

Clause 3 in Report No. 8 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on April 23, 2015.

3

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 April 1, 2015 from the Commissioner of Environmental Services:
  1. The Regional Clerk circulate this report to the Clerks of the local municipalities.

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.

### 3. Background

June 2013 Council Capacity Assignment supports growth to 2017 with assignment to 1,250,000 people

With Regional capacity assignment in June 2013, assignment to local municipalities totals 1,250,000 people, supporting growth to 2017. As part of the multi-year capacity assignment process, trigger projects to unlock capacity are identified and included in the 10 Year Capital Plan. Release of registration for East Gwillimbury's York-Durham Sewage System Connection (Holland Landing/Queensville/Sharon) is all that remains to be approved related to the 2013 capacity assignment. This will accommodate 16,395 persons capacity.

The last update to Council on the status of delivering key Environmental Services infrastructure projects was provided with Report No. 13 of the Committee of the Whole dated September 4, 2014. The next update is scheduled for November 2015 in association with the update on the Upper York Sewage Solutions project, Vaughan projects and all other deferred wastewater capital projects as directed by Council on February 26, 2015.

### 4. Analysis and Options

10 Year Capital Plan totals \$2.3 billion including key infrastructure projects for system capacity

The 2015 approved budget identified a 10 Year Capital Plan totalling \$2.3 billion, which includes critical projects to unlock capacity required to support future growth. The following provides an update on key Environmental Services projects within the 10 Year Capital Plan. A project summary and location map is included in Attachments 1 and 2, respectively.

All six contracts for Queensville/Holland Landing/Sharon wastewater servicing well underway and on schedule to be in service for 2015

Funding requirements based on prepaid development charge credit agreements with the Queensville-Holland Landing-Sharon Developer Group and the Sharon Developer Group are in place. Construction works for all six contracts are well underway and on schedule for 2015 in-service date to meet the wastewater servicing requirements for the new developments in East Gwillimbury.

The 2<sup>nd</sup> Concession Sewage Pumping Station has experienced a delay primarily due to unfavourable ground conditions on site and the extreme cold conditions experienced this past winter. This delay is not currently expected to impact the overall wastewater system in-service date of Q4 2015.

A summary of the Queensville/Holland Landing/Sharon servicing projects is shown in Table 1.

**Table 1**  
**Queensville/Holland Landing/Sharon Project Status Summary**

Project	Status	Current Commissioning/ In-service Date	Last Reported Commissioning/ In-service Date	Contractor
Queensville Elevated Tank No. 1	In Service	December 2013		Landmark Structures
Holland Landing Sewage Pumping Station*	Under Construction	Q2 2015	Q2 2015	Con-Drain Company
Queensville West Sewage Pumping Station*	Under Construction	Q2 2015	Q2 2015	Mettko Construction
2 <sup>nd</sup> Concession Sewage Pumping Station*	Under Construction	Q4 2015	Q2 2015	Con-Drain Company
Holland Landing and Green Lane Forcemains*	Under Construction	Q2 2015	Q2 2015	North Rock Group
Sharon Trunk Sewer*	Under Construction	Q2 2015	Q2 2015	Con-Drain Company
2 <sup>nd</sup> Concession Linear*	Under Construction	Q4 2015	Q4 2015	Aecon Group Inc.

\* Capacity-linked wastewater servicing works

#### Southeast Collector Trunk Sewer now in service

Construction of the Southeast Collector Trunk Sewer commenced in 2011. At the height of the construction period, there were four tunnel boring machines operating concurrently at depths up to 40 metres deep to deliver this 15-kilometre long sewer. This sewer provides vital capacity for future growth in York Region. The Southeast Collector was commissioned and became operational in

January 2015. Total completion is forecast for September 2015. Remaining work includes:

- Construction of one sewer shaft on the existing York-Durham Sewer System (YDSS) in Markham, which will enable diversion of flows from the existing YDSS into the new Southeast Collector
- Final restoration of surface works at various locations in Markham and Pickering

Duffin Creek Plant Stage 3 Influent Pumping Station in service

The Duffin Creek Plant Stage 3 Influent Pumping Station is required to manage flows into the Duffin Creek Plant Stage 3 treatment expansion and is now in service. The main pumping station construction contract was awarded in December 2012 and commissioning commenced in May 2014 (last reported: Q2 2014). Substantial Performance was awarded in early Q3 2014 (last reported: Q3 2014). Total Performance is scheduled for Q2 2015.

Duffin Creek Plant Stages 1 & 2 Upgrades construction proceeding on schedule to meet Ministry of the Environment and Climate Change requirements

The Duffin Creek Plant Stages 1 & 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.

The contracts listed in Table 2 constitute the bulk of work to be accomplished in the Stages 1 & 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: mid-2017) in compliance with the Environmental Compliance Approval.

**Table 2**  
**Contract Status for Duffin Creek Plant**

Contract / Progress	Progress Update
New Stages 1 & 2 Electrical Substation Construction and associated pre-purchase contracts for Generators, Switchgears and Transformers (\$32 Million / 99% complete)	Construction contract awarded December 2012. Pre-purchase deliveries received on site. Work proceeding on schedule in Q4 2014.
Disinfection Facility Construction (\$9 Million / 95% complete)	Construction contract awarded June 2013. Contractor currently behind schedule due to additional time required to resolve minor deficiencies. Substantial performance expected in Q2 2015 (last reported: Q1 2015). Schedule delays on this contract will not impact 2017 deadline.
Preliminary Treatment and Influent Pumping Station Facility construction and associated pre-purchase contracts; Bio filter and Sewage Pumps (\$85 Million / 15% complete)	Construction contract awarded March 2014 and delivery is on schedule. Sewage pump pre-purchase contract awarded. Major piling works completed and bulk excavation of wet well proceeding as planned.
Refurbishment and Upgrade Construction contract and associated pre-purchase contract; Clarifier Bridge Mechanisms (\$29 Million / 10% complete)	Construction contract awarded June 2014. Clarifier Bridge Mechanisms pre-purchase contract awarded and on schedule with first major delivery received.

Decision on the Duffin Creek Plant Outfall Class Environmental Assessment anticipated in Q2 2015

The Notice of Completion for the Schedule “C” Class Environmental Study Report issued on November 19, 2013 provided the public with an opportunity to request the Minister to “bump up” the Class Environmental Assessment (EA) process to an Individual EA. The “bump up” is referred to as a Part II Order Request under the *Environmental Assessment Act*. Seventy-five Part II Order Requests were submitted to the Minister, all of which included the general concern that the Duffin Creek Plant is causing a resurgence of algae (*Cladophora*) growth, creating odour problems and a loss of beachfront enjoyment.

The Town of Ajax has continued an aggressive media campaign alleging the Duffin Creek Plant as the cause of algae (*Cladophora*) growth

The Town of Ajax is the major opponent to the Class EA solution and has retained a team of technical experts and environmental legal counsel to support their Part II Order Request. In the Region's assessments, the Town's Part II Order Request is based on limited data and consequently the documents supporting their Part II Order Request are misleading, unsubstantiated and in some cases false. One example relates to the claim that the Duffin Creek Plant is the primary source of phosphorus loading in the nearshore waters of the lake and the principal cause of *Cladophora* growth. Published research using Environment Canada data provides a different opinion and shows that the Niagara River constitutes approximately 50 per cent of the total phosphorus load on Lake Ontario with approximately 30 per cent coming from Ontario and New York tributaries discharging to the lake. Approximately 10 per cent is from other sources, such as storm sewers and airborne sources. The study concludes that wastewater plants from both American and Canadian cities and towns constitute a minor contribution of approximately 10 per cent.

Duffin Creek Plant is one of the best-performing water pollution control plants on Lake Ontario and has no bypass capability

The Duffin Creek Plant has very strict compliance limits set by the Ministry and can be considered as an environmental leader among all wastewater plants on Lake Ontario. It has the lowest phosphorus discharge limits of all plants discharging to the open waters of Lake Ontario. The Duffin Creek Plant currently discharges approximately 30 per cent of the total phosphorus cap of 311 kg/day for the plant as set by the Ministry. The Duffin Creek Plant provides full treatment of all wastewater flows even during wet weather events and has no capability to bypass flows of untreated or partially treated wastewater to Lake Ontario.

The Ministry asked York and Durham Regions to respond to the Part II Order Request claims made by the Town of Ajax and others. To ensure a verifiable response, the Regions retained experts on *Cladophora* research to perform a peer review and to compile the latest published research on the issues contained in the Part II Order Requests. Generally, the latest research confirms the work completed during the Class EA process and supports the position that wastewater plants are a minor contributor to *Cladophora* growth. Research is now focusing on the population explosion of invasive mussels in the lower Great Lakes as one of the primary causes of algae (*Cladophora*) growth.

A Minister's decision on the Part II Order Requests and the Class EA is expected in the second quarter of 2015. Subsequently, a report will be provided to Committee and Council summarizing the Minister's decision.

Two new pumps for the Leslie Street Sewage Pumping Station Upgrades are expected to be operational in May 2015

The Leslie Street Sewage Pumping Station collects wastewater flow from areas of Vaughan, Richmond Hill, Aurora, Newmarket and Markham. The facility pumps wastewater to the Duffin Creek Plant. The upgrade project will increase station pumping capacity to meet growth requirements and includes major electrical, Supervisory Control and Data Acquisition (SCADA) system, standby power and building envelope upgrades. Due to challenges with the contractor preparing and sequencing the work, pre-commissioning work for two new 1500 litre-per-second pumps are ongoing; however, the availability of the pumps has been delayed to Q2 2015 (last reported: Q1 2015). Current timelines for bringing the pumps online do not impact timing of approved development.

Building envelope upgrades to improve energy efficiency and lower operating costs are ongoing and Regional staff are expected to return from their temporary start centre to the upgraded facility in May 2015. The contract was awarded in December 2012 and construction commenced in January 2013. The entire project is scheduled for completion by Q1 2016 (last reported: Q1 2016).

Upper York Sewage Solutions project is currently in the preliminary design phase

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

- 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

The design and property acquisition phase of the overall project is currently focused on the preliminary design and this project work continues to move forward.

Upper York Sewage Solutions project Environmental Assessment approval anticipated for Q3 2015

The final Environmental Assessment report for this project was submitted to the Minister for approval on July 25, 2014. With the submission of the final report, the Ministry is conducting its own internal review and public consultation process in accordance with regulatory guidelines. Regional staff anticipates this internal review to be completed and formal Minister approval of the undertaking to be secured in Q3 2015.

