
From: McPhail, Roxanne <Roxanne.McPhail@york.ca> **On Behalf Of** Regional Clerk
Sent: Tuesday, November 2, 2021 9:28 AM
Subject: Regional Council Decision - Water and Wastewater Capital Infrastructure Status Update

On October 28, 2021 Regional Council made the following decision:

1. The Regional Clerk circulate this report to the Ontario Ministers of the Environment, Conservation and Parks, Municipal Affairs and Housing and Infrastructure, Clerks of the local municipalities, Building Industry and Land Development Association, and the Ontario Homebuilders' Association.

The original staff report is attached for your information.

Please contact Mike Rabeau, Director, Capital Planning and Delivery, Environmental Services at 1-877-464-9675 ext. 75157 if you have any questions with respect to this matter.

Regards,

Christopher Raynor | Regional Clerk, Regional Clerk's Office, Corporate Services

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The Regional Municipality of York

Committee of the Whole
Environmental Services
October 14, 2021

Report of the Commissioner of Environmental Services

Water and Wastewater Capital Infrastructure Status Update

1. Recommendation

The Regional Clerk circulate this report to the Ontario Ministers of the Environment, Conservation and Parks, Municipal Affairs and Housing and Infrastructure, Clerks of the local municipalities, Building Industry and Land Development Association, and the Ontario Homebuilders' Association.

2. Summary

This report updates Council on the status of key water and wastewater infrastructure projects required to meet future system demands and triggers for release of servicing capacity and associated approvals. Staff reported to Council in [September 2021](#) with a capacity monitoring report and will follow up in 2023 with a capacity assignment report.

During the COVID-19 pandemic, Environmental Services has continued to deliver essential water and wastewater infrastructure projects identified in the 10-Year Capital Plan. To date, there have been no immediate, major impacts to ongoing environmental assessment, design, and construction work as a result of the pandemic. We continue to monitor for potential impacts to future capital delivery plans due to adjustments in corporate priorities, market uncertainty and external pressures.

Key Points:

- On September 26, 2019, Council authorized a water and wastewater capacity assignment of 108,638 persons to support growth in the York Durham Sewage System to the end of 2026
- As of the end of 2020, the total available capacity for growth in the York Durham Sewage System is 178,132 persons
- The 2021 Environmental Services Budget and 10-Year Capital Plan include \$2.9 billion in water, wastewater, waste management, forestry and energy projects, including \$1.65 billion for growth infrastructure to provide servicing capacity in the Regional water and wastewater systems

- Implementation of works identified in the Environmental Services Capital Plan is critical to deliver capacity needed to service growth and is dependent on collection of forecasted development charge revenues
- With an investment of about \$1.2 billion over the next 10 years, proactive management and maintenance of infrastructure through a comprehensive asset management program ensures short-term and long-term reliability of a multi-billion-dollar asset base
- The Region has been awarded \$100.5 million from Infrastructure Canada in Disaster Mitigation and Adaptation Funding for five capital projects with further applications pending

3. Background

2019 capacity assignment enabled growth to approximately 1.3 million people

On [September 26, 2019](#), Council approved a capacity assignment of 108,638 persons to local municipalities serviced by the York Durham Sewage System and the York Water System, bringing the cumulative servicing capacity assigned to support Region-wide growth to over 1.3 million people and total available capacity to 223,249. This is the longest and largest capacity assignment to date.

It is essential that water and wastewater servicing is available for municipal growth to occur. The amount of servicing capacity, expressed in persons, is “assigned” to local municipalities and, in turn, local municipalities allocate that capacity to individual developments to support residential growth.

The 108,638 persons capacity was assigned to King, Markham, Richmond Hill, Vaughan and Whitchurch-Stouffville to support forecasted growth including 20,000 persons for Centres and Corridors growth to the end of 2026. Three local municipalities, Aurora, East Gwillimbury and Newmarket, received capacity to grow to 2023 as part of the [2018 Capacity Assignment](#).

The unused capacity in the York Durham Sewage System at the end of 2020 is estimated at 178,132 persons.

Capital Plan focuses on building the Regional water and wastewater network, sustaining infrastructure service levels and managing system risk and resiliency

Environmental Services is responsible for delivering 38% of the Region’s total 2021 10-Year Capital Plan. Implementation of the works identified in the Environmental Services’ Capital Plan remains critical for delivering capacity needed to service growth within current financial limits. The capital program has 131 active projects with additional project work forecasted as 2022 approaches. These projects focus on building our Regional trunk system, sustaining infrastructure service levels and managing system risk and resiliency. The number of active projects by project delivery phase is summarized in Table 1.

Table 1
2021 Active Water and Wastewater Projects by Project Delivery Phase

| Project Delivery Phase | Number of Active Projects |
|-------------------------------|--------------------------------------|
| Planning | 21 |
| Environmental Assessment | 6 |
| Design | 36 |
| Construction | 44 |
| Warranty | 24 |
| Total | 131 |

4. Analysis

The 2021 approved budget for Environmental Services identified a 10-Year Capital Plan totalling \$2.9 billion. Forty-four construction projects are now underway and no major construction delays are anticipated at this time. The following sections provide an update on key Environmental Services projects within the 10-Year Capital Plan. A project summary and a location map are included in Attachments 1 and 2, respectively.

