

Clause 1 in Report No. 18 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on November 19, 2015.

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Environmental Services
Capital Infrastructure Status Update

Committee of the Whole recommends:

1. Receipt of the presentation by Mike Rabeau, Director, Capital Planning and Delivery, Environmental Services.
2. Adoption of the following recommendation contained in the report dated October 14, 2015 from the Commissioner of Environmental Services:

1. Recommendation

It is recommended that:

1. The Regional Clerk circulate this report to the Clerks of the local municipalities.

2. Purpose

This report updates Council on the status of key water and wastewater infrastructure projects required to meet system demands and identified as triggers for release of servicing capacity and associated approvals.

This report also updates Council on the status of the deferred wastewater capital projects as committed in February 2015 when Council directed *“staff to provide an update on the Upper York Sewage Solutions project, the West Vaughan sewage project, the Northeast Vaughan water and wastewater servicing project and all other deferred wastewater capital projects by November 2015. The report should include project status, consultation efforts with local municipal staff and stakeholders, phasing opportunities and prospects for reinstatement in the 2016 or 2017 capital budget forecast.”*

3. Background

Projects supporting capacity assignment to 1,250,000 people are completed or within six months of completion

York Region capacity assignment to local municipalities to date totals 1,250,000 people. As part of the capacity assignment process, a number of projects were identified as “trigger projects” that are required to be completed to realize the capacity assigned. The trigger projects required to deliver capacity are now either completed or within six months of completion, including the East Gwillimbury York-Durham Sewage System Connection project. In July 2015, the Town of East Gwillimbury was advised that the Region removed restrictions on the registration of 5,465 units pertaining to the Queensville, Holland Landing and Sharon as regional capacity will be available by the end of 2015.

Capital Infrastructure required to support growth is reviewed and reported to Council regularly

The last update to Council on the status of delivering key Environmental Services infrastructure projects was provided in April 2015. The next capital infrastructure update is scheduled for Q2 2016 and, moving forward, this update report will address all deferred projects and schedule for completion.

As part of the Municipal Comprehensive Review process, new growth projections have been identified. Further, the Region is undertaking a Water and Wastewater Master Plan to confirm existing infrastructure projects and identify new projects to support the Region’s growth to 2041. With consideration and approval of the preferred growth scenario scheduled for early Q2 2016, the Master Plan is expected to be complete in mid-2016 and ultimately inform the 2017 Development Charge Bylaw update. The next Regional capacity assignment is planned for Q3 2016 to identify multi-year capacity needed for each municipality.

Approved 2015 10 Year Capital Plan totalled \$2.3 billion including adjusted construction timing

The 2015 approved budget identified a 10 Year Capital Plan totalling \$2.3 billion, which included adjusted timing for certain water and wastewater construction projects. Table 1 provides deferred infrastructure projects with their adjusted commissioning dates.

Table 1
2015 Deferred Infrastructure Projects

Project	Original Commissioning Date	Commissioning Date Per 2015 Budget
Upper York Sewage Solutions	2020	2024
West Vaughan Sewage Servicing	2020	2028
Northeast Vaughan Servicing	2021	2028
Yonge Street / Highway 7 Regional Centre Servicing	2021	2025
Sutton Water Resource Recovery Facility Expansion	2022	2033*

*To be confirmed through Master Plan and monitoring

4. Analysis and Options

Environmental Services represents approximately 40 per cent of the Regional 10-year capital plan

The 10 Year Water and Wastewater Capital Plan remains focused on delivering capacity needed to service growth within current financial limits. The capital program has over 140 active projects which are progressing well and focus on building the trunk system, sustaining infrastructure service levels and managing system risk and resiliency. While there are many complexities associated with infrastructure planning, design and construction, the program remains on schedule to deliver on commitments made through the capacity assignment process.

The 2015 approved budget identified a 10 Year Capital Plan totalling \$2.3 billion. The following provides 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.

Commissioning of Queensville/Holland Landing/Sharon wastewater servicing is underway and on schedule

Construction of the Holland Landing and Queensville West Sewage Pumping Stations is complete and commissioning is underway. The 2nd Concession Sewage Pumping Station is nearing construction completion. The project is on schedule to meet wastewater servicing requirements for new developments in East Gwillimbury.

A summary of the Queensville/Holland Landing/Sharon servicing projects is shown in Table 2.

Table 2
Queensville/Holland Landing/Sharon Project Status Summary

Project	Status	Current Commissioning Date	Last Reported Commissioning Date	Contractor
Queensville Elevated Tank No. 1	Commissioned	December 2013		Landmark Structures
Holland Landing Sewage Pumping Station	In Commissioning	October 2015	Q2 2015	Con-Drain Company
Queensville West Sewage Pumping Station	In Commissioning	October 2015	Q2 2015	Mettko Construction
2nd Concession Sewage Pumping Station	Under Construction	December 2015	Q4 2015	Con-Drain Company
Holland Landing and Green Lane Forcemains	In Commissioning	November 2015	Q2 2015	North Rock Group
Sharon Trunk Sewer	Region Section Commissioned	June 2015		Con-Drain Company
2nd Concession Linear (Capacity Related)	In Commissioning	December 2015	Q4 2015	Aecon Group Inc.

