items:

1. The need for the Region to provide a new 450 mm main on Gilmore from Pettit to Concession. Is there an opportunity to connect the Region's existing 450 main at Pettit to the Town's 350/300 along Gilmore Road and obtain the same results?
2. The security of supply to Ridgeway/Crystal Beach. The current feed is the 400 Dominion Road main. Experience has shown that a disruption to this main causes significant and early pressure loss in this area. A new transmission main from Garrison/Gorham to Dominion/Gorham should alleviate this issue.

If each scenario works, the costs should be balanced.

Thanks for looking into this.

Kelly M. Walsh, P. Eng.

Director, Infrastructure Services

The Corporation of the Town of Fort Erie

1 Municipal Centre Drive | Fort Erie, ON | L2A 2S6

W: 905-871-1600 ext. 2400

Please consider the environment before printing this email

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Region Trunk Distribution

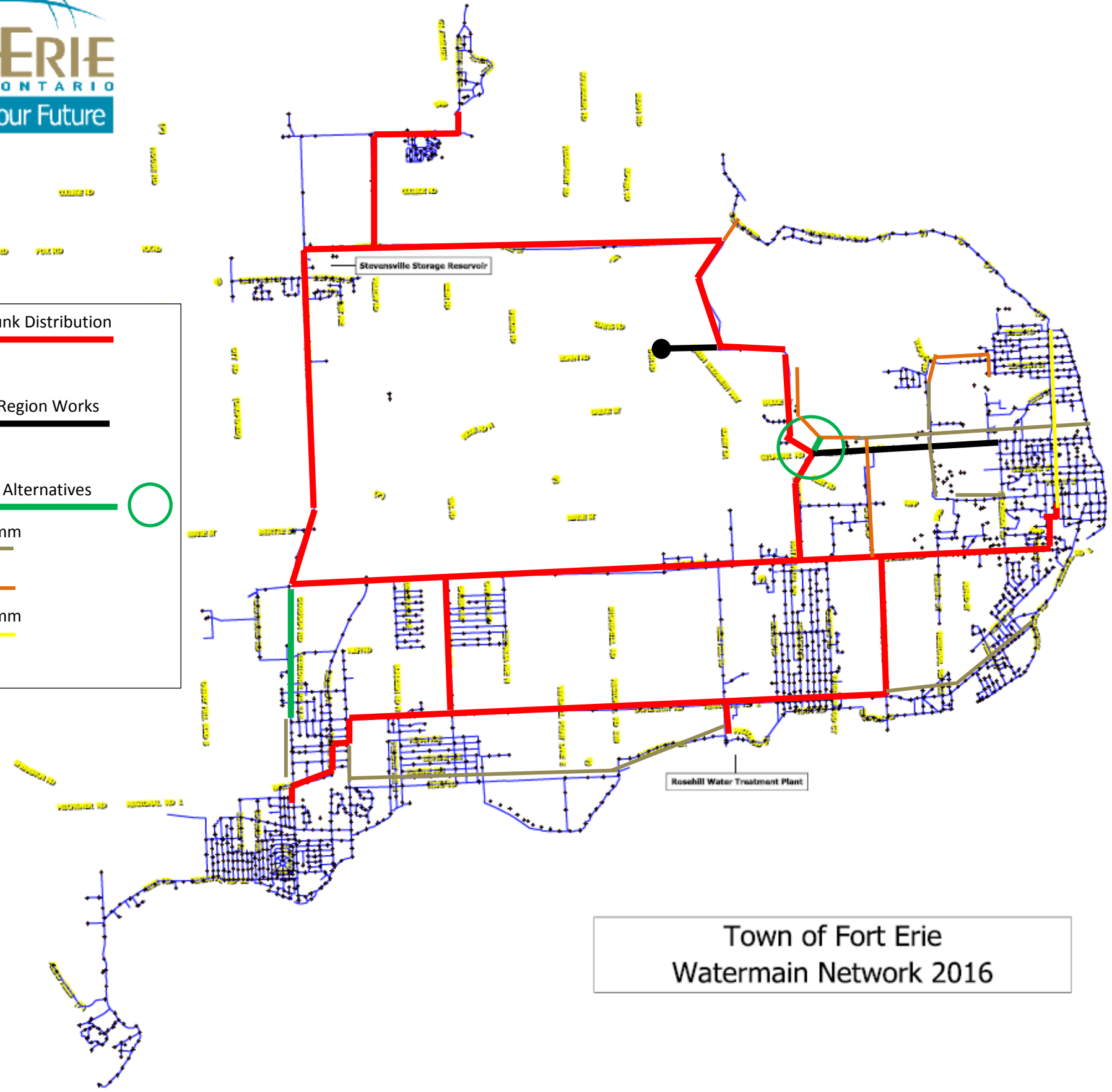
Proposed Region Works

Suggested Alternatives

TOFE 300mm

TOFE 350

TOFE 400mm



Town of Fort Erie
 Watermain Network 2016

Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Friday, July 07, 2017 10:13 AM
To: Lindsay Bowman - GM BluePlan
Subject: FW: Notice of Completion - Niagara Region Water-Wastewater Master Servicing Plan - Volume 5 feedback
Attachments: NOTICE OF COMPLETION - Niagara Region W-WW Master Servicing Plan.pdf

Please add to Volume 5.

From: Suzanne McInnes [mailto:smcinn@npca.ca]
Sent: Thursday, July 06, 2017 4:26 PM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Cc: Jayme Campbell <jcampbell@npca.ca>; Steve Miller <smiller@npca.ca>; Peter Graham <pgraham@npca.ca>
Subject: FW: Notice of Completion - Niagara Region Water-Wastewater Master Servicing Plan

Hi Phil, Thank you for sending the notice of study completion. The NPCA staff comments are focused on the proposed inlet channel upgrades at the Decew WTP scheduled for 2017-2021 (Table 1.5 WF-002) as it related to the Niagara Peninsula Source Protection Plan. There is an Intake Protection Zone associated with Decew WTP in the Source Protection Plan. The Minister of Environment and Climate Change approved the current Source Protection Plan on December 12, 2013. The Minister has issued a Section 36 order (<http://www.sourceprotection-niagara.ca/wp-content/uploads/2017/06/151020-Minister-Section-36-letter-to-Niagara-13Oct2015.pdf>) requiring the Niagara Peninsula Source Protection Authority to submit a workplan to update the Source Protection Plan. The workplan must be submitted to the ministry no later than November 30, 2017. NPCA staff would like to find out more about the proposed inlet channel upgrades at the Decew WTP because it may require some work on our part to update the modelling for the intake protection zone that we would like to reflect within our work plan. Here is a link some information about a workshop we held in June regarding the Source Protection Plan workplan: <http://www.sourceprotection-niagara.ca/plan-update/june-21st-2017-workshop/>

Can you or the appropriate staff person connect with Jayme Campbell regarding the proposed inlet channel upgrades at the Decew WTP?

Thanks,

Suzanne McInnes, MCIP, RPP
Manager, Plan Review and Regulation
Niagara Peninsula Conservation Authority
250 Thorold Road, 3rd Floor
Welland, Ontario L3C 3W2

Telephone: (905) 788-3135 x235
Email: smcinn@npca.ca
Web: www.npca.ca

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Niagara's Future: Notice of Completion

The Study

Niagara Region has prepared for expected growth within the next 25 years with the completion of a Water and Wastewater Master Servicing Plan (HOW WE FLOW). Niagara Region is a part of the Greater Golden Horseshoe (GGH) and currently services the urban area of the

municipalities of Grimsby, West Lincoln, Lincoln, St. Catharines, Thorold, Welland, Pelham, Port Colborne, Niagara-on-the Lake, Niagara Falls, and Fort Erie. The Government of Ontario legislative growth plan, Places to Grow Act 2005, identified substantial population and employment

growth for the GGH to year 2041. To meet the growing demands and needs of its communities, Niagara 2041 has been introduced to balance the needs of growth with the protection and preservation of natural, environmental and heritage resources.



HOW WE FLOW:

The Water and Wastewater Master Servicing Plan provides a strategic vision over the next 25 years to accommodate future growth, and ensure safe, clean drinking water and effective environmental protection. It will ensure safe, sustainable and optimized water and wastewater services that support growth, development of a long term servicing strategy that meets today's needs while planning for tomorrow, and will provide a business case for the need, timing and cost of maintaining infrastructure in a fully integrated process.

The Process

The Water and Wastewater study follows the Master Plan process as outlined in Section A.2.7 of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (October 2000, as amended in 2000, 2011 and 2015). The Master Plan will be filed under Approach #2 of the MEA Class EA Approach for Master Planning. The Master Servicing Plan will satisfy the planning requirements for Schedule A, A+ and select Schedule B projects and provide the basis for future investigations of identified Schedule B and C projects.

The Completion

The Water and Wastewater Master Servicing Plan has been prepared to document the planning and decision making process undertaken for this study. If after consulting with the Niagara Region, you have significant unresolved concerns with the study, you have the right to make a written request to the Minister of the Environment and Climate Change (The Honourable Glen R. Murray, 11th Floor, Ferguson Block, 77 Wellesley Street West, Toronto, ON, M7A 2T5) to appeal the study results – also known as Part II Order request. The Part II Order request must be received by the Minister of the Environment and Climate Change's Environmental Approvals Branch (Director, MOECC Environmental Approvals

Branch, 135 St. Clair Avenue West, 1st Floor, Toronto, ON, M4V 1P5) and the Niagara Region. If there are no outstanding concerns after the end of the public review period, the study will be considered to have met the requirements of the Municipal Class EA, and the project may proceed to implementation.

With the exception of personal information, all comments will become part of the public record of the study. The study is being conducted according to the requirements of the Municipal Class Environmental Assessment, which is a planning process approved under Ontario's Environmental Assessment Act.

Thank you for your involvement in the Water and Wastewater Master Servicing Plan projects. Your time and input were appreciated. Copies of the Water and Wastewater Master Servicing Plan documents are available for your information on niagararegion.ca/2041 and at the following locations:

Niagara Region

Clerk's Department
1815 Sir Isaac Brock Way
Thorold, ON
L2V 4T7

City of St. Catharines

Clerk's Department
50 Church Street
St. Catharines, ON
L2R 7C2

City of Niagara Falls

Clerk's Department
4310 Queen Street
Niagara Falls, ON
L2E 6X5

Town of Grimsby

Clerk's Department
160 Livingston Avenue
Grimsby, ON
L3M 4G3

Town of Pelham

Clerk's Department
20 Pelham Town Square
Fonthill, ON
L0S 1E0

City of Port Colborne

Clerk's Department
66 Charlotte Street
Port Colborne, ON
L3K 3C8

If you require any accommodations for a disability in order to access the project documents, contact the Accessibility Advisory Coordinator at 905-980-6000 ext. 3252 or 1-800-263-7215 or accessibility@niagararegion.ca to make the appropriate arrangements.

Niagara  Region

niagararegion.ca/2041



Niagara's Future: Notice of Completion - CONTINUED

Further information

Requests or comments can be directed to:

Water and Wastewater Master Servicing Plan

Mr. Phill Lambert, P.Eng.
Associate Director,
Infrastructure Planning and Engineering
1815 Sir Isaac Brock Way,
P.O. Box 1042
Thorold, ON L2V 4T7
Phone: 905-980-6000
Fax: 905-687-8056
phill.lambert@niagararegion.ca

The Master Plan is providing a 45 day review period starting on June 15, 2017. Please provide all written comments to Niagara Region by Monday, July 31, 2017 (within 45 days of this Notice).

This Notice of Completion is issued on June 15 and June 22, 2017.

This Notice of Completion is issued with respect to meeting Phases 1 and 2 of the Class EA Process for the Water and Wastewater Master Servicing Plan. The list of Scheduled A, A+, Master Plan projects can be accessed electronically at the study web page previously noted. The Schedule B and C Master Plan projects where Phases 1 and 2 are being satisfied under the Water and Wastewater Master Servicing Plan are noted to the right.

ACTIVITIES THAT WERE SUBJECT TO THE SCREENING PROCESS UNDER PHASES 1 AND 2 OF THE CLASS EA PROCESS

Wastewater (WW)

Pelham

WW-SPS-011	Increase station capacity at the Foss Road Sewage Pumping Station
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West Lincoln

WW-SPS-012	Increase station capacity at the Smithville Sewage Pumping Station
------------	--

Lincoln

WW-SPS-014	Increase station capacity at the Laurie Avenue Sewage Pumping Station
------------	---

WW-SPS-015	Increase station capacity at the Victoria Avenue Sewage Pumping Station
------------	---

WW-SPS-018	Increase station capacity at the Ontario Street Sewage Pumping Station
------------	--

Grimsby

WW-SPS-020	Increase station capacity at the Lake St Sewage Pumping Station
------------	---

Niagara Falls

WW-SPS-025	Increase station capacity at the Garner Road Sewage Pumping Station
------------	---

WW-TP-002	New South Niagara Falls Wastewater Treatment Plant
-----------	--

Water (W)

Fort Erie

W-S-001	New Fort Erie Elevated Tank
---------	-----------------------------

Pelham

W-S-003	New Pelham Elevated Tank
---------	--------------------------

Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Friday, July 07, 2017 10:55 AM
To: Lindsay Bowman - GM BluePlan
Subject: Volume 5 MSP info - FW: Niagara 2041 - How We Grow, How We Flow and How We Go - response to letter dated June 7, 2017
Attachments: 17 07 06 Response to Niagara Sustainability Initiative.pdf

Please include this response in Volume 5.

Thanks

From: Coffe, Nicole
Sent: Friday, July 07, 2017 10:13 AM
To: Ashley Grigg <ashleygrigg@portcolborne.ca>; Bill Matson <billmatson@niagarafalls.ca>; Bonnie Nistico-Dunk <bdunk@stcatharines.ca>; Carolyn Langley <carolynlangley@westlincoln.ca>; Donna Delvecchio <clerk@thorold.com>; Hazel Soady-Easton <hsoady-easton@town.grimsby.on.ca>; Meredith Kirkham <mkirkham@wainfleet.ca>; Nancy Bozzato <NJBozzato@pelham.ca>; Peter Todd <ptodd@notl.org>; Tara Stephens <clerk@welland.ca>; William Kolasa <wkolasa@lincoln.ca>; 'cschofield@forterie.ca' <cschofield@forterie.ca>; A Clemencio <aclemencio@pelham.ca>; B Leroux <bleroux@grimsby.ca>; B Julian <bjulian@westlincoln.ca>; Chris Lee <chrislee@portcolborne.ca>; D Dillon <ddillon@stcatharines.ca>; D Mackenzie <dmackenzie@npca.ca>; D Graham <dgraham@lincoln.ca>; G Holman <gholman@niagarafalls.ca>; Habermehl, Catherine <catherine.habermehl@niagararegion.ca>; J Vyse <jvyse@notl.org>; K Walsh <kwash@forterie.ca>; Lambert, Phill <Phill.Lambert@niagararegion.ca>; Manoj Dilwaria <mdilwaria@thorold.com>; M Gruosso <mgruosso@niagaraparks.com>; R Nan <rnan@wainfleet.ca>; Ryall, Carolyn <Carolyn.Ryall@niagararegion.ca>; Sal Iannello <sal.iannello@welland.ca>; Tonellato, Joseph <Joseph.Tonellato@niagararegion.ca>; Tripp, Ron <Ron.Tripp@niagararegion.ca>; Mostacci, Rino <Rino.Mostacci@niagararegion.ca>; Lambert, Phill <Phill.Lambert@niagararegion.ca>; Morreale, Diana <Diana.Morreale@niagararegion.ca>; Thompson, Jack <Jack.Thompson@niagararegion.ca>; Alex Herlovitch <aherlovitch@niagarafalls.ca>; Barbara Wiens <bwiens@pelham.ca>; Brian Treble <btreble@westlincoln.ca>; Craig Larmour <clarmour@notl.org>; Dan Aquilina <danaquilina@portcolborne.ca>; Darryl Lyons <darryl.lyons@ontario.ca>; David Heyworth <dheyworth@forterie.ca>; Ellen Savoia <esavoia@niagaraparks.com>; Grant Munday <grant.munday@welland.ca>; Jim Riddell <jriddell@stcatharines.ca>; John Barnsley <barnsley@niagarafalls.ca>; Judy Pihach <jpihach@stcatharines.ca>; Kathleen Dale <kdale@lincoln.ca>; Kira Dolch <kdolch@forterie.ca>; Michael Seaman <mseaman@grimsby.ca>; Rachelle Larocque <rachelle.larocque@welland.ca>; Richard Brady <rbrady@forterie.ca>; Rose DiFelice <rose.difelice@welland.ca>; Sarah Ivins <svivins@wainfleet.ca>; Shirley Cater <scater@notl.org>; Steve Barnhart <sbarnhart@niagaraparks.com>; Suzanne McInnes <smcinnnes@npca.ca>
Cc: Coffe, Nicole <nicole.coffe@niagararegion.ca>; Tripp, Ron <Ron.Tripp@niagararegion.ca>
Subject: Niagara 2041 - How We Grow, How We Flow and How We Go - response to letter dated June 7, 2017

For your information – the attached letter was sent to Ms. Mindorff today on behalf of Ron Tripp.

A copy will be shared with Regional Council through today's weekly email distribution.

Thank you.

Nicole Coffe
Executive Assistant to the Commissioner of Public Works

Niagara Region
Phone: 905-980-6000 ext. 3340 Toll-free: 1-800-263-7215
www.niagararegion.ca

From: Coffe, Nicole
Sent: Friday, July 07, 2017 9:18 AM
To: 'tikvah@niagarasustainability.org'
Cc: Coffe, Nicole; Tripp, Ron
Subject: Niagara 2041 - How We Grow, How We Flow and How We Go - response to letter dated June 7, 2017

Good morning Ms. Mindorff,

Please see attached correspondence sent on behalf of Ron Tripp, Commissioner of Public Works.

Thank you.

Nicole Coffe
Executive Assistant to the Commissioner of Public Works
Niagara Region
1815 Sir Isaac Brock Way, PO Box 1042
Thorold, ON L2V 4T7
Phone: 905-980-6000 ext. 3340 Toll-free: 1-800-263-7215
nicole.coffe@niagararegion.ca
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July 6, 2017

Ms. Tikvah Mindorff, Executive Director
on behalf of the NSI Board of Directors
Niagara Sustainability Initiative
1 St. Paul St., Suite 14
St. Catharines, ON L2R 7L2

Via Email: tikvah@niagarasustainability.org

**Niagara 2041 – How We Grow, How We Flow, and How We Go
Niagara Sustainability Initiative
Response to Tikvah Mindorff, Executive Director (June 7, 2017 letter)**

Dear Ms. Mindorff,

The following provides a response to the comments and recommendations submitted by Niagara Sustainability (NSI) through correspondence dated June 7, 2017 related to Niagara 2041- “How We Grow, How We Flow, and How We Go”. The questions are numbered similar to the June 7, 2017 letter submission.

How We Grow – Municipal Comprehensive Review

I. Population Growth Forecast:

The population growth forecasts used as a basis for the Niagara 2041 show an increase of 154,000 (1.35%) over the next 25 years. This anticipates a higher growth rate than has been experienced in the last 25 years. For example, Phase 1 and 2 key findings from the Municipal Comprehensive Review (MCR) indicate that Niagara is not growing at the project rate, which manifests itself as a decline in the young adult population, but remaining attractive to people over 60.