DUFFIN CREEK PLANT OUTFALL

Duffin Creek Plant Outfall upgrades construction to start in late 2021

In 2010, York and Durham Regions began a Class Environmental Assessment recommending optimization of existing processes at Duffin Creek Plant to increase treatment capacity from 520 megalitres per day to 630 megalitres per day. This Class Environmental Assessment was completed, filed, and released for public comment in November 2013.

To assist with a decision on the Class Environmental Assessment, the Minister issued an order to the Regions on April 4, 2016 outlining requirements to undertake a Phosphorus Reduction Action Plan study at Duffin Creek Plant. In January 2018, the Regions completed the Phosphorus Reduction Action Plan study. After reviewing the Phosphorus Reduction Action Plan and subsequent meetings and correspondence, on November 7, 2019, the Minister decided that with conditions, the Regions could proceed with implementing commitments and recommendations outlined in the Class Environmental Assessment and Phosphorus Reduction Action Plan study. This decision was critical for the Regions as unlocking use of the full plant capacity is key to service future growth.

York and Durham Regions are implementing the recommendations outlined in the Class Environmental Assessment and Phosphorus Reduction Action Plan study. Design for the Phosphorus Reduction Action Plan and outfall upgrades started in Q1 2020 and construction of the outfall upgrades started in September 2021 with completion scheduled in late 2022.

Construction of the Phosphorus Reduction Action Plan upgrades will occur in 2022 through to 2024. Pre-purchase of seventy diffuser check valves was completed in February 2021. Installation of the diffusers will depend on seasonal restrictions with fish spawning timing windows.

UPPER YORK SEWAGE SOLUTIONS ENVIRONMENTAL ASSESSMENT

Region awaits decision from province on Upper York Sewage Solutions Environmental Assessment despite unprecedented delays

The Upper York Sewage Solutions project will provide servicing capacity for over 80,000 persons to support provincially approved growth in the Towns of Aurora, Newmarket and East Gwillimbury. The proposed sewage solution includes a new Water Reclamation Centre in East Gwillimbury, modifications to the existing York Durham Sewage System in Newmarket and a project-specific total phosphorus offsetting program. This alternative was added by the then Minister of Environment inserting an additional condition into the Terms of Reference for the Environmental Assessment when these were approved in 2010. This additional condition stipulated that the Region had to consider innovative technologies and facilities located in York Region.

- In July 2014, after more than five years of extensive scientific study and consultation with stakeholders and Indigenous peoples, York Region submitted the Environmental Assessment report to the province for approval. Upper York Sewage Solutions Environmental Assessment was anticipated to be approved by February 2015 with commissioning of the Water Reclamation Centre scheduled for 2024. With delays in approval of the environmental assessment, the Water Reclamation Centre was scheduled for commissioning in 2028 based on the 2021 budget; however, this timing was dependent on approval of the environmental assessment in early 2021 which did not occur. Timing of completion will be updated as part of the 2022 Budget process
- In December 2016, the Ministry of the Environment, Conservation and Parks informed the Region that it needed to complete its own provincial Crown legal Duty to Consult obligation with Indigenous peoples and advised that this process would delay project approval
- Upon the Ministry's request in March 2017, the Region completed a voluntary Health Impact Assessment, finalized in November 2018, in consultation with the Chippewas of Georgina Island First Nation
- In July 2020, the Chippewas of Georgina Island First Nation submitted comments to the Ministry of the Environment, Conservation and Parks under the Provincial Transfer Payment Agreement. Their submission, in the form of a peer review of the Environmental Assessment, included draft feedback on potential project conditions of approval
- In July 2020, Minister Yurek of the Ministry of the Environment, Conservation and Parks advised York Region that the province is considering options, including a potential southern trunk sewer, as an alternative to the preferred solution identified by the Upper York Sewage Solutions Environmental Assessment. The Minister's letter

expressed the urgency of this work and the need to work quickly to have a solution constructed by 2026

- On June 3, 2021, the Ontario government posted its intent to establish an Expert Advisory Panel and introduced Bill 306, proposed legislation titled the *York Region Wastewater Act, 2021*. The Expert Advisory Panel aims to provide advice on options to address wastewater servicing capacity needs in York Region and future growth in both York Region and Durham Region. If the proposed legislation is passed, it would put a hold on the application for the Upper York Sewage Solutions Environmental Assessment
- On June 29, 2021, the Region submitted comments on the proposed legislation to the Ministry of the Environment, Conservation and Parks to express the Region's disappointment with the proposed legislation and requested that the Minister immediately render a decision on the Upper York Sewage Solutions Environmental Assessment, following the process laid out in provincial law, a decision which York Region has been awaiting for over seven years
- Despite the Ministry's satisfaction with the Environmental Assessment and their assurance to deliver a decision in response to the Region's multiple requests, the Region remains waiting for an approval to proceed with the Upper York Sewage Solutions project

Water Reclamation Centre and associated wastewater network designs are complete

Design for the Water Reclamation Centre and associated linear conveyance infrastructure is complete. Applications for all environmental approvals and permits required to implement the work are ready for formal submission to various regulatory agencies upon receipt of environmental assessment approval.