Upper York Sewage Solutions project schedule modified in approved 2015 Capital Plan

Commissioning of all three elements of the Upper York Sewage Solutions project was originally scheduled for the end of 2018 in the 2014 Capital Plan. In response to slower Regional growth and lower development charge collections, the Upper York Sewage Solutions project schedule has been modified in the approved 2015 10 Year Capital Plan as follows:

- Lake Simcoe Water Reclamation Centre and associated linear conveyance infrastructure – Commissioning Q4 2024 (last reported: Q4 2018)
- Modifications to the existing York-Durham Sewage System – Commissioning Q4 2019 (last reported: Q4 2018)

Detailed design and property acquisition work for these elements are advancing as per the schedule in anticipation of any construction timing advancement.

Kennedy Road Watermain tunnel contract nearing completion with watermain in south tunnel completed and north tunnel completed to Rouge River

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 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 tunnelling contract is currently in construction. The watermain has been installed in the south tunnel and the north tunnel is completed to the Rouge River. Installation of watermains in the remainder of the north tunnel is underway. To date, approximately 2,600 metres of tunnel have been completed, representing 92 per cent of 2,825 metres of tunnel.



Commissioning of the entire watermain from Milliken Pumping Station to Major Mackenzie Drive is expected to be completed by Q4 2015 (last reported: Q2 2015). The two-quarter schedule change is due to continued difficult ground conditions. The revised completion date will not delay or impact timing of approved development within the service area.

#### East Vaughan Pumping Station construction underway

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 40 per cent of the work is completed with the main building foundation in place. The project is expected to be commissioned in Q1 2016 (last reported: Q4 2015). The schedule change is due to an unexpected longer dewatering duration required to lower the water table to allow construction of the main building foundation.

#### West Vaughan Water and Wastewater servicing projects to increase capacity through new infrastructure and system optimization

As part of the approved 10 Year Capital Plan, construction of the West Vaughan Water and Wastewater projects has been deferred. Planning and design phases will move forward as planned in anticipation of any construction timing adjustments.

The West Vaughan Sewage Servicing project includes the construction of a trunk sewer from the Kleinburg Water Pollution Control Plant to the Humber Pumping Station and to expand the existing pumping station capacity. In response to slower Regional growth and lower development charge collections, the West Vaughan servicing projects have been modified in the approved 2015 10 Year Capital Plan as follows:

- Completion of the Humber Sewage Pumping Station expansion is deferred from 2020 to 2025.
- Completion of the trunk sewer from the Humber Pumping Station to Rutherford Road and on Rutherford Road westerly from Highway 27 is deferred from 2020 to 2028.
- The northern segment of trunk sewer from Rutherford Road to Kleinberg Water Pollution Control Plant is deferred beyond 2034.

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

The Region is currently undertaking electrical upgrades to the Humber Sewage Pumping Station to be completed by Q1 2016. It is projected that after completion of the electrical upgrades, the capacity of the Humber Sewage Pumping Station can service growth in the entire Humber Sewershed Service Area to 2026.

Completing the next upgrade of the Humber Sewage Pumping Station by the end of 2025 will enable growth to continue beyond 2025 in the Humber Sewershed. Within the Humber Sewershed, full build-out of the West Vaughan service area requires the completion of the West Vaughan Trunk Sewer, which is proposed to be completed in 2028.

Detailed design for West Vaughan Sewage Servicing is underway

Recommendation to award the contract for detailed design and construction administration services for the West Vaughan Sewage Servicing project was approved by Council in September 2014 and detailed design is underway. The current project schedule shows detailed design completion by the end of 2017.

Needs Assessment Study for the West Vaughan Water Servicing Project awarded in August 2014

The 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. The Region is undertaking the Needs Assessment Study (Phase 1 of this project) and the project is expected to be completed by Q4 2015. The result of this study will provide the road map for future project phases, such as identification of any new infrastructure and/or optimization of the operations strategies to ultimately meet the planned growth for this area of York Region.

Northeast Vaughan Water and Wastewater Servicing Optimization Study is nearing completion

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 Water and Wastewater System Capacity Optimization Study is nearing completion and preliminary optimization alternatives have been developed to leverage capacity from the Region's existing water and wastewater systems and provide interim servicing solutions.

The Class EA Study is progressing concurrently with the system optimization work. The problem/opportunity statement (EA Phase 1), as well as the general approach for identifying and evaluating servicing alternatives (EA Phase 2), was presented at the first Stakeholder and Technical Advisory Committee meetings held in Q4 2014.

The Class Environmental Assessment is scheduled for completion in Q2 2016 (last reported: early 2016), the Preliminary Design and Feasibility Study for the preferred solutions are scheduled to be completed late 2016 (last reported: late 2016) and the construction period has been deferred to the 2025 to 2028 time period (last reported: completion in 2021).

Yonge Street/Highway 7 Regional Centre Class Environmental Assessment underway and Public Consultation Centre complete

As part of the Schedule 'B' Class Environmental Assessment (EA) study, a formal Public Consultation Centre (PCC) was held on November 26, 2014 at the Thornhill Community Centre. The PCC presented a summary of the study that was completed to date, including an overview of the Class EA process, problem statement, existing water and wastewater systems, alternatives that were identified to address the problem statement, evaluation of preliminary alternatives, preferred solutions and next steps.

The PCC provided an opportunity for ministries, agencies, special interest groups and the general public to share their concerns or issues regarding the preferred solutions directly with the Region and the project team. No issues or concerns were raised by the participants during the PCC that would impact the preferred solutions. This feedback was then used to confirm the recommended solutions in the final Project File Report. It is important to note that there was an overall understanding and support for the need of the project. The next step is to incorporate stakeholder feedback into the Project File Report prior to filing for public review in Q2 2015. Detailed design on the recommended solutions will begin in Q4 2015. In response to slower Regional growth and lower development charge collections, project completion has been deferred as part of the approved 2015 10 Year Capital Plan from 2021 to 2025.

This project will provide servicing capacity to support the long-term growth in the Richmond Hill/Langstaff Gateway Regional and Urban Growth Centre. Currently, existing developments in the area are serviced by the existing Pomona Creek Sewer. The existing Pomona Creek Sewer, as well as the York Water System, have residual capacity to match the transportation pre-subway capacity in the area which is approximately 7,000 residential units.

North Don Sanitary Relief Sewer completed and in service ahead of schedule

The North Don Sanitary Relief Sewer diverts flows from the North Don Sewer at Carville Road to the Bathurst Collector Trunk Sewer to alleviate capacity constraints in the existing North Don Sewer system and support growth in Richmond Hill, Vaughan and Markham. The construction works were completed ahead of schedule and put in service in late September 2014 (last reported: Q4 2014).

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 Toronto and Peel Region are a key component of the Region's long-term servicing strategy. Four water projects and three 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 the installation of a trunk sewer beneath a runway at Lester B. Pearson International Airport is scheduled to be tendered by the Region of Peel in Q2 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.

All three Hanlan Feedermain contracts are scheduled to be substantially complete by Q2 2017

In 2009, 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 Million Litres per Day (MLD) in supply and transmission capacity from Region of Peel to year 2031. The water supply from Region of Peel combined with water supply from City of Toronto services existing and future growth in Vaughan, King City, Kleinburg-Nashville, Richmond Hill and Markham to year 2031 and beyond.

The project was separated into three contracts and all are currently in construction. Contract No. 1 (tunnelling) is on schedule, Contract No. 2 (open cut) is approximately six months ahead of schedule and Contract No. 3 (open cut/tunnelling) has had a minor delay; however, it is expected to recover. All

three contracts are scheduled to achieve substantial performance in Q2 2017 (last reported: early 2017) and will be fully commissioned in late 2017.

New Primary Trunk Sewer required to service future growth beyond 2026

The Primary Trunk Sewer project involves constructing a new sewer along a yet-to-be-determined route, from the terminus of the Southeast Collector Trunk Sewer to the Duffin Creek Plant in the City of Pickering. The new primary trunk sewer will provide additional conveyance capacity and redundancy to the existing primary trunk sewer. The project has been deferred and is now scheduled for completion beyond 2030 (last reported: 2026) and timing will be reassessed through future condition assessment and infrastructure planning studies. An Environmental Assessment to select the preferred solution and alignment for the new primary trunk sewer is currently scheduled to commence in 2019 pending confirmation of the need and timing for the project as part of the Water and Wastewater Master Plan process.

[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 identified over the next ten years in the approved 2015 Environmental Services Budget

The approved 2015 Environmental Services Budget and 10 Year Capital Plan includes \$2.3 billion in water, wastewater, waste management, forestry and energy capital projects. Of the total \$2.3 billion of capital works in the program, \$1.4 billion or 62.4 per cent will be funded through development charges, \$720 million or 31.8 per cent through user rates, and \$87 million or 3.9 per cent from other sources including other municipal servicing partners and reserves with the remaining from tax levy. Total 2015 Capital Spending Authority for Environmental

Services Capital is \$1.2 billion. Additional Capital Spending Authority will be requested as projects progress and defined requirements are established.

The majority of these works are debt financed with debt repaid through development charges. As part of the annual budget process, associated funding and resource requirements for operations and asset management of expanded infrastructure systems continue to be an area of focus to inform financial implications of growth. A summary of infrastructure project costs is provided in Table 3.

**Table 3**  
**2015 Cost Estimates for Key Infrastructure Projects**

Project	Estimated Total Project Cost	Remaining Estimated Cost in 10 Year Plan	Completion Date
Queensville/Holland Landing/Sharon York-Durham Sewage System Connection	\$110.0 M	\$53.8 M	2015
Southeast Collector Trunk Sewer	\$610.7M	\$66.9 M	2015
Duffin Creek Plant Stages 1 & 2 Upgrades	\$230.0 M	\$148.9 M	2017
Duffin Creek Plant Outfall	\$180.8 M	\$17.5 M	2016 / 2028*
Leslie Street Sewage Pumping Station Upgrades	\$30.9 M	\$9.1 M	2016
Upper York Sewage Solutions	\$625.5 M	\$519.8 M	2024
Kennedy Road Watermain	\$70.8 M	\$13.3 M	2015
East Vaughan Pumping Station	\$49.8 M	\$31.7 M	2016
West Vaughan Sewage Servicing	\$302.1 M	\$120.5 M	2028
Northeast Vaughan Servicing	\$167.7 M	\$11.8 M	2028
Yonge Street / Highway 7 Regional Centre Servicing	\$18.6 M	\$9.4 M	2025
Toronto Cost Shared Projects	\$466.9 M	\$89.0 M	2021
Peel Water Cost Shared Projects	\$617.5 M	\$112.3 M	2021
Peel Wastewater Cost Shared Projects	\$105.9 M	\$43.7 M	2021
<b>Subtotal</b>	<b>\$3,587.9 M</b>	<b>\$1,247.7 M</b>	
<b><u>Other Capital</u></b>			
Other Water Growth Capital Projects		\$188.0 M	
Other Wastewater Growth Capital Projects		\$119.9 M	

Project	Estimated Total Project Cost	Remaining Estimated Cost in 10 Year Plan	Completion Date
Water Rehabilitation/Replacement		\$222.3 M	
Wastewater Rehabilitation/Replacement		\$429.7 M	
Waste Management		\$34.4 M	
Natural Heritage & Forestry		\$19.5 M	
Energy Management		\$5.3 M	
<b>TOTAL Approved 2015 Budget and 10 Year Capital Plan</b>		<b>\$2,261.8 M</b>	

\* Interim solution as proposed in the Class EA and full solution with estimated construction costs of \$170M.