We would appreciate some clarity on the rationale for using a higher than historical rate of population growth.

Staff Response:

Amendment 2 to the Growth Plan, which came into effect in June 2013, provided Niagara Region updated population and employment forecasts to 2036 and 2041. The Growth Plan states Niagara is forecasted to grow to a population of 610,000 and employment of 265,000 by 2041.

The MCR is required to utilize the Provincial forecasts for population and employment to the planning horizon of 2041. The 2041 forecasts established by the Province contributes to an increased “projected” annual growth rate for Niagara. As mentioned in your letter, Niagara Region as a whole has been growing at a slower pace. The Provincial forecasts (2031 to 2041)

for Niagara take into account that as Greater Toronto Hamilton Area communities build to their urban boundaries more growth will flow to Niagara.

2. Reconsideration of Settlement Area Boundaries:

Urban density should be increased before any boundaries are considered for expansion. The recently released Growth Plan for the Greater Golden Horseshoe (2017) prohibits the establishment of new settlement areas. Where existing Settlement Area Boundaries are being considered for realignment, this should only occur where prime agricultural lands, significant wetlands, and tender fruit land (Unique Agricultural Lands) are protected. Opportunities for greenfield development should be minimized and intensification should be focused on existing designated urban areas.

Staff Response:

At this time it is unknown if the Region will be required to adjust settlement area boundaries. The MCR work will be required to comply with the new Provincial Growth Plan. The new Growth Plan has increased intensification rates from 40% to 60% by 2031. This means that 60% of all future growth must occur within the “built boundary” by 2031.

The 2017 Growth Plan has also increased greenfield density targets from 50 people and jobs per hectare to 80 people and jobs per hectare. Also, the 2017 Growth Plan outlines a process for dealing with settlement area boundary expansions. Where the need for a settlement area boundary expansion has been demonstrated, additional new policy tests have been added for assessing the feasibility of the expansion and determining its most appropriate location. Additional new criteria include requirements to complete watershed master plan, stormwater management plan, and the need to consider the financial viability of the life cycle costs of infrastructure and public service facilities needed to service growth.

Together these new requirements may reduce the need to expand beyond the existing urban boundary.

How We Flow – Water and Wastewater Master Servicing Plan

1. Combined Water and Wastewater Infrastructure:

The continued use of infrastructure in combination carries increased risk of flooding and sewer overflows. The cost associated with managing sewage overflow is not financially sustainable and allows for effluent to flow directly into Lake Ontario. This results in unexpected impacts, increasing the cost and effort when incidents occur.

Staff Response:

A significant element of the Niagara Region wastewater servicing strategy is the wet weather management program. The Niagara wastewater systems are a mix of separated and combined sewer systems. Each system is experiencing varying levels of impact during wet weather conditions. Climate change continues to create changing weather conditions and the wastewater systems are experiencing in most cases high peak flows under rainfall events. Providing infrastructure capacity for the peak flow events would require upgrades not only for local sewers, but also trunk sewers, pumping stations and ultimately the treatment plants. The infrastructure capacity approach can prove costly. The wet weather management program in the Master Servicing Plan Update has been developed to identify targeted amounts of inflow and

infiltration reduction intended to deal with existing capacity constraints as well as provide for growth related capacity without or minimizing expanding/upgrading existing trunk infrastructure. The wet weather program in the Master Servicing Plan Update currently identifies overall preliminary priority, staging of location and target amount of inflow and infiltration reduction across all systems. This program provides for a proactive and targeted approach to addressing wet weather impacts including overflows.

2. Managed Sewage Overflows:

NSI believes that in addition to managing sewage overflow related to projected increased flooding and water levels associated with climate change, plans should also be in place to manage all water-related impacts in the Niagara Region. These include more frequent and intensive thunderstorms, higher and more frequent spring flooding, and road/pipe failure resulting from conveying sewage flows that are beyond their design flows, including safety factors.

Staff Response:

Through the course of the Master Servicing Plan (MSP), priority areas were brought forward that included impacts of climate change as well as system reliability and security. Additionally, key principles and policy statements were developed that are directly related to the concerns identified above:

- Niagara Region shall be aware of and consider the potential impact of climate change on the planning and sizing of infrastructure
- Niagara Region will review a combination of servicing strategies including infrastructure and non-infrastructure (e.g. i/i reduction) solutions to meet wet weather level of service and provide sufficient wastewater capacity
- Niagara Region will approach Guidelines F-5-5 and F-5-1 such that new development will not put the Region out of compliance with regulations and the Region will consider opportunities to not increase wet weather overflows beyond current conditions

The wastewater flow projections used in the MSP recognized conservative design flow rates with peaking factors as well as including an extraneous flow rate of 0.286 L/ha/s as the wet weather level of service for triggering and sizing Regional wastewater infrastructure. This is in addition to the wet weather management program identified above.

For the MSP consideration for capacity upgrades (upgrades to trunk sewers, pumping station capacities, etc.), upstream management (storage, peak shaving, diversion), and peak flow management (flow reduction, Inflow & infiltration (I&I) reduction projects) were investigated for every wastewater system. Based on this review, there are wet weather projects listed with identified areas for targeted I&I removal to offset the requirement to upgrade and expand more expensive infrastructure all the way to the wastewater treatment plants. It is crucial to achieve the I&I reductions in order to offset the capacity needs from growth, to protect the environment, and mitigate potential basement flooding.

3. NSI General Comment:

The focus of “How We Flow” should include more than just the two components of water and wastewater and should include all water, wastewater, and storm water concerns within the Region. Water and waste water infrastructure is being replaced based on outdated and ineffective design

standards, which do not reflect today's more extreme climatic conditions. The results: local flooding, road failure, and sewage backups, are reported with increasing regularity by the media. It is time that the Region recognizes this increased risk and takes action to ensure that our communities are safe for their citizens.

Staff Response:

Water and wastewater servicing is operated under a two-tier system. Niagara Region is responsible for water treatment, transmission mains, storage facilities and major booster pumping stations; as well as wastewater treatment, trunk sewers and sewage pumping stations. The area municipalities are responsible for local water distribution networks and local sewer collection systems. Stormwater management is generally an area municipal responsibility; however, the Niagara Region and NPCA continue to work collaboratively with the area municipalities to address stormwater management concerns.

The Niagara Region anticipates taking on a larger role in the near future regarding climate change and watershed management consistent with the updated Provincial Growth Plan for the Greater Golden Horseshoe.

How We Go – Transportation Master Plan

I. Active Transportation:

NSI encourages the promotion of active transportation (hiking, bicycling, walking) and healthy communities (complete communities which focus on non-vehicular activities) at the community level. Permitting new development on greenfield lands is contrary to the principles of active transportation. This highlights the need for improved urban design especially within active land development applications.

Staff Response:

- The Transportation Master Plan (TMP) process included a thorough Visioning exercise that involved consultation with the public, Agency and Stakeholder representatives. This exercise allowed for the identification of a specific vision and associated goals for transportation in Niagara Region that are critical in achieving a balanced and sustainable transportation system for the Region. The following TMP goals embrace the promotion of active transportation and healthy communities:
 - **Improve options for sustainable modes of transportation**
 - A balance between modes will be achieved, minimizing the need for new infrastructure and reducing greenhouse gas emissions.
 - **Promote the development of healthy communities**
 - The TMP will support and promote active transportation options for all network users.
- Specific to Active Transportation, the Transportation Master Plan recommends that the Region invest in active transportation facilities and supporting infrastructure to promote active lifestyles and healthy communities. The importance of Active Transportation to the Region is noted through its commitment to implement key infill cycling links within the next 10 years and to increase funding to support Municipal link implementation.

- The Transportation Master Plan has also embraced a “Complete Streets Approach” that allows corridors to serve both a place making and transportation function and form the spine of healthy and economically viable communities. The Complete Streets approach provides a new direction in the planning and design of all Regional Road projects identified in the Road Capital Plan, including repaving projects, that will first and foremost consider a design that is universally accessible, safe and comfortable for all users.

2. Scalable Public Transit Service:

Gaps in transit service, including routes and schedules needs to be improved. The use of Light Rapid Transit (dedicated bus lanes, trams, surface rail) should be seriously considered. This supports the concept of regional transit, which would attract talented workforce and protect agricultural lands.

Staff Response:

- The Transportation Master Plan (TMP) highlights that Public Transit plays an important role in realizing the vision for Niagara, and recent technological advances present an opportunity to improve mobility in a more efficient and cost effective manner than was historically possible. The TMP recognizes that it is important to review the potential for transit priority measures along Regional Roads and recommends that a Transit Priority Measures and Transit Priority Corridor Study be conducted that includes a review of road corridor rapid transit opportunities, transit priority applications, Intelligent Transportation System (ITS) strategies and the use of existing rail corridors as possible transit corridors.
- Within the TMP document there is a section that discusses Transportation as a Catalyst for Change which indicates that “attracting a talented workforce” requires that quality travel options exist for all modes of travel (i.e., walking, cycling, transit and autos) and that a transit network that brings more residents within convenient reach of jobs will maintain and attract new business development.
- The TMP recommends that the Region strengthen core transit services and provide transit connections to all of its local municipalities through a combination of fixed-route and demand responsive transit, using existing and emerging technologies to improve efficiency and cost effectiveness to support growing demand for inter-municipal travel and inter-regional transit.

3. NGTA/Mid-Peninsula Highway:

The provincial Growth Plan for the Greater Golden Horseshoe notes that balanced transportation options should be promoted to reduce car reliance. Promotion of the NGTA highway/mid-peninsula highway would seem to be inconsistent with the Growth Plan policies.

The Growth Plan also states that public transit planning should be a top priority for transportation infrastructure planning and major investments. We recognize these policies are focused on designated urban areas. However, the environmental impacts and loss of prime agricultural lands likely outweigh the benefits from NGTA Highway, especially when the alignment directly affects agricultural lands and sensitive natural features.

Planning for the NGTA Highway seems contrary to the principles of sustainable transportation.

However, we recognize the planning of the NGTA is intended to help relieve congestion due to increased demand on the Queen Elizabeth Way. While this could offer greater opportunity for more efficient rates of travel, the Regional Government must seriously weight improved traffic flow against the loss of agricultural lands, loss of wooded area (carbon reduction feature) and potential for increased growth opportunities in the urban areas serviced.

We suggest than the Region place an emphasis on determining alternative opportunities to promote more sustainable transportation options.

Staff Response:

- The Province guides transportation and land use planning for the Greater Golden Horseshoe, including Niagara Region, through the *Growth Plan*. In addition to specifying population and employment growth targets that Niagara Region must plan for, the *Growth Plan* (January 5, 2017) notes the following policies for Moving Goods (Policy 3.2.4):
 - Linking major goods movement facilities and corridors, international gateways and prime employment areas to facilitate efficient goods movement will be the first priority of highway investment.
 - The Province and municipalities will work with agencies and transportation service providers to:
 - a) Co-ordinate, optimize and ensure the long-term viability of major goods movement facilities and corridors;
 - b) Improve corridors for moving goods across the GGH in accordance with Schedule 6; and,
 - c) Promote and better integrate multimodal goods movement and freight-supportive land use and transportation system planning.
 - Municipalities will provide for the establishment of priority routes for goods movement, where feasible, to facilitate the movement of goods into and out of prime employment areas and other areas of significant commercial activity and to provide alternate routes connecting to the provincial network.
- Therefore, the development of a Transportation Master Plan must include a review of issues and opportunities related to Goods Movement by truck, rail, marine and air as well as transit and active transportation modes.
- The TMP highlights that Niagara Region is located on a critical international trade corridor with thousands of commercial vehicles passing through Niagara's international border crossings primarily using the QEW corridor. The current congestion levels along the QEW in Niagara Region places a constraint on existing and future trucking activities requiring a new trade corridor, in the longer planning time frame (post 2031), as an alternative to the QEW. Furthermore, congestion on the QEW will result in bypass or through traffic on local roads, which would conflict with the Complete Streets approach and the promotion/support for alternate modes of transportation.
- The TMP has rebranded the NGTA Corridor as the Niagara-Hamilton Trade Corridor that provides a goods movement connection from the proposed NGTA East Corridor at Highway 406 to the City of Hamilton in the vicinity of the Hamilton International Airport/Highway 403. It is acknowledged that the planning for a Niagara-Hamilton

Trade Corridor is a long process that includes undertaking appropriate Environmental Assessment Studies to address environmental, social and economic concerns. However, the TMP recommends that the Region be an advocate for the advancement of the Niagara-Hamilton Trade Corridor and the NGTA East Corridor with the provincial and federal governments to provide an efficient trade route connecting Niagara Region to the GTHA and USA.

- As a sustainable option, the TMP also recommends that in the shorter-term, that the Region actively work with the Ministry of Transportation for continuing improvements to the QEW and undertake a role and function study for Regional Road 20 as an alternate provincial route that can accommodate longer-distance and inter-regional goods movement.

4. Travel Demand Management (TDM):

This is a good initiative and the key recommendations outlined are in-line with NSI's values and initiatives.

Staff Response:

The TMP states that for Niagara Region to improve sustainability, efficiency and safety for its transportation system, **it is recommended that the Region fund and staff programs to adopt and lead TDM and TSM initiatives**, and embrace new mobility services and the use of technology to monitor and maximize capacity.

5. Developing innovative and scalable forms of public transit:

NSI recognizes that personal vehicles will continue to be widely used for some time to come. We, however, believe that their use should be considered less in the planning of major highway infrastructure that may not be built for at least 20 years. Greater effort should be placed on developing innovative and scalable forms of public transit that will be less costly to implement, require lower operating budgets and result in acceptable servicing levels for their regional customer base.

Staff Response:

- The TMP as prepared provides the vision and goals for transportation in Niagara Region to achieve a balanced and sustainable transportation system in the Region and form the foundation and strategies that can be implemented over a 25-year planning period with appropriate updates every 5 years.
- The following TMP Goals provide guidance in addressing a multi-modal transportation system that focuses on healthy communities, active transportation, public transit, emerging technologies and a sustainable transportation system:
 - Integrate transportation and land use
 - Support economic development
 - Enhance multi-modal connectivity
 - Improve options for sustainable modes of transportation
 - Maintain and improve the efficiency of goods movement network
 - Promote the development of healthy communities
 - Develop a realistic yet innovative blueprint for implementation

- As noted under Item 2, Staff Response bullet 3, the TMP recommends that the Region strengthen core transit services and provide transit connections to all of its local municipalities through a combination of fixed-route and demand responsive transit, using existing and emerging technologies to improve efficiency and cost effectiveness to support growing demand for inter-municipal travel and inter-regional transit.

Regards,



Ron Tripp, P.Eng.
Commissioner of Public Works

Copy: Niagara Region Council
Local Area Municipal Clerks
Local Area Municipal Public Works Officials
Local Area Municipal Planners

Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Monday, July 10, 2017 4:12 PM
To: Lindsay Bowman - GM BluePlan
Subject: For Volume 5 of the MSP - FW: Omission of Sewage Lagoon closure.

Hi

Please include this for Volume 5 for public comments.

Thanks

Phill

From: [REDACTED]@aol.com [mailto:[REDACTED]@aol.com]
Sent: Sunday, July 09, 2017 11:41 AM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Cc: w gates-co@ndp.on.ca
Subject: Omission of Sewage Lagoon closure.

WASTE WATER PLAN

Dear Mr Phil Lambert, Your plan 2041 has a serious omission , the failure to include the closure or any plan to decommission the Sewage Lagoon (Cess Pool()) in a timely manner, the Region promised the City of Niagara Falls at the [OMB](#) meeting that the temporary holding pond was to be closed 20 years after installation. [OMB](#) ruling October 1980 Niagara Falls . The Niagara Region failed to de-commission the lagoon 2002 after numerous public meetings and a final selection of a route to the Anger Road sewage treatment plant, the route chosen would be the old railroad right of way now used for power lines. The Region under Con Eidt Chief Engineer had testified under oath that the final capacity of the lagoon was 2,750 persons, we exceeded those parameters back in 2005. Lying under oath to an OMB Judge A.J Chapman is (Contempt of Court) also your dumping of raw sewage into the drinking water of 88 thousand residents of the City of Niagara Falls is a violation of the " Great Lakes Clean Waters Act" putting the citizens at risk of cholera and E-Coli is not a good public relation act., also you owe the residents millions of dollars of illegal scamming of money for none treatment of sewage effluent, we take a very dim view of your failure to provide a viable treatment of Stevensville/Douglastown sewage. please rectify this serious oversight promptly, Thank you [REDACTED] (CAUSE) [REDACTED] Stevensville Ontario [REDACTED]@aol.com

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Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Monday, July 17, 2017 11:14 AM
To: Lindsay Bowman - GM BluePlan
Cc: Julien Bell - GM BluePlan
Subject: FW: Water and Wastewater Master Servicing Plan - Comments for Volume 5

Hi

Please include this in Volume 5.

Thanks

Phill

From: Lambert, Phill
Sent: Monday, July 17, 2017 11:14 AM
To: [REDACTED]@becon.org'; [REDACTED]@becon.org>
Cc: Giles, Doug <Doug.Giles@niagararegion.ca>; Morreale, Diana <Diana.Morreale@niagararegion.ca>; Dick, Brian <brian.dick@niagararegion.ca>; Bowie, Greg <Greg.Bowie@niagararegion.ca>
Subject: RE: Water and Wastewater Master Servicing Plan

Good Morning Dr. [REDACTED]

Thank you for your email. The Provincially Significant Wetlands and Environmental Features throughout the Niagara Region are identified on Figure 2.7 Existing Conditions – Ecological Features (page 76 of the PDF for Volume 2). These are important to the Niagara Region as well as its residents. There are many policies identified throughout Section 9 – Natural Environment Existing Conditions in regards to this. It is understood that site alteration and any development is required to meet the existing policy regime as identified in Section 9.

Please note that the intent of Figure 2.10 through 2.21 was to provide an approximate location of potential future development in the Urban Area Boundary within the approximately 500 Traffic Zones across the Niagara Region for the purposes of water and wastewater model analysis. We were unable to show all potential constraints along with these growth areas without overcomplicating these maps.

We do appreciate your comments and hope that Section 9 provides you with the confidence that the Natural Environment Existing Conditions and the associated policies are clearly identified.

I would be happy to speak to you further about this at your convenience and truly appreciate your active participation in the Water and Wastewater Master Servicing Plan (How We Flow) as part of Niagara 2041.

Regards

Phill Lambert, P. Eng.
Associate Director, Infrastructure Planning & Development Engineering
Planning and Development Services
Niagara Region

Phone: 905-685-4225 ext. 3627 Toll-free: 1-800-263-7215

www.niagararegion.ca

From: [REDACTED]@becon.org[mailto:[REDACTED]@becon.org]

Sent: Wednesday, July 12, 2017 11:45 AM

To: Lambert, Phill <Phill.Lambert@niagararegion.ca>

Subject: Water and Wastewater Master Servicing Plan

I am writing about a serious error on Figure 2.16 Growth Shapes in the Niagara Region's Water and Wastewater Master Servicing Plan.

This map designates the entire area south of Oldfield Road covered by the on going Thundering Waters Secondary Plan of the City of Niagara Falls as "Residential and Employment Growth Areas through a pink shading.