- Performance demonstration of the pre-selected membrane filtration system and a pile testing program were concluded; findings were used to optimize the Water Reclamation Centre treatment process and foundation design
- The Region has successfully secured property required for the proposed Water Reclamation Centre, along with various other properties associated with the linear conveyance infrastructure; staff continue to pursue remaining temporary easements to facilitate construction

Region partnered with Lake Simcoe Region Conservation Authority in preparation for the project-specific total phosphorus offsetting program

At its meeting of [November 16, 2017](#), Council authorized a partnership with Lake Simcoe Region Conservation Authority to undertake a performance demonstration project for phosphorus removal by retrofitting two existing stormwater management facilities. This project will better prepare the Region for implementation of the project-specific total phosphorus offsetting program upon approval of the Upper York Sewage Solutions project. Pre-construction monitoring at two stormwater management facilities was initiated in summer

2018 and completed in fall 2019. Construction of the first facility at Tamarac Green Park was substantially completed in July 2021, followed by post-construction monitoring to spring 2022. The second pond facility construction is on hold given environmental assessment approval delays by the province.

The Region is also working with Lake Simcoe Region Conservation Authority to evaluate other phosphorus offsetting opportunities within the watershed. One specific opportunity is the Holland Marsh Polder Phosphorus Recovery and Recycle Facility. This project is one of the most effective phosphorus removal opportunities within the watershed for the Region to achieve required project-specific total phosphorus offsetting program of the Upper York Sewage Solutions project. The Region and Authority have successfully received funding approval from Infrastructure Canada under the federal government's Disaster Mitigation and Adaptation Fund in the amount of \$16 million.

Region completed modifications to the York Durham Sewage System in Newmarket

On March 7, 2018, the province issued a Declaration Order to exempt modifications to the York Durham Sewage System component of the Upper York Sewage Solutions project from the requirements of the *Environmental Assessment Act*. With the Declaration Order, the Region was able to proceed with twinning of the forcemain and alterations to Newmarket and Bogart Creek Sewage Pumping Stations all in Newmarket. Construction of the modifications started in June 2019, and the new forcemain system was commissioned in May 2021, well ahead of schedule and on budget. Completion of the modification work unlocks 1,500 persons capacity assigned to Town of Newmarket from the 2016 capacity assignment while providing system redundancy and reliability.

Interim infrastructure solutions to provide servicing capacity to support growth are progressing in the Towns of Aurora, East Gwillimbury and Newmarket

At its meeting of [June 28, 2018](#), Council authorized two interim infrastructure solutions to provide water and wastewater servicing capacity for a population of 11,500 persons to support growth in the Towns of Aurora, East Gwillimbury and Newmarket, out of which 10,500 persons were assigned subject to completion of these trigger capital projects. An additional capacity of 1,000 persons is reserved for Centres and Corridors in these three municipalities once the capacity provided by the interim solutions is confirmed as indicated. Both projects have been awarded funding under one agreement with Infrastructure Canada under the Disaster Mitigation and Adaptation Fund.

- Upgrades to the Region's Aurora Sewage Pumping Station project are pre-approved under the Class Environmental Assessment process. Design work was completed Q3 2019 and tender awarded Q1 2020. Commissioning is now complete. This unlocks 7000 people in capacity
- The Region completed an environmental assessment to identify the preferred location for a new pumping station near the intersection of Yonge Street and Henderson Drive

in Aurora. Construction commenced in summer 2021 and commissioning is expected in spring 2023. This will unlock 4500 people in capacity

VAUGHAN SERVICING PROJECTS

Detailed design for West Vaughan Sewage Servicing is complete

An environmental assessment for West Vaughan Sewage Servicing to service future growth of 33,200 persons and 50,100 employment population was completed in 2013. The West Vaughan Sewage Servicing project includes approximately 14 kilometres of trunk sewer, with 12 kilometres to be completed by 2028 (last reported: 2028) and the remaining two kilometres to be completed after 2034, as well as expansion of the Humber Sewage Pumping Station to be completed by 2025 (last reported: 2025). The tender for Humber Sewage Pumping Station is to be released in the fall of 2021.

All permit applications are being prepared and, in consultation with permitting agencies, will be submitted prior to construction based on timing of each construction contract. Land acquisition is complete with several properties acquired in 2020 and 2021.