## 6. Local Municipal Impact

York Region continues to work closely with municipalities affected by capital works program to minimize impacts on 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 continues 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 the 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.

## 7. Conclusion

\$2.3 billion 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 their 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 approved 2015 10 Year Capital Plan includes critical projects required to unlock current and future capacity assignments.

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

The Senior Management Group has reviewed this report.

April 1, 2015

Attachments (2)

#6055438

Accessible formats or communication supports are available upon request

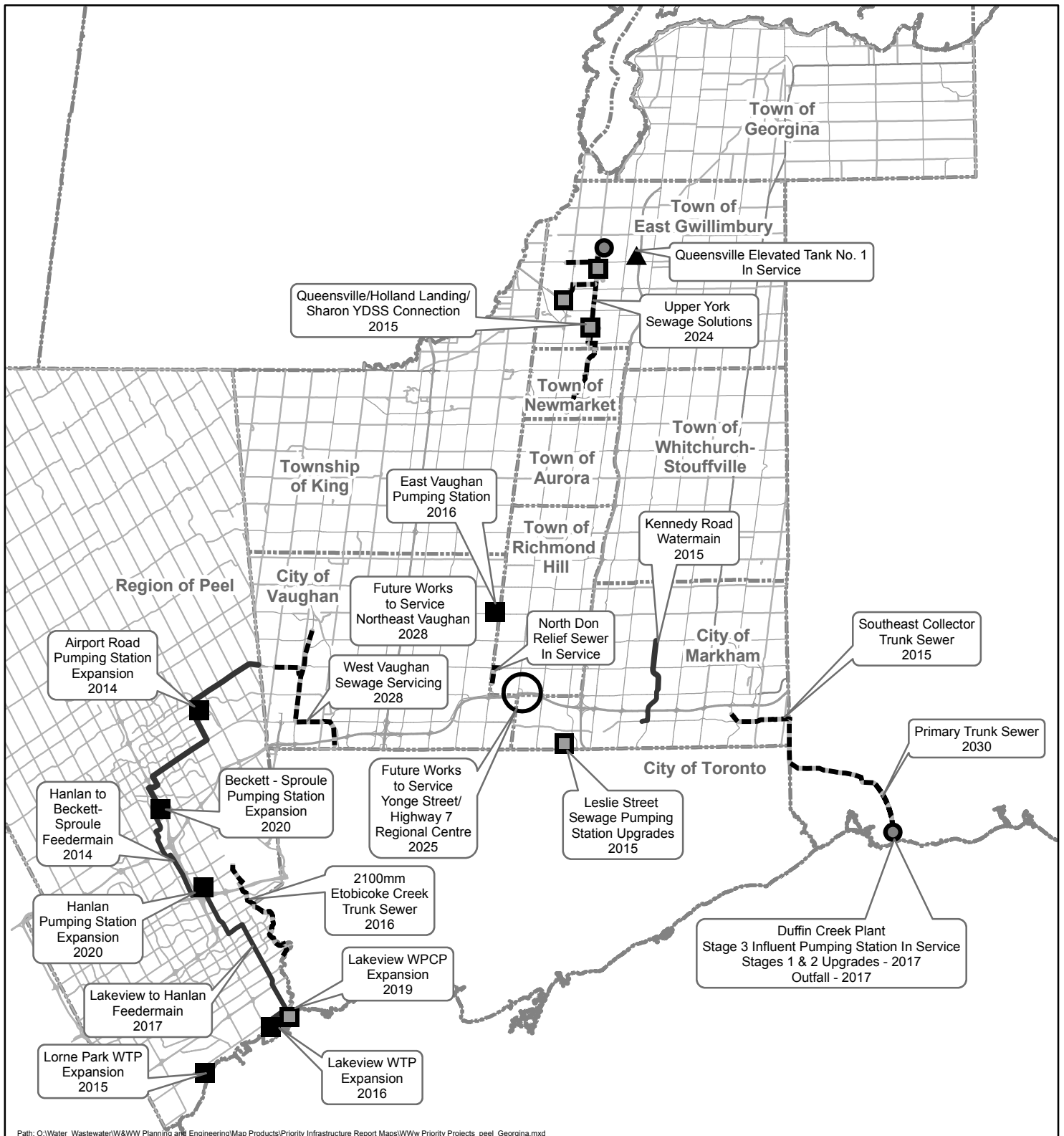


## Status of Key Infrastructure Projects

Project Name	Description	Current Status	Expected Project Commissioning Date
Queensville/Holland Landing/Sharon Servicing	Queensville Elevated Tank No. 1	In Service	Q4 2013
	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	<b>Q1 2015</b> (last reported: Late 2014)
Duffin Creek Plant Stage 3 Influent Pumping Station	New pumping station to convey sewage to Stage 3 Liquid Process Expansion	In Service	Q2 2014 (last reported: Q2 2014)
Duffin Creek Plant Stages 1 & 2 Upgrades	Upgrade and refurbish existing Stages 1 & 2	Construction	<b>Q4 2017</b> (last reported: Q2 2017)
Duffin Creek Plant Outfall	New outfall to address diffusion requirements and increase plant capacity to 630MLD	Class Environmental Assessment	<b>2017</b> (last reported: 2015)
Leslie Street Sewage Pumping Station Upgrades	Upgrades include pump replacement, electrical and standby power improvements	Construction	<b>Q2 2015</b> (last reported: Q1 2015)
Upper York Sewage Solutions	Sanitary servicing solution to accommodate growth in Holland Landing, Queensville, Sharon, and parts of Aurora and Newmarket	Individual Environmental Assessment	<b>Q4 2024</b> (last reported: Late 2018)
Kennedy Road Watermain	Watermain along Kennedy Road from Milliken Pumping Station to Major Mackenzie Drive	Construction	<b>Q4 2015</b> (last reported: Q2 2015)
East Vaughan Pumping Station	New pumping station to pump water from Pressure District (PD) 6 to PD7 and PD8	Construction	<b>Q1 2016</b> (last reported: Q4 2015)
West Vaughan Sewage Servicing	Sanitary servicing solution to accommodate growth in West Vaughan area	Class Environmental Assessment	<b>2028*</b> (last reported: Q3 2020)
Northeast Vaughan Servicing	Water and wastewater servicing solution to accommodate growth in East Vaughan	Class Environmental Assessment	<b>2028**</b> (last reported: 2021)
Yonge Street/Highway 7 Regional Centre	Water and wastewater servicing solution to accommodate growth	Class Environmental Assessment	<b>2025**</b> (last reported: 2021)
North Don Relief Sewer	New sewer to provide relief for existing YDSS conveyance capacity	In Service	Q4 2014 (last reported: Q4 2014)
Primary Trunk Sewer	New sewer to provide additional conveyance capacity	Project Initiation	<b>After 2030**</b> (last reported: After 2030)

\*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



Path: O:\Water\_Wastewater\W&WW Planning and Engineering\Map Products\Priority Infrastructure Report Maps\WWw Priority Projects\_peel\_Georgina.mxd

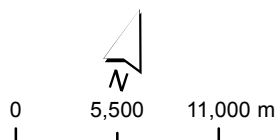
# LOCATION PLAN

## Key Infrastructure Projects

Environmental Services Capital Infrastructure Status Update  
 April 16, 2015



Produced by: Infrastructure Asset Management Branch  
 Environmental Services Department  
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### Legend

- Priority Water Projects & Expected Commissioning Date
- 
- Priority Wastewater Projects & Expected Commissioning Date
-



# Environmental Services Capital Infrastructure Update

Presentation to  
**Committee of the Whole**

**Mike Rabeau**

April 16, 2015



# SOUTHEAST COLLECTOR TRUNK SEWER

## Budget:

\$610,675,000

\$530,000,000 delivered to date

## Status:

Commissioned

- January 27, 2015
- Construction of final shaft underway



# DUFFIN CREEK WASTEWATER TREATMENT FACILITY

## Stage 3 Expansion

### Budget:

\$616,000,000

\$615,000,000 delivered

### Status:

99.8% Complete

Solids Process Expansion in  
Final Commissioning

## Stage 1 & 2 Upgrades

### Budget:

\$267,000,000

\$90,000,000 delivered

### Status:

1 Contract in Warranty

1 Contract Commissioning

2 Contracts Construction

Commissioning on schedule for  
late 2017

## Outfall

### Budget:

\$4,000,000

\$2,200,000 delivered

### Status:

Class EA - Filed Nov 2013  
Awaiting Ministry decision on  
EA Approval







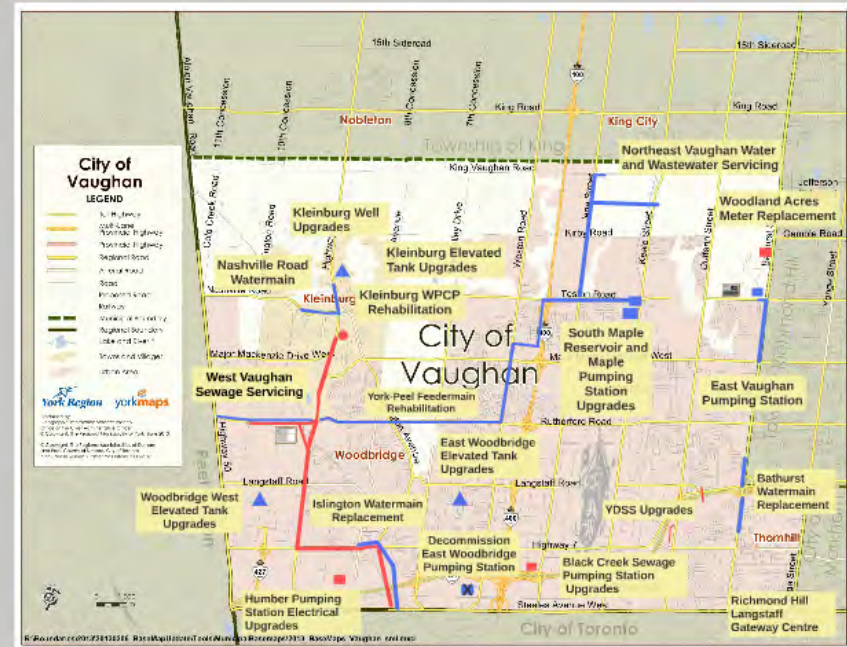
**2015 Budget:** \$57,153,000

**10 Year Plan:** \$403,640,000

**Previous 10 Years:** \$234,235,000

## What's Happening in 2015

- Tendered Kleinburg WPCP Rehabilitation
- Commissioned North Don Sanitary Relief Sewer
- Started EA for Northeast Vaughan Water and Wastewater Servicing
- Complete West Vaughan Water Servicing Needs Assessment
- Complete EA for Richmond Hill/Langstaff Gateway
- Commission Humber Pumping Station Electrical Upgrades
- Commission YDSS Rehabilitation
- Commission Nashville Watermain
- Detailed Design for West Vaughan Sewage Servicing
- Islington Watermain Replacement Design
- Bathurst Watermain Replacement Design



