

HOLLAND MARSH PHOSPHORUS REMOVAL PROJECT

An Alternative Technology to the Project Specific
Phosphorus Offset Program of the Upper York
Sewage Solutions Environmental Assessment
(UYSS EA)

September 24, 2021



Agenda

1. UYSS Key Elements
2. Need of the Project Specific Phosphorus Offset Program
3. Project Specific Phosphorus Offset Program Status Update
4. Sources of Phosphorus Loading to Lake Simcoe
5. Holland Marsh Phosphorus Removal Facility Project
6. Moving forward

Upper York Sewage Solutions (UYSS)

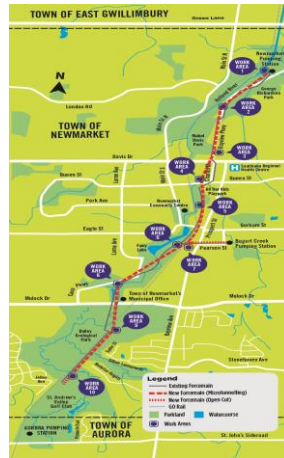
KEY ELEMENTS OF UYSS

WATER RECLAMATION CENTRE (Requires EA Approval)



Clean treated effluent for discharge into the East Holland River and reclaimed water applications

YDSS MODIFICATIONS (Completed in 2021)

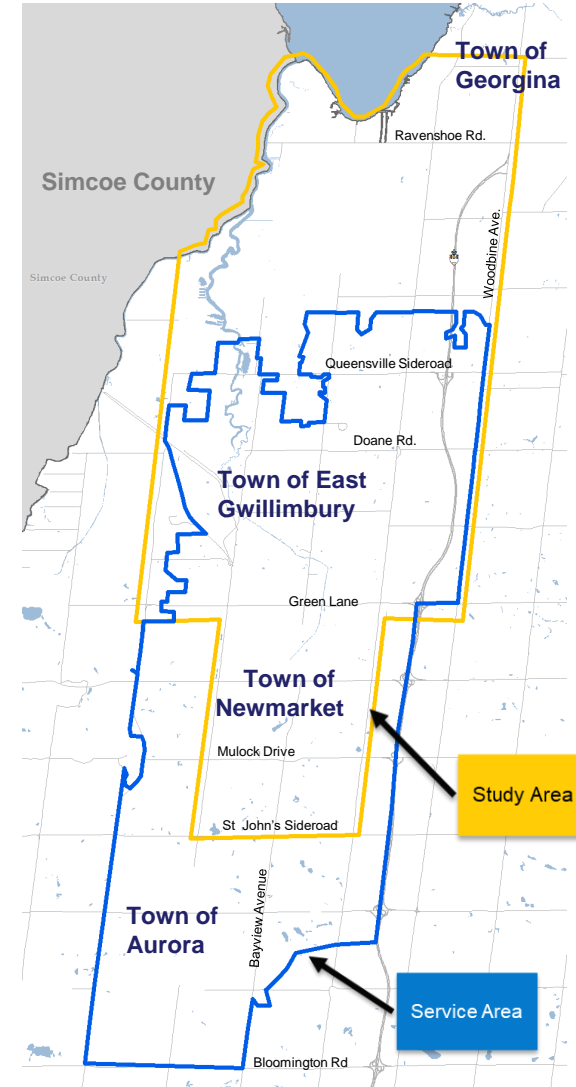


System reliability and protection against severe peak flows

PROJECT SPECIFIC PHOSPHORUS OFFSET PROGRAM (Requires EA Approval)

