

Chapter 1

Introduction and Background

The Regional Municipality of York

The Regional Municipality of Durham

October 31, 2023

Project name York Region Sewage Works
Document title Chapter 1 | Introduction and Background
Project number 12612539 (GHD); CE854200 (Jacobs)
Filename 12612539-CE854200-GHD-GN-00-RPT-PM-0001-Chapter 1 Introduction_and_Background.docx

Status code	Revision	Author	Reviewer	Approver	Approved date
S3	00	Julianna Scott (GHD)	Don Holland (GHD) Tom Mahood (Jacobs)	Rachelle Plourde (GHD) Ray Cantwell (Jacobs)	2023 June 23
S4	01	Julianna Scott (GHD)	Don Holland (GHD) Laura Guerra-Reyes (Jacobs)	Rachelle Plourde (GHD) Tom Mahood (Jacobs)	2023 August 23
S4	02	Julianna Scott (GHD)	Don Holland (GHD) Laura Guerra-Reyes (Jacobs)	Rachelle Plourde (GHD) Tom Mahood (Jacobs)	2023 September 29
S4	03	Julianna Scott (GHD)	Don Holland (GHD) Laura Guerra-Reyes (Jacobs)	Rachelle Plourde (GHD) Tom Mahood (Jacobs)	2023 October 31

GHD Limited
455 Phillip Street, Unit 100A
Waterloo, Ontario N2L 3X2, Canada
T +1 519 884 0510 | ghd.com

Jacobs Consultancy Canada Inc.
245 Consumer Road
Toronto, Ontario M2J 1R3, Canada
T +1 416 499 9000 | jacobs.com

© GHD and Jacobs 2023

This document has been jointly prepared by GHD and Jacobs. Each of GHD and Jacobs retains their respective ownership rights in the materials provided and all intellectual property rights therein. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorized use of this document in any form whatsoever is prohibited.

This report has been prepared by GHD and Jacobs for The Regional Municipality of York and may only be used by The Regional Municipality of York for the purpose agreed upon between GHD, Jacobs and The Regional Municipality of York and to the extent of the statements below.

GHD and Jacobs otherwise disclaim responsibility to any person other than The Regional Municipality of York arising in connection with this report. GHD and Jacobs also exclude implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD and Jacobs in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations and assumptions set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD and Jacobs have no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

Contents

1.	Introduction and Background	1
1.1	Background	1
1.2	Project Understanding	2
1.3	Purpose Statement	6
1.4	Project Area	6

Figure index

Figure 1.1	York Region Wastewater Servicing Strategy Map	3
Figure 1.2	Duffin Creek WPCP Servicing Map for Durham Region	4
Figure 1.3	Proposed York Region Sewage Works Project Map	7

1. Introduction and Background

1.1 Background

On November 28, 2022, the Ontario government passed the More Homes Built Faster Act, 2022 (Bill 23). This legislation supports the government's long-term strategy to increase housing supply and provide viable housing options. Schedule 10, the Supporting Growth and Housing in York and Durham Regions Act, 2022 (the Act), was introduced as part of Bill 23. The Act requires the Regional Municipality of York (York Region) and the Regional Municipality of Durham (Durham Region) to provide wastewater service through the York Region Sewage Works Project. As defined within Part III, Section 3 (2) of the Act, the York Region Sewage Works Project must:

- a. Have sufficient capacity to meet the total combined average daily wastewater flows forecasted to flow to the Duffin Creek Water Pollution Control Plant and the Water Reclamation Centre in 2051 in Figures 2.1 and 2.2 of Appendix A to the 2022 York Region Water and Wastewater Master Plan;
- b. Include improvements and upgrades to the YDSS North system to accommodate the flows described in clause (a);
- c. Include improvements and upgrades to the YDSS Central system, which, at a minimum, consist of upgrades and improvements to the Yonge Street trunk sewer between Bloomington Road and 19th Avenue to accommodate the flows described in clause (a);
- d. Meet all prescribed timelines for the development, construction and operation of all or part of the Project;
- e. Improve, enlarge and extend the York Durham Sewage System in an efficient and cost-effective manner; and
- f. Be developed, constructed and operated in accordance with the regulations, if any.