Northeast Vaughan Water and Wastewater Servicing design projects are underway to meet advanced construction timelines

The Class Environmental Assessment Study to provide additional water and wastewater servicing capacity to accommodate anticipated growth in Northeast Vaughan up to 2051 was filed for public review in Q2 2019. This servicing capacity includes approximately 155,000 persons of residential and employment within the wastewater service area and 115,000 persons of residential and employment within the water service area

The preferred water servicing solution includes constructing watermains to connect two new elevated water storage tanks and two new pumping stations. Preferred sites identified for water infrastructure were as follows:

- New pumping station in the Jane Street and Teston Road area
- New pumping station and elevated tank north of the Jane Street and Kirby Road intersection
- New elevated tank west of the Jane Street and King-Vaughan Road intersection

The preferred wastewater servicing solution includes construction of six kilometres of new trunk sewer. The proposed trunk sewer is divided into segments and would begin at Teston Road and connect to the existing York Durham Sewage System at three specific points:

- A 4.5-kilometre section along Jane Street from Teston Road to south of Rutherford Road
- A small (180 metre) relief sewer section located south of Rutherford Road, between Jane Street and Keele Street, in the existing Jane-Rutherford Sanitary Trunk Sewer easement

- A 1.9-kilometre section along Keele Street from south of Rutherford Road to Langstaff Road, and then east crossing Keele Street to an area just south of Langstaff Road

No comments, questions or Part II Orders were received during the 30-day public review period. Requests for Proposals (one for water servicing, one for wastewater servicing) to retain engineering firms to provide services as described in the Class Environmental Assessment were issued in Q3 2019. Contracts were awarded in Q4 2019 to CH2M Hill Canada Limited for wastewater servicing and Associated Engineering (Ont.) Limited for water servicing. The wastewater servicing solution design is progressing towards 60% completion while the water servicing project is at 30% design completion.

In June 2020, Council authorized the Region to execute an agreement with the development community and Block 27 Landowners Group to advance construction of the Northeast Vaughan Water and Wastewater Servicing. For water servicing, two pumping stations and one elevated tank have been scheduled for advanced completion by 2025 with the remaining watermain and elevated tank by 2028. For wastewater servicing the sewer segments along Keele Street and Langstaff Road will be completed by 2025 and the remaining Jane Street sewer segment by 2028. Overall project completion is currently planned for 2028 (last reported: 2028).

ADDITIONAL WATER AND WASTEWATER SERVICING PROJECTS

Environmental Study Report for Nobleton Class Environmental Assessment to be filed for public review in Q4 2021

The Nobleton community is currently serviced by groundwater, since connection to the York Water System (surface water) is not permitted due to the province's long-term plan *A Place to Grow: Growth Plan for the Greater Golden Horseshoe*, that precludes lake-based servicing for communities in the Greenbelt. An Environmental Assessment was initiated in November 2018 to assess water and wastewater servicing solutions and select preferred alternatives to accommodate planned growth (to 10,800 persons) in Nobleton. As part of the Environmental Assessment, groundwater exploration was undertaken and an assimilative capacity study was completed. Input on selection of the preferred solution and design was gathered during three open houses held in-person in Q1 2019 and online in Q4 2020 and Q2 2021. The recommended site for a new well was identified on the existing Nobleton Well 5 property located at 12860 Highway 27 in the Township of King. Approval has recently been received from the Ministry of Environment, Conservation and Parks on the parameter limits for treated effluent released to the Humber River. The Environmental Study Report is anticipated to be published for public review in Q4 2021.

Richmond Hill Centre/Langstaff Gateway wastewater servicing construction started Q3 2021

Design of required wastewater infrastructure through a complex utility corridor along Highway 7 is complete, including property acquisition of 22 temporary and permanent easements. Tender documents for wastewater servicing infrastructure were released in Q1 2021 with

construction starting in Q3 2021 to align with construction of Cedar Avenue and advanced in-service timing of 2023 (last reported: 2025). Wastewater capacity is currently available to match transportation growth triggers for the service area through 2025. The new project will provide additional wastewater servicing capacity to accommodate anticipated growth to 2051 in Richmond Hill and Markham, subject to availability of local infrastructure. Additional servicing capacity has been accounted for in the Regional infrastructure. This ensures alignment with higher densities considered in ongoing Secondary Plan Updates and in the province's Transit-Oriented Community program for this area.

Sutton Water Resource Recovery Facility average flow well below plant capacity

The existing Sutton Water Resource Recovery Facility was commissioned in 2003 with an original design capacity to service 7,500 persons. An Environmental Assessment for plant expansion to service up to 13,500 persons was completed in 2010.

The Region continues to monitor plant flows, and a future capacity expansion project will be brought into the 10-Year Capital Plan when flow reaches 70% of plant capacity. Currently, the plant is operating at 50-60% capacity and expansion is scheduled for 2033.

Construction of a plant optimization project is nearing completion. This work includes constructing an equalization tank to address peak flow processing challenges and this tank will serve as a process tank in future capacity expansion. Constructing the equalization tank does not change plant capacity.

Construction was moved from 2019 to 2020 to coordinate this project with construction of a new forcemain and connection from new development to the plant. This coordination required additional time for planning and design and the plant optimization project is scheduled for completion in Q4 2021 (last reported: 2021).

PEEL REGION AND CITY OF TORONTO COST-SHARED PROJECTS

York Region's long-term servicing strategy includes Peel and Toronto cost-shared projects

Provision of water and wastewater services through partnerships with City of Toronto and Peel Region is key to the Region's long-term servicing strategy. York Region staff conduct regular meetings with City of Toronto and Peel Region staff to discuss issues regarding servicing commitments, including cost-shared project delivery schedules.