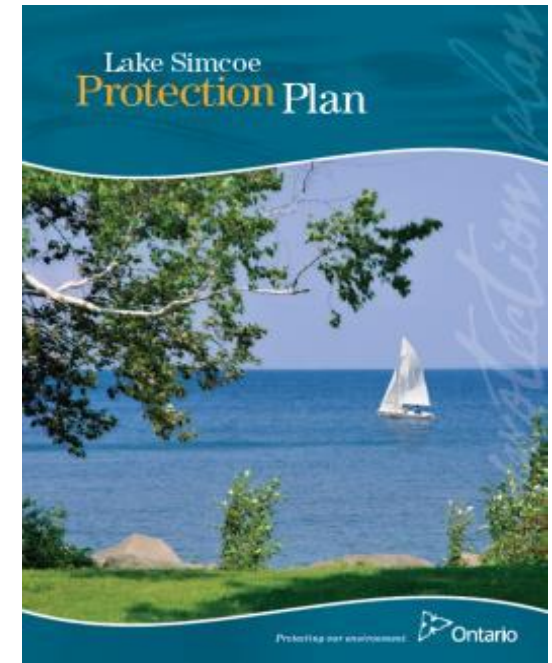


A net reduction of Phosphorus into the Lake Simcoe watershed



The Project Specific Phosphorus Offset Program

- ❑ The Lake Simcoe Protection Plan (LSPP) permits replacement or expansion of an existing wastewater treatment facility in the watershed
 - The Water Reclamation Centre is proposed to replace the existing Holland Landing Lagoons
- ❑ Lake Simcoe Phosphorus Reduction Strategy (LSPRS)
 - Established Phosphorus loading limits for all wastewater treatment plants
 - Mandates that future expansions of the plants need to meet the individual Phosphorus load caps
- ❑ A project specific Phosphorus Offset Program is needed
- ❑ The Program includes retrofitting 7 stormwater management facilities, one low-impact development site and one new stormwater management facility in the watershed.



Require (40 MLD)	292 kg/yr
Have	124 kg/yr
Difference	168 kg/yr
	x 3
Need @ 3:1 ratio	504kg/yr

The Project Specific Phosphorus Offset Program is an integral component of UYSS

Project Specific Phosphorus Offset Program Status Update

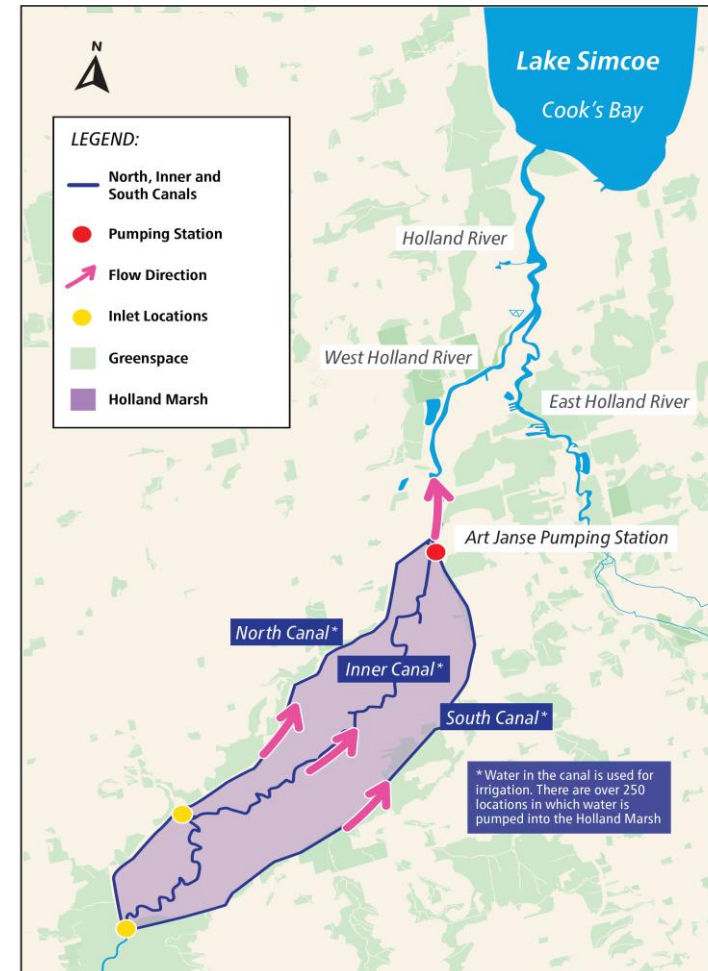
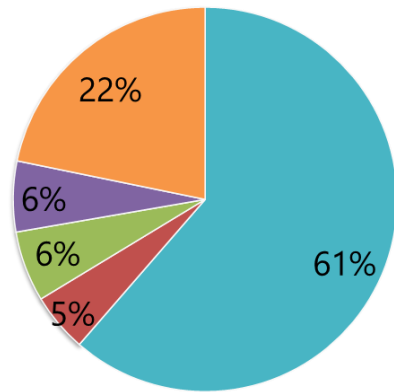
- ❑ UYSS EA was submitted to the Ministry for approval on July 25, 2014.
- ❑ Continued approval delay creates uncertainties for the Region to deliver the program prior to commissioning of WRC.
- ❑ In 2017, Region initiated a partnership with LSRCA and local municipalities to prepare for the Project Specific Phosphorus Offset Program through a Phosphorus Removal Demonstration project.
- ❑ In 2018, the Region was made aware of a phosphorus removal opportunity in the Holland Marsh.
 - The Region, in partnership with LSRCA, submitted an Expression of Interest to the Infrastructure Canada Disaster Mitigation and Adaptation Funding (DMAF) for a potential Holland Marsh Phosphorus Removal Facility project
 - The project was submitted as a potential alternative technology to the Project Specific Phosphorus Offset Program
- ❑ In July 2020, Infrastructure Canada invited the Region to submit a formal application for DMAF
- ❑ In November 2020, DMAF application was approved by Infrastructure Canada in principle.