Nashville Road Watermain



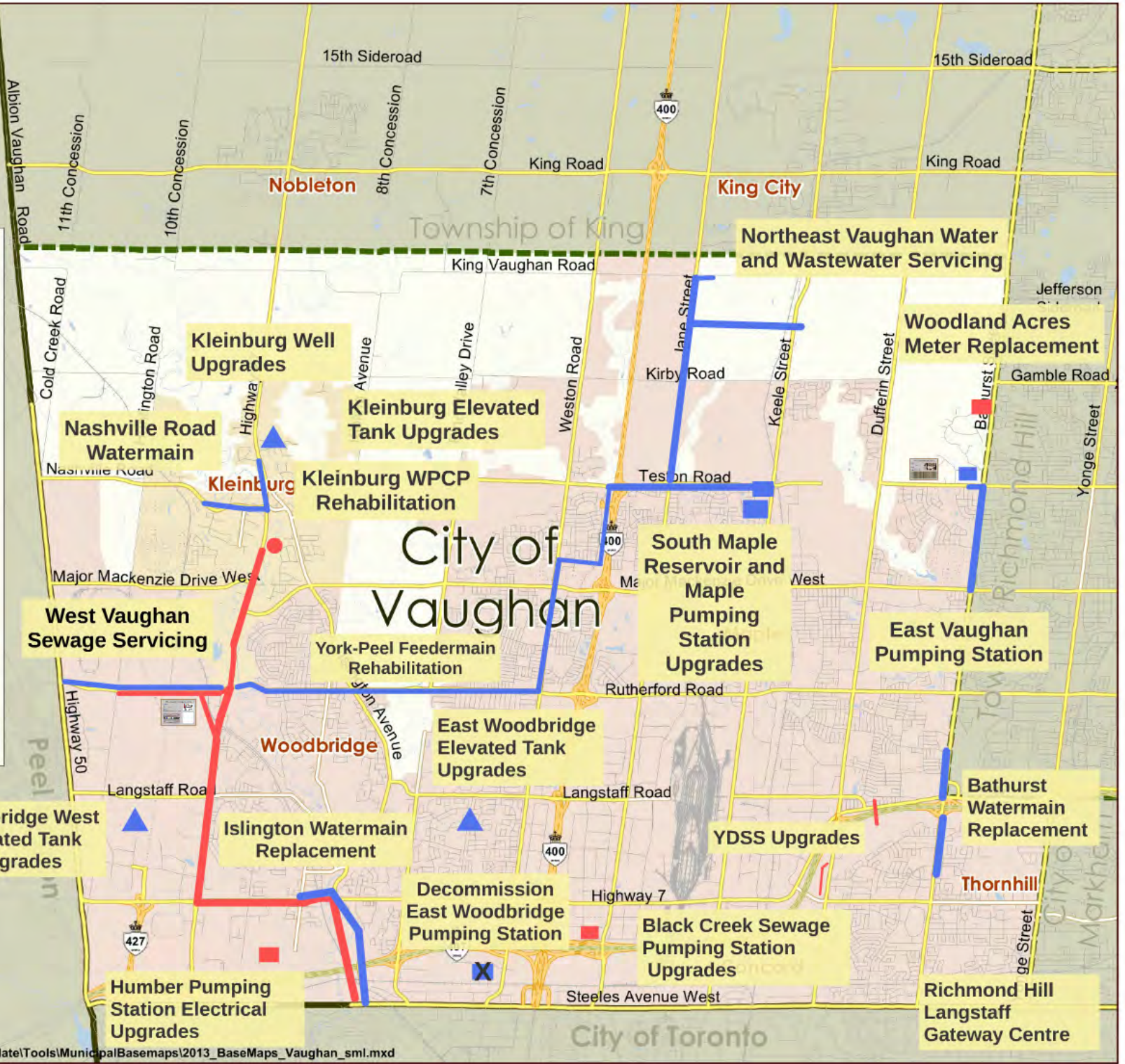
# City of Vaughan

## LEGEND

-  Toll Highway
-  Multi-Lane Provincial Highway
-  Provincial Highway
-  Regional Road
-  Arterial Road
-  Road
-  Proposed Road
-  Railway
-  Municipal Boundary
-  Regional Boundary
-  Lake and River \*
-  Towns and Villages
-  Urban Area



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# West Vaughan Sewage Servicing

## Budget:

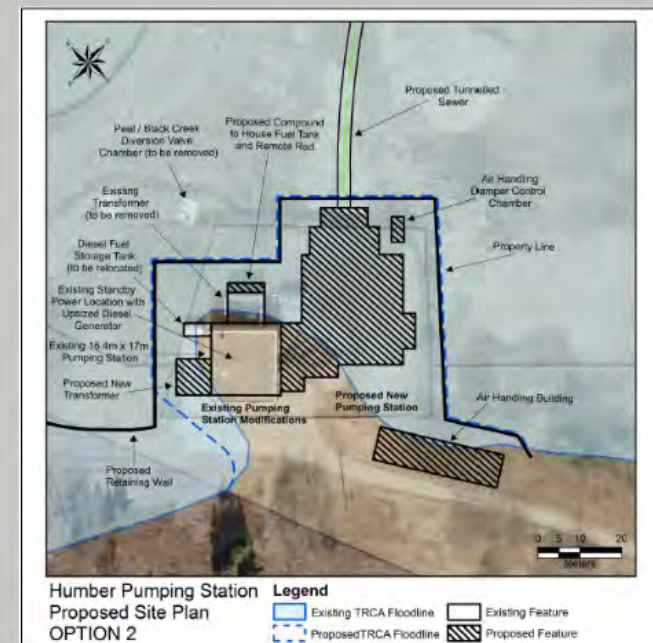
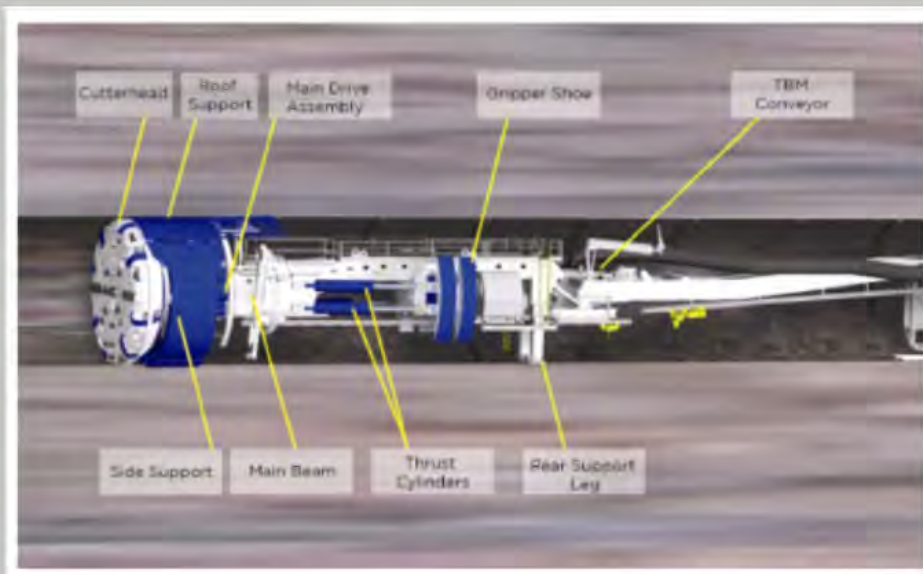
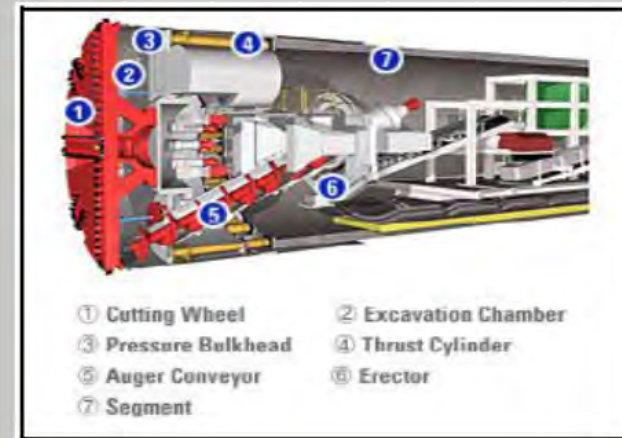
\$302,178,000