The map should be revised so that the pink shading is removed on all the lands in this area which are currently designated as Provincially Significant Wetlands. As the authors of this map should have known, site alteration is not permitted on these lands, which in the pink shaded area on Figure 2.16 are around 300 acres in extent.

Many thanks.

Dr. [REDACTED] (Ph.D)

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Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Monday, July 17, 2017 12:42 PM
To: Lindsay Bowman - GM BluePlan
Subject: Volume 5 MSP material FW: Mail Received from [REDACTED] for Water/Wastewater Master Plan
Attachments: Health and Safety Letter with Newspaper Articles and Information Attached.pdf; Letter from [REDACTED] dated March 29, 2017 - International Joint Commission.pdf

Hi

Please add this to Volume 5 of the MSP.

Thanks

Phill

From: Cheyne, Tammy
Sent: Monday, July 17, 2017 10:43 AM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Subject: Mail Received from [REDACTED] for Water/Wastewater Master Plan

Please see attached

Tammy Cheyne
Program Assistant
Planning and Development Services
Niagara Region
1815 Sir Isaac Brock Way
PO Box 1042
Thorold, Ontario L2V 4T7
T: (905) 980-6000 x3256, Toll Free: 1-800-263-7215 x3256
F: (905) 687-8056
www.niagararegion.ca



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HEALTH AND SAFETY

1/ The health and safety of all our residents should trump all decisions of our Council, sad to say the idea of plentiful water and disposal of sewage effluent has been low priority of our previous councils mandate.

*
Case in point, Crescent Parkour Council has known why the system leaks like a sieve, brittle sewage pipes made up of a composite, asbestos/cement has failed throughout Crescent Park, 45 years has not seen removal or replacement of this pipe system, even though Fort Erie recieved over 36 million dollars in slot revenue.

Lack of money was never the problem, just lack of focus and willpower.

Stevensville, Douglastown/Black Creek prior to 1981, did not have a sewage system, everybody had septic tanks which combined with town water, caused overflows in the yards of home owners & into Black Creek, a condition that caused the Ministry Of Environment to put a complete ban on any new buildings, unless they had a minimum of three extra empty lots, to allow septic tanks to work.

1980/1982 hearings held to find a solution to the pollution problem, major health concern, the agreed solution was a giant cess pool, the region wanted this cess pool to be located in an area off Switch Road, this area happened to be unacceptable to Mayor Stella Ziff, as it would put raw sewage close to the Niagara Parkway where she lived, Parkway residents usually get what they want.

Nigara Region came up with an alternative location for the cess pool, which happened to be within the border of the City of Niagara Falls, city staff recommended " don't allow this to happen" city council overuled staff & allowed a Stevensville cess pool to be located near the Netherby Road/ QEW interchange.

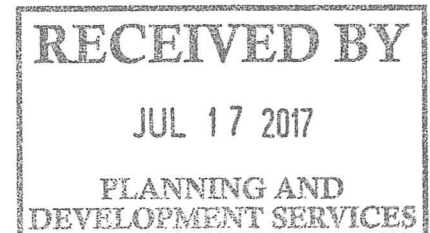
W.H.O. Does not endorse sewage lagoons (cess pools) even for third world countries, the Region inherited four sewage lagoons, when region was formed 45 years ago, Smithville, Port Robinson and N.O.T L. with a sludge pond next to the Town of Fort Erie dump.

Our sewage pool was built in 1981 and paid for by a sur-tax added to our residential tax bills, the cost to us was one and a quarter million dollars, the life span would be 20 years including the sewage pumps.

After that, the year 2002, the sewage would be pumped up to the Anger Road Sewage Treatment Plant, to two newly built cells, had been added.

Three suggested routes were open for selection, one route was along the Niagara parkway, which was opposed by Parkway residents, the route along Town Line Road to the marina was passed in favour of a route near the sewage outfall netherby road up the old "Paddy miles/C.N.P" right of way chosen as the best route.

When our Fort Erie Representatives were to sign off on the project and finalise the deal, Douglas Martin and Wayne Redekop reneged on this crucial matter.



FOUND AT MANY
ONTARIO LAGOONS.

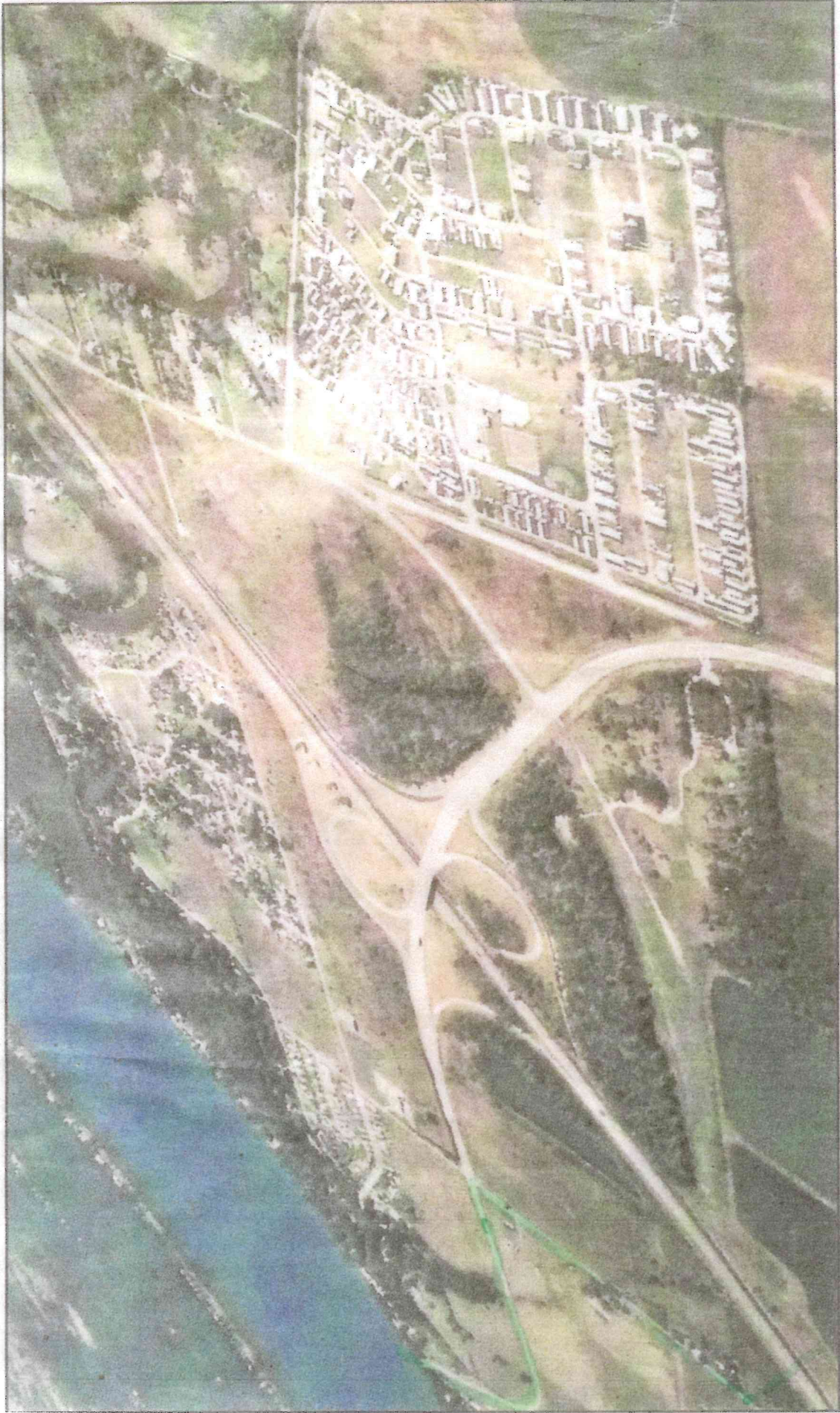
News

Y SINIA = BLACK DEATH

Danger in our water

Common water-borne pathogens in raw or inadequately treated sewage can result in illnesses ranging from mild stomach cramps to serious diseases.

Pathogenic agent	Source	Acute/chronic effects
Bacteria:		
➤ <i>Campylobacter jejuni</i>	Human/animal feces	Gastroenteritis, death from Guillain-Barre syndrome
➤ <i>Escherichia coli</i> (pathogenic strains)	Domestic sewage	Gastroenteritis, <i>E. coli</i> O157:H7
➤ <i>Leptospira</i>	Animal urine	Leptospirosis
➤ <i>Salmonella typhi</i>	Domestic sewage	Typhoid fever, reactive arthritis
➤ <i>Shigella dysenteriae</i>	Human feces, domestic sewage	Bacillary dysentery
➤ <i>Vibrio cholera</i>	Domestic sewage, shellfish, saltwater	Cholera, death
Viruses:		
➤ Adenovirus	Domestic sewage	Respiratory and gastrointestinal infections
➤ Calicivirus	Domestic sewage	Gastroenteritis
➤ Coxsackievirus (some strains)	Domestic sewage	Includes severe respiratory diseases, fever, rashes, paralysis, meningitis
➤ Echovirus	Domestic sewage	Similar to Coxsackievirus
➤ Hepatitis A	Domestic sewage	Infectious hepatitis (liver malfunction), may also affect kidneys and spleen
➤ Norwalk and Norwalk-like	Domestic sewage	Gastroenteritis



SUPPLIED PHOTO

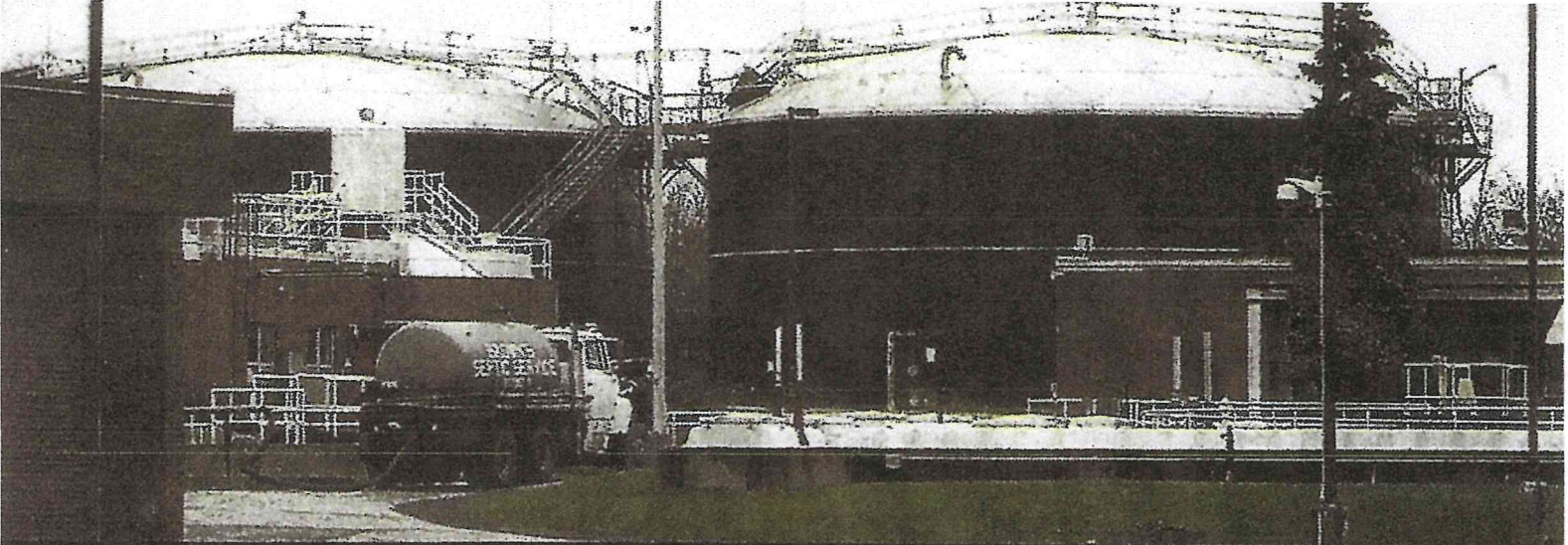
Aerial view of QEW showing area near Netherby Rd. and Grand Island on American side of Niagara River.

MAXIMUM CAPACITY 2,750

SEWAGE LAGOON

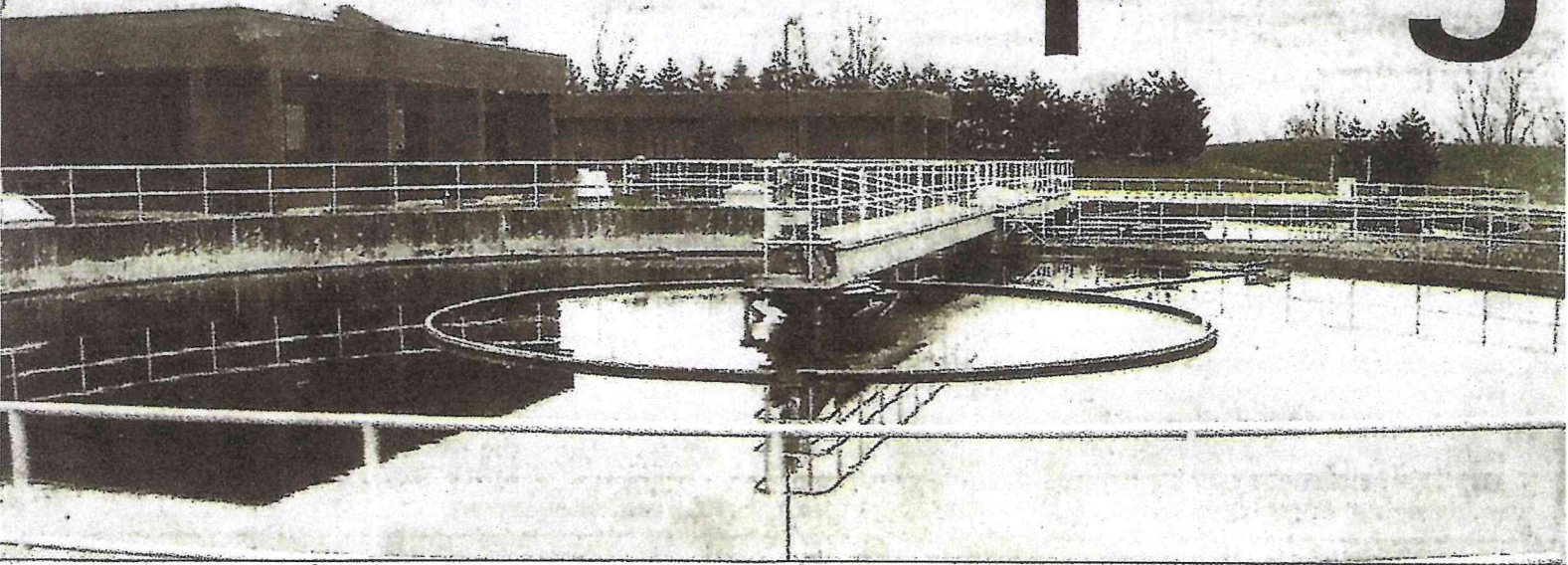
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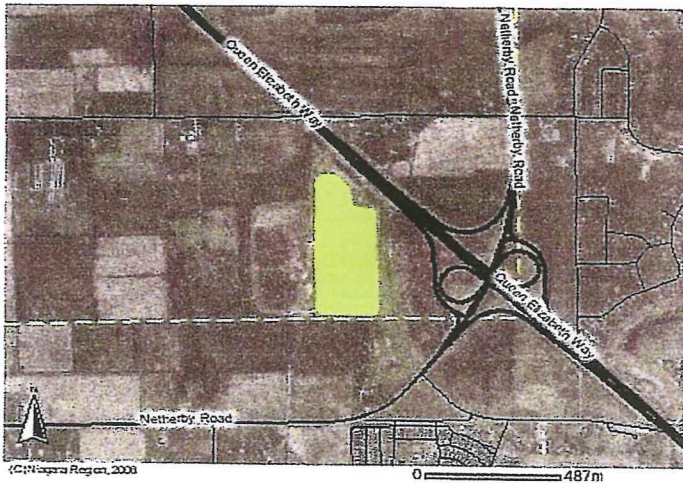
Despite the sewage being dumped into Lake Erie and the Niagara River, this treatment plant rarely operates at more than 60 per cent capacity.

Fort Erie dumping



N.R. NOV 22 2006

Osprey News Network graphic by Jane Walker



STEVENSVILLE/ DOUGLASTOWN SEWAGE TREATMENT LAGOON

In Niagara Region, a treatment lagoon is a man-made pond where sewage is stored and undergoes natural decomposition. Most lagoons are built in rural areas due to low population numbers. The Stevensville/Douglastown Lagoon provides wastewater treatment services for the communities of Stevensville and Douglastown. The lagoon is located northwest of the intersection of Netherby Road and the Queen Elizabeth Way. It is unmanned facility and it is operated by licensed operators at the Fort Erie Wastewater Treatment Plant (WWTP). There are three pumping stations that convey the sewage to the lagoon. If odour complaints are received they are recorded and corrective action is taken by staff from the Fort Erie WWTP.

The process consists of 2 cells operating in series. Cell #1, covering an area of 11.23 acres, is split by a hanging curtain to provide an aeration section and a facultative (anaerobic or without air) section. Ferric chloride is added to the aerated side for phosphorous removal. Cell #2, covering 12.9 acres, is facultative only. Treated effluent is pumped to the Niagara River.

2005 Overview

Population Served:	2,000 (approx.)	2,750 MAX
Total Design Capacity:	2.2 million litres	
Utilization:	45% of total design capacity	(FALSE)
Average Daily Flow:	1.131 million litres/day	
Total Amount of Sewage:	412 million litres treated in 2005	

The Stevensville/Douglastown Lagoon provided effective sewage treatment for the 2005 operating year meeting all Certificate of Approval compliance and performance objectives.

COPY

March 20 2017

FILE No FL 160838

ONTARIO MUNICIPAL BOARD.

ADJUDICATOR

A recap, since complaint sent November 15 2016
The town of Fort Erie has issued 3 more permits to extend extensions
to the sewage system.

Safari Niagara an amusement park and zoo also a concert
venue that holds thousands of concert goers 4 times a year.

Stevensville Plantation and the Ott Road sub-division.

We feel that the health and safety of 88 thousand users
of water from the Niagara River are now under high risk of E-Coli,
blue/green algae, high levels of nitrogen which can cause miscarriages
to pregnant women.

Our sewage lagoon (cess pool) full capacity of 2,750
according to testimony under oath at the OMB hearings 1980

now serves over 5,000 people

Walkerton will happen again, possibly this year, not
a remote possibility

The International Joint Commission will hold hearings on the
condition of the Great Lakes this March 29 th 2017 in nearby
St. Catharines, we intend to make our concerns known to them.

Yours Truly,

[Redacted]
[Redacted]
Stevensville Ontario

[Redacted]
[Redacted]
E-Mail [Redacted]@aol.com

[Redacted]

Citizens gear to fight lagoon at Stevensville

By ANNITA NEWELL
Review Staff Writer

Regional government appears to have a "fetish" about sewage lagoons, George Jardine, chairman of CAUSE, (Citizens Against Unsanitary Sewage Effluent) told the group Thursday. There is a better way of treating sewage in nearby Fort Erie, he says, but in the interests of saving money, the region is pushing forward with plans to put a sewage lagoon in Willoughby.