Holland Marsh Polder

□ Holland Marsh Polder:

- The largest polder of the five (5) polders within the Simcoe watershed
- Size: 28 km²
- Contributing 70% of total Phosphorus load from the polders.

□ Sources of Phosphorus Loading to Lake Simcoe (2000 – 2014)

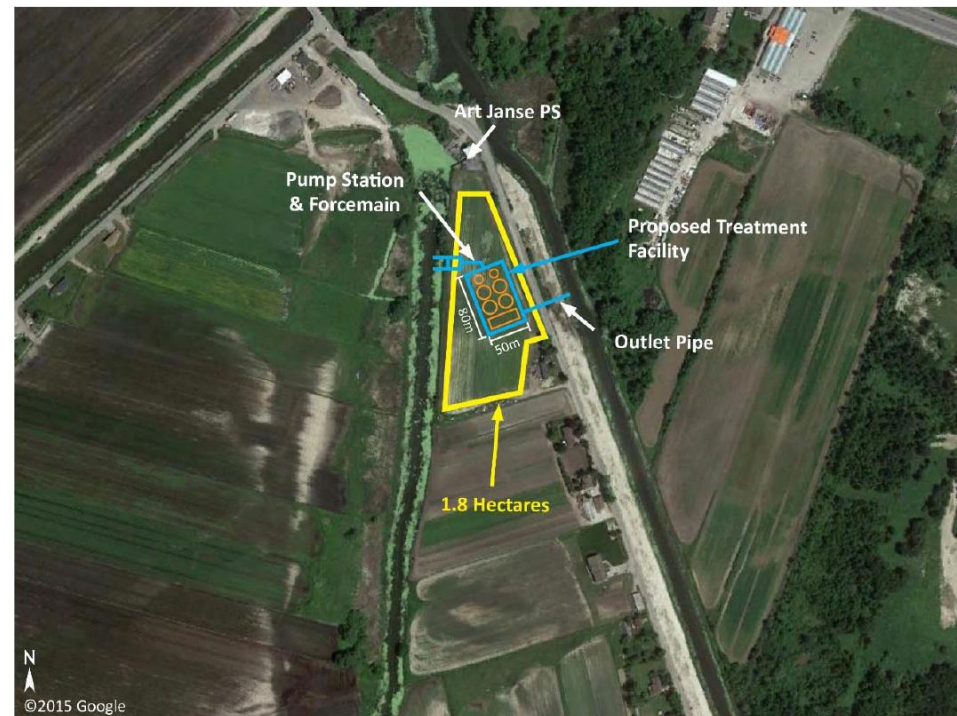


Holland Marsh Phosphorus Removal Facility Project

- ❑ The project was submitted as an alternative technology to the stormwater retrofits proposed of the UYSS EA. The principle of the submission:
 - The facility would achieve a higher level of phosphorus removal than stormwater retrofits
 - The project would leverage DMAF funding and UYSS project funding (Development Charges) to build the facility
 - The proposed alternative technology would require the Ministry approval upon the UYSS EA approval
- ❑ DMAF will provide 40% of the eligible cost for the project. UYSS EA approval and further discussions would be required to ensue the balance of the funding for the project.

Holland Marsh Phosphorus Removal Facility Project continued

- ❑ The project includes a new treatment facility and upgrades to the existing Art Janse Pumping Station.
- ❑ Location, capacity and technologies of the treatment facility will be determined by a Municipal Class Environmental Assessment Study
- ❑ Cost of the facility was estimated in the range of \$40M.



Preliminary facility location based on LSRCA 2016 Feasibility Study

Moving Forward

- ❑ For the Region to implement the Holland Marsh Phosphorus Removal Facility Project it is contingent on UYSS EA approval to secure a funding source
 - ❑ Consultation with the Ministry upon UYSS EA approval to seek approval to implement the Holland Marsh Phosphorus Removal Facility Project as part of the Project Specific Phosphorus Offset program
 - ❑ Confirmation of funding for the facility construction and operation
- ❑ Steps needed to implement the project:
 - A Class Environmental Assessment study, including consultation with regulatory agencies, stakeholders and Indigenous peoples
 - Detailed design and regulatory permitting
 - Construction to meet the objectives of the Project Specific Phosphorus Offset Program of the UYSS EA.

THANK YOU!