Southeast Collector Trunk Sewer project reaches completion

The Southeast Collector was commissioned and became operational in January 2015. Since then, construction of one sewer shaft on the existing York-Durham Sewage System (YDSS) in Markham was completed in August 2015 enabling diversion of flows from the existing YDSS into the new Southeast Collector. This completed the commissioning process. Final restoration of surface works at various locations in Markham and Pickering is complete. The project is now in its warranty period.

Completion of this project marks a significant achievement for York Region as it was initially subject to much public resistance and stringent approval conditions. With this project complete, York Region is well positioned to convey future growth flows to the Duffin Creek Plant. With flows diverted into the new sewer, the Region is proactively undertaking inspection and planning for rehabilitation of the existing York-Durham Sewage System between Markham and Pickering as part of the 10 Year Capital Plan.

Duffin Creek Plant Stage 3 is now fully operational

The Duffin Creek Plant Stage 3 is now fully operational, including the Influent Pumping Station. Total Performance was accomplished in Q2 2015 (last reported: Q2 2015).

Duffin Creek Plant Stages 1 and 2 Upgrades construction on schedule and proceeding well

The Duffin Creek Plant Stages 1 and 2 Upgrades include work that must be completed by 2017 as a condition of the Ministry of the Environment and Climate Change's ("the Ministry") Environmental Compliance Approval for the Duffin Creek Plant Stage 3 Expansion and other required refurbishments and upgrades.

Contracts listed in Table 3 constitute the bulk of work to be accomplished in the Stages 1 and 2 Upgrades project and include upgrades stipulated to be completed by December 31, 2017 in the Environmental Compliance Approval-Air conditions. Commissioning and overall substantial performance of the final contracts of the project are expected to occur in Q4 2017 (last reported: Q4 2017) in compliance with the Environmental Compliance Approval.

Table 3

Contract Status for Duffin Creek Plant Stages 1 and 2 Upgrades

Contract / Progress	Progress Update
New Stages 1 and 2 Electrical Substation Construction and associated pre-purchase contracts for Generators, Switchgears and Transformers (\$32 Million / 99% complete)	Construction contract and two associated pre-purchase contracts awarded 2012. Construction contract substantially performed in December 2014. Completion anticipated in December 2015.
Disinfection Facility Construction (\$9 Million / 99% complete)	Construction contract awarded June 2013. Substantial performance achieved June 2, 2015. Completion anticipated in December 2015.
Preliminary Treatment and Influent Pumping Station Facility construction and associated pre-purchase contracts; Bio filter and Sewage Pumps (\$85 Million / 35% complete)	Construction contract awarded March 2014 and on schedule for Q4 2017 completion. Sewage pump pre-purchase contract awarded. Excavation of wet well completed and structural works well underway. Major concrete pressure pipe works are complete. Head works and other miscellaneous facilities construction have advanced to above grade and closed-in for winter work.
Refurbishment and Upgrade Construction contract and associated pre-purchase contract; Clarifier Bridge Mechanisms (\$29 Million / 40% complete)	Construction contract awarded June 2014. Clarifier Bridge Mechanisms pre-purchase contract awarded and on schedule with Stage 2 bridges in commissioning. Stage 2 to be commissioned in Q4 2015.

Minister's decision on the Duffin Creek Plant Outfall Class Environmental Assessment still outstanding

Approval of the Class Environmental Assessment Study (Class EA) for the Duffin Creek Plant Stage 3 Expansion Project was received the Minister of the Environment and Climate Change (the Minister) in March 2007. As a condition of approval, the Regions were required to initiate an environmental assessment to address the limitation in the existing outfall and diffuser within six weeks of obtaining all necessary approvals for the Stage 3 expansion. The current Environmental Compliance Approval certificate states that the average daily rated capacity of the Duffin Creek Plant is 630 million litres per day (MLD), however, until the preferred solution to address the outfall limitations is implemented, the operating capacity of the Duffin Creek Plant is limited to 520 MLD, with the possibility of a limited increase to 540 MLD under certain circumstances.

The Class EA to address the outfall limitations commenced in December 2010. Notice of Completion of the Schedule “C” Class Environmental Study Report for the outfall limitation study was issued for public review and comment on November 19, 2013. Based on comments received, it was agreed to extend the typical thirty day review period to ninety-one days. Over this review period, seventy-five Part II Order Requests were submitted to the Minister, all of which included the general allegation that the Duffin Creek Plant was responsible for a resurgence of algae (*Cladophora*) growth, creating odour problems and loss of waterfront enjoyment.