The CAUSE group gathered Thursday to plan strategy for next week's Ontario Municipal Board hearings into a zoning change to allow the lagoon within the boundary of Niagara Falls. It would serve the Stevensville-Douglastown area. CAUSE has hired lawyer Greg Parker to represent it at the OMB hearings in the city hall next week. He was at the meeting to help people design their presentations to the board. But first, a heated exchange with a resident who supports the lagoon took place and at one point the meeting was declared out of order.

Casimir Jaszewski, an engineer and resident of the Niagara River Parkway, tried to tell people at the meeting that piping sewage to the Fort Erie sewage plant is no better than treating it in a lagoon and in fact might be less effective. The plant provides only temporary treatment of sewage, he insisted. He contended a lagoon would be better than the present situation, contamination of Black Creek, which runs into the Niagara River.

But most others were there to

talk against the lagoon and its possible effect on the Niagara River.

Mr. Jaszewski said he had come in a last effort to convince people they might have been misled about the lagoon.

"Arguing tonight is not going to change anyone's mind," Mr. Parker said. "They (CAUSE members) are here to discuss and prepare for the hearing."

After Mr. Jaszewski left, Mr. Parker attempted to solidify positions and instruct members on how to handle questions they may face at the OMB hearings.

But the 30 or so residents were more interested in criticizing sewage lagoons.

The group did manage to catalogue most of its proposed arguments and decided they should each submit written arguments to Mr. Parker for his perusal.

Mr. Parker has been hired on a \$500 retainer with \$400 to be paid him for each day of hearings. The group now has about \$500 in cash and pledges after paying the initial retainer.

The sewage lagoon (proponents prefer to call it a waste stabilization pond) has been an issue since 1969 when it was first proposed. In recent years as the pollution of Black Creek became more and more dangerous, regional government has been working to implement the project.

The site is at the Queen Elizabeth Way and Netherby Road and will be designed to serve about 1,500 people in the Stevensville-Douglastown area. Niagara Falls city council approved the re-zoning from agriculture to industrial last November and Mayor Stella Ziff of Fort Erie, who had at first opposed the plan, came out in favor of it.

All that remains is the OMB hearing, intended to settle the rezoning issue only.

"We have to argue this from a planning standpoint," Mr. Parker said. But he added he will also use the heartfelt arguments of objectors to fight the lagoon.

Major concerns voiced Thursday were smell, possible con-



George Jardine holds a bottle of lagoon water from Niagara-on-the-

Lake. His group is fighting a similar plan in Willoughby.

(Review photo by Annita Newell)

tamination of the Niagara River, the potential for the lagoon to become a sludge disposal site, lack of policing to keep industrial waste out of the pond and the fact that those who will suffer the disadvantages, the CAUSE people, will not even be able to hook into the system.

"We're not against lagoons per se," Mr. Jardine said, but a lagoon in Black Creek. He said the area's low ground, clay soil, high water and winds all work against a properly-operating lagoon.

But Mr. Parker warned residents there is no guarantee a better system will be offered the area for sewage treatment if the lagoon is defeated.

"I don't want you to think you'll be hooked into the sewage system," he said, "but if we defeat this you might get a better form of treatment sooner."

Most homes in the area have septic tank systems for sewage disposal and the clay soil makes them clog up quickly.

The malfunctioning septic tanks, which may contribute to pollution in Black Creek, could be ordered cleaned up if the lagoon is defeated.

OMB hearing approves lagoon

By Beth Swinimer
Staff Reporter

Despite objections by nearby residents, Niagara Falls city by-law allowing for a waste stabilization pond (lagoon) was approved during an Ontario Municipal Board hearing last week.

The hearing, which began Sept. 29, in Niagara Falls city council chambers, fell one day short of its five-day scheduling, with A.J. Chapman, chairman of the two-man board, bringing in his decision Thursday.

Local lawyer Greg Parker, representing members of the group, Citizens Against Unsanitary Sewage Effluent (CAUSE), major objectors to the lagoon, had earlier predicted the hearing would not be completed during the five days set aside by the board.

The hearing was originally to be seven days.

Mr. Parker said the chairman was very aware of the need of technical evidence to be brought in during the hearing, and tried to calm the fears of the objectors when giving the board's decision.

He feels the hearing has caused the region to research the whole lagoon issue extensively and to provide a scientifically expert system.

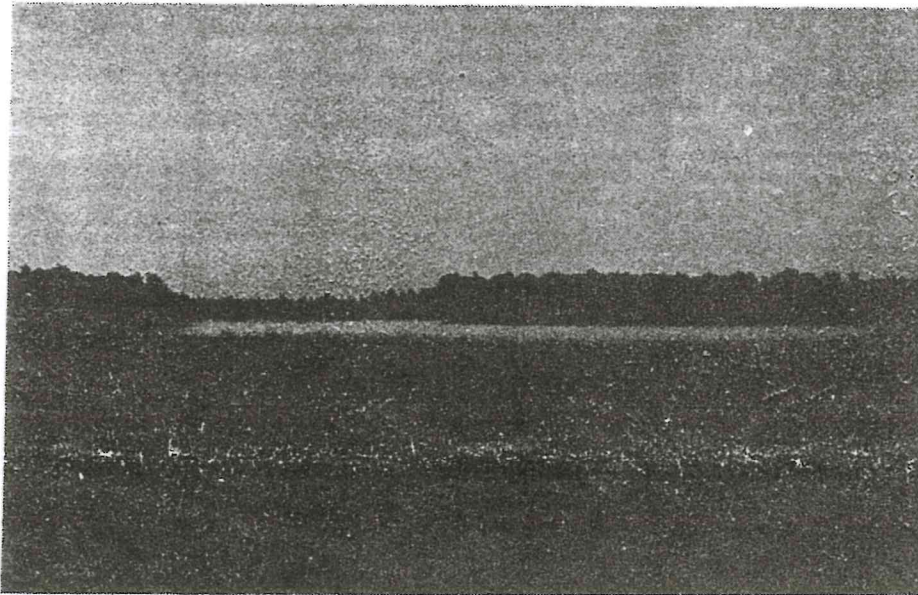
Mr. Parker also said the chairman agreed with members of CAUSE on the urgent need to clean up Black Creek and protect it against further contamination by sewage, a major concern of the residents.

Mayor Stella Ziff said the Town will now proceed with the designing of the collector sewage system for the proposed site as a result of this hearing decision.

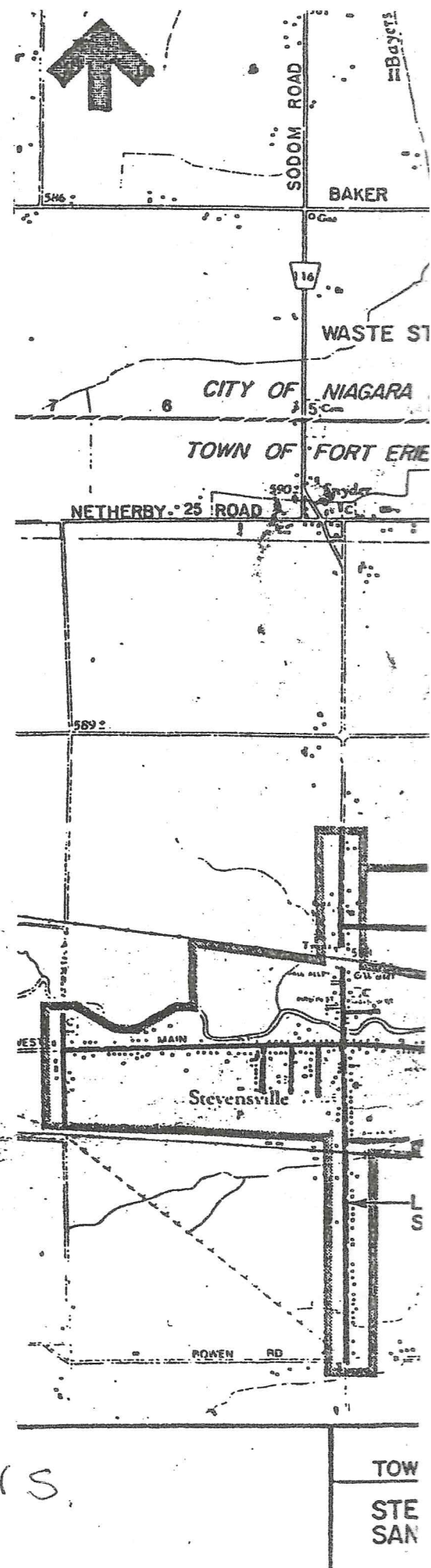
The lagoon is to be located in an excavation pit at the Netherby Road and Queen Elizabeth interchange.

Further discussion on the issues surrounding the lagoon and this hearing's potential effects will take place at the Regional level during a public works meeting Oct. 9, Mayor Ziff said.

An environmental hearing is required according to the regulations stipulated by the former Ontario Water Resources Commission, but no date has been set for such a hearing.



Q.E.W. view



OMB HEARING HELD
SEPT 29 - 1980 - FOUR DAYS

TOW
STE
SAN

Lagoon stiltily opposed

ERIE — Final approval of the Stevensville sewage lagoon by the Niagara Region is more concerned about the Black Creek area, Crystal Beach.

Mrs. Douglas, who has opposed the construction of the lagoon throughout the hearing process, said she doesn't know how she will be personally affected by the lagoon, but she will continue to buy her water in five-gallon bottles at a cost of about \$300 a year.

Mrs. Douglas said the private citizens who opposed the construction of the lagoon were at a disadvantage from the beginning. During the Ontario Municipal Board hearings held last year, Niagara Region and the province brought in a large number of expert witnesses. The opponents to the project just can't afford such expert counsel, she said.

In addition, she contended, the Region is more concerned about Fort Erie, Ridgeway and Crystal Beach.

The Region doesn't care about this area, she said, during the pollution problem that has been known about for years.

The decision by the approvals branch of the ministry was postponed several times as more information about the proposed lagoon was gathered. That didn't bother Mrs. Douglas.

The only encouragement (from the approvals branch) is that they did not rush it through, she said.

Constance Jardine, who lives less than a mile away from the lagoon site, says she and her husband will be directly affected if the lagoon has problems because they live downwind from it.

She said those who opposed the lagoon had hoped for a "more up-to-date" facility. The regulations on what can be placed in the Niagara River will be tightened in the future she contended. "Why not meet that situation now?"

She also said money was an important factor in the result of the hearing. "You don't have much chance with the powers that be," she said.

Another concern is the possibility of an industry using the lagoon to get rid of chemicals it was not designed to accommodate.

A woman from the area who did not want to be identified said she is concerned about who is going to monitor the lagoon's operation.

The provincial environmental assessment board recommended in February that the lagoon should be approved with two conditions.

The conditions set down by the board were that it be lined with clay or an artificial material and that ground and water be monitored.

Tom Cross, a director of approvals branch of the ministry of environment, said the certificate for the million lagoon was appropriate the condition that a surface and surface water area be carried out by the ministry and Niagara Region.

Mr. Cross said the study will determine whether the lagoon has equal quality in the area and all Niagara River.

Construction of the lagoon and the design of the take into the river will require an overall improvement in water quality in the Stevensville-Douglasstown area and in Black Creek. The dispersal pipe from the lagoon, 150 feet into the river and 5.5 metres below the surface, will provide better water quality along the river where many people have wells. The lagoon will serve people but has a capacity of 2,750.

*

1, OF ENVIRONMENT, TESTIFIED UNDER OATH.

TO THE O.M.B. THAT MAXIMUM CAPACITY

WOULD BE 2,750, NOW SERVES OVER

TWICE THE DESIGN CAPACITY!

(DISPERSAL PIPE DESTROYED OVER 20 YEAR AGO.)

*

Mr. Cross said all people objected to the project and hearings will be informed later as to the decision by the ministry.

FORT ERIE – On an average day, the Anger Avenue sewage treatment plant in Fort Erie is operating at less than 60 per cent capacity.

In dry weather, the plant has plenty of room to spare to meet the town's growth projections for years to come.

But when the really wet weather hits, even this modern plant isn't big enough to contain the deluge of storm water that overloads the town's sanitary sewers and causes basements to flood and sewage to spill into the upper Niagara River.

"(The plant) has lots of additional capacity," said Chado Brcic, Regional Niagara's director of water and waste water services.

"The real problem is up in the system," ahead of the treatment plant.

Most days of the year, the treatment plant – which services the needs of 17,000 of the town's 28,000 residents – handles just 58 per cent of the volume of sewage it's capable of processing.

But on four occasions last year, the region was forced to discharge partially treated sewage into the Niagara River because the plant couldn't handle the volume of relatively clean storm water making its way into Fort Erie's sanitary sewers.

That storm water enters the system through cracks in pipes and countless illegal sump pump, basement floor drain and weeping tile connections many homeowners aren't even aware of.

Called "plant bypass events," the incidents occurred during periods of heavy precipitation.

A total of 26,322 cubic metres of partially-treated sewage spilled into the Niagara River during the incidents, which ranged in duration from 30 minutes to 26%

ANGER ROAD
SEWAGE TREATMENT
PLANT - UNUSED CAPACITY

hours.

Brcic said the sewage received partial treatment and disinfection prior to being discharged into the river, though it bypassed the plant's secondary treatment process.

Sewage overflows aren't a new phenomenon, and they don't just happen in Fort Erie.

In 2005, there were 276 sewage overflow incidents in Niagara – accounting for 30 per cent of all sewage overflows reported in Ontario last year – according to a report by the Heavy Construction Association of Regional Niagara.

The report was compiled from Ministry of the Environment records.

Brcic said the region is spending millions of dollars each year to reduce the number of sewage overflows, and is investigating new technology to help separate storm water from sewage that needs to be treated.

Municipalities, too, are spending money to upgrading infrastructure and hunting down illegal sewer connections, he said.

Major storms, like the recent one in Fort Erie, bring attention to the issue of sewage overflows, but simply building bigger treatment plants isn't the solution.

Expanding the Anger Avenue treatment plant to capture the sewage discharged into the river from the plant during a few wet weather events each year isn't cost-effective, Brcic said.

"I don't know how many millions one would have to spend to capture that (volume)," he said.

In Fort Erie, sewage overflows can occur at several other points along the system "up stream" of the treatment plant, including the Catheline Street, Lakeshore Road and Dominion Road pumping sta-

tions.

To relieve pressure on the trunk lines and pumping stations servicing the thousands of properties in Crescent Park and old Fort Erie, one proposal is to construct a trunk line connecting Crescent Park to the Anger Avenue plant by way of a corridor north of Garrison Road.

"(The plant) has lots of additional capacity. The real problem is up in the system," ahead of the treatment plant.

Chado Brcic

The project, known as the Frenchman's Creek trunk sewer system, is in the design phase. Its primary function will be

to open large tracts of land on either side of the QEW at Gilmore Road for residential and industrial development.

Construction of the trunk sewer is key in the town's long-term economic development plans.

Some Fort Erie politicians have touted the Frenchman's Creek sewer project as a definitive solution to Crescent Park's sewage problems.

They see it as one that will put an end to sewage backups in basements and reduce the amount of sewage discharged into Lake Erie and the Niagara River.

Brcic said he's hopeful that will be the case but so far, engineers working on the project have yet to determine if it's feasible to make the new connection to Crescent Park. "It's a possible connection," Brcic said.

Community involvement a key for Jardine

When it comes to politics, George Jardine had his first brush with future political greatness while growing up during the Great Depression in Liverpool, England.

"I used to see (future British prime minister) Harold Wilson riding his bicycle up the street," said Jardine, who is running for a seat on Fort Erie Town Council representing Ward 6 in the Oct. 25 municipal election. "He was a school teacher in Liverpool when I was a young boy. He would wave as he rode past. He would ride his bicycle up to the top of the hill, stop, light his pipe and then ride all the way down the other side."

Wilson went on to become prime minister of Great Britain during some turbulent times in the mid-1970s and by that time, Jardine had immigrated to Canada, first making a home in Niagara Falls in 1968 before settling in Fort Erie at his current home in Black Creek.

He has always believed in community involvement and has been active in the Stevensville/Black Creek Community for more than 30 years. He took part in floodplain mapping, helped place restrictions on what can go into the sewage lagoon in Black Creek to help curb pollution heading downstream to the Niagara River.

He now favours closing the lagoon down altogether.

"The World Health Organization doesn't approve of sewage lagoons, so why do we have one?" Jardine said.

Jardine was a founding member of the Black Creek Community Centre, and served at the Black Creek Community Association's vice-president. He helped with the purchase of a former school, which was converted into the Black Creek Community Centre. Along with his late wife, Connie, Jardine ran bingos for many years, something he still does every Tuesday.

He said he is also concerned with the upward spiral in taxes the town has seen over the past four years and is troubled by town's support for the Economic Tourism and Development Corporation and The Community Gaming Corporation. He also concerned that the town signed on to contribute \$500,000 annually to the Fort Erie Live Racing Consortium to help run Fort Erie Race Track.

He also thinks it's time the town had more efficient transit.

"A proper system of transit is needed," Jardine said. "Not one that comes by at six in the morning and then comes back at six at night."



Jardine

Water-borne diseases new Great Lakes threat

Report cites new drug-resistant types of bacteria

Curbs at source needed to restrict use of antibiotics

KATE HARRIES
ONTARIO REPORTER

Emerging new diseases not previously contracted from water, carried by antibiotic-resistant pathogens, may present the greatest risk to the aquatic environment and public health, a report on water quality in the Great Lakes warns.

Bacteria spread in the environment through indiscriminate use of antibiotics in humans and animals must be better managed at source and targeted by new drinking water and sewage treatment technologies, members of the International Joint Commission said yesterday.

Its report also calls for:

★ Immediate action by Canada and the United States to address the continuing threat posed by aquatic invasive species.

★ Provision for federal and provincial sharing in land use decisions, currently made at the municipal level, to control urban sprawl, which leads to increased runoff of pollutants.

★ Epidemiological studies to better understand potential effects on brain development of

people exposed to methyl mercury and PCBs and to make fish advisories "clear, simple and consistent."

On balance, commission co-chairs Herb Gray of Canada and Dennis Schornack of the U.S. told a news conference in Windsor, progress is being made.

On the upside, Schornack noted, "Lake Erie is no longer considered dead . . . It's not in the same condition as it was in 1978."

At the same time, unexplained dead zones identified in the lake are a concern, Gray said, "not only for Lake Erie itself but for what it could be a harbinger of for other lakes."

Environmentalists say the report should be a wakeup call to politicians who do not take water quality issues seriously.

"The report, on close read, does give one dramatic concern in terms of the integrity of the Great Lakes," said Paul Muldoon, a lawyer with the Canadian Environmental Law Association. "I'm not sure that the alarm is being rung loud enough and long enough."

Mark Mattson, president of Lake Ontario Waterkeeper, an advocacy group, said the commission needs to hold itself to a higher standard.

"We hear often how much better things are than they were in 1972. That's getting a little bit tired," Mattson said, noting that major environmental improvements were made in the 1980s

and the comparison should be made to 1990 or 1995, before provincial cuts rolled back environmental controls.

The report is the 12th in a series issued every two years that reviews progress by the Canadian and American governments and Great Lakes states and provinces in achieving the objectives of a 1978 water quality agreement.