Every five years, York and Peel Region staff conduct a review of Peel's asset management programming and York Region contributions to ensure sufficient funding for the maintenance and eventual replacement of shared water and wastewater infrastructure. The current review is nearing completion, with approval anticipated in December 2021. In 2020, York Region contributed \$14 million through wholesale rate payments into the Peel Region held York Region reserves for future major maintenance and replacement work.

Per the Toronto York Water Servicing Agreement, York Region provides an asset replacement contribution to the City of Toronto as part of the wholesale rate payment to assist with maintenance and ultimate replacement of the water system. The contribution is based on replacement value, an agreed upon replacement factor and proportionate share of water system flows. In 2020, an asset replacement contribution of \$16 million was made by York Region to the City of Toronto.

Both Peel Region and City of Toronto are on track to meet their long-term water supply and wastewater servicing agreement commitments to York Region.

Peel cost-shared projects progressing as expected

York Region has secured 331 megalitres per day in water supply and transmission capacity from Peel Region. Based on York Region's 2016 *Water and Wastewater Master Plan Update*, water supply from Peel Region combined with water supply from City of Toronto will service growth to year 2041 and beyond. The latest Master Plan update will be finalized in early 2022.

The Lakeview Water Treatment Plant Expansion and Lorne Park Water Treatment Plant Expansion were completed in 2018, with ground restoration work at Lakeview Water Treatment Plant scheduled for 2022. The only active water cost-shared project scheduled for construction is the interconnection of the new 12-kilometer Hanlan watermain to the existing watermain. This final phase of interconnection work is scheduled for completion in summer 2023; during the pandemic, this interconnection was put on hold to minimize shutdowns of the local distribution system and is still awaiting approval for release from Peel Region. Delayed completion of this final contract has no impact to the Region's water supply.

As for wastewater cost-shared projects, the GE Booth Lakeview Wastewater Treatment Plant Capacity Recovery project is underway to ensure York Region's capacity needs into the future. This project entails constructing additional plant tankages and processes to restore the total rated plant capacity of 518MLD and meet 2008 Design Guidelines requirements. Construction is scheduled to commence in 2022 and will be completed in 2028.

Toronto cost-shared projects progressing without impacts to capacity commitment

Toronto Billing Meter Upgrades were successfully completed as planned in Q4 2019 and Rosehill Pumping Station Standby Power Upgrades were completed in June 2020. Construction of Ellesmere Pumping Station Standby Power Upgrades resumed after Toronto resolved contractual issues on the project and was completed in September 2020. Scarborough Watermain was completed in Q3 2021.

The completion date for West Toronto and Richview Pumping Stations was updated by the City of Toronto to Q2 2023 (last reported: Q4:2021) to reflect longer procurement and construction durations based on experience with Ellesmere Pumping Station Standby Power Upgrades. This procurement delay and longer construction duration proposed by Toronto

extend project completion by about one and a half years, though without impact to York Region water delivery or capacity.

5. Financial

\$2.9 billion of capital infrastructure works approved in the 2021 Environmental Services Budget over next 10 years

The 2021 Environmental Services Budget and 10-Year Capital Plan include \$2.9 billion in water, wastewater, waste management, forestry and energy projects. Of the total \$2.9 billion of capital works in the approved 10-Year Capital program, \$1.65 billion is for growth infrastructure in the water and wastewater program, \$1.13 billion for rehabilitation and replacement in the water and wastewater program and \$168.0 million for waste management, forestry and energy projects. The 2021 multi-year Capital Spending Authority for Environmental Services infrastructure projects is \$1.6 billion. Additional Capital Spending Authority will be requested annually through the budget process as projects progress and specific requirements are established.

Growth capital work is debt financed and repaid through development charges. Water and wastewater rehabilitation and replacement work is paid for through the water/wastewater rates. Waste management, forestry and energy are primarily paid through the tax levy. As part of the budget process, associated funding and resource requirements for operations and asset management of expanded and complex infrastructure systems are areas of focus informing financial implications of servicing growth. A summary of key infrastructure project costs, based on the 2021 approved budget, is provided in Table 2.

Table 2
Cost Estimates for Key Infrastructure Projects

| Project | Estimated Total Project Cost | 10-Year Capital Plan Expenditures¹ (2021-2030) |
|--|-------------------------------------|--|
| Duffin Creek Plant Outfall and Phosphorus Reduction Action Plan Upgrades | \$21.7M | \$11.4M |
| York Durham Sewage System Newmarket Forcemain Twinning | \$119.2M | \$14.2M |
| Upper York Sewage Solutions Water Reclamation Centre ² | \$638.6M | \$497.3M |
| Upper York Sewage Solutions Interim Servicing | \$30.4M | \$20.5M |
| West Vaughan Sewage Servicing | \$400.8M | \$309.9M |
| Northeast Vaughan Water and Wastewater Servicing | \$281.5M | \$264.5M |
| Richmond Hill/Langstaff Gateway Regional Centre Water and Wastewater Servicing | \$33.7M | \$29.4M |
| Sutton Water Resource Recovery Facility Expansion | \$43.9M | \$4.3M |
| City of Toronto Cost-shared Projects | \$322.0M | \$23.0M |
| Peel Region Water Cost-shared Projects | \$532.0M | \$3.9M |
| Peel Region Wastewater Cost-shared Projects | \$68.7M | \$9.2M |
| Estimated Total Project Cost and Remaining Budget in 10-Year Plan | \$2,492.5M | \$1,187.6M |