Scientific experts in lake water chemistry and biology of algae support conclusions of the Outfall Class EA

A Part II Order Request under the *Environmental Assessment Act* (also known as a “bump-up”) seeks to have the Minister order York and Durham Regions (the Regions) to undertake the most stringent Individual Environmental Assessment (IEA) process to study the outfall limitations instead of using the Class EA process. The Minister asked the Regions to respond to a number of key claims made by opponents in Part II Order Requests regarding *Cladophora* growth and the impact of plant discharges on near shore waters. The Regions retained scientific experts in lake water chemistry and biology of algae (*Cladophora*) growth to review claims made in the Part II Order Requests. These experts have further strengthened conclusions of the Outfall Class EA that there is no direct link between the Duffin Creek Plant outfall being the source of the resurgence of *Cladophora* growth in near shore waters in the vicinity of the plant. The Regions have committed to the Province that continued efforts on near shore water quality monitoring, watershed studies and plant phosphorus removal optimization work remain a priority and form key components of the longer term plant related program.

New pumps at Leslie Street Sewage Pumping Station are now commissioned

The Leslie Street Sewage Pumping Station collects wastewater flow from Vaughan, Richmond Hill and Markham. The facility pumps wastewater to the Duffin Creek Plant. This upgrade project will increase the station’s pumping capacity to meet growth requirements and includes major electrical, Supervisory Control and Data Acquisition (SCADA) system, standby power and building envelope upgrades. New pumps were commissioned in Q3 2015 (last reported: Q2 2015) and are available for additional capacity requirements. Building envelope upgrades to improve energy efficiency and lower operating costs are completed. Additionally, operations staff returned from their temporary start centre to the upgraded facility ahead of schedule in April 2015.

Work continues on the remainder of the contract with overall construction expected to be complete at the end of 2016 (last reported: Q1 2016). The duration of the contract has been extended due to complexities with merging the old and new electrical systems and implementation of the new SCADA control system including multiple commissioning stages, while maintaining an operational facility. The extension in the completion date will not affect approved servicing commitments.

Upper York Sewage Solutions project is on track to achieve key detailed design milestones by the end of 2015

The Upper York Sewage Solutions project will provide additional servicing capacity of over 80,000 persons (40 MLD) to support growth in the Towns of Aurora, Newmarket and East Gwillimbury, and includes the following three key design elements:

- Lake Simcoe Water Reclamation Centre and associated linear conveyance infrastructure

- Modifications to the existing York-Durham Sewage System between the existing Newmarket, Aurora and Bogart Creek Pumping Stations

- Project-specific phosphorus off-setting program

All three key design elements being delivered have substantially progressed on varying timelines, in accordance with the approved 2015 Capital Plan.

Upper York Sewage Solutions project Environmental Assessment approval anticipated for Q2 2016

The final Environmental Assessment report for this project was submitted to the Minister of the Environment and Climate Change for approval on July 25, 2014. With submission of the final report, the Ministry is conducting its own internal review and public consultation process in accordance with regulatory guidelines.

Since July 2014, Region staff has been addressing comments and additional information requests from the Ministry in a timely manner over several iterations. All information requests received have been addressed. Based on the current stage of the Minister's review and the Region's previous experience in similar undertakings, formal approval of the undertaking is now anticipated to be secured by the summer of 2016. This period includes statutory public review (five weeks), statutory Ministry review (13 weeks), and Ministry/Minister decision-making process. The entire statutory timeline for a decision on the approval of the undertaking is close to seven months depending on the number of issues that may be in dispute. Contingent on formal approval being received by the Region in mid-2016 as expected, project implementation will continue on schedule.

Commissioning of York Durham Sewage Servicing into East Gwillimbury provides capacity of 5,465 units and above with incentive program

With the York-Durham Sewage System (YDSS) Connection to East Gwillimbury nearing completion, the Region has advised the Town of East Gwillimbury that it can proceed with registration of 5,465 units in Queensville, Holland Landing and Sharon pertaining to the development charge credit agreement. Staff is also working with the Town of East Gwillimbury staff to implement the East Gwillimbury Sustainable Development Incentive Program that will provide additional allocation capacity to developments conforming to program requirements, which include a higher standard of wastewater system construction, high-efficiency toilets and post-construction flow monitoring. Once new homes are occupied in Queensville, Holland Landing and Sharon, staff will assess the impact and monitor flows to determine if any residual capacity is available for additional capacity assignment. The YDSS forcemain twinning will be completed in 2019 and, will provide security and redundancy for the northern system, as well as for 2,000 people in the sanitary sewer servicing capacity. Phase 1 of the of the water reclamation centre is currently forecasted to be commissioned in 2024. Phase 2 of the facility involves an expansion of process equipment to provide an additional 40,000 people in capacity; the timing of the expansion will be determined in future master plans and will be phased based on actual growth rates in the service area. Table 4 outlines construction phasing of the overall Upper York Sewage Solutions project.