\$3,774,000 delivered to date

## Status

Preliminary Design

Detailed Design Scheduled for Completion Q2 2017





# East Vaughan Pumping Station

## Budget:

\$52,000,000

\$13,660,000 delivered to date

## Status:

Under Construction

Commissioning Q1 2016







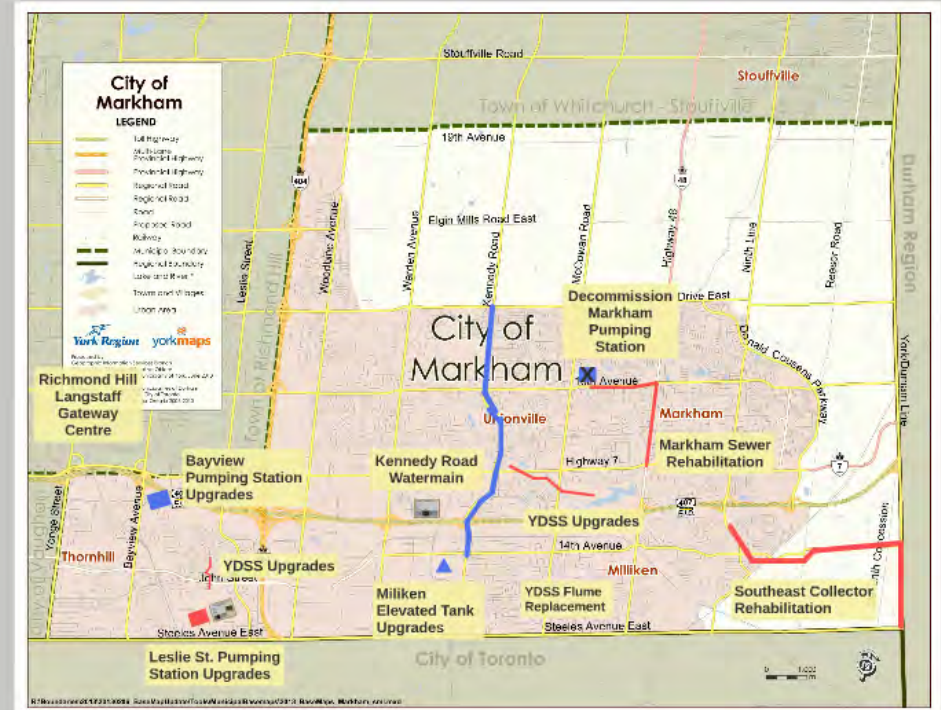
**2015 Budget:** \$50,221,000

**10 Year Plan:** \$277,117,000

**Previous 10 Years:** \$158,501,000

## What's Happening in 2015

- Commissioned Elgin Mills Watermain
- Commissioned Richmond Hill (Pugsley) Pumping Station Capacity Upgrade
- Complete EA for Richmond Hill/Langstaff Gateway
- Commission YDSS Rehabilitation
- Commission Kennedy Road Watermain
- Bayview Pumping Station Upgrades
- Markham Sewer Rehabilitation



Elgin Mills Watermain



# City of Markham

## LEGEND

-  Toll Highway
-  Multi-Lane Provincial Highway
-  Provincial Highway
-  Regional Road
-  Regional Road
-  Road
-  Proposed Road
-  Railway
-  Municipal Boundary
-  Regional Boundary
-  Lake and River \*
-  Towns and Villages
-  Urban Area

**York Region** **yorkmaps**

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**Richmond Hill**  
**Langstaff**  
**Gateway**  
**Centre**

**Bayview**  
**Pumping Station**  
**Upgrades**

**Kennedy Road**  
**Watermain**

**YDSS Upgrades**

**YDSS Upgrades**

**Miliken**  
**Elevated Tank**  
**Upgrades**

**YDSS Flume**  
**Replacement**

**Markham Sewer**  
**Rehabilitation**

**Southeast Collector**  
**Rehabilitation**

**Leslie St. Pumping**  
**Station Upgrades**

**Decommission**  
**Markham**  
**Pumping**  
**Station**

**City of**  
**Markham**





# LESLIE STREET SEWAGE PUMPING STATION UPGRADES

## Budget:

\$30,900,000

\$21,800,00 delivered to date

## Status:

In Construction

Commissioning Q2 2015



# KENNEDY ROAD WATERMAIN

## Budget:

\$70,450,000

\$61,900,000 delivered to date

## Status:

Under Construction

Open cut contract T-10-62 is complete

Tunnel contract T-10-63 is 80% complete

Commissioning Q4 2015







**2015 Budget:** \$36,782,000

**10 Year Plan:** \$167,221,000

**Previous 10 Years:** \$140,033,000

## What's Happening in 2015

- Commissioned Richmond Hill (Pugsley) Pumping Station Capacity Upgrade
- Commissioned Elgin Mills Road Watermain
- Commissioned Bayview Avenue Watermain
- Commissioned North Don Sanitary Relief Sewer
- Complete EA for Richmond Hill/Langstaff Gateway
- Commission Kennedy Road Watermain
- Bathurst Watermain Replacement Design





# Town of Richmond Hill

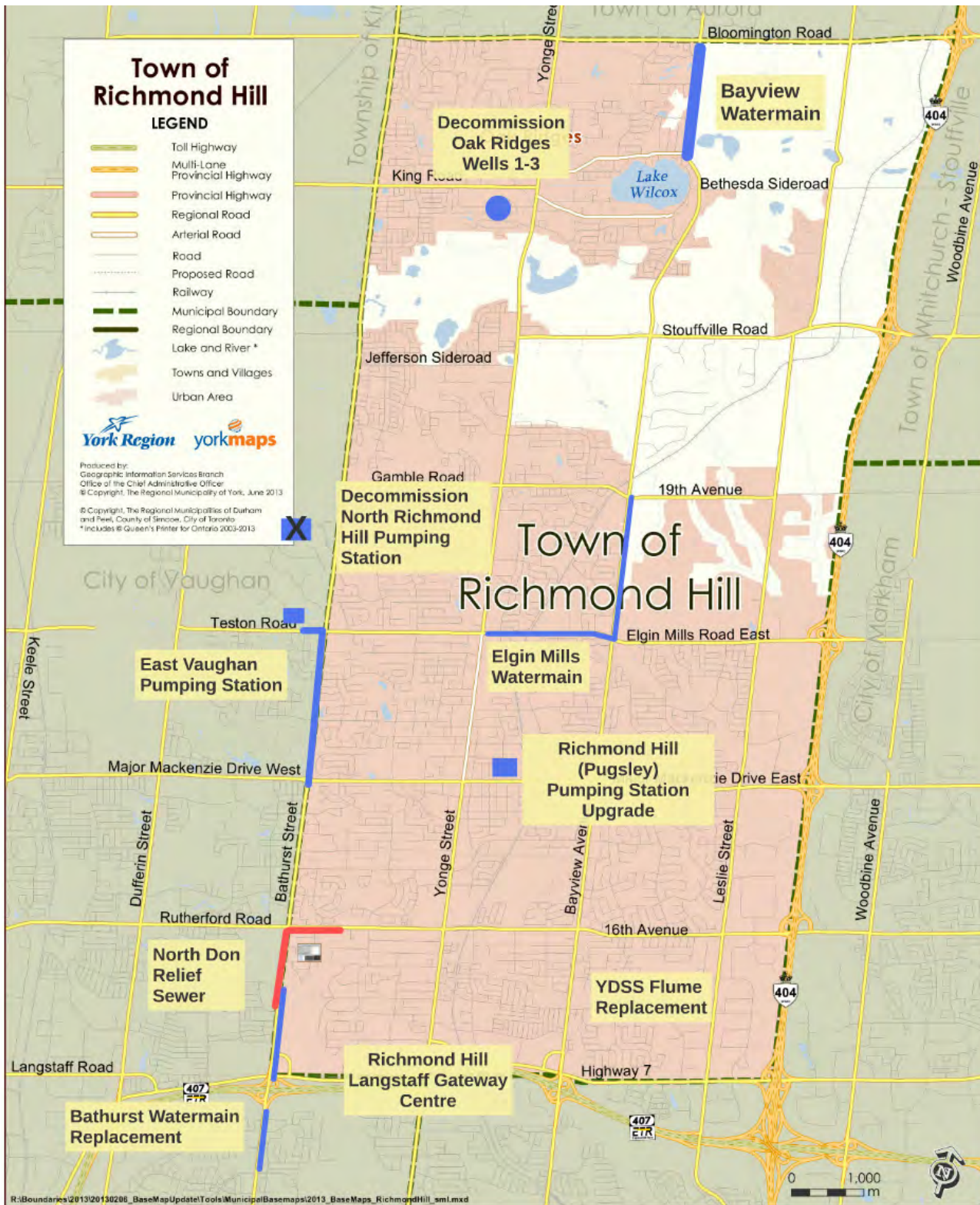
## LEGEND

-  Toll Highway
-  Multi-Lane Provincial Highway
-  Provincial Highway
-  Regional Road
-  Arterial Road
-  Road
-  Proposed Road
-  Railway
-  Municipal Boundary
-  Regional Boundary
-  Lake and River \*
-  Towns and Villages
-  Urban Area

York Region yorkmaps

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# NORTH DON SANITARY RELIEF SEWER

## Budget:

\$17,900,000

\$17,500,000 delivered to date

## Status:

Total Completion - new sewer is in operation and all disturbed surface areas restored to original or better condition.  
Commissioned September 2014.







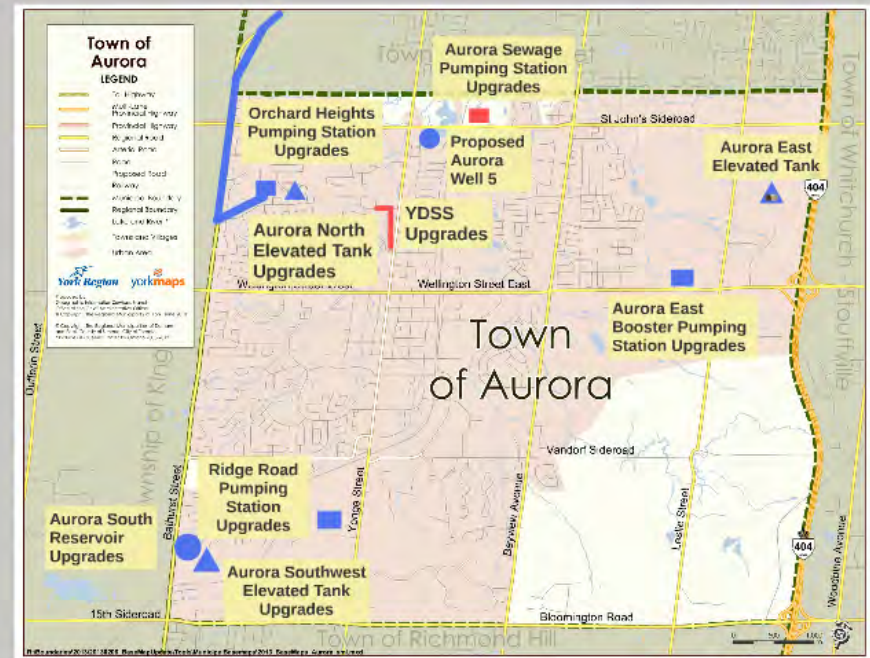
**2015 Budget:** \$30,038,000

**10 Year Plan:** \$653,139,000

**Previous 10 Years:** \$104,300,000

## What's Happening in 2015

- Commissioned Aurora/Newmarket Corrosion Control
- Tender Ridge Road Pumping Station Upgrades
- Complete EA for Yonge Street Aquifer
- Commission YDSS Rehabilitation
- Commission Newmarket Sewage Pumping Station Upgrades
- Commission Orchard Heights Pumping Station Upgrade
- Commissioned Glenway Reservoir Expansion
- Commission Aurora Sewage Pumping Station Replacement
- Commission Rechlorination Upgrades at Aurora South Reservoir
- Commission Aurora East Elevated Tank