With accelerated growth forecasts in York Region and Durham Region and newly implemented housing and growth legislation, there is an immediate need to enhance servicing capacity to meet projected flows and loads and maintain existing infrastructure in a state of good repair.

To expedite the delivery of required infrastructure components, York Region and Durham Region must submit a draft Project Report to the Ministry of the Environment, Conservation and Parks no later than September 30, 2023, and a final Project Report no later than October 31, 2023.

As part of the Project Report, York Region and Durham Region are conducting a series of environmental studies to identify potential environmental impacts, mitigation and monitoring measures for the proposed YDSS expansion.

Overall, the Project Report must outline:

- Work required to meet flow requirements of the Act
- Cost of the work
- Approvals required
- Any impacts on the environment and how those impacts will be mitigated.

1.2 Project Understanding

With the Ontario government's directive to convey sewage from Aurora, East Gwillimbury and Newmarket to the Duffin Creek Water Pollution Control Plant (WPCP) and discharge treated effluent to Lake Ontario, flows must now be conveyed through the York Durham Sewage System (YDSS) to 19th Avenue. Flows from YDSS would be conveyed through the Markham Collector to the Southeast Collectors. The existing Primary Trunk then collects and conveys combined sewage to Duffin Creek WPCP. Existing Yonge Street, Markham Collector and Primary Trunk sewers must be rehabilitated and twinned in function to meet current legislated growth objectives. Also, additional capacity at Duffin Creek WPCP and a new outfall will be required to treat and convey projected flows and loads from both York Region and Durham Region. The York Region Duffin Creek WPCP service area is displayed in Figure 1.1; as noted previously, this area consists of Aurora, East Gwillimbury and Newmarket, as well as Richmond Hill and Markham. The Durham Region Duffin Creek WPCP service area is displayed in Figure 1.2, servicing the City of Pickering and the Town of Ajax.