1. Costs under review as projects advance and will be updated as part of annual budget process

2. Includes associated linear conveyance work and phosphorus offset program

Managing longevity of existing infrastructure through comprehensive asset management

One of Environmental Services' key strategic goals involves proactively managing and maintaining infrastructure to ensure reliability and compliance with all regulatory requirements. Accordingly, the department's asset management program monitors condition and performance of Environmental Services' multi-billion dollar asset base. Infrastructure rehabilitation and replacement requirements to maintain current levels of service are estimated at about \$1.2 billion over the next 10 years. Some key projects and programs are as follows: Duffin Creek Incinerator Replacement Project, Southeast Collector Rehabilitation Project, York Durham Sewage System Rehabilitation Program, Ductile Iron Watermain Replacement Program, Inflow and Infiltration Reduction Program, and Elevated Water Tank Rehabilitation Program. A breakdown of estimated costs for this program area is provided in Table 3 along with other components of the entire capital program.

Table 3
Environmental Services 10-Year Capital Plan Expenditures

| Capital Program Area | Expenditures (2021 - 2030) |
|---|-----------------------------------|
| Key Infrastructure Projects (detailed in Table 2) | \$1,187.6M |
| Other Water Growth Capital Projects | \$136.6M |
| Other Wastewater Growth Capital Projects | \$323.1M |
| Water Rehabilitation/Replacement | \$407.3M |
| Wastewater Rehabilitation/Replacement | \$726.1M |
| Waste Management | \$112.7M |
| Natural Heritage and Forestry | \$32.5M |
| Energy Management | \$22.9M |
| Total | \$2,948.8M |

Region awarded \$66.4 million through the Disaster Mitigation and Adaptation Fund in 2019 and \$34.1 million in 2020

In 2019, the Region was granted approval for three projects submitted for funding through Infrastructure Canada's Disaster Mitigation and Adaptation Fund. This Fund's objective is to support large-scale infrastructure projects helping communities better manage risk of disasters triggered by natural hazards due to a changing climate. The total amount approved is \$66.4 million with 85% going towards two key water and wastewater projects and the remainder towards establishment of natural infrastructure:

1. York Durham Sewage System Newmarket Forcemain Twinning

2. Aurora Sewage Pumping Station Overflow Mitigation
3. Natural Infrastructure - building climate change resilience through enhancement and restoration of the urban forest

The agreement end date to complete these works is March 2028. As of December 2020, \$41.1 million has been received from Infrastructure Canada. Full recovery for these three projects is anticipated by 2023.

In July 2020, the federal government approached the Region regarding two projects that were submitted under the first round of the Disaster Mitigation and Adaptation Fund application process in 2018. The Expressions of Interest for these two projects were approved but deferred for future consideration, due to the later timing of construction schedules. Due to the COVID-19 pandemic, the federal government requested the Region to submit full applications which were successful in obtaining approval in 2020.

A total eligible cost of \$45.3 million was submitted for Groundwater Supply System Improvements and \$40.0 million for the Holland Marsh Polder Phosphorus Recovery and Recycle Facility, of which 40% (\$34.1 million), will be covered by federal funding. The Groundwater Supply System Improvements project is an investment in groundwater facilities, including the addition of iron and manganese treatment. The Holland Marsh Polder Phosphorus Recovery and Recycle Facility project will construct a single storm water treatment facility to remove over 40% of phosphorus from the Holland Marsh canals. This project is contingent on approval of the Upper York Sewage Solutions Environmental Assessment approval.

On July 20, 2021, Infrastructure Canada announced the opening of a new application intake for the Disaster Mitigation and Adaptation Fund. Environmental Services is proceeding with the following four project application submissions:

- York Region Municipalities Inflow and Infiltration Reduction Public Infrastructure Projects
- Sewage Pumping Station Repair Program (Bogart Pumping Station Rehabilitation, Leslie Sewage Pumping Station Transformer Upgrades, Keswick Sewage Pumping Station Upgrades and Black Creek Sewage Pumping Station Upgrades)
- Richmond Hill Collector Repair and Twinning
- Georgina Water Treatment Plant Mussel Control and Backwash Outfall Repair

Project timelines are contingent on the Region achieving development charge collection projections

Growth-related water and wastewater projects are funded with development charges. Project timelines established in the 2021 10-Year Capital Plan are contingent on the Region achieving its growth and development charge collection projections. Development charge collections are dependent on market conditions and development approvals, which can vary

significantly from year to year. As reported in the Fiscal Sustainability: 2021 Update report, the continuation of COVID-19 pandemic-related cost pressures remain a risk for 2021 and 2022. Collections were down in 2020 but are forecast to improve in 2021 and 2022 as the economy recovers. The development charge collections forecast is predicated on achieving and maintaining development activities at the pre-pandemic level, which is critical to affording the capital plan.