One of eight recommendations calls for co-ordinated planning from all levels of government to protect drinking water from industry, urban sprawl, aging infrastructure and large-scale animal operations.

Instances of water-borne disease are probably underreported, the report notes; estimates from U.S. studies suggest that up to 40 per cent of gastrointestinal illness may be of unidentified water-borne origin.

Potential sources of pathogens include pet wastes, waste from land-based sludge applications, manure storage piles and leaking septic tanks.

A local situation highlighted in the report is the routine closing of Huron County beaches due to fecal bacteria found in numerous streams that feed into Lake Huron. "The contaminants are concentrated in the near shore area which is also the critical habitat area for many aquatic organisms," the report says.

The source of the bacteria continues to be a matter of controversy, involving finger pointing

by local farmers, municipal treatment plant operators and cottagers on septic systems.

In response, Bluewater Shores Ratepayers Association has retained microbiologist Gary Palmateer to do a DNA fingerprinting of the bacteria along one agricultural drain to determine their source and try to get political accountability.

Palmateer, an environment ministry scientist who started a private laboratory when he was laid off in the mid-1990s, used to test Walkerton's water until he was replaced by another firm. Soon after, seven people died from drinking tainted water.

Results from his Bluewater Shores study should be complete within about six weeks, he said in an interview yesterday.

Palmateer will be testing not only water samples from the drain but sediments, which he said give a history of contamination.

Unusual bacteria thriving near lakes

A little-known organism that could be a health hazard has been found in large quantities in sewage lagoons near recreational lakes in Southern Ontario.

The bacterium, called *Yersinia enterocolitica*, is probably linked to human infections such as gastroenteritis, which causes vomiting and diarrhea, according to a draft version of a study being prepared for Ontario's Environment Ministry. Concentrations of up to 100,000 organisms in 100 millilitres of water were found in four sewage lagoon systems tested up to August, 1979.

Tests of lake water in the Muskoka-Haliburton region showed much lower concentrations of the microbe — two to 500 organisms in 100 ml of water in tests done between February and April, and lower again in warmer months.

However, the report's author expressed concern about the practice of draining sewage water into the lakes during colder months because *Yersinia* thrives in cold, deep water.

The relationship of the microbe to water temperature is especially important, the study says, "since many lakeshore residents draw their household water supplies from the deeper, colder levels of lakes."

Sewage lagoons at Bracebridge, Huntsville, Port Sydney and Haliburton were studied as well as 29 lakes and rivers.

Larry Vlassoff of the ministry's microbiology division stressed that this was not a final report and said the ministry considered *Yersinia* to be "at the lower end of the scale of problem organisms." The practice of draining effluents into lakes is not a problem, he said in an interview, because the sewage water from Muskoka lagoons is now treated with chlorine and that will eliminate *Yersinia*.

However, Don Maitland, a spokesman for the ministry's Gravenhurst office, said lagoon water is treated with chlorine only when a lagoon becomes too full in the summer and an extra runoff is necessary. He said the Bracebridge lagoons discharge water treated with alum, which removes phosphate, twice in the winter and twice in the spring.

Mr. Vlassoff said if *Yersinia* posed a health risk many cases of illness related to it would be reported. He said checks of Muskoka-Haliburton hospitals didn't yield incidences of such outbreaks.

However, the report says, one of the problems with detecting *Yersinia*-related illnesses is that doctors are not familiar with the organism and many diagnostic laboratories don't test for this newly discovered microbe or wouldn't recognize it.

The study found *Yersinia* densities upstream of the Ontario Pioneer Camps' lagoon system near Port Carling of 200 per 100 ml of water, while immediately downstream of the lagoon they were 1,800 and 30,000 in two analyses.

The study suggests a link between lagoon seepage or nutrients in the lagoon and *Yersinia* in streams or drainage ponds nearby. However, Mr. Vlassoff said the relation was too vague and changes would be made to references to seepage in the final report.

SEWAGE LAGOONS
BRACING POOLS

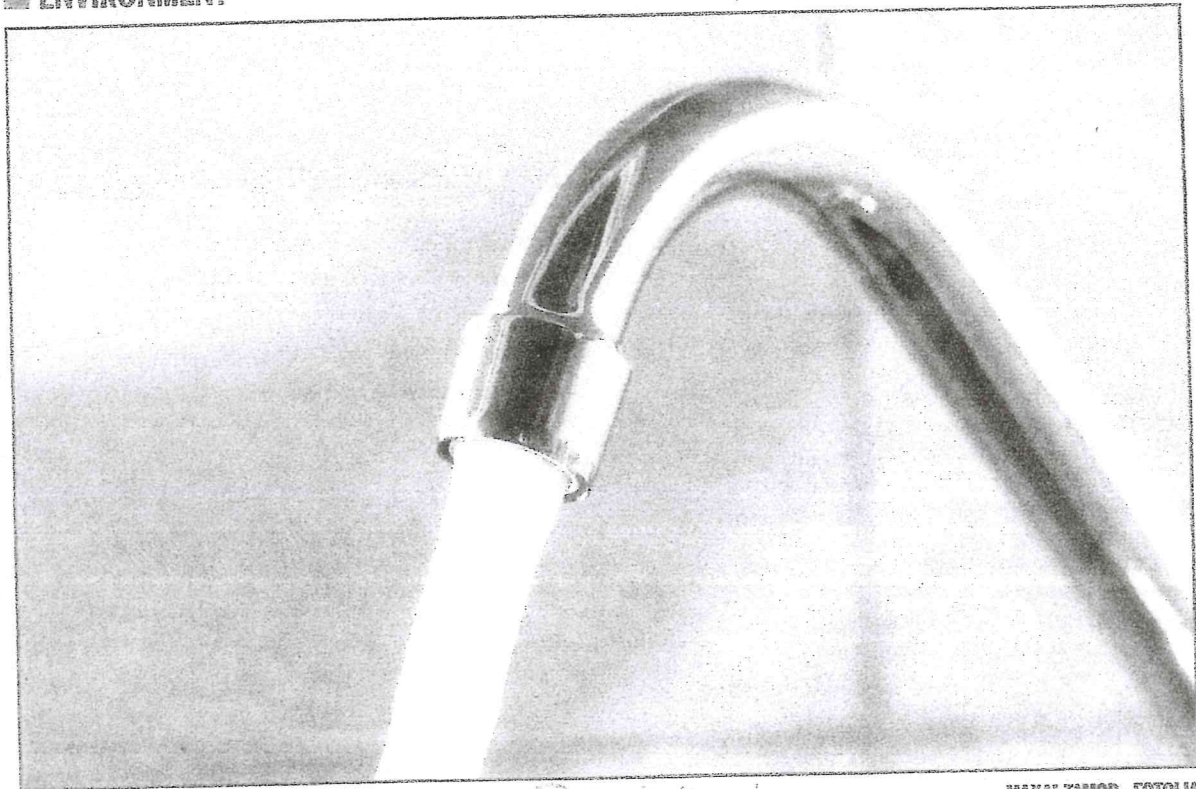
YERSINIA
ENTEROCOLITICA

ALSO - E-COLI - NOW RESISTANT
TO MOST ANTI-BIOTICS

NIAGARA FALLS USES THIS EFFLUENT

CHIPPAWA WATER TREATMENT PLANT

BELOW SEWAGE OUTFALL



2013 DEC 23

REVIEW

MAXAL TAMOR - FOTOLIA

Water protection measures approved

ROB HOULE
QMI Agency Niagara

You can't live without it, so it's important it be protected.

Since 2007, the Niagara Peninsula Source Protection Committee and its municipal and community partners have been working on a plan to protect Niagara's drinking water sources.

That plan — the Niagara Peninsula Source Protection Plan — was given the thumb's up last week by the Ministry of the Environment.

Specifically, the plan looks at keeping contaminants out of water near intakes to four of six Niagara Region water-treatment plants — those in Welland, Thorold, Port Colborne and Nia-

gara Falls. The treatment plants in Grimsby and Fort Erie are excluded as they draw water from pipes that stretch well out into Lake Ontario and Lake Erie respectively. "It was a very collaborative approach," said Brian Wright, watershed technical services manager with the Niagara Peninsula Conservation Authority. "And a collaborative project where the municipalities were involved, where Niagara Region was involved, as well as the conservation authority and the Ministry of the Environment.

The Ministry of the Environment set the rules and regulations and provided the funding and some of the guidance, and then staff of the conservation authority as well as staff of the municipali-

ties did a lot of the leg work.

It was all guided by the source protection committee."

There are 18 other source water protection committees provincially, formed in each of the province's conservation authority areas. The committees were formed following Royal Assent of the Clean Water Act in 2006.

Highlights of the plan in Niagara include developing a risk-management plan to deal with agricultural activities like the spread of manure on farm fields near Decew Falls and the implementation of municipal plans to deal with the spill of hazardous materials from roadways into Lake Gibson, the Welland Canal, Welland's recreational canal, Chippawa Creek and the Welland River.

Funds for safe water slammed as 'a dribble'

AUG 11 - 2000 TORSTAR

Critics say billions needed to upgrade Ontario plants

BY RICHARD BRENNAN
QUEEN'S PARK BUREAU

The Ontario government will spend \$240 million on upgrading small-town water and sewage treatment plants over two years to bring them into compliance with new drinking water regulations.

But critics say it is far too little for the problems that municipalities face in dealing with the fall-out from the Walkerton tainted-water tragedy.

NDP environment critic Marilyn Churley (Broadview-Greenwood) said the government money was "a dribble when what is needed is a flood of investment . . . I'm absolutely stunned."

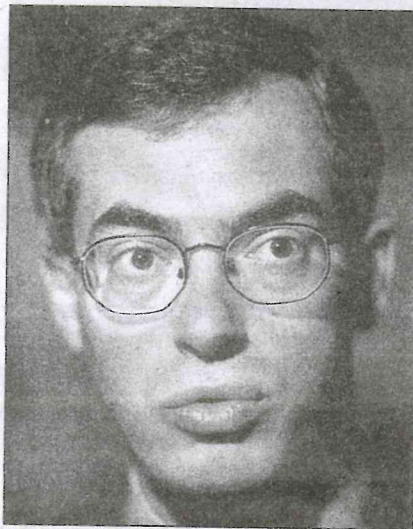
Liberal Leader Dalton McGuinty said the government is more interested in making headlines than making headway on ensuring Ontario drinking water is safe.

"We still don't have any evidence whatsoever of a . . . sincere effort on the part of (Premier) Mike Harris to guarantee all Ontarians that they can enjoy safe and clean drinking water," McGuinty said.

"\$120 million dollars (a year) is less than we used to spend on an annual basis in Ontario before the Mike Harris government (came along)," he said.

The Association of Municipalities of Ontario says the government's own figures show it would cost \$9.2 billion to upgrade water and sewage treatment facilities in Ontario.

Municipal Affairs Minister Tony Clement yesterday announced that



TONY CLEMENT: Minister says government will spend \$240 million over next two years.

municipalities of less than 100,000 can apply for funding to the Ontario Small Town and Rural Initiative (OSTAR) within the next few days.

"The province will help those smaller municipalities who cannot pay the full cost of major upgrades to their water and sewer systems . . . by providing at least \$240 million for public health and safety infrastructure.

"The OSTAR program will be based on need and the ability to pay," he said, adding the province will determine how much a municipality should be able to kick in.

Earlier this week, the government announced new regulations, which among other things, called for improved testing and treatment of water, and stricter procedures for reporting contamination. The regulations also require that many water-treatment

systems be upgraded.

Clement said it's the government's long-term goal to have both large and small municipalities charge their customers more for water so they can pay for their own water and sewer upgrades.

There are 630 water-treatment plants in Ontario and at least 30 municipalities still don't have filtration systems.

In mid-May, six people died and more than 2,000 were ill after drinking water contaminated with E. coli bacteria in Walkerton.

A public inquiry into the Walkerton tragedy is to begin this fall.

Clement acknowledged the \$240 million was already set aside within the provincial budget for infrastructure programs for small town and rural Ontario and conceded there is a chance that some of it might even be spent on road improvements.

"Municipalities will be asked to identify their top public health and safety infrastructure investment priority. We expect many will propose a water or sewer project to bring them into compliance with the new standards," he said.

A government release specifically says Greater Toronto Area municipalities, Hamilton, Waterloo and Niagara regions, Greater Sudbury, Ottawa, Thunder Bay, London and Windsor cannot apply, noting they are eligible for other provincial programs.

Clement also said Ontario hopes by the end of September to enter into an agreement with the federal government's infrastructure program so that there will additional money made available.

"In fact we will ask the federal government to match this OSTAR funding," he said.

ALSO BLACK CREEK,
PAST EIGHT YEARS

APRIL 14-87

Fort Erie workers pump raw sewage into lake

BY RUDY PLATIEL
The Globe and Mail

Sewage-polluted storm water was being pumped untreated into the Great Lakes yesterday by workers in Fort Erie, Ont.

The apparent anomaly — municipal workers polluting the lakes — is just the corner of a billion-dollar problem which could take a decade to correct if the money were suddenly found, something that seems unlikely.

Ontario Government officials say the problem is too big to be handled without help from Ottawa, which has again rejected a call for aid from Environment Minister James Bradley.

While chlorination prevents any threat to drinking water, "from a recreational and esthetic point of view, I don't think anyone can deny that it is a potential problem," said Jim Bishop, director of the water resources branch of the Environment Ministry.

Thirty to 40 times a year, after heavy rainstorms, Fort Erie town workers pump overflowing storm water, contaminated by sewage, into a creek flowing into Lake Erie.

The reason, as in many other Ontario municipalities, is that storm and sanitary sewers are connected.

Town officials acknowledged yesterday that the sewage treatment plant cannot cope when the runoff from heavy rain storms spills into the sanitary system.

Fort Erie Mayor Heinz Hummel said that without pumping, the overflow would back up, flooding many residential basements.

"Whenever there is a heavy rain, we know we have to get the pumps out. It only takes about a half-hour ... before the system fills itself up," Mr. Hummel said.

Connected systems are no longer built, but many new developments are hooked up to 50- or 100-year-old systems. The problem occurs with varying severity in many municipalities.

Mr. Bishop said having connected systems is "probably more usual than having (them) totally separated."

Erv McIntyre, the Environment Ministry's executive director of approvals and engineering, said it will cost from \$1-billion to \$1.5-billion to deal with the problem in scores of cities and towns across Ontario.

Studies of what to do, begun a year ago, will themselves cost \$30-million and could take five years to complete, Mr. McIntyre said, adding that "there isn't a simple answer to this."

Separating the storm and sanitary systems is not the answer in some municipalities. "In some of the bigger urban areas, you are going to have to treat storm water too ... because of all the junk you pick up off the street; because of all the dogs that we have; because of all the birds we have."

Solutions may vary from holding tanks to contain the storm flow, which can be fed slowly back into the treatment system later, to as little as digging up and plugging the leaking joints on an old systems to stop groundwater leaking into the sewer.



Creek carries untreated sewage-polluted water into Lake Erie after heavy rains.

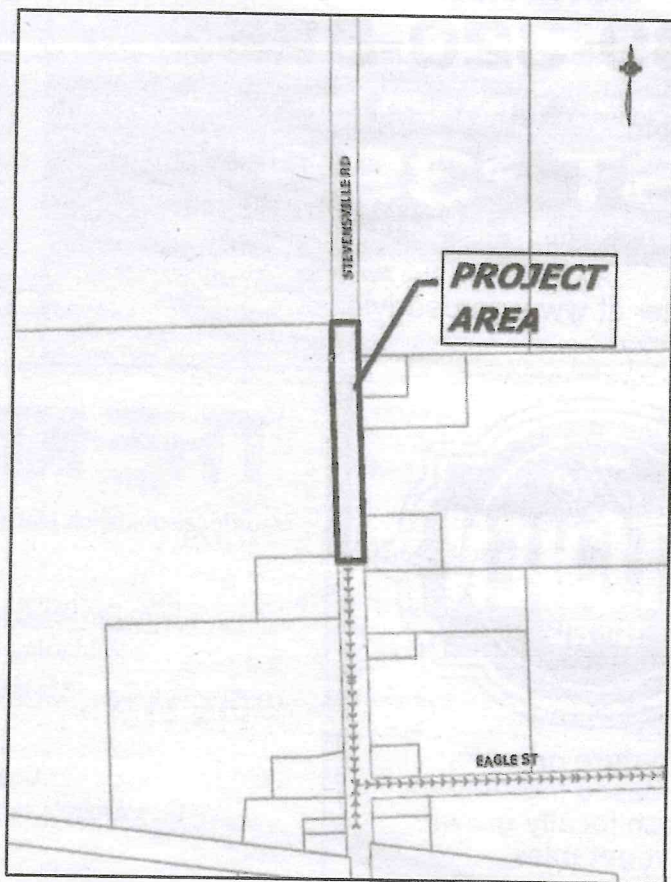
It may be, Mr. McIntyre said, that in cases where "the discharge is to a non-swimming area, where there isn't a decent beach, you kind of say to yourself, should you spend that kind of money?"

Mr. Bradley, the Environment Minister, has added his voice to other appeals, including one from the Federation of Canadian Municipalities. The FCM has asked Ottawa to provide up to \$4-billion toward an estimated \$12-billion problem of deteriorating "municipal infrastructure" of sewers and roads across the country.

NOTICE OF MUNICIPAL WORKS

CONSTRUCTION CONTRACT NO. ISE-16T-SRSE16 STEVENSVILLE ROAD SANITARY SEWER EXTENSION

Please be advised that construction activity is planned to start for the 112 m extension of municipal sanitary sewer along Stevensville Road. The sewer extension is required to provide sewer service for lands within the existing urban area boundary but without sewer frontage. The project duration is expected to be from November 21 until December 23, with final reinstatement works being completed in the spring. This section of Stevensville Road will be subject to periodic lane restrictions during the work.



If you have questions or concerns about the project, please contact:

Jason Schooley, P.Eng.

or **Robert D. Judd, P.Eng.**

Upper Canada Planning
& Engineering Ltd.

Municipal Engineer - Infrastructure Renewal
Infrastructure Services, Engineering Division

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E-mail: rjudd@forterie.ca

email: jschooley@ucc.com

website: <http://www.ucc.com>

TUESDAY, NOVEMBER 17, 1981

Not a drop to drink

Those concerned with the quality of water in the Niagara River are frequently told they shouldn't worry, because repeated tests have shown the water meets current provincial and federal standards.

It's becoming apparent that this reassurance is worthless, because those standards are worthless.

As Dr. Frank Mills, Niagara's medical officer of health, pointed out recently, no one knows if water meeting 1981 standards might not have disastrous effects, years from now, when doctors have

the benefit of hindsight to determine the effect of various chemicals on the human body.

This week we were told the river contains materials for which no government safety standards exist, because it's not even known what these materials are.

Pollutants in the water have outrun the government's ability to test them, and therefore its ability to give the public a true picture of the situation. Yet the government continues to claim that the river water is safe to drink.

After Walkerton, 'we have a keen awareness of what they're going through'

ROBERT BENZIE
QUEEN'S PARK BUREAU CHIEF

Eleven years after E. coli bacteria contaminated the water in Walkerton, killing seven people and leaving 2,300 ill, Ontario is still paying heed to lessons from the tragedy, says Environment Minister John Wilkinson.