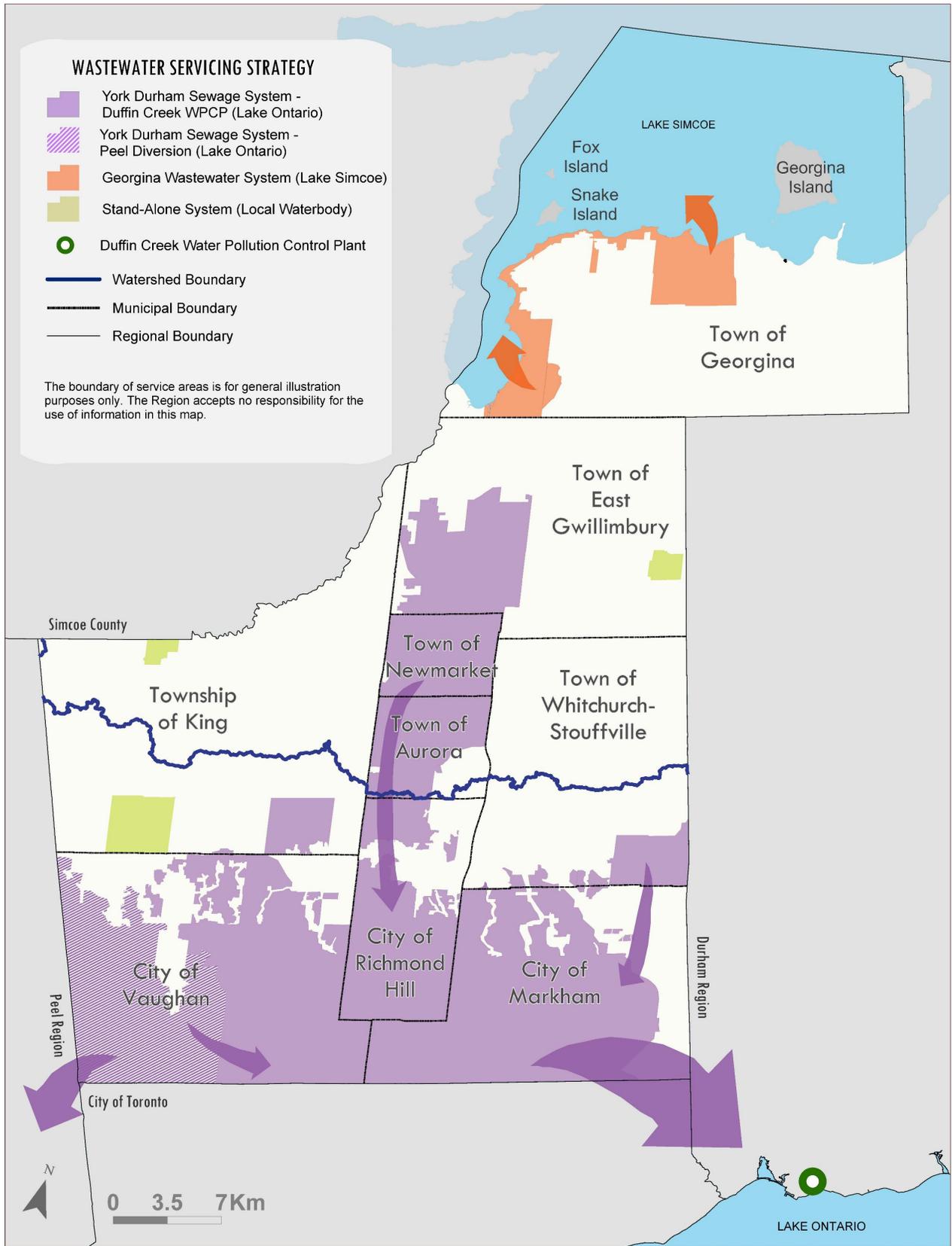
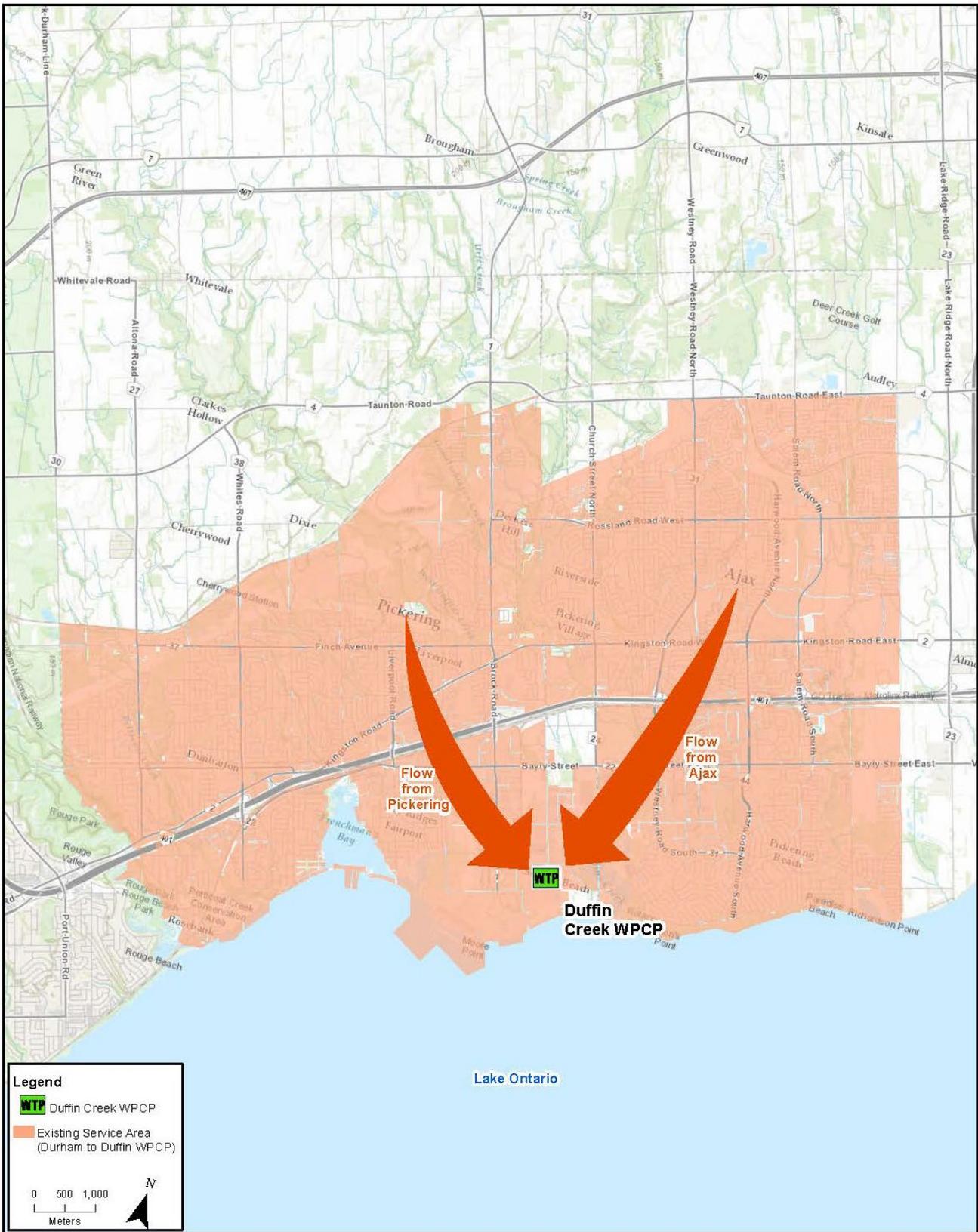