As part of the 2022 budget process the Region continues to assess development charge collections and project timelines. If forecast development charge collections are not achievable, the Region may need to revisit its capital plan commitments and realign the timing of capital projects. Also, staff are updating the Region-wide Development Charge Bylaw, which is expected to be in place by June 2022.

6. Local Impact

York Region continues to work closely with local municipalities affected by capital works program to facilitate planned community growth

Priority projects detailed in this report are crucial to providing timely servicing capacity to municipalities. This water and wastewater capacity is necessary to meet growth expectations while maintaining a high level of environmental and public health protection.

Continued support from local municipalities on inflow and infiltration reduction efforts and commitments to new development standards will help support capacity management in the system.

Additional servicing capacity for development is created through timely completion of key infrastructure projects

Release of additional capacity, as well as granting of approvals in each phase of the approval process, is contingent on projects being completed as planned. Projects are continually monitored to ensure that risk of delay is mitigated where possible and capacity made available. Staff continue to collaborate with local municipalities to ensure impacts to planned community growth are minimized to the extent possible considering any capacity constraints created by the current implementation schedule for these projects. A collaborative approach with local municipalities will continue to assist with reporting on their local capacity allocation in a timely manner to both support their own respective capacity allocation and future growth commitments as well as the Regional capacity assignment to ensure fiscal sustainability.

7. Conclusion

\$2.9 billion proposed 10-Year Capital Plan includes required projects for current and future capacity assignments

This report provides Council with a status of priority projects within the 10-Year Capital Plan and its relationship to timing of servicing capacity. Overall, 44 active construction projects are underway and no major construction delays are anticipated at this time. Although the full impact of the COVID-19 pandemic remains unclear at this time, an important consideration for recovery planning will be to enact revisions to expedite the lengthy environmental assessment approvals process and maintain project timelines. Continuing to monitor these projects will ensure that both capacity allocation and granting of planning approvals are synchronized with project delivery schedules. At the end of 2020, total available capacity for growth in the York Durham Sewage System was 178,132 persons.

The 2021 10-Year Capital Plan includes critical projects required to provide capacity to service future growth. Staff reported to Council in September 2021 on capacity monitoring. Where applicable, staff will continue to optimize water and wastewater networks through infra-stretching, water conservation, inflow and infiltration reduction and other capacity monitoring programs to ensure the Region maximizes potential from existing Regional systems. The Region will continue to monitor development charge collections. Also, where appropriate, the Region will continue to look for other funding sources.

For more information on this report, please contact Mike Rabeau, Director, Capital Planning and Delivery, Environmental Services at 1-877-464-9675 ext. 75157.



Recommended by:

Erin Mahoney, M. Eng.
Commissioner of Environmental Services



Approved for Submission:

Bruce Macgregor
Chief Administrative Officer

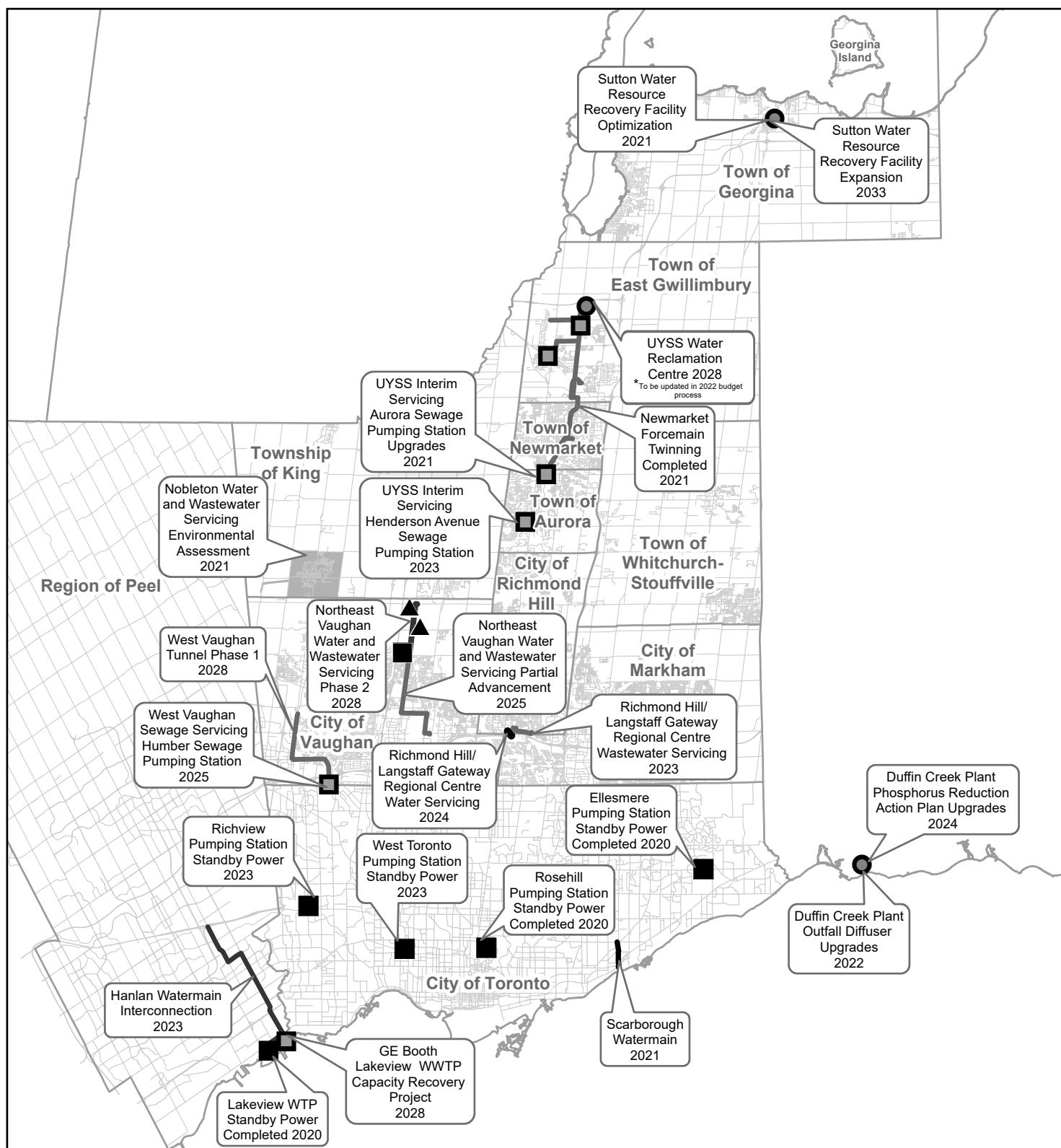
September 15, 2021
Attachments (2)
#12785739