In the wake of a mysterious E. coli outbreak in raw vegetables that has left 18 dead and 1,500 sick in Europe, Wilkinson was asked Thursday about the disaster here in May 2000.

"Our condolences go out to the people who are affected in Europe," the minister said in an interview. "In Ontario, we have a keen awareness of what they're going through."

A 2002 judicial inquiry concluded that drastic cuts to the environment ministry in the mid-1990s by former Progressive Conservative premier Mike Harris led to insufficient oversight that allowed Walkerton's water supply to become tainted.

Wilkinson noted that Premier Dalton McGuinty's Liberals have implemented 121 recommendations from Mr. Justice Dennis O'Connor's 692-page report to improve the safety of drinking water across the province.

That's part of why Ontario is "absolutely" a safer and healthier place than it was a decade ago, he said.

"We didn't gut the resources that were there to protect people," said Wilkinson, noting the government spent \$30 million on the Walkerton Clean Water Centre, which has trained more than 23,000 people since opening in 2004.

"We have 33 more water inspectors. (The ministry of agriculture) has hired more food inspectors as well. That's what people count on government to do," he said. "When they go to bed at night they need to know that their government is there to protect them."

With a provincial election on Oct. 6 and Tory Leader Tim Hudak promising to cut 2 per cent of all government spending — except in health care and education — to tackle the \$16.7 billion deficit, Wilkinson said Ontarians should be leery.

"The first thing they (the Harris Tories) did was gut this ministry," he said.

But Hudak's platform, entitled Changebook, insists that a PC government would "protect all programs that safeguard water quality."

NDP Leader Andrea Horwath said the Lib-



“

The first thing they (the Harris Tories) did was gut this ministry

ENVIRONMENT MINISTER JOHN WILKINSON

eral government should not be crowing too much about making Ontario safer.

"I get concerned about all of the recommendations about Walkerton being implemented, which they haven't, so I think that has to raise our concern," said Horwath.

"When it comes to the proliferation of superbugs — whether it's in Germany, whether it's in Ontario or all over the world — I think we have to pay real attention to what's happening particularly in our hospital system, what's happening in terms of standards of cleanliness . . . who's doing that work to keep our hospitals clean."

With the E. coli risks in Europe raising alarm bells here, citizens and medical practitioners alike should continually remind themselves that regular handwashing is one of the best defences against illness, said Dr. Ben Chan, president of Health Quality Ontario, a government watchdog agency.

"If we can focus on some of the basics we can be better poised to tackle some of these emerging problems," said Chan.

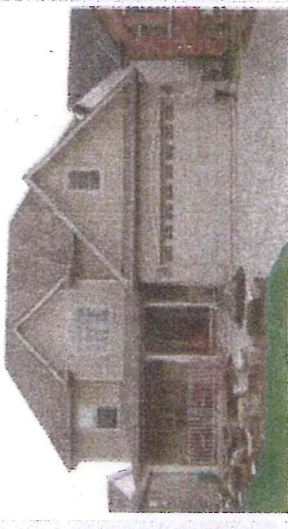
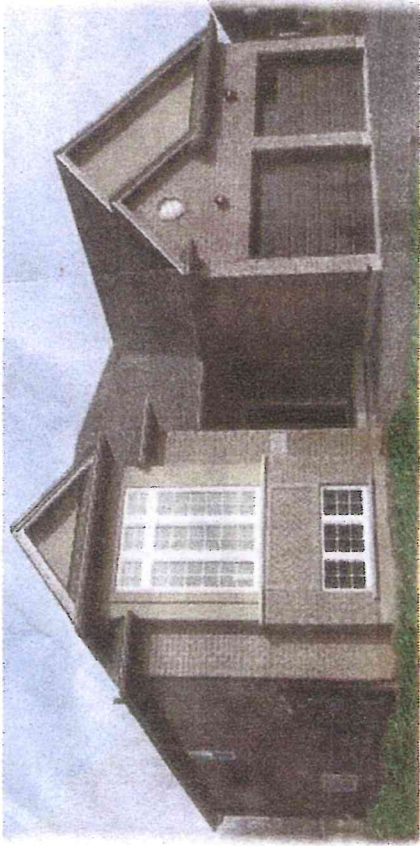
2008

WALKERTON
YEAR

2,000

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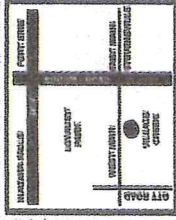
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INTERNATIONAL JOINT COMMISSION

29 March 2017

My name is [REDACTED] resident of [REDACTED] since 1971.

I am retired from General Motors, a former WHMIS teacher, I supported Marguerite Howe of N.O.T.L., OPERATION CLEAN fighting pollution of the Niagara River back in the 1970s.

In Black Creek I was Chairperson of a group of Niagara Parkway also Douglastown residents, unhappy with a proposed sewage lagoon which could impact our environment and health.

The group's name was CAUSE (Citizens Against Unsanitary Sewage Effluent), we had standing at the O.M.B. hearings held in Niagara Falls Ontario.

"Rulings of the Ontario Municipal Board" are binding, according to literature of that Ontario Commission. These rulings are routinely ignored by Fort Erie Council, many other residents have made similar complaints regarding the attitude to enforcing O.M.B. decisions.

Our efforts to protect our water sources Black Creek and Niagara River were negated by our elected officials. A sewage lagoon with a maximum capacity of 2,750 now accepts fecal wastes nearing 5,000. The lagoon is the same size, as when it was built, back in 1982.

Our lagoon was slated to be decommissioned 2002, since then raw sewage is dumped into Black Creek at two locations every Spring causing E-Coli, nitrogen enriched effluent to contaminate drinking water source of 88 thousand residents of the City of Niagara Falls.

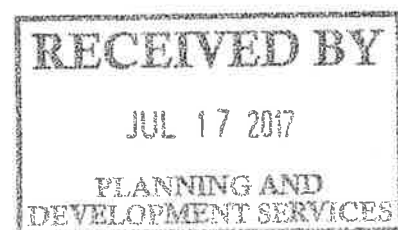
E-Coli and Nitrogen can cause a host of medical problems, from miscarriages, blue babies, stomach aches or death.

This has already happened in Ontario, when a native community had to be evacuated 3000 people, many deaths, when a sewage lagoon outfall, fed sewage into the downstream water treatment plant, many will be on medication for life.

The slated closure in 2002 was stopped by two Regional Councillors who have served as Fort Erie mayors, since 2005 the very reason the lagoon, has been negated by extending illegal sewage lines allowing over 8 sub divisions to be built.

These illegal extensions are causing huge violations of the "Great Lakes Clean Waters Act" also "Ontario Clean Waters Act"

The World Health Organisation no longer endorses sewage lagoons for third world countries, Ontario has over 20 of them, last year in South Carolina flooding caused many lagoons to break open, spilling effluent into waterways.



Page 2.

My feeling is we do not need any more new laws, we need a mechanism to enforce the laws we already have, an agency with teeth.

One of the voices expressing concern about polluting the Niagara River was MPP Vince Kerrie Senior who later became Minister of the Environment Ontario.

Our concerns are about health and safety of our residents, no longer a could happen, but a will happen, putting a billion dollar tourist destination at high risk, along with 88 thousand residents of Niagara Falls, this is an impending crisis situation,

not too long ago in Germany, 18 people died and thousands were sick from eating vegetables tainted with E-Coli, we here in Niagara need action, not more studies.

[REDACTED]
[REDACTED]
Stevensville Ontario

[REDACTED]
[REDACTED]@ AOL . COM

[REDACTED]

Danielle MacKinnon - GM BluePlan

From: Julien Bell - GM BluePlan
Sent: Wednesday, July 26, 2017 12:20 PM
To: Lambert, Phill; Lindsay Bowman - GM BluePlan
Subject: RE: Stevensville Lagoon

As discussed, we will amend the final document based on the ECA value

Julien Bell, P.Eng.
Infrastructure Planning, Partner

GM BluePlan Engineering Limited
Royal Centre | 3300 Highway No. 7, Suite 402 | Vaughan ON L4K 4M3
t: 416.703.0667 | c: 416.254.6247
julien.bell@gmblueplan.ca | www.gmblueplan.ca



From: Lambert, Phill [mailto:Phill.Lambert@niagararegion.ca]
Sent: Tuesday, July 25, 2017 10:48 AM
To: Lindsay Bowman - GM BluePlan <Lindsay.Bowman@gmblueplan.ca>
Cc: Julien Bell - GM BluePlan <julien.bell@gmblueplan.ca>
Subject: RE: Stevensville Lagoon

Hi

I believe that the 31 L/s (2.7 MLD) is from a draw and fill test for the pump.

We should use the 2.3 MLD as that is what is identified in the MOECC ECA.

We can talk about this further tomorrow morning if you want.

Thanks

Phill

From: Lindsay Bowman - GM BluePlan [mailto:Lindsay.Bowman@gmblueplan.ca]
Sent: Tuesday, July 25, 2017 7:45 AM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Cc: Julien Bell - GM BluePlan <julien.bell@gmblueplan.ca>
Subject: RE: Stevensville Lagoon

Hi Phill,

The capacity of the Lagoons was provided by Region staff as 2.7 MLD. See below:

Station Name	Source: 2011 MSP			Source: ECA			# of pumps in station	# of Pumps Used for Firm Capacity	Assumed Firm Capacity (L/s)	Assumed Firm Capacity (MLD)	Assumed Firm Capacity (L/s)	Assumed Firm Capacity (MLD)	Region Current	Region Current (MLD)	Region Future	RMON # of Pumps in Station	RMON # of Pumps for Firm Capacity
	Firm Capacity (L/s)	Firm Capacity (MLD)	Total Dynamic Head (m)	Capacity (L/s)	Capacity (MLD)	Year											
Stevensville Douglastown														0.0			
Stevensville Douglastown Lagoons	26.5	2.3	12	26.5	2.3	2008	2	1	31	2.7	27	2.3	30.7	2.7	50.0	2	
Stevensville SPS	50	4.3	14.5	50	4.3	2010	2	1	27	2.3	50	4.3	27.0	2.3	50.0	2	
Black Creek	41	3.5	22	41.3	3.6	1989	2	1	41	3.5	41	3.5	?		41.3	2	
Douglastown SPS	51	4.4	23.6	29.1	2.5	2010	2	1	55	4.8	51	4.4	55.0	4.8	50.7	2	

Thank you,

Lindsay Bowman, M.Sc., E.I.T.

Infrastructure Planning

GM BluePlan Engineering Limited

Royal Centre | 3300 Highway No. 7, Suite 402 | Vaughan ON L4K 4M3

t: 416.703.0667 | c: 519.635.5145

lindsay.bowman@gmblueplan.ca | www.gmblueplan.ca



From: Lambert, Phill [<mailto:Phill.Lambert@niagararegion.ca>]

Sent: Monday, July 24, 2017 3:59 PM

To: Lindsay Bowman - GM BluePlan <Lindsay.Bowman@gmblueplan.ca>; Julien Bell - GM BluePlan <julien.bell@gmblueplan.ca>

Subject: Stevensville Lagoon

Hi

I was looking at the Stevensville Lagoon and had a question.

The Volume 4 Report shows a capacity of 2.7 MLD, but the 2008 C of A has a capacity of 2.289 MLD (attached).

The November 2016 servicing workshop we had with Fort Erie (pg 41) shows a graph using the 2.289 MLD as the capacity, but the final report uses 2.7 MLD as capacity. At the end of the day, I'm not sure it really matters since they are both at or less than 80% of capacity at 2041, but wanted to check to see where the 2.7 MLD was sourced from.

Thanks in advance

Phill

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Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Tuesday, August 01, 2017 8:43 AM
To: Lindsay Bowman - GM BluePlan; Chris Hamel - GM BluePlan; Julien Bell - GM BluePlan
Subject: FW: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region
Attachments: Hunter Letter to P_Lambert-July31_2017.pdf

Hi

I would like to discuss this tomorrow on our call as well.

Thanks

Phill

From: Garry Hunter [mailto:ghunter@hunter-gis.com]
Sent: Monday, July 31, 2017 5:30 PM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Cc: Jean Grandoni <resourcesfirst-jg@myfastcom.ca>; G Holman <gholman@niagarafalls.ca>; Scott Macphee <smacphee@hunter-gis.com>
Subject: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region

Mr Lambert,

On behalf of Jean Grandoni, I am enclosing specific comments on the Region's Wastewater Master Servicing Plan.

The supporting Hydrograph data attachments will follow tomorrow am.

Thank you.

--

Yours truly,

Garry T. Hunter M.A.Sc. P.Eng.

President

Hunter and Associates / Hunter GIS

2285 Dunwin Drive, Unit 18
Mississauga, ON L5L 3S3

Tel (905) 607-4120

Fax (905) 607-1132

Email ghunter@hunter-gis.com

Website <http://www.hunter-gis.com>

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July 31, 2017

Our File No.: 12-412

Mr. Phill Lambert, P.Eng.
Associate Director
Infrastructure Planning and Engineering
Niagara Region
1815 Sir Isaac Brock Way, P.O. Box 1042
Thorold, ON L2V 4T7

E-MAIL
phill.lambert@niagararegion.ca

**Re: Comments - Water and Wastewater Master Servicing Plan
Kalar Rd Pumping Station Capacity**

Dear Mr. Lambert,

This letter is submitted on behalf of Jean Grandoni, a ratepayer who lives on Garner Road, City of Niagara Falls.

I question the Region's methodology for determination of the capacity of the Kalar Pumping Station in City of Niagara Falls. The Region's method of determination of Peak Wet Weather Flow appears to be based on a generic assumed extraneous flow guideline of 0.286 L/s/ha for all sewer catchments.

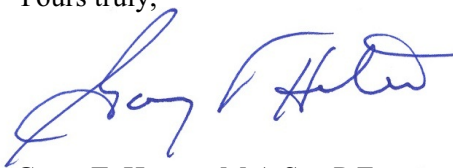
My prior analysis of data provided by the Region indicates that Wet Well Wastewater Levels exceeded 100% on March 5 and 6, 2011 and on July 19 and 20, 2013. Basement flooding was averted in the 2011 event, due to the alert City forces, pumping off the peak at a key catchment manhole used for that purpose. The 2013 Flooding event resulted in widespread basement flooding. Kalar Rd Pumping Station has a history of basement flood events.

I enclose previously prepared Hydrographs of Wet Well Water Levels (Item 1.1 and 1.2) and Dry Weather Flows (Item 2.1 and 2.2) prepared from pumping station data supplied by the Region. The Wet Well Level approaching 100% is assumed equal to the 510 L/s Kalar Rd Pumping System firm capacity.

The Region's Table 4.F.12 System Sewage Pumping Station Performance for Kalar Rd and the 2041 Surplus/Deficit (L/s) is questioned. Based on recent Kalar Rd Pumping Station basement flooding history, as described herein and in prior correspondence, there is no current excess capacity at Kalar Rd Pumping Station.

Please advise if you wish to have further discussions.

Yours truly,



Garry T. Hunter, M.A.Sc., P.Eng.
President
Hunter and Associates

Enclosures: as specified

cc: Jean Grandoni
Geoff Holman

Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Tuesday, August 01, 2017 9:26 AM
To: Lindsay Bowman - GM BluePlan
Subject: FW: How We Flow plan comments

Hi

Please include in Volume 5.

Thanks

Phil

From: [REDACTED]@gmail.com]
Sent: Monday, July 31, 2017 11:51 PM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Subject: How We Flow plan comments

Mr Lambert,

Please consider green infrastructure and more methods of slowing, containing, and allowing to percolate stormwater before entering the current overloaded stormwater system. Permaculture and other ideas, as well as a host of companies and engineers have many solutions for this. If done right it can also help with the erosion and drought problems we face.

Also please advocate for conservation and restoration of Niagara's natural lands as part of this. It's imperative we move towards cleaner water, but building more grey water treatment plans is expensive and only one solution. Let's be innovative and holistic.

Thank you for your attention.

Sincerely,

[REDACTED]

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Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Thursday, August 03, 2017 11:43 AM
To: Lindsay Bowman - GM BluePlan
Subject: FW: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region
Attachments: Hunter Letter to M_Trennum-Sep29_2014.pdf

Please add to Volume 5.

Thanks

From: Garry Hunter [mailto:ghunter@hunter-gis.com]
Sent: Thursday, August 03, 2017 11:40 AM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Cc: Jean Grandoni <resourcesfirst-jg@myfastcom.ca>; G Holman <gholman@niagarafalls.ca>; Scott Macphee <smacphee@hunter-gis.com>
Subject: Re: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region

Further to our telephone discussion, I enclose a prior explanatory letter to Region for the Hydrographs provided.

My view continues to be that Regions Table 4.F.11 Projected Peak Wet Weather Flows by Catchment for Kalar Rd SPS are significantly under estimated based on existing conditions and monitoring history. Therefore the Table 4.F.12 Surplus Capacity of 200 L/s for Year 2041 and Surplus Capacity at intermediate planning horizons at Kalar Rd SPS can not be supported until positive infrastructure improvement measures are taken that actually demonstrate reduction in the monitored Peak Wet Weather Flow events.

Yours truly,

Garry T. Hunter M.A.Sc. P.Eng.
President

Hunter and Associates / Hunter GIS
2285 Dunwin Drive, Unit 18
Mississauga, ON L5L 3S3

Tel (905) 607-4120
Fax (905) 607-1132
Email ghunter@hunter-gis.com
Website <http://www.hunter-gis.com>

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On 8/1/2017 9:39 AM, Garry Hunter wrote:

Mr Lambert,

Enclosed are the accompanying Hydrographs prepared from Region's pumping station monitoring data.

Yours truly,

Garry T. Hunter M.A.Sc. P.Eng.
President

Hunter and Associates / Hunter GIS
2285 Dunwin Drive, Unit 18
Mississauga, ON L5L 3S3

Tel (905) 607-4120
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On 7/31/2017 5:30 PM, Garry Hunter wrote:

Mr Lambert,

On behalf of Jean Grandoni, I am enclosing specific comments on the Region's Wastewater Master Servicing Plan.

The supporting Hydrograph data attachments will follow tomorrow am.

Thank you.

--

Yours truly,

Garry T. Hunter M.A.Sc. P.Eng.
President

Hunter and Associates / Hunter GIS
2285 Dunwin Drive, Unit 18
Mississauga, ON L5L 3S3

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September 29, 2014

Our File No.: 12-412

Mr. Matthew Trennum
Information and Privacy Analyst
Office of the Regional Clerk - Access & Privacy
Niagara Region
2201 St. David's Road, P.O. Box 1042
Thorold, ON L2V 4T7

E-MAIL

Re: Preliminary Analysis
Kalar Road Sewershed Information Request
Your File M.2013.085

Dear Mr. Trennum,

As you are aware we made our initial formal request for information related to the Kalar Road pumping station in March of 2013. A meeting was held in October 2013 to further scope the request (see confirmation letter from Region as received by Hunter on January 10, 2014). This letter was updated from an earlier September 18, 2013 version but not re-dated. Interim fees as requested were paid January 13, 2014 by credit card.

Partial deliveries were received in March 2013 (prior to formalizing the FOI request), in January 2014, in February 2014, and in April 2014. However, there still remains substantial information outstanding (see attached list with yellow highlights).