Figure 1.1 York Region Wastewater Servicing Strategy Map



\\D:\C1\801\GIS\PROJECTS\YORK\KRE\IONICE854200_YORK\URHAMSEWA\GESSYSTEM_EA\MAPFILES\IP3_PRIMARY\TRUNKSEWER\SERVICEAREA_DURHAM.MXD VMO48279 10/20/2023 9:26:46 AM

Figure 1.2 Duffin Creek WPCP Servicing Map for Durham Region

Objectives to provide efficient collection, conveyance and treatment of sanitary flows generated in York Region and Durham Region to 2051 through the YDSS to Duffin Creek WPCP are listed below.

Asset-specific objectives:

1. Identify individual projects in York Region and Durham Region requiring infrastructure modifications to provide adequate capacity to handle the peak flows generated up to 2051.
2. Identify capital upgrades and expansions necessary at Duffin Creek WPCP and outfall to serve the sewershed population up to 2051.
3. Use modelled future growth and updated population projections, flows and loads to size and design, in concept, the infrastructure required.
4. Provide adequate system flow bypass capability and redundancy to allow continued conveyance and reduced risk of service interruptions for the YDSS by designing and constructing the Leslie Street trunk sewer, Markham Collector twin, Primary Trunk sanitary sewer twin and other related critical infrastructure.

Approach-based objectives:

1. Identify preferred size and location (vertical and horizontal) of works that will connect existing infrastructure and new linear infrastructure planned to convey sewage.
2. For each project, identify the preferred location, which should consider environmental impact and construction disturbance, to:
 - a. Minimize construction disturbance to highly urbanized areas and sensitive receptors (e.g., entities sensitive to noise and vibration, air quality, traffic zone impacts, and residential and business impacts and associated business loss claims).
 - b. Minimize the need to acquire high-value or high-demand property.
 - c. Minimize impacts on natural heritage resources, built heritage resources and cultural heritage landscapes.
 - d. Where possible, consider advantages of locating projects in a corridor that allows bundling of forecasted infrastructure needs (e.g., other planned new utility infrastructure needs such as new Regional transportation work or water mains or local-area-municipality (LAM) water, sewer or transportation work), thereby minimizing overall community impact.
 - e. Strategically locate projects to avoid creating additional urban utility congestion.
 - f. Strategically locate projects to avoid jeopardizing the potential footprint for other short- and long-term transportation, water, energy or waste utilities.
3. Provide capital-cost estimates and expected implementation timelines for the required infrastructure.
4. Based on desktop reviews of existing information, identify potential positive and negative effects in each of the social and built, natural, cultural and technical environments and potential avoidance, mitigation and compensation measures as applicable.
5. Consult with identified Indigenous communities on the York Region Sewage Works Project.
6. Consult with identified interested persons who may be interested in the York Region Sewage Works Project.
7. Identify permits required to construct works.
8. Identify an implementation plan for projects.

1.3 Purpose Statement

Based on the information reviewed to date, the following purpose statement was prepared for this report.

As part of improving, enlarging, and extending the York Durham Sewage System as required by the *Supporting Growth and Housing in York and Durham Regions Act*, the York Region Sewage Works Project Report will provide concepts for required infrastructure, develop an implementation plan and identify impacts and mitigation associated with wastewater conveyance to the Duffin Creek Water Pollution Control Plant for treatment and discharge through a new outfall.