Status of Key Infrastructure Projects

| Project Name | Description | Current Status | Expected Project Commissioning Date |
|---|---|------------------------|---|
| Duffin Creek Plant Outfall | Diffuser upgrades to increase outfall capacity to 630MLD | Construction | 2022 |
| | Phosphorus Reduction Action Plan Upgrades | Tendering | 2024 |
| Upper York Sewage Solutions | Water Reclamation Centre with associated linear works and Phosphorus Offset Program | EA/Detailed Design | 2028 (Timing dependent on Upper York Sewage Solutions Individual Environmental Assessment approval. Timing will be updated as part of the 2022 Budget process) |
| | Newmarket Forcemain Twinning | Substantial Completion | 2021 |
| | Interim Infrastructure Solutions – Aurora Sewage Pumping Station Upgrades | Construction | 2021 |
| | Interim Infrastructure Solutions – Henderson Sewage Pumping Station | Construction | 2023 |
| West Vaughan Sewage Servicing | Humber Sewage Pumping Station | Tendering | 2025 |
| | Tunnel Phase 1 | Detailed Design | 2028 |
| Northeast Vaughan Servicing | Water and wastewater servicing solution partial advancement Phase 1 | Detailed Design | 2025 |
| | Water and wastewater servicing Phase 2 | Detailed Design | 2028 |
| Nobleton Water and Wastewater Servicing | Class Environmental Assessment | EA | 2021 (Timing of EA completion) |
| Richmond Hill/Langstaff Gateway Regional Centre | Wastewater servicing solution | Construction | 2023 |
| | Water servicing solution | Detailed Design | 2024 |

| | | | |
|---|--|-----------------|----------------|
| Sutton Water Resource Recovery Facility | New equalization tank and upgrades for plant optimization | Construction | 2021 |
| | Expansion of existing facility to accommodate growth in Sutton | Detailed Design | 2033 |
| City of Toronto Cost-shared Projects | Ellesmere Pumping Station Standby Power | Warranty | Completed 2020 |
| | Rosehill Pumping Station Standby Power | Warranty | Completed 2020 |
| | Scarborough Watermain | Construction | 2021 |
| | Richview Pumping Station Standby Power | Detailed Design | 2023 |
| | West Toronto Pumping Station Standby Power | Detailed Design | 2023 |
| Peel Region Water Cost-shared Projects | Lakeview Water Treatment Plant Standby Power | Warranty | Completed 2020 |
| | Hanlan Watermain Interconnection | Detailed Design | 2023 |
| Peel Region Wastewater Cost-shared Projects | GE Booth Lakeview WWTP Capacity Recovery Project | Detailed Design | 2028 |

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LOCATION PLAN

Key Infrastructure Projects

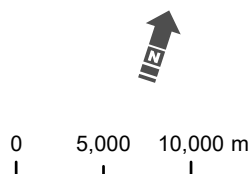
Capital Infrastructure Status Update

Water and Wastewater October 14, 2021

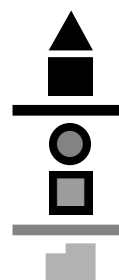
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York Region



Legend

Water Storage
Water Pumping Station
Watermain
Treatment Plant
Sewage Pumping Station
Wastewater Main
EA Boundary