As a demonstration of information received on April 16, 2014, I enclose Figure A, a March 2011 Pumping Station Capacity Event. You will note that on March 5/6 a rainfall/snowmelt event resulted in the wet well level at 100% or higher with 3 pumps operating at an assumed 510 L/s in accordance with environmental compliance permitting. On March 5/6 the City of Niagara Falls also attended at a Lexington Court key sanitary manhole and pumped off wastewater at an estimated 50 L/s to the adjacent storm sewer and Shriner's Creek tributary W-5-4 during this peak event (Total Pumping about 560 L/s). The City routinely attends and pumps off peak flow events to attempt to avert sewershed basement flooding. My understanding is that wastewater relief pump off by the City is not included in the Region's wastewater overflow reporting to MOE.

The second enclosed June 2009 graph (Fig B) based on pumping minutes/hr demonstrates peak dry weather flows at 85 to 100 L/s. This graph produces a number of '0' pumping minutes/hr indicating low hourly wastewater and groundwater infiltration flows into the pumping station wet well.

Mr. Matthew Trennum
Information and Privacy Analyst
Niagara Region
September 29, 2014
Page 2 of 3

A third enclosed June 2009 graph (Fig C) based on pumping minutes per 2 hour interval confirms that dry weather groundwater infiltration into the Kalar Rd sewer network is in the order of 7 L/s or less.

The Region's 2011 Wastewater Master Servicing Plan has reported the Kalar Rd Pumping Station Firm Capacity at 510 L/s. This Plan assessed the existing (2011 to 2016) peak dry weather flow at 100 L/s and the peak wet weather flow at only 426 L/s (4.26x peak dry weather flow) implying there is additional capacity to build out.

We understand the Region's recent 2012/2013 refurbishment improved the Kalar Rd Operational Station reliability but did not increase the pumping station firm capacity of 510 L/s. The City installation of a slightly deeper larger diameter parallel trunk sewer on South Kalar Rd was commissioned in April 2011 after the March 2011 station capacity event. This Trunk Sewer was considered to provide additional upgradient inline storage for Kalar Rd Pumping Station. The Region's complete response to my FOI may provide performance data to validate this design assumption.

The enclosed Table 'A' provides a brief history of wet well flooding, high level alarms, sewer surcharge, basement flooding and/or pressure relief pumping in Kalar Rd Sewershed. Dates of firm capacity upgrades and / or refurbishment are included for reference. Additional sewershed pressure relief wastewater pumping to storm sewers and Shriner's Creek is provided by City staff during rainfall and snowmelt events.

There were about seven (7) Pumping Station Capacity Events over the eleven year period from August 5, 2003 to July 19, 2013. As no basement flooding was reported, likely due to the City intervention, the March 5/6, 2011 flooding event may be considered a flood calibration event which for this dataset is approaching 6 times peak dry weather wastewater flow. Kalar Rd Pumping Station capacity is therefore equalled or exceeded once every 2 to 3 years.

The summer rainstorms of 2004, 2005 and 2013 resulted in extensive basement flooding in the Kalar Rd sewershed. Peak wet weather flow during these events must have significantly exceeded the 6x peak dry weather flow factor in the March 2011 calibration flow event.

Notwithstanding the Wastewater Master Servicing Plan assessment, all the information currently available from the Region and the City indicates there is no additional capacity in the existing Kalar Rd Pumping Station to accept sewershed buildout flows or proposed new flows from adjacent sewersheds.



Mr. Matthew Trennum
Information and Privacy Analyst
Niagara Region
September 29, 2014
Page 3 of 3

We would very much appreciate the Region's cooperation so we may expediently conclude our work on behalf of area ratepayers. This request is in the public interest.

Yours truly,



Garry T. Hunter, M.A.Sc., P.Eng.
President
Hunter and Associates

GTH/jp/wp

cc: Janet Pilon (Niagara Region)
Stephen Chisholm (Niagara Region)
Betty Matthews-Malone (Niagara Region)
Kyle Moate (Niagara Region)
Geoff Holman (City of Niagara Falls)
Rich Vickers (MOE Niagara District Office)
Jean Grandoni (Ratepayer)

Encl: 1) Table A: Flooding Event Wet Well Capacity Exceeded (Record Incomplete)
2) Unfulfilled FOI Request (Yellow Highlights) - Status Updates to September 25, 2014
3) Fig A: March 5/6 Wet Weather Rainfall / Snowmelt Flood Event (Pumping Station Capacity)
4) Fig B: June 2009 Peak Dry Weather Flows (one hour interval)
5) Fig C: June 2009 Minimum Dry Weather Flows (two hour interval)

Table A

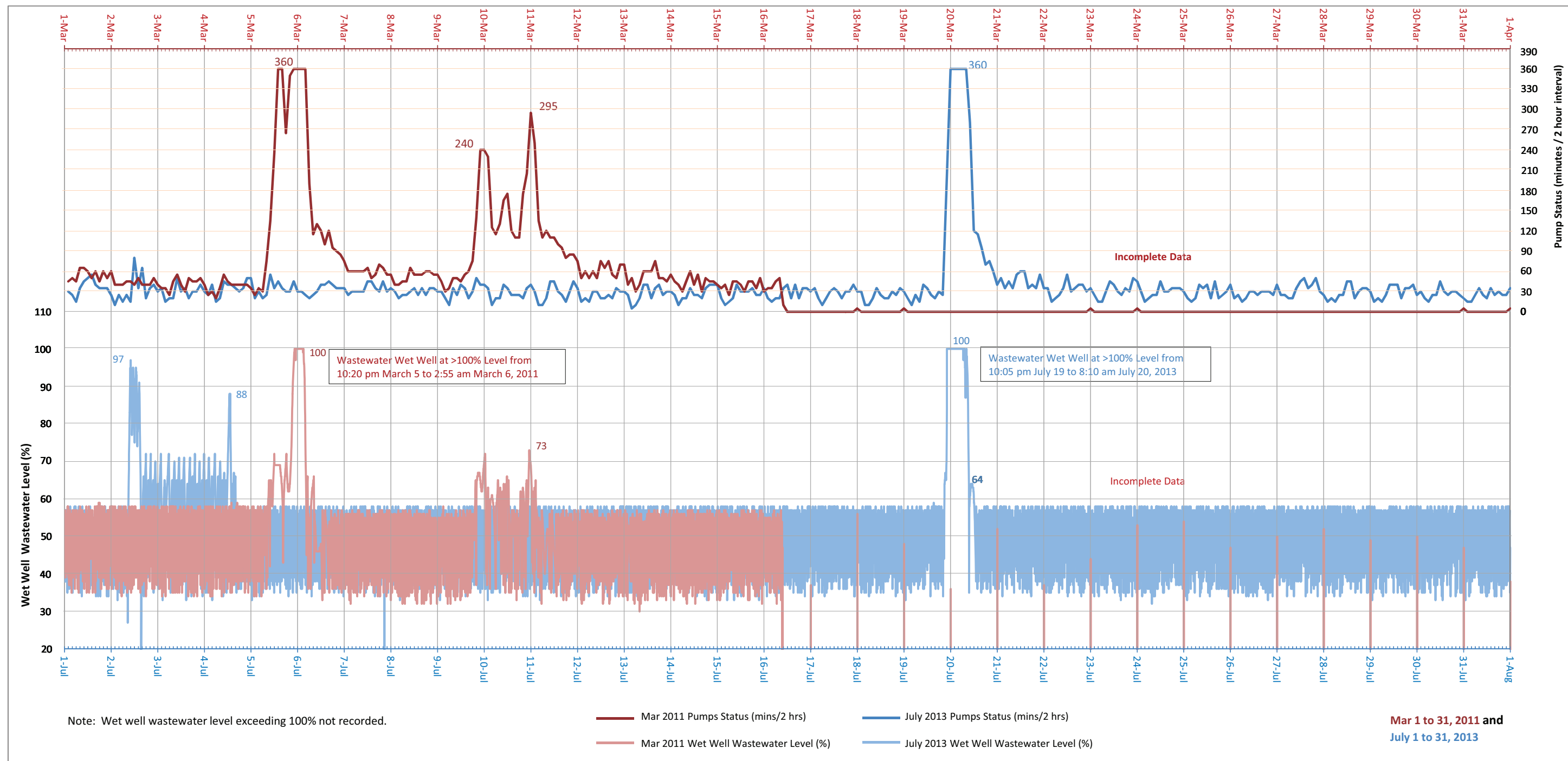
**Flooding Event Wet Well Capacity Exceeded
(Record Incomplete)**

Kalar Pumping Station Firm Capacity	Flooding Event (Wet Well Capacity Exceeded)
1971 (189 L/s) Construction	
	March 5, 1976
	3 High Alarms 1981
	2 High Alarms 1983
	1 High Alarm 1984
	Mar 4-6, 1985
	6 High Alarms 1985
	Feb 22, 1990
	April 22, 1991
1992 (283 L/s) Upgrade	
2000 (510 L/s) Upgrade	
	Aug 5, 2003
	Sept 8-9, 2004
	Aug 31, 2005
	July 19, 2007
	Dec 24-28, 2008
	Mar 5-6, 2011
Upgrade Kalar Rd South Trunk Sewer April 2011	
2013 (510 L/s) Refurbishment	
	July 19, 2013

Record Incomplete



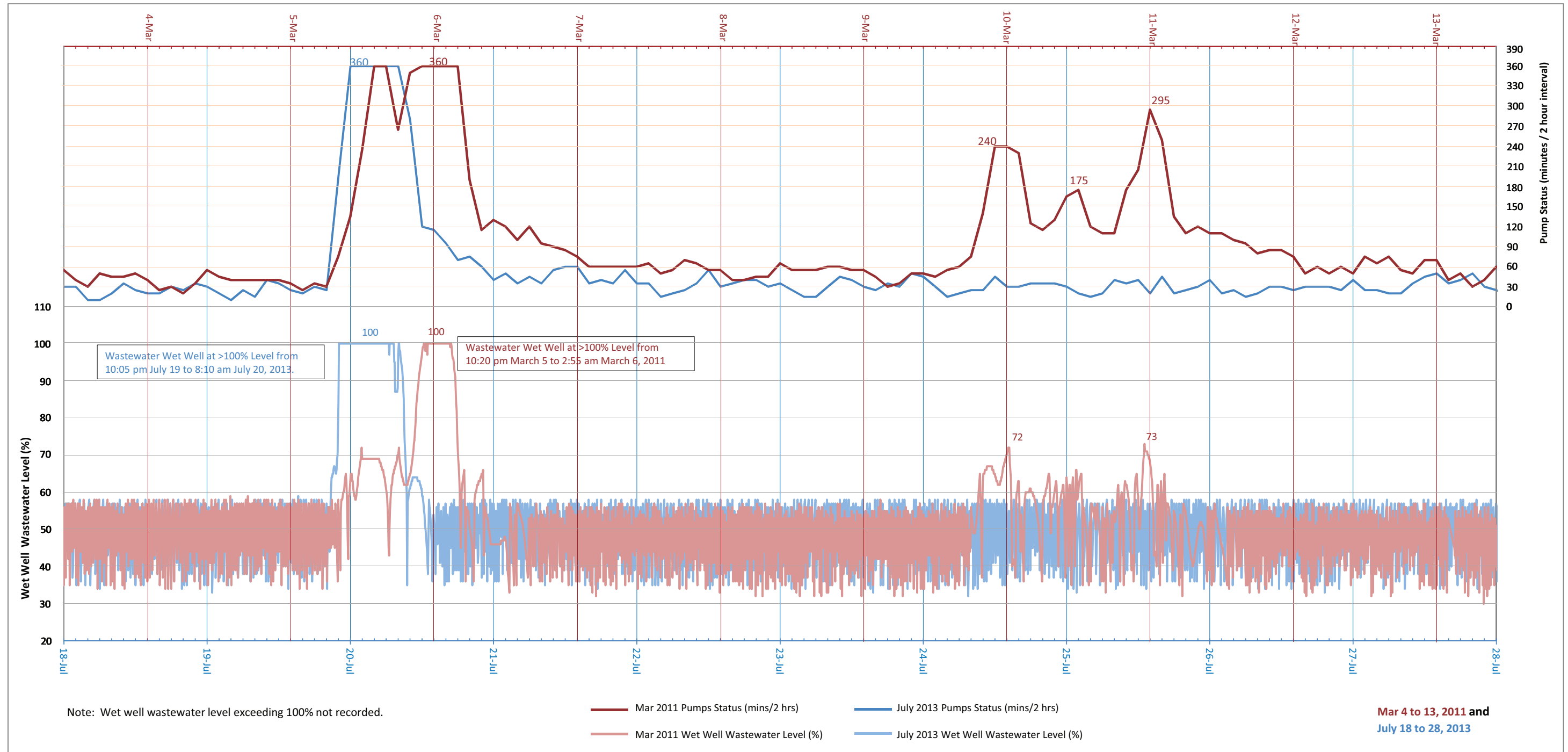
Kalar Rd Sewage Pumping Station
Wet Well Water Level (%) and Pump Status
 Pump 1 to 4 Run Status (minutes/2 hour interval - maximum 3 pumps operating assumed)



Source: Data Supplied by Region of Niagara (FOI)

Project: Jean Grandoni - Kalar Road (12-412)
 By: Hunter and Associates
 Print Date: Dec 5, 2014

Kalar Rd Sewage Pumping Station
Wet Well Water Level (%) and Pump Status
 Pump 1 to 4 Run Status (minutes/2 hour interval - maximum 3 pumps operating assumed)



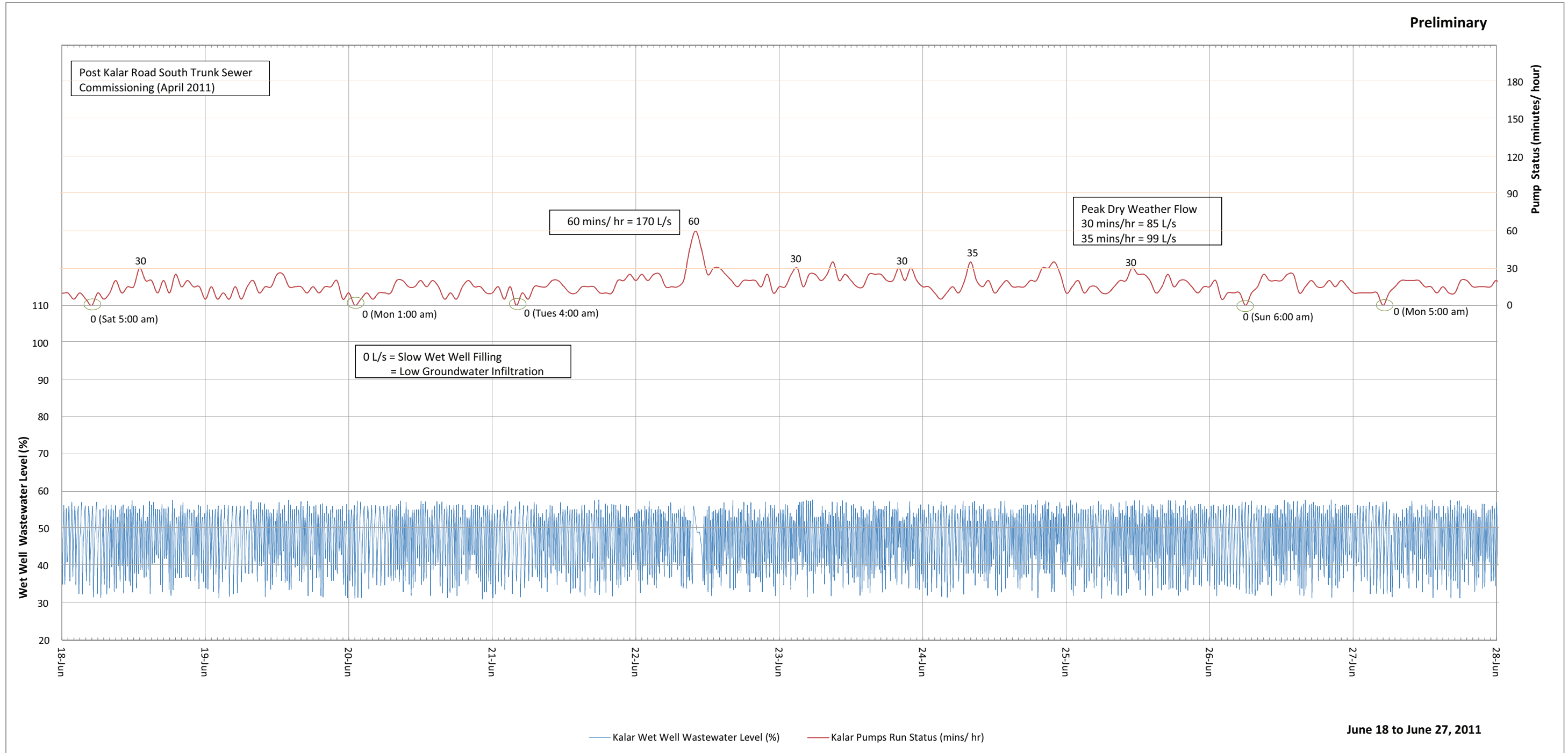
Source: Data Supplied by Region of Niagara (FOI)

Project: Jean Grandoni - Kalar Road (12-412)
 By: Hunter and Associates
 Print Date: Dec 5, 2014

Item 2.1

Kalar Rd Sewage Pumping Station
Wet Well Water Level (%) and Pump Status
 Pump 1 to 4 Run Status (minutes/1 hour interval)

June 2009 Peak Dry Weather Flows (one hour interval)



Source: Data Supplied by Region of Niagara (FOI)

Project: Jean Grandoni - Kalar Road (12-412)
 By: Hunter and Associates
 Print Date: Sept.25, 2014

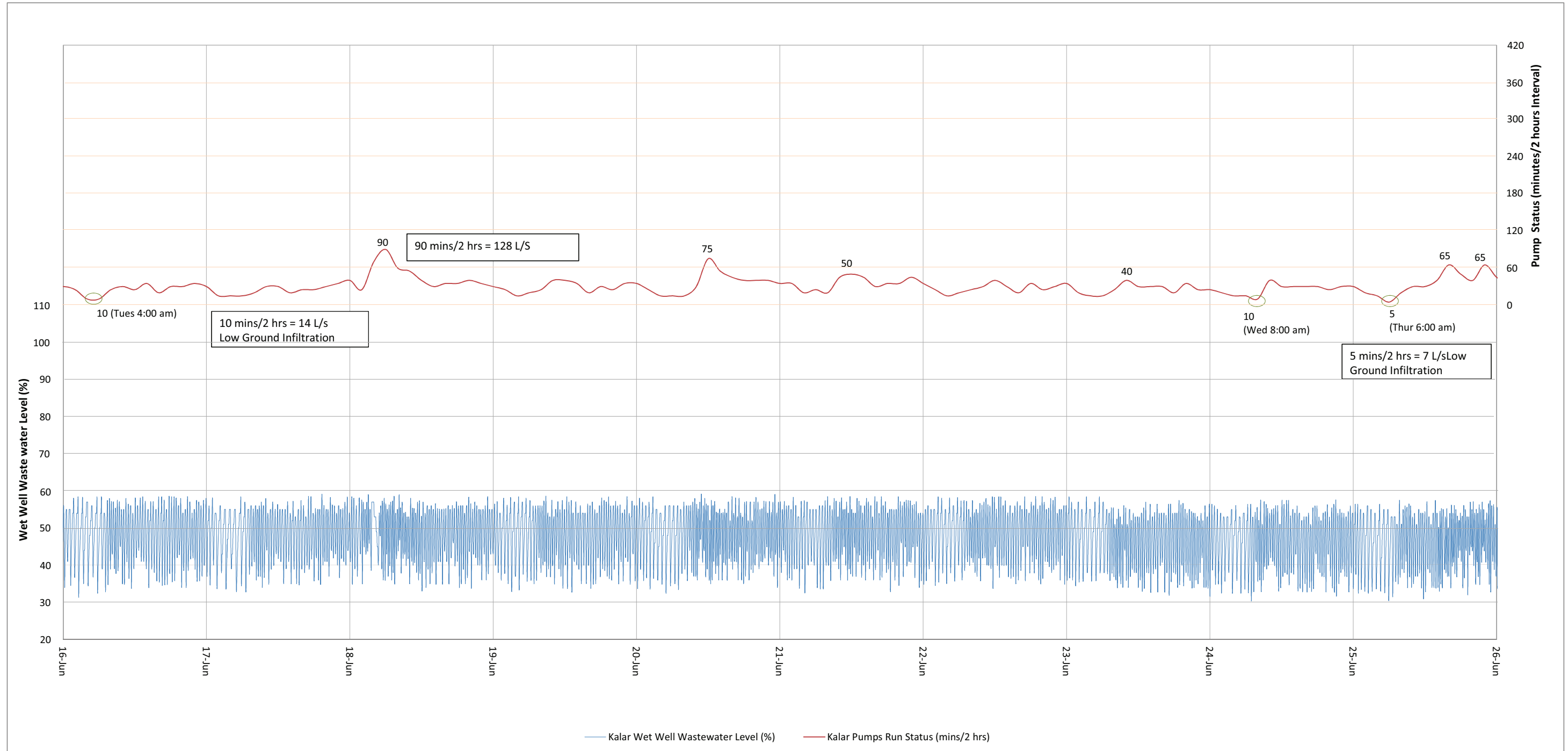
Property of
HUNTER and ASSOCIATES
 Environmental and Engineering Consultants
 Website: www.hunter-gis.com



Item 2.2

Kalar Rd Sewage Pumping Station Wet Well Water Level (%) and Pump Status Pump 1 to 4 Run Status (minutes/2 hours interval)

Preliminary
June 16 to June 25, 2009



Source: Data Supplied by Region of Niagara (FOI)

Project: Jean Grandoni - Kalar Road (12-412)
By: Hunter and Associates
Print Date: Sept.23, 2014

Property of
HUNTER and ASSOCIATES
Environmental and Engineering Consultants
Website: www.hunter-gis.com



Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Thursday, August 03, 2017 11:41 AM
To: Lindsay Bowman - GM BluePlan
Subject: FW: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region

Hi

Please include in Volume 5.