**Table 4
Upper York Sewage Solutions Construction Phasing and Cost**

Activity	Cost	Year	Additional Servicing Capacity
Queensville Holland Landing Sharon Servicing	\$114M	2015	16,395 to 21,000
YDSS Forcemain Twinning	\$85M	2019	2,000
Water Reclamation Centre			
Phase 1			
Linear (Conveyance/Outfall)	\$70M	2024	40,000
Civil/Process	\$272M		
Phosphorus Offsetting	\$18M		
Phase 2			
Process	\$30M	TBD*	40,000

*Confirmed by master plan and actual growth in the plant service area

Kennedy Road Watermain tunnelling is complete

The Kennedy Road Watermain project involves construction of a 1500mm diameter watermain along Kennedy Road from the Milliken Pumping Station on 14th Avenue to Major Mackenzie Drive. The project is required to provide additional water supply from Toronto to Markham Pressure District 6 to meet long-term growth demands. Work is being completed under two contracts. The open-cut contract is complete and the tunneling contract is currently in construction. All tunnels are complete with the majority of the watermains installed; the last tunnel was completed during the first weeks of September. Works remaining to be completed include two deep drain chambers and cement mortar lining of the watermains.

Commissioning of the entire watermain from Milliken Pumping Station to Major Mackenzie Drive is expected to be completed in early 2016. Completion of commissioning had been anticipated for the end of the year; however, additional time was required due to a delay in obtaining a new executed agreement and work permit required by Metrolinx. In addition, at the request of the City of Markham work was suspended at the main tunneling shaft located opposite the Markham Pan Am/Parapan Am Centre from June 26 for seven weeks. The revised completion date will not delay or impact timing of approved development within the service area.

East Vaughan Pumping Station construction progressing to meet servicing requirements

The East Vaughan Pumping Station (formerly known as West Richmond Hill Pumping Station) is a new water pumping facility required to service lands in the northeast portion of Vaughan, portions of Richmond Hill north of Major Mackenzie Drive and the northwest portion of Markham. Construction started in April 2014 and approximately 75 per cent of the work is complete. All concrete works in both the disinfection building and the main pumping station are complete. Finishing works, installation of piping and equipment are ongoing. The project is expected to be commissioned in Q2 2016 (last reported: Q1 2016). The schedule change is due to productivity lost during inclement weather as a result of colder than normal winter. The revised completion date will not delay or impact timing of approved development within the service area.

Additional growth in Vaughan will continue with upgrades at the Humber Sewage Pumping Station

Electrical upgrades are currently underway at the Humber Sewage Pumping Station and although the entire project is forecast for completion in Q2 2016 (last reported: Q1 2016), work to improve operation of the existing pumps has been prioritized to meet near-term capacity requirements and is scheduled for completion in Q4 2015. Modifications to the forcemain control, including valve replacement and chamber modifications were added to the scope of the project which will improve operational flexibility and reliability, it is estimated that the addition of this work will extend completion of the overall project by one quarter. Once the electrical upgrades have been completed, the facility can service growth of an additional 20,000 people in the Humber Sewershed.

Region staff is working with the City of Vaughan to unlock available Regional capacity for the local system

City of Vaughan and Regional staff have agreed to jointly retain a consultant to study the feasibility and benefits of building a temporary pumping station near Highway 27 and Zenway Boulevard. This would provide a sanitary connection to permit a portion of lands fronting Highway 27 to proceed, prior to completion of the West Vaughan Trunk Sewer along Highway 27. The study is expected to commence in late 2015 for completion in late 2016.

Preliminary design for West Vaughan Sewage Servicing is nearing completion

Preliminary design for the West Vaughan Sewage Servicing Project is expected to be completed at the end of 2015. As part of the preliminary design, the geotechnical investigation is well underway. Property acquisition is progressing and pre-consultation with approval agencies is ongoing. The West Vaughan Sewage Servicing project includes over 10-kilometres of trunk sewer and expansion of the Humber Pumping Station. This project is currently scheduled for completion in 2028.

Needs Assessment Study for West Vaughan Water Servicing Project is on track for completion in February 2016

York Region intends to update the water servicing strategy for parts of West Vaughan, including Kleinburg-Nashville, through optimizing the existing system and identifying required infrastructure upgrades. To date, the Region and its consultant have extensively reviewed the capacity of existing facilities, updated the hydraulic water model, and identified existing facilities and system constraints. A thorough review of population and employment projections has been completed. The result of the assessment study is expected to identify opportunities to increase capacity in existing facilities and systems. Additionally, it will identify any future water infrastructure needs to serve West Vaughan projected growth.