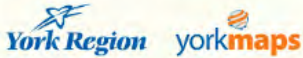
Orchard Heights Pumping Station



# Town of Aurora

## LEGEND

-  Toll Highway
-  Multi-Lane Provincial Highway
-  Provincial Highway
-  Regional Road
-  Arterial Road
-  Road
-  Proposed Road
-  Railway
-  Municipal Boundary
-  Regional Boundary
-  Lake and River \*
-  Towns and Villages
-  Urban Area



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Dufferin Street

Township of King

Bathurst Street

Yonge Street

Bayview Avenue

Leslie Street

Woodbine Avenue

Town of Whitchurch - Stouffville

# Town of Aurora

**Aurora Sewage Pumping Station Upgrades**

**Orchard Heights Pumping Station Upgrades**

**Proposed Aurora Well 5**

**Aurora East Elevated Tank**

**Aurora North Elevated Tank Upgrades**

**YDSS Upgrades**

**Aurora East Booster Pumping Station Upgrades**

**Ridge Road Pumping Station Upgrades**

**Aurora South Reservoir Upgrades**

**Aurora Southwest Elevated Tank Upgrades**

St John's Sideroad

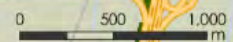
Wellington Street West

Wellington Street East

Vandorf Sideroad

15th Sideroad

Bloomington Road







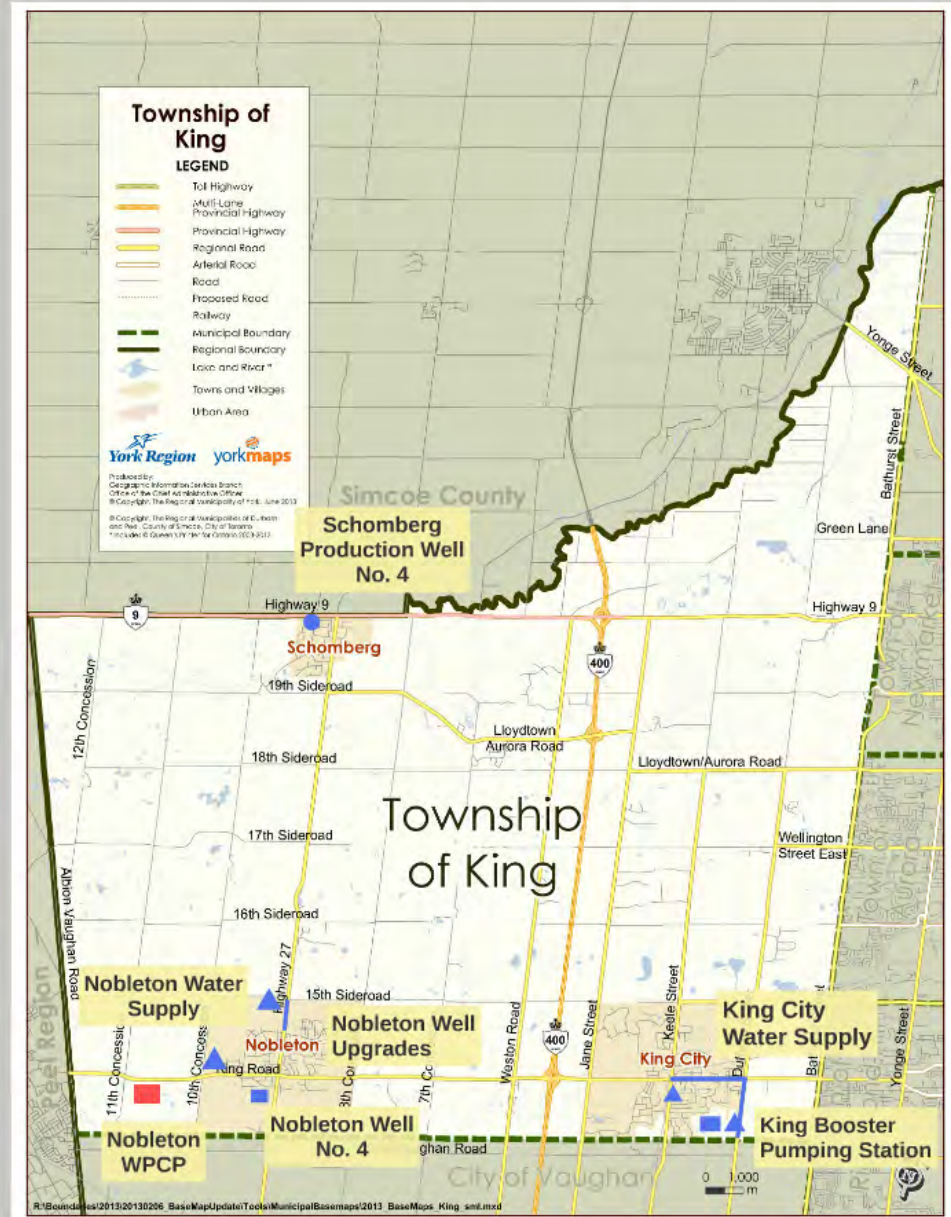
**2015 Budget:** \$1,117,000

**10 Year Plan:** \$52,352,000

**Previous 10 Years:** \$142,636,000

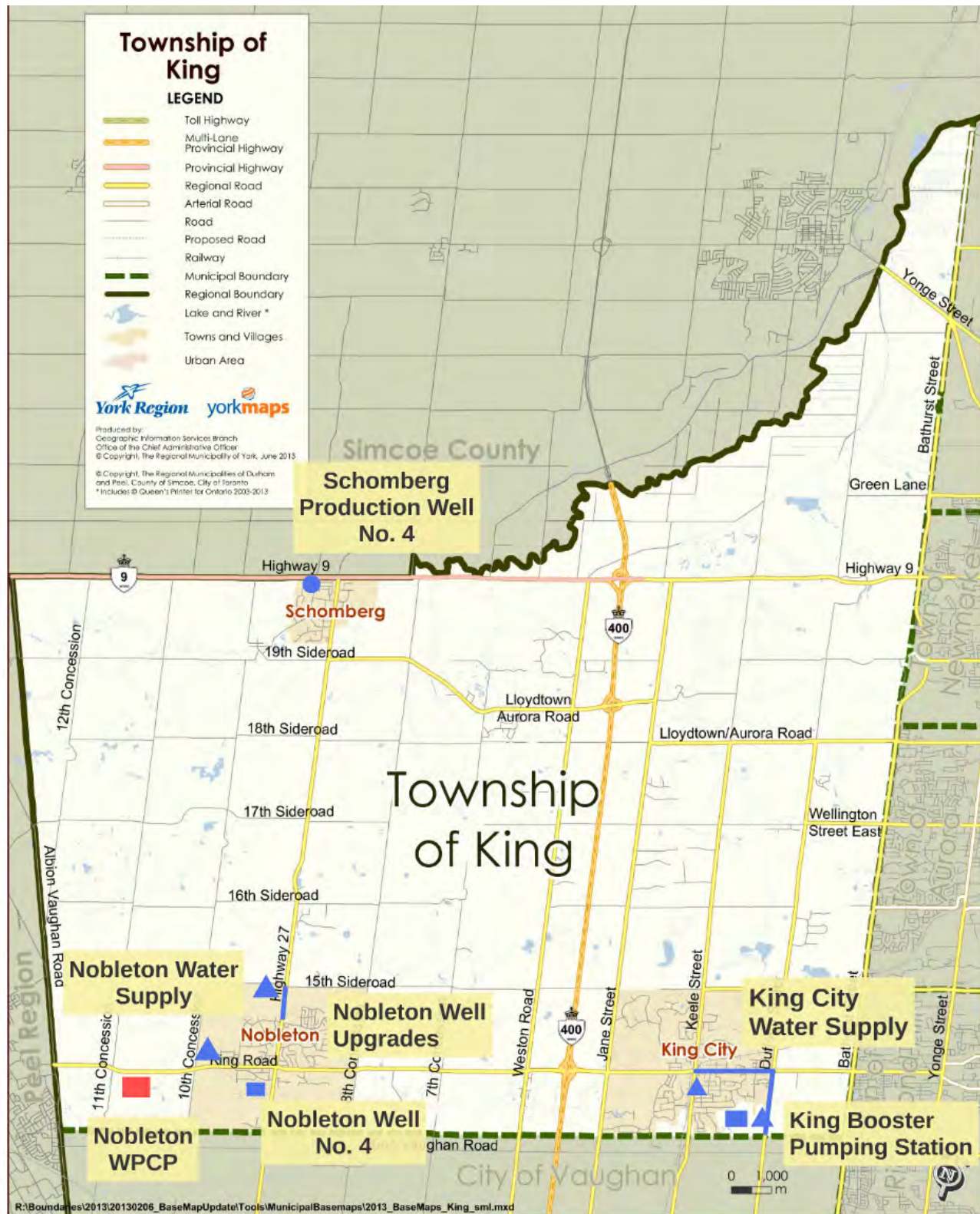
## What's Happening in 2015

- Commissioned Nobleton Elevated Tank and Watermain
- Recoated Nobleton Elevated Tank South
- Commission Nobleton Well 5
- King City Booster Pumping Station in Design