Thanks

Phill

From: Lambert, Phill
Sent: Thursday, August 03, 2017 11:40 AM
To: 'Garry Hunter' <hgisbbz10@hunter-gis.com>; Garry Hunter <ghunter@hunter-gis.com>
Cc: Jean Grandoni <resourcesfirst-jg@myfastcom.ca>; G Holman <gholman@niagarafalls.ca>; Scott Macphee <smacphee@hunter-gis.com>
Subject: RE: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region

Hello Mr. Hunter,

Thank you for speaking with me earlier today about the Niagara Region W&WW MSP.

As discussed, the sections of the MSP that relate specifically to the Kalar Road SPS can be found in Volume 4 – Part F Niagara Falls. Section F.1.3 Flows Overview will provide you with the existing average dry weather flow, existing design peak wet weather flow (using the industry standard 0.286 L/s/ha for the SPS catchment), and the existing 2 and 5 year design storm flows. Please note that this information was based on the flow meter information from the Kalar Road SPS and the calibrated MSP wastewater model.

<https://www.niagararegion.ca/2041/master-servicing-plan/default.aspx>

Page 17 and 19 have the example calculations of projected peak dry and wet weather flow out to 2041, respectively, for the Kalar Road SPS.

I do appreciate and understand your comments about the impacts of excess I&I on sewer systems and your specific experience with the Kalar Road SPS.

In this MSP, consideration for capacity upgrades (upgrades to trunk sewers, pumping station capacities, etc.), upstream management (storage, peak shaving, diversion), and peak flow management (flow reduction, Inflow & infiltration (I&I) reduction projects) were investigated for every wastewater system. Based on this review, there are wet weather projects listed with identified areas for targeted I&I removal to offset the requirement to upgrade and expand more

expensive infrastructure all the way to the wastewater treatment plants. It is crucial to achieve the I&I reductions in order to offset the capacity needs from growth, to protect the environment, and mitigate potential basement flooding.

In the MSP, although the Kalar Road SPS was not identified to need a capacity upgrade, the Niagara Falls sewer system has wet weather reduction programs identified for both central and south Niagara Falls (WW-II-012 and WW-II-013). The Region will be working in collaboration with the City to reduce the I&I flows entering the sewer system.

Lastly, the City of Niagara Falls has recently completed their Pollution Prevention Control Plan Update Study which was presented at their Council meeting on June 13, 2017 which has a focus on wet weather reduction.

Thanks again for providing comments to the Niagara Region W&WW MSP.

Regards,

Phill Lambert, P. Eng.

Associate Director, Infrastructure Planning & Development Engineering
Planning and Development Services
Niagara Region
Phone: 905-685-4225 ext. 3627 Toll-free: 1-800-263-7215
www.niagararegion.ca

From: Garry Hunter [<mailto:hgisbbz10@hunter-gis.com>]

Sent: Wednesday, August 02, 2017 9:19 AM

To: Lambert, Phill <Phill.Lambert@niagararegion.ca>; Garry Hunter <ghunter@hunter-gis.com>

Cc: Jean Grandoni <resourcesfirst-jg@myfastcom.ca>; G Holman <gholman@niagarafalls.ca>; Scott Macphee <smacphee@hunter-gis.com>

Subject: Re: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region

Confirm tomorrow Aug 3 at 10:30 am for call.

Yours truly,

Garry T. Hunter M.A.Sc. P.Eng.
President

Hunter and Associates / Hunter GIS
2285 Dunwin Drive, Unit 18
Mississauga, ON L5L 3S3

Tel (905) 607-4120
Fax (905) 607-1132
Email ghunter@hunter-gis.com
Website <http://www.hunter-gis.com>

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From: Lambert, Phill

Sent: Wednesday, August 2, 2017 08:46

To: Garry Hunter

Cc: Jean Grandoni; G Holman; Scott Macphee

Subject: RE: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region

Hello

I have time at 2:30 PM today for a call if that works for you. Thursday morning at 10:30 am would also work for me as well.

Please let me know what your preference is and I will be available for a conversation.

Thanks in advance

Phill Lambert, P. Eng.

Associate Director, Infrastructure Planning & Development Engineering
Planning and Development Services

Niagara Region

Phone: 905-685-4225 ext. 3627 Toll-free: 1-800-263-7215

www.niagararegion.ca

From: Garry Hunter [<mailto:ghunter@hunter-gis.com>]

Sent: Tuesday, August 01, 2017 4:45 PM

To: Lambert, Phill <Phill.Lambert@niagararegion.ca>

Cc: Jean Grandoni <resourcesfirst-jg@myfastcom.ca>; G Holman <gholman@niagarafalls.ca>; Scott Macphee <smacphee@hunter-gis.com>

Subject: Re: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region

Mr Lambert,

I am not available in the morning but should be back to my office in the early afternoon. Thursday morning after about 10:30 am is also OK.

Thanks for the follow up.

Yours truly,

Garry T. Hunter M.A.Sc. P.Eng.

President

Hunter and Associates / Hunter GIS
2285 Dunwin Drive, Unit 18
Mississauga, ON L5L 3S3

Tel (905) 607-4120

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On 8/1/2017 4:26 PM, Lambert, Phill wrote:

Hello

Thank you for this information.

I would be happy to speak to you further about the Niagara Region's W&WW MSP and how we are planning to service the anticipated growth out to 2041 in a sustainable and financially responsible way. Would you have some time tomorrow morning at 10 AM for a call? If so I will try your office at that time.

Regards,

Phill Lambert, P. Eng.

Associate Director, Infrastructure Planning & Development Engineering
Planning and Development Services

Niagara Region

Phone: 905-685-4225 ext. 3627 Toll-free: 1-800-263-7215

www.niagararegion.ca

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Sent: Tuesday, August 01, 2017 9:40 AM

To: Lambert, Phill <Phill.Lambert@niagararegion.ca>

Cc: Jean Grandoni <resourcesfirst-jg@myfastcom.ca>; G Holman <gholman@niagarafalls.ca>; Scott Macphee <smacphee@hunter-gis.com>

Subject: Re: Kalar Rd Pumping Station - Comments - Water and Wastewater Master Servicing Plan, Niagara Region

Mr Lambert,

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Yours truly,

Garry T. Hunter M.A.Sc. P.Eng.

President

Hunter and Associates / Hunter GIS
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Mississauga, ON L5L 3S3

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The supporting Hydrograph data attachments will follow tomorrow am.

Thank you.

--

Yours truly,

Garry T. Hunter M.A.Sc. P.Eng.
President

Hunter and Associates / Hunter GIS
2285 Dunwin Drive, Unit 18
Mississauga, ON L5L 3S3

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Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Tuesday, August 15, 2017 12:54 PM
To: Lindsay Bowman - GM BluePlan; Julien Bell - GM BluePlan; Chris Hamel - GM BluePlan
Subject: Niagara Falls WW System - Grassy Brook SPS & FM upgrades?

Hi

I was reviewing a Secondary Plan in Niagara Falls for the Grassy Brook SPS area and checked with Vol 4 of the MSP.

I noticed that it was flagged for a SPS capacity and FM upgrades; however, the projects were not carried forward. I think it was because this was thought to be owned by the City but I just checked our GIS data and it shows the Region owning this SPS.

What is the best way to deal with this situation? Can we flag this in the final version?

Thanks

Phill

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Danielle MacKinnon - GM BluePlan

From: Lambert, Phill <Phill.Lambert@niagararegion.ca>
Sent: Tuesday, August 15, 2017 4:27 PM
To: Julien Bell - GM BluePlan; Lindsay Bowman - GM BluePlan; Chris Hamel - GM BluePlan
Subject: Niagara Region owns Grassy Brook SPS

Hi

Greg has verified that the GIS data shows that we own the Grassy Brook SPS.

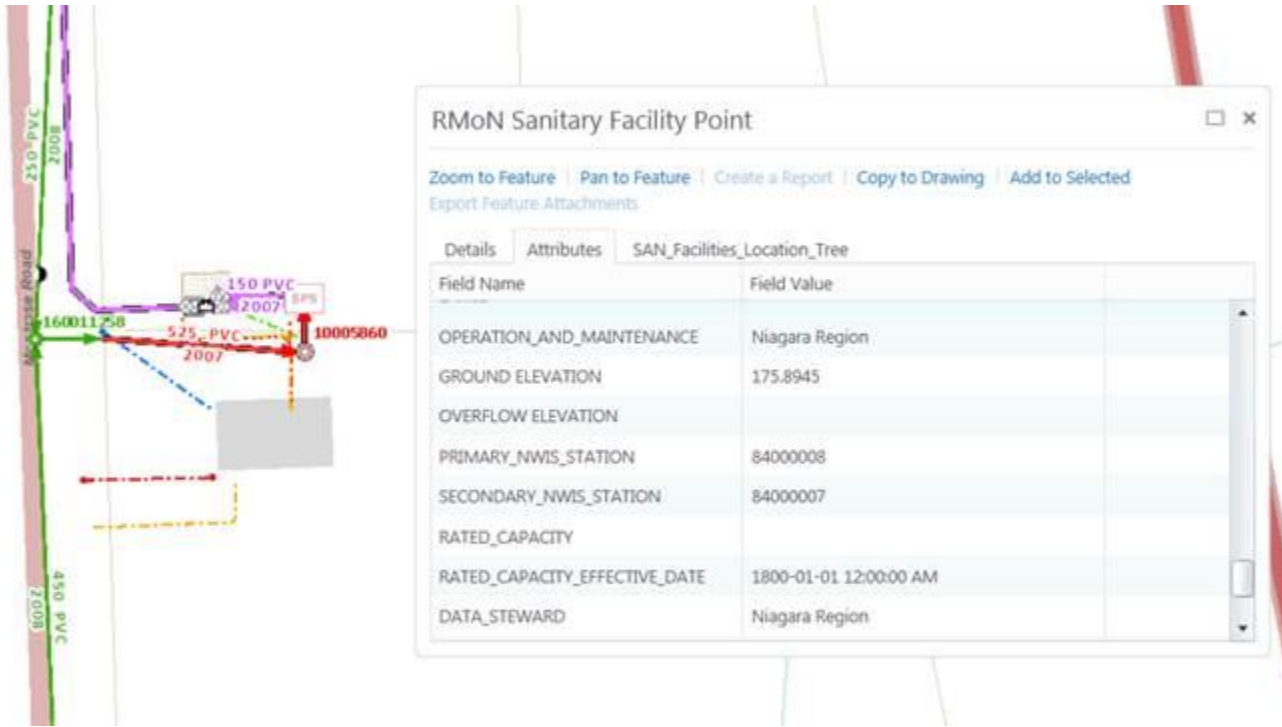
We should plan to include this in the MSP final documentation and figure out the best way to capture this for upcoming budgets and timing etc.

Thanks

Phill

From: Epp, Greg
Sent: Tuesday, August 15, 2017 3:50 PM
To: Lambert, Phill <Phill.Lambert@niagararegion.ca>; Oatley, Jason <jason.oatley@niagararegion.ca>; Tonellato, Joseph <Joseph.Tonellato@niagararegion.ca>
Subject: RE: Do we own the Grassy Brook SPS?

Facilities that we own or operate and maintain are all tracked in the Regional GIS layers. This way, it doesn't matter where we are at in the ownership transfer process, we have them identified and they are in our hydraulic models. Grassy Brook should have been flagged as being operated and maintained by Niagara Region in the data that was given to GM BluePlan (see screen capture from Niagara Atlas below).



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Danielle MacKinnon - GM BluePlan

From: Julien Bell - GM BluePlan
Sent: Wednesday, August 16, 2017 9:53 AM
To: Lambert, Phill; Lindsay Bowman - GM BluePlan; Chris Hamel - GM BluePlan
Subject: RE: Niagara Region owns Grassy Brook SPS

Hi Phill,

As discussed on the phone,

The ultimate strategy for the Grassy Brook SPS, is to decommission the station and convey the follows via gravity to the new South NF WWTP.

We will update the Volume 4 text and figures, and NF WWTP project sheet to further clarify this outcome

Please let me know if you have any further questions.

Regards

Julien Bell, P.Eng.
Infrastructure Planning, Partner

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julien.bell@gmblueplan.ca | www.gmblueplan.ca



From: Lambert, Phill [mailto:Phill.Lambert@niagararegion.ca]
Sent: Tuesday, August 15, 2017 4:27 PM
To: Julien Bell - GM BluePlan <julien.bell@gmblueplan.ca>; Lindsay Bowman - GM BluePlan <Lindsay.Bowman@gmblueplan.ca>; Chris Hamel - GM BluePlan <chris.hamel@gmblueplan.ca>
Subject: Niagara Region owns Grassy Brook SPS

Hi

Greg has verified that the GIS data shows that we own the Grassy Brook SPS.

We should plan to include this in the MSP final documentation and figure out the best way to capture this for upcoming budgets and timing etc.

Thanks

Phill

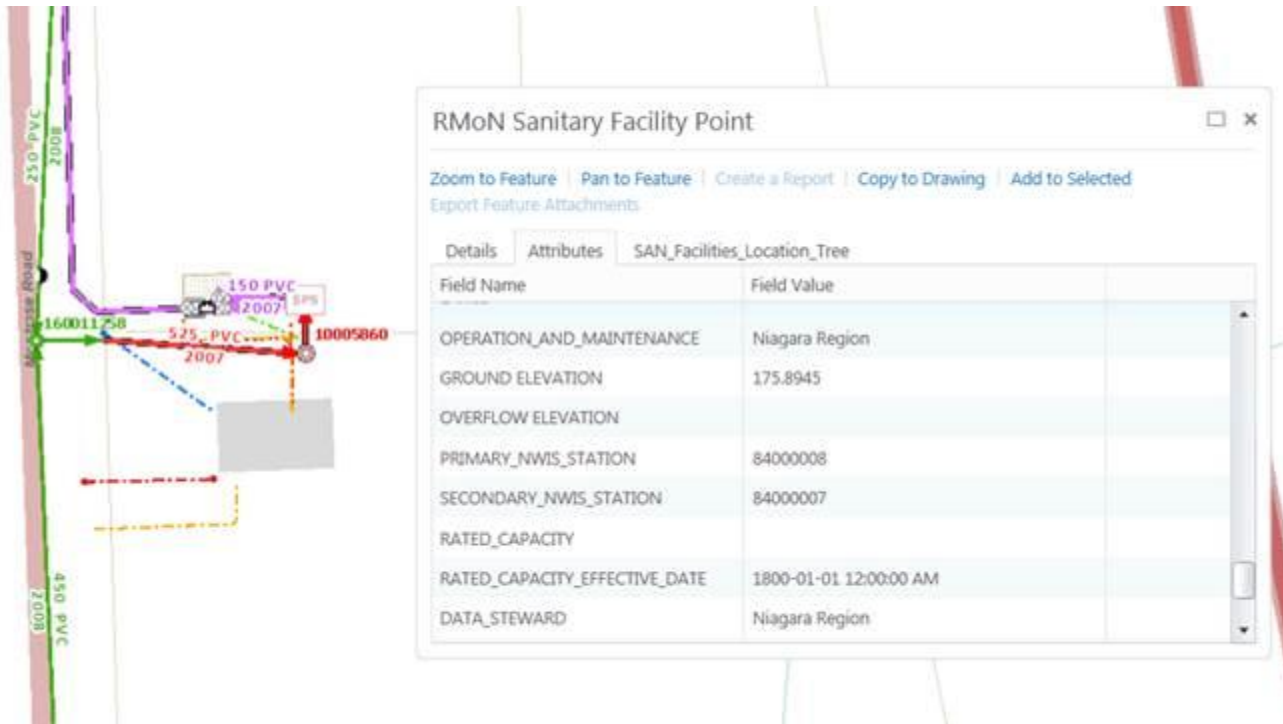
From: Epp, Greg

Sent: Tuesday, August 15, 2017 3:50 PM

To: Lambert, Phill <Phill.Lambert@niagararegion.ca>; Oatley, Jason <jason.oatley@niagararegion.ca>; Tonellato, Joseph <Joseph.Tonellato@niagararegion.ca>

Subject: RE: Do we own the Grassy Brook SPS?

Facilities that we own or operate and maintain are all tracked in the Regional GIS layers. This way, it doesn't matter where we are at in the ownership transfer process, we have them identified and they are in our hydraulic models. Grassy Brook should have been flagged as being operated and maintained by Niagara Region in the data that was given to GM BluePlan (see screen capture from Niagara Atlas below).



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