Northeast Vaughan Water and Wastewater Servicing Environmental Study is progressing

The Northeast Vaughan Water and Wastewater Servicing project is underway to provide Regional infrastructure for servicing anticipated growth in northeast Vaughan to the year 2051. The Class Environmental Assessment (EA) study is progressing and alternative watermain routes, water storage sites and trunk sewer routes are being developed.

The first Public Consultation Centre was held in April 2015 to introduce project objectives and present preliminary servicing alternatives. The second Public Consultation Centre is on schedule for Q4 2015 to obtain public feedback on recommended water and wastewater sites and routes.

10,000 people capacity available in the Regional system for Northeast Vaughan

The Region is working with the City of Vaughan to identify capacity bottlenecks and therefore potential mitigation solutions to support growth prior to overall project completion. Staff confirms there is residual sewage capacity of approximately 8,000 persons in the existing Jane Rutherford Sewer and 2,000 persons capacity in the existing Maple Collector for developments in Blocks 27, 34, 35 and 41 subject to the City of Vaughan's allocation and local system capacity.

For water, staff identified an interim solution to ensure that water capacity is available for all four referenced blocks to use the 10,000 people residual capacity. The interim solution is to add an additional pump to the Region's Maple Pumping Station. The work is expected to be complete by early 2018.

Richmond Hill/Langstaff Class Environmental Assessment Study for water and wastewater servicing is complete

As part of the Schedule 'B' Class Environmental Assessment (EA) study, a project file has been prepared. The project file describes the problem, evaluation of alternatives and preferred solutions in addition to public and agency consultation during the Class EA study. The preferred water solution is providing additional connection points to the existing water system and the preferred wastewater solution is a new sewer along Highway 7.

The project file was made available for public review for thirty calendar days on March 26, 2015. All issues raised were resolved satisfactorily through discussions with concerned parties during the thirty-day public review period. A Part II Order Request was not received by the Minister of the Environment and Climate Change. The project has now moved forward into the detailed design phase.

23,000 people residual capacity available in system for Yonge Street and Highway 7 area

The majority of lands within the Yonge Street and Highway 7 Regional Centre are currently serviced by the Pomona Creek Sewer (Central Collector) that has a residual capacity of 23,000 people (over 10,000 apartment units). Given the transportation pre-subway completion capacity for the area is 9,000 units, there is adequate capacity to service all potential developments in the tributary to the Pomona Creek Sewer (Central Collector) within this transportation capacity threshold. Commissioning of the deferred Yonge Street and Highway 7 area servicing project in 2025, including construction of a new sewer on Highway 7, will provide the capacity to service the build-out of the area.

Regional staff is working with local municipal staff from Richmond Hill and Markham to identify an integrated approach to distribute the transportation and servicing capacities to the two municipalities to best facilitate growth in this Regional Centre.

Sutton Water Resource Recovery Facility operating at less than 60 per cent capacity

The existing Sutton Water Resource Recovery Facility was commissioned in 2003 with an original design capacity to service 7,500 people. An Environmental Assessment for plant expansion to service 13,500 people was completed in 2010. The detailed design is anticipated to start in 2028 and construction completed in 2033.

The plant expansion project was deferred beyond the 10 year capital plan in the 2015 budget. The plant is currently operating at less than 60 per cent of its design capacity.

A study recently completed on the plant has confirmed that current capacity cannot go beyond 7,500 people. Town of Georgina staff advised that growth in Sutton is starting to accelerate and requested that consideration be given to re-introduce the project to the ten year plan. Staff has reviewed the request and recommended that once flow exceeds 70 per cent of the plant capacity, the Sutton Water Resource Recovery Facility expansion project be included in the future ten year plan, subject to funding availability and Council approval at that time.

Key component of Region's long-term servicing strategy is Peel and Toronto cost-shared projects

Provision of water and wastewater services through partnerships with the City of Toronto and Peel Region is a key component of the Region's long-term servicing strategy. Three water projects and two wastewater projects in the Region of Peel, and six water projects in the City of Toronto are currently underway to provide capacity to service growth in the Region, including six in construction.

The Region conducts regular meetings with Toronto and Peel staff to discuss issues regarding supply commitments, including cost-shared project delivery schedules. The West Trunk Twinning project, which includes installation of a trunk sewer beneath a runway at Lester B. Pearson International Airport, is now in construction and is expected to achieve substantial performance by the end of 2015. Both the Region of Peel and the City of Toronto are on track to meet their long-term water supply agreement commitments to the Region.

Hanlan Feedermain projects are scheduled to be commissioned by Q4 2017

In 2009, the Region of Peel completed a Schedule 'C' Class Environmental Assessment study to identify the preferred route for the new 2400mm diameter Hanlan Feedermain, which will extend approximately 12 kilometres north from Lakeview Water Treatment Plant to Hanlan Pumping Station.

York Region has secured 331 MLD in supply and transmission capacity from Peel. The water supply from Peel combined with water supply from Toronto services existing and future growth to year 2031 and beyond.

The project was separated into three contracts and all are currently in construction. Contract No. 1 (tunnelling), Contract No. 2 (open cut) and Contract No. 3 (open cut/tunnelling) are all on schedule. All three contracts are scheduled to achieve substantial performance in Q2 2017 (last reported: Q2 2017) and will be fully commissioned in late 2017.

Link to key Council-approved plans

Timely delivery of critical infrastructure projects identified in this report is essential to ensure that water and wastewater system capacity is available to service targeted growth of the *Regional Official Plan*. By prioritizing and integrating delivery of critical infrastructure projects with timing of planning approvals to address growth needs in an efficient manner, community benefit is being optimized in accordance with the goals of the *2015-2019 Strategic Plan* under the objectives *Optimizing critical infrastructure systems capacity* and *Encouraging growth along Regional Centres and Corridors*.

5. Financial Implications

\$2.3 billion in capital infrastructure works over the next ten years in the proposed 2016 Environmental Services Budget

The proposed 2016 Environmental Services Budget and 10 Year Capital Plan includes \$2.3 billion in water, wastewater, waste management, forestry and energy projects. Of the total \$2.3 billion of capital works in the proposed program, approximately \$1.3 billion is for growth in the water and wastewater program, \$1.0 billion for rehabilitation and replacement in the water and wastewater program and \$65 million for waste management, forestry and energy projects. Proposed 2016 Capital Spending Authority for Environmental Services Capital is \$969 million. Additional Capital Spending Authority will be requested annually as projects progress and specific requirements are established.

Growth capital work is debt financed with debt repaid through development charges and asset management paid through rate. Waste management, forestry and energy is primarily paid through the tax levy. As part of the budget process, associated funding and resource requirements for operations and asset management of expanded infrastructure systems is an area of focus to inform financial implications of servicing growth. A summary of infrastructure project costs is provided in Table 5.

Table 5
Proposed 2016 Cost Estimates for Key Infrastructure Projects

Project	Estimated Total Project Cost	Remaining Estimated Cost in 10 Year Plan	Commissioning Date
Queensville/Holland Landing/Sharon York-Durham Sewage System Connection	\$114.0M	\$10.5M	2015
Southeast Collector Trunk Sewer	\$578.9M	\$9.9M	2015
Duffin Creek Plant Stages 1 and 2 Upgrades	\$241.7M	\$114.2M	2017
Duffin Creek Plant Outfall – diffusers	\$17.4M	\$14.2M	2017
Duffin Creek Plant Outfall – future expansion*	\$170.0M	\$12.6M	2028
Leslie Street Sewage Pumping Station Upgrades	\$30.7M	\$3.3M	2016
Upper York Sewage Solutions	\$625.2M	\$531.2M	2024
Kennedy Road Watermain	\$75.0M	\$5.9M	2016
East Vaughan Pumping Station	\$52.5M	\$10.6M	2016
West Vaughan Sewage Servicing	\$304.2M	\$84.4M	2028
Northeast Vaughan Servicing	\$168.4M	\$52.6M	2028
Yonge Street / Highway 7 Regional Centre Servicing	\$28.9M	\$27.6M	2025
Sutton Water Resource Recovery Facility Expansion	\$40.7M	\$2.0M	2033
Toronto Cost Shared Projects*	\$457.0M	\$100.1M	2021*
Peel Water Cost Shared* Projects	\$612.8M	\$66.6M	2021*
Peel Wastewater Cost Shared Projects	\$93.2M	\$33.7M	2021*
Subtotal	\$3,610.9M	\$1,079.6M	
Other Capital			
Other Water Growth Capital Projects	\$102.1M		

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Project	Estimated Total Project Cost	Remaining Estimated Cost in 10 Year Plan	Commissioning Date
Other Wastewater Growth Capital Projects	\$84.5M		
Water Rehabilitation/Replacement	\$324.8M		
Wastewater Rehabilitation/Replacement	\$665.7M		
Waste Management	\$36.7M		
Natural Heritage and Forestry	\$16.3M		
Energy Management	\$12.4M		
TOTAL Remaining Estimate in 2016 Budget and 10 Year Capital Plan	\$2,322.0M		

*Timing to be confirmed by master plan update and ongoing monitoring

Development charge collections need to increase beyond forecasts to move deferred projects forward

All deferred projects are funded by development charges, which means that additional funding, by way of development charge collections above what has been forecast, would be required to move these projects forward in the capital plan. To date, development charge collections have not exceeded the 2015 forecast and no additional project deferrals or further adjustments to existing deferred projects are currently planned.

6. Local Municipal 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.

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 minimized and capacity will be available as planned. Staff continue to collaborate with local municipalities affected by the capital works program to ensure impacts to planned community growth are minimized to the extent possible considering capacity constraints created by any delay of these projects. A collaborative approach with local municipalities will continue to assist with reporting on their local capacity allocation in a timely manner to support Regional capacity assignment and ensure fiscal sustainability.

Reporting by local municipalities will continue to assist in monitoring system capacity

Senior engineering and planning staff from all local municipalities and from the Region will continue to work together on annual reporting of development applications and allocation of previously assigned servicing capacity. This information provides a clear understanding of available existing capacity and timing for anticipated servicing needs of planned and approved growth. Coordinated efforts with local municipalities will also continue on implementation of inflow and infiltration reduction and water conservation and efficiency programs to reduce flows, thereby better managing system risk while continuing to increase available system capacity. These efforts are mandated by the Province through the Southeast Collector Individual Environmental Assessment conditions of approval.

York Region is committed to ongoing communication with stakeholders

Since deferring construction of some wastewater projects, the Region has held multiple sessions with individual local municipalities and the impacted development communities. The Region will continue to provide project updates and collect feedback from stakeholders on deferred projects. A summary of consultation on the deferred projects is summarized in Table 6.

Table 6
2015 Consultation Summary for Deferred Projects

Project	Date	Forum
Sutton Water Resource Recovery Facility	September 23	Capacity study update with Town of Georgina
Yonge Street and Highway 7	August 24 October 2	Available capacity discussion with Town of Richmond Hill and Markham
West Vaughan Sewage Servicing	February 27 October 6	Information sessions with development community
	June 10 August 4	Available capacity discussion with City of Vaughan
Upper York Servicing Solutions	February 19 March 26 August 16	Information sessions with development community
Northeast Vaughan Water and Wastewater Servicing	February 27 October 6	Information Sessions with development community
	June 10 August 4	Available capacity discussions with City of Vaughan

7. Conclusion

\$2.3 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 capacity availability. Continuing to monitor these projects will ensure that both capacity allocation and granting of planning approvals are synchronized with project delivery schedules. The proposed 2016 10 Year Capital Plan includes critical projects required to unlock current and future capacity assignments. These projects continue to progress well with no impact on capacity allocation anticipated.

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 ext. 75157.

Environmental Services Capital Infrastructure Status Update

The Senior Management Group has reviewed this report.

October 14, 2015

Attachments (2)

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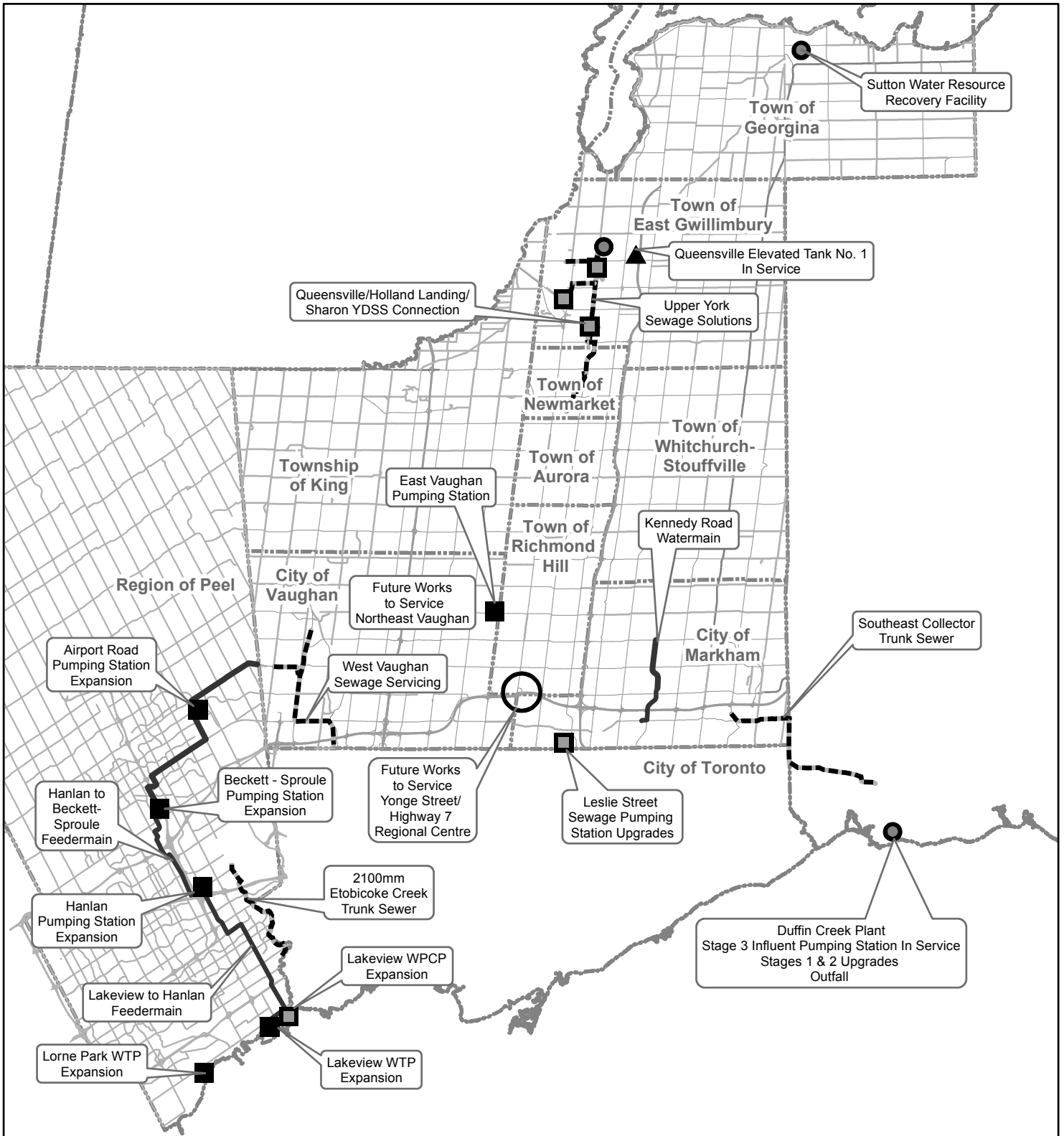
Accessible formats or communication supports are available upon request

Status of Key Infrastructure Projects

Project Name	Description	Current Status	Expected Project Commissioning Date
Queensville/Holland Landing/Sharon Servicing	Queensville Elevated Tank No. 1	In Service	
	New pumping stations and linear works	Construction	Q4 2015 (last reported: Q4 2015)
Southeast Collector Trunk Sewer	Twinning of existing trunk sewer to provide additional conveyance capacity	In Service	
Duffin Creek Plant Stage 3 Influent Pumping Station	New pumping station to convey sewage to Stage 3 Liquid Process Expansion	In Service	
Duffin Creek Plant Stages 1 & 2 Upgrades	Upgrade and refurbish existing Stages 1 & 2	Construction	Q4 2017 (last reported: Q4 2017)
Duffin Creek Plant Outfall	EA to address diffusion requirements and increase outfall capacity to 630MLD	Class Environmental Assessment	2015 (last reported: 2015)
Leslie Street Sewage Pumping Station Upgrades	Upgrades electrical and standby power improvements, and four refurbished pumps	Construction	Q4 2016 (last reported: Q1 2016)
	Two new pumps	In Service	
Upper York Sewage Solutions	Sanitary servicing solution to accommodate growth in Holland Landing, Queensville, Sharon, and parts of Aurora and Newmarket	Detailed Design	2024** (last reported: 2024)
Kennedy Road Watermain	Watermain along Kennedy Road from Milliken Pumping Station to Major Mackenzie Drive	Construction	Q1 2016 (last reported: Q4 2015)
East Vaughan Pumping Station	New pumping station to pump water from Pressure District (PD) 6 to PD7 and PD8	Construction	Q1 2016 (last reported: Q1 2016)
West Vaughan Sewage Servicing	Sanitary servicing solution to accommodate growth in West Vaughan area	Class Environmental Assessment	2028** (last reported: 2028)
Northeast Vaughan Servicing	Water and wastewater servicing solution to accommodate growth in East Vaughan	Class Environmental Assessment	2028** (last reported: 2028)
Yonge Street/Highway 7 Regional Centre	Water and wastewater servicing solution to accommodate growth	Class Environmental Assessment	2025** (last reported: 2025)
Sutton Water Resource Recovery Expansion	Expansion of existing facility to accommodate growth in Sutton	Class Environmental Assessment	2033** (last reported: N/A First time reporting on project)

*The Region has advanced upgrades at the Humber Sewage Pumping Station that will sufficiently increase the station's pumping capacity to support growth in the interim until West Vaughan Sewage Servicing project is complete and construction deferred as part of the Corporate Fiscal Strategy

**Construction deferred in accordance with the Corporate Fiscal Strategy



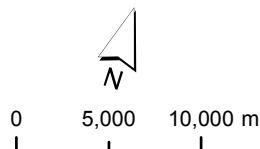
LOCATION PLAN Key Infrastructure Projects

Environmental Services Capital Infrastructure Status Update
November 11, 2015





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Legend

-  Priority Water Projects
-  Priority Wastewater Projects
-  Priority Wastewater Projects
-  Priority Wastewater Projects