00  
5  
Tank and  
South  
in Design





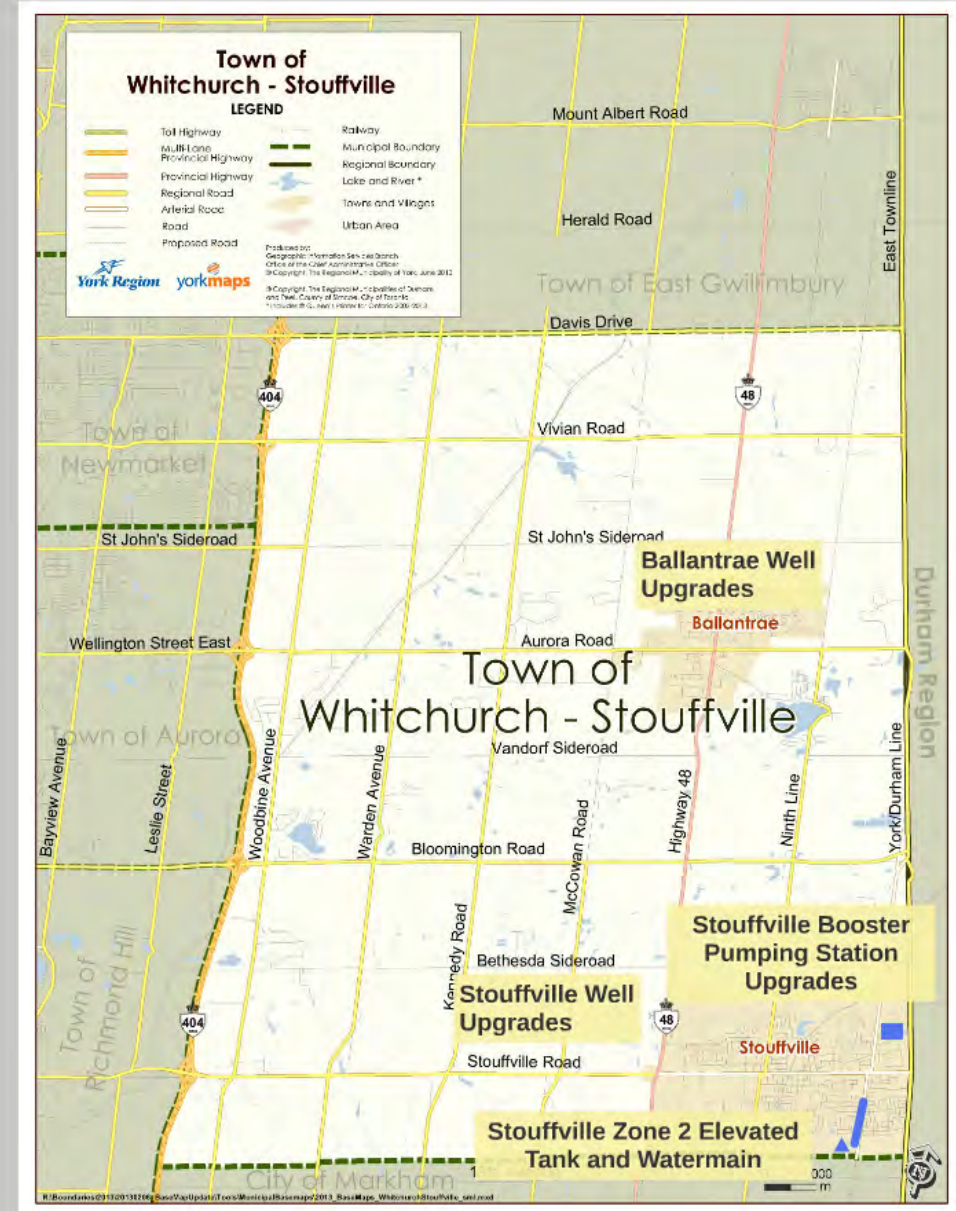
**2015 Budget:** \$7,703,000

**10 Year Plan:** \$60,362,000

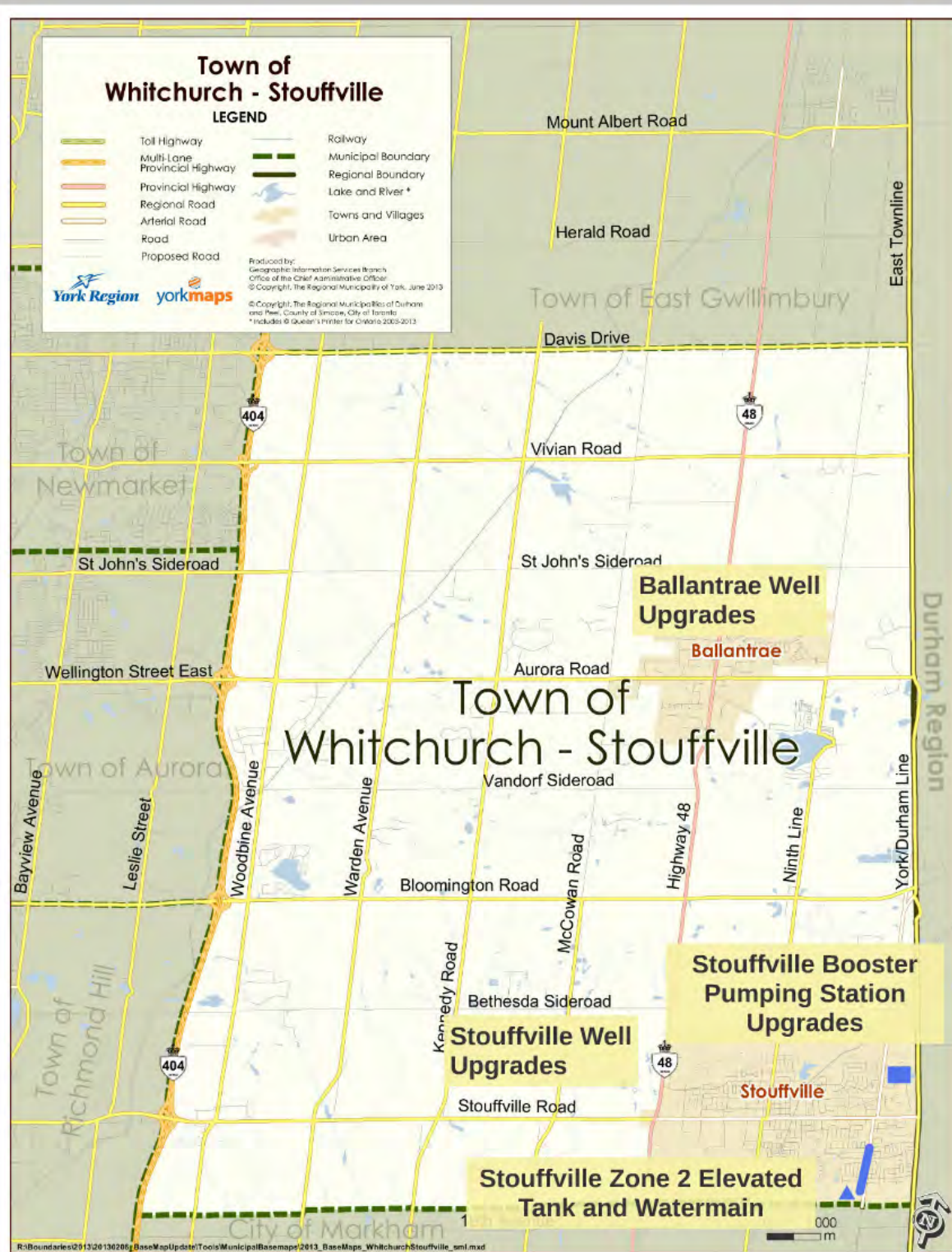
**Previous 10 Years:** \$45,051,000

## What's Happening in 2015

- Start EA for Stouffville Elevated Tank and Watermain











Newmarket

**2015 Budget:** \$66,795,000

**10 Year Plan:** \$732,461,000

**Previous 10 Years:** \$95,779,000

## What's Happening in 2015

- Commissioned Glenway Reservoir Expansion
- Commissioned Aurora/Newmarket Corrosion Control
- Commission Orchard Heights Pumping Station Upgrade
- Complete EA for Yonge Street Aquifer
- Commission Hound Trail Flume Meter Replacement
- Newmarket Sewage Pumping Station Upgrades



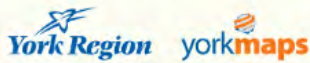
Glenway Reservoir



# Town of Newmarket

## LEGEND

-  Toll Highway
-  Multi-Lane Provincial Highway
-  Provincial Highway
-  Regional Road
-  Arterial Road
-  Road
-  Proposed Road
-  Railway
-  Municipal Boundary
-  Regional Boundary
-  Lake and River \*
-  Towns and Villages
-  Urban Area



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# Town of East Gwillimbury

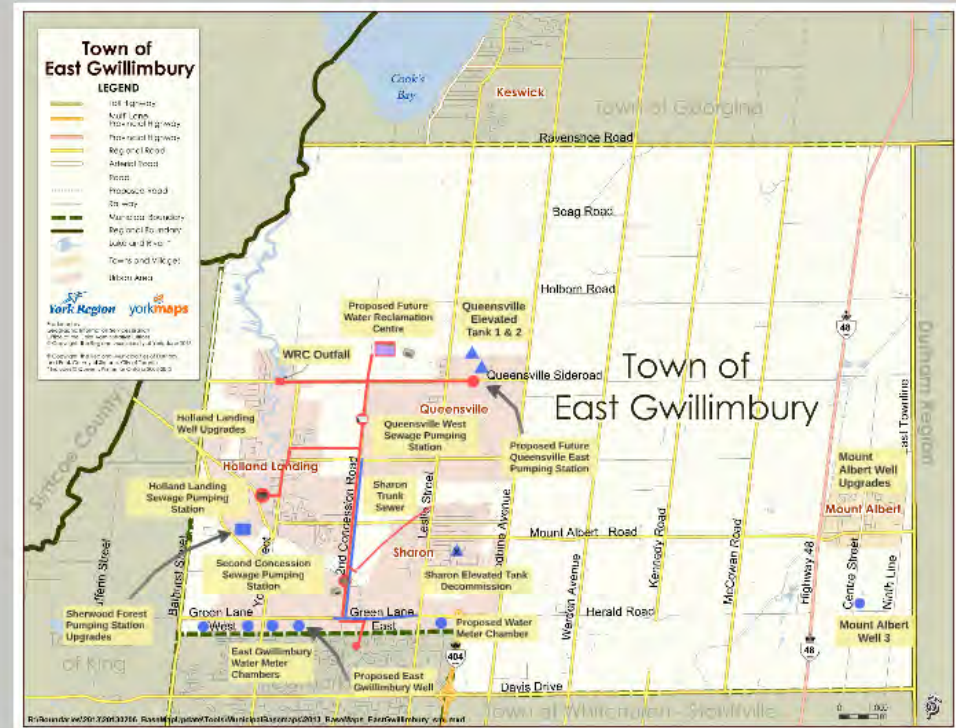
**2015 Budget:** \$71,920,000

**10 Year Plan:** \$712,800,000

**Previous 10 Years:** \$103,947,000

## What's Happening in 2015

- Commission 2nd Concession Watermain
- Commission Holland Landing Sewage Pumping Station
- Commission 2nd Concession Sewage Pumping Station
- Commission Queensville West Sewage Pumping Station
- Commission 2nd Concession Gravity Sewer
- Commission Green Lane Twin Forcemain
- Commission Green Lane Sewer Diversion
- Tendered East Gwillimbury Water Meter Chambers (Harry Walker)
- Commission Sharon Trunk Sewer
- Commission East Gwillimbury Water Meter Chambers (Leslie Street)
- Complete EA for Yonge Street Aquifer
- Tendered decommissioning of Sharon Elevated Tank
- Commission Orchard Heights Pumping Station Upgrade
- Commission Newmarket Sewage Pumping Station Upgrades





# Town of East Gwillimbury

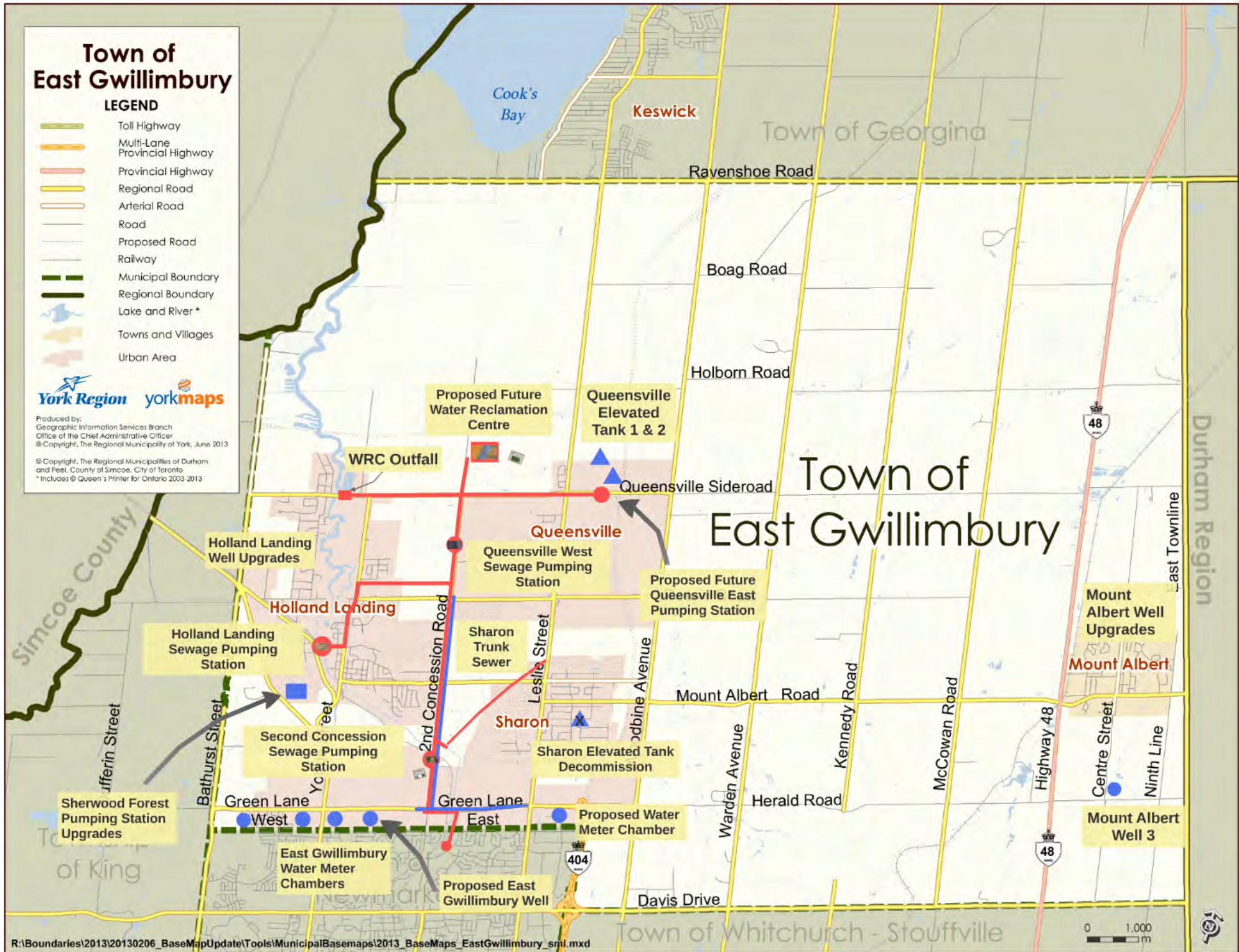
## LEGEND

-  Toll Highway
-  Multi-Lane Provincial Highway
-  Provincial Highway
-  Regional Road
-  Arterial Road
-  Road
-  Proposed Road
-  Railway
-  Municipal Boundary
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# QUEENSVILLE, HOLLAND LANDING and SHARON SERVICING

## Budget:

\$110,000,000

\$68,000,000 delivered to date

## Status:

All three pumping stations and linear works are under construction.

Commissioning: Q4 2015



# UPPER YORK SEWAGE SERVICING (UYSS)

## Budget (Current Phase Only):

\$581,567,000

\$31,109,502 delivered to date

## Status:

Preliminary design for the Water Reclamation Centre and associated conveyance infrastructure is being finalized. Detailed design to be completed in Q4 2017.





# GEORGINA



**2015 Budget:**

**\$10,033,000**

**10 Year Plan:**

**\$23,096,000**

**Previous 10 Years:**

**\$175,551,000**



## What's Happening in 2015

- Tender Sutton Watermain
- Tender Sutton WPCP Lagoon Diversion Upgrades
- Commission Georgina WTP Upgrades
- Commission Keswick WPCP Expansion
- Commission Keswick WTP Rehab
- Commission Deer Park Elevated Tank
- Commission West Park Heights Rehab





# Town of Georgina

## LEGEND

-  Toll Highway
-  Multi-Lane Provincial Highway
-  Provincial Highway
-  Regional Road
-  Arterial Road
-  Road
-  Proposed Road
-  Railway
-  Municipal Boundary
-  Regional Boundary
-  Lake and River \*
-  Towns and Villages
-  Urban Area
-  Chippewas of Georgina Island First Nation

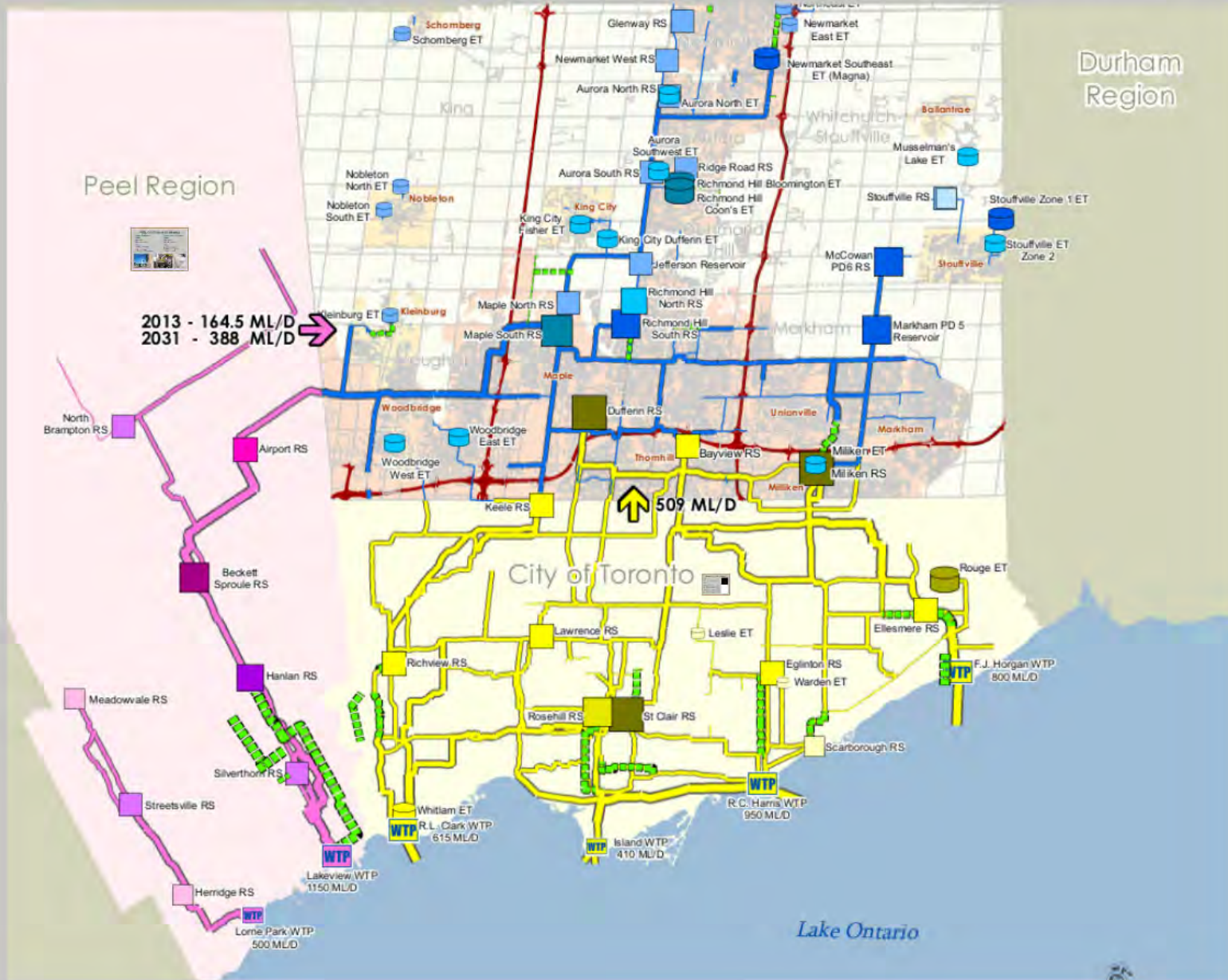
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# TORONTO and PEEL COST-SHARED WORKS





# PEEL COST-SHARED WORKS

## Water Projects

### Budget:

\$626 million

\$512 million delivered

### Status:

17 projects completed  
3 projects in construction  
1 project in design  
2 projects to be commenced

## Wastewater Projects

### Budget:

\$106 million

\$55 million delivered

### Status:

11 projects completed  
2 projects in construction  
2 projects in design





# TORONTO COST-SHARED WORKS

## Budget:

\$467 million

\$217 million delivered to date

## Status:

- Gerard Watermain to be commissioned prior to Pan-AM Games
- Milliken Pumping Station – Pressure District 6 portion on track for 2016 commissioning and completion
- Ellesmere Pumping Station Standby Power – in design, on track for 2017 completion
- Scarborough Watermain – in design, on track for 2018 completion
- Replacement of Toronto-York Billing Meters – in design, on track for 2019 completion
- Horgan Water Treatment Plant to Ellesmere Pumping Station Watermain – in procurement, on track for 2020 completion