1.4 Project Area

A schematic for this conveyance system is shown in Figure 1.3, highlighting key geographical points of the York Region Sewage Works Project. The individual projects within this area are discussed in further detail in this report.

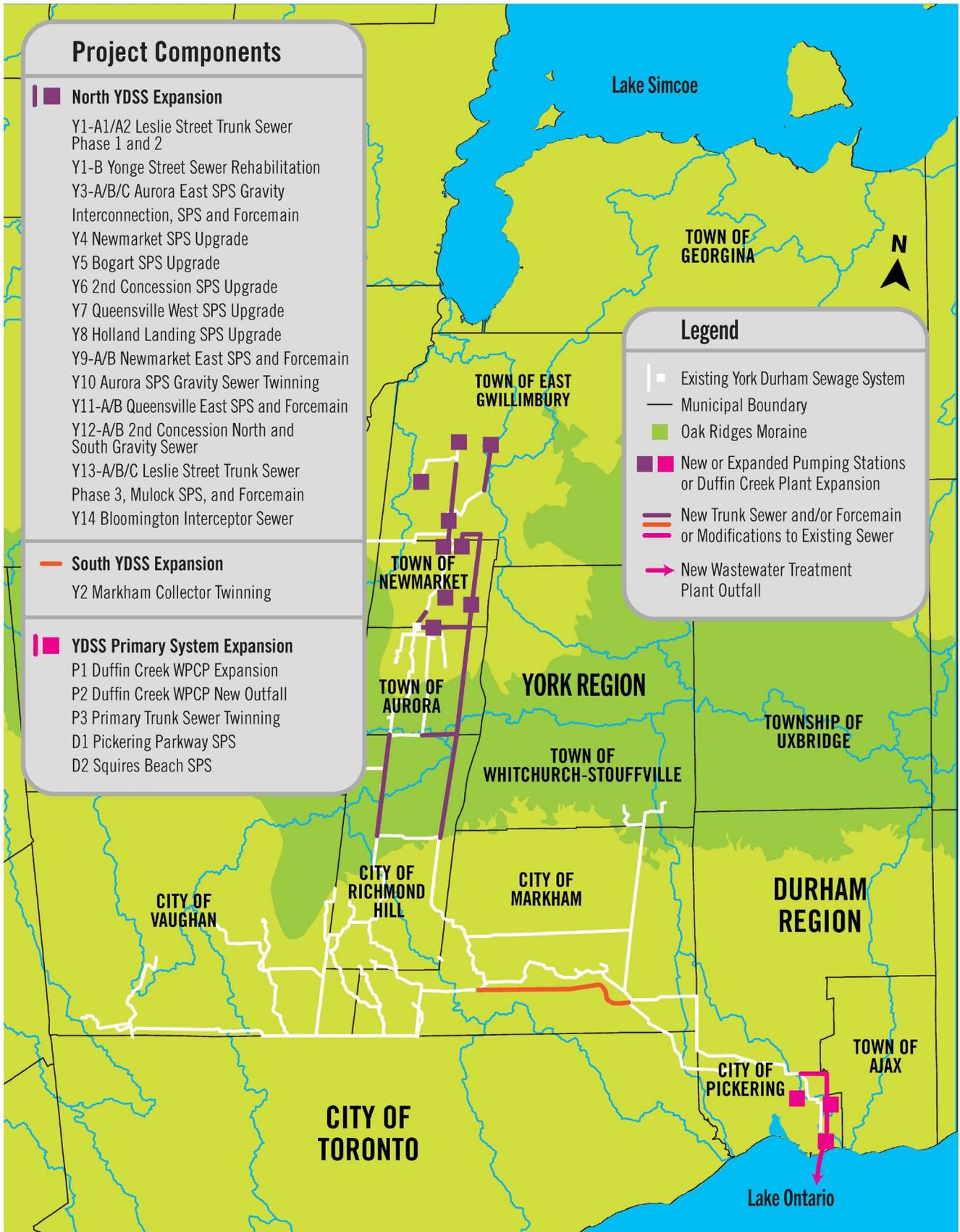


Figure 1.3 Proposed York Region Sewage Works Project Map



ghd.com

jacobs.com



Jacobs