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WATER AND WASTEWATER INFRASTRUCTURE STATUS REPORT

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, February 22, 2008, from the Commissioner of Environmental Services:

1. RECOMMENDATIONS

It is recommended that:

1. Staff continue to provide regular updates on the priority projects linked to the release of additional capacity, with the next report to be submitted in June, 2008.
2. Staff continue discussions with the local municipalities with respect to infrastructure completion dates and various planning approvals.
3. The Regional Clerk forward this report to the Clerks of the municipalities of Vaughan, Markham, Richmond Hill, Aurora, Newmarket, East Gwillimbury, King and Whitchurch-Stouffville.

2. PURPOSE

This report updates Committee and Regional Council on the status and future activities for critical and priority water and wastewater infrastructure projects required to meet system demands identified as triggers associated with the release of additional capacity and approvals under the *Planning Act*.

3. BACKGROUND

In 2003, delays with key infrastructure projects were impacting the Region's ability to allocate sewage capacity to the local municipalities. Between 2003 and 2005, staff completed extensive investigations to determine the maximum allocation capacity available and the critical projects required to realize this capacity. Regional Council, at its meeting on June 23, 2005, granted the release of additional servicing capacity to accommodate up to 970,000 people within the York Durham Sewage System (YDSS) service area along with associated triggers based on the status of critical infrastructure. This allocation was expected to meet Regional growth projections to 2010.

In keeping with the Region's policy to provide a multi-year supply of servicing allocation, staff investigated alternatives to offset the impact of expected delays in the completion of the Southeast Collector Sewer. Installation of flow control systems within

sections of the York Durham Sewage System (YDSS) were determined to yield an additional 58,000 persons capacity while also reducing risks in the system. This additional capacity offsets the expected delay in completing the Southeast Collector Sewer.

Subsequently, Regional Council at its meeting on November 15, 2007, adopted the recommendations of the *Servicing Allocation and Future Regional Conditions for Draft Plan of Subdivision Approval Report* of the Planning and Economic Development Committee. Of the 58,000 persons capacity made available by the proposed YDSS flow control systems, the Regional Council assigned 36,000 persons capacity to meet the Regional growth target to 2011. The infrastructure required to realize the 58,000 persons capacity in addition to the proposed flow control systems was also identified.

This status summary was first reported to Council on June 23, 2005 (*Water and Wastewater Infrastructure Status Report*, Clause 2 of Report No. 1 of the Joint Transportation and Works and Planning and Economic Development Committees) followed by seven subsequent reports to Council with the last update on December 13, 2007. The next update report is scheduled for June 2008.

4. ANALYSIS AND OPTIONS

This report provides a summary of the status of priority infrastructure projects identified as triggers for the release of capacity required to service up to 970,000 people (as set out in the *Water and Wastewater Capacity and Servicing Assignment Protocol Report*, Clause 1 of Report No. 1 of the Joint Transportation and Works and Planning and Economic Development Committees as adopted by Regional Council on June 23, 2005) and a summary of the status of newly added projects identified as triggers to service an additional 58,000 people (as set out in the *Servicing Allocation and Future Regional Conditions for Draft Plan of Subdivision Approval Report*, Clause 3 of Report No. 9 of the Planning and Economic Development Committee as adopted by Regional Council on November 15, 2007).

The capacity triggers for servicing up to 970,000 people are summarized in *Attachment 1* and for servicing an additional 58,000 people are summarized in *Attachment 2*.

The trigger tables are used to assist the Region in better controlling the following two key steps in the planning approvals process, with the overall objective of avoiding premature occupancies of new dwellings in advance of availability of the required municipal water and wastewater services.

- Pre-sales of homes
- Final plan approvals

In general, pre-sales of homes are only permitted if the required infrastructure is expected to be in place within one year, and final plan approvals are granted if the required infrastructure is expected to be in place within six months.

4.1 Allocation Triggers

Capacity Trigger for Servicing up to 970,000 People

The trigger condition to permit final registration of the draft plans for approved developments up to the apportioned share of the 970,000 people limit in the Towns of Aurora and Newmarket, and the Green Lane West area of East Gwillimbury has been met. In December 2007, the Region notified the three local municipalities that they could proceed with registration of the draft plan, subject to meeting other draft plan conditions and other localized servicing requirements.

As discussed in the previous status report update to Council, final registration of the draft plan for the Bathurst Langstaff Trunk Sewer service area in Vaughan is projected to occur in the second quarter of 2008, with the Bathurst Langstaff Trunk Sewer expected to be completed at the end of 2008. For the Richmond Hill Pressure District 9 (PD9) service area, final registration of draft plan is projected to occur in the first quarter of 2008, with the first water storage facility on schedule for completion in August 2008.

Capacity Trigger for Servicing an Additional 58,000 People

Projects required to service an additional 58,000 people beyond the June 2005 allocation of 970,000 people include:

- The Duffin Creek Water Pollution Control Plant (WPCP) expansion.
- York Durham Sewage System (YDSS) Flow Control Structures (as an interim alternative to Southeast Collector Sewer).
- Leslie Street watermain (applicable to Aurora East service area only).
- Richmond Hill second water storage facility (applicable to PD9 service area only).

With the exception of the Aurora East service area, the trigger condition to permit pre-sales is expected to be met by the end of 2009, one year prior to the scheduled completion date of the Duffin Creek plant expansion. Installation of York Durham Sewage System (YDSS) Flow Control Structures is expected to be completed before the Duffin Creek plant expansion and, therefore, Duffin Creek expansion will be the governing trigger. Similarly, for the Richmond Hill Pressure District 9 (PD9) service area, the required second water storage facility is expected to be in service by June 2010. Since the completion date of the water storage facility is earlier than the Duffin Creek expansion, the governing trigger condition for the Richmond Hill Pressure District 9 (PD9) service area will be the Duffin Creek plant expansion.

For the Aurora East service area, the trigger condition to permit pre-sales is generally expected to be met in the second quarter of 2010, one year prior to the completion of the Leslie Street watermain in the spring of 2011. Staff is currently reviewing the feasibility

of advancing a portion of the watermain, which may permit earlier pre-sales in certain areas. The outcome of the review will be discussed in the next update.

In future updates to this report, completed projects such as the Newmarket Equalization tank will be removed from the priority projects list. Upon completion of the Water and Wastewater Master Plan Update in early 2009, additional priority projects identified by the Master Plan study will be added to the list.

5. STATUS OF WASTEWATER PROJECTS

This section provides the status of the priority projects with a brief description of the project, the current status, issues affecting project progress and future activities.

These projects are required within the five-year horizon to meet future demands. The following priority projects are presented by location in *Attachment 3 – Priority Wastewater Projects Map*. The projects identified as “critical” are those for which any further delays will result in unacceptable risks of overflow.

5.1 Newmarket Equalization Tank

The Newmarket Equalization tank is required for detention of wet weather flows at the existing Newmarket Sewage Pumping Station site. Providing flow equalization at this location expands the service capacity of the pumping station by buffering wet weather-derived peak flows to the pumping station. This tank is required to service Newmarket based on peak flows in this system. The Newmarket Equalization tank will also aid in minimizing downstream capacity risks until flow can be diverted to the 16th Avenue sewer through completion of the 19th Avenue Interceptor Sewer. The tank will prolong the service capacity of the pumping station, and in turn will influence the timing for the Upper York Sewage Servicing project.

Current Project Status/ Milestones

Construction of the Newmarket equalization tank was completed in January 2008 (last reported: November 2007).

5.2 Aurora Equalization Tank

The Aurora equalization tank allows detention of wet weather flows at the existing Aurora Sewage Pumping Station site. Providing flow equalization at this location expands the service capacity of the pumping station by buffering wet weather peak flows to the pumping station. This tank will also provide additional capacity to Aurora and will aid in minimizing downstream capacity risks. The tank will prolong the service capacity of the pumping station which will influence the timing for downstream works that are the subject of additional Environmental Assessment (EA) processes.

Current Project Status/ Milestones

The construction contract for the Aurora equalization tank was awarded in October 2006, and construction will be completed in July 2008. (last reported: June 2008).

5.3 16th Avenue Sewer Phase 2 *CRITICAL PROJECT*

Phase 2 of the 16th Avenue trunk sewer is needed to service development areas in Markham. The 16th Avenue trunk will convey sewage from existing and future developments in the north areas of the Region from the Leslie Street trunk sewer to the existing 9th Line trunk sewer. The benefiting areas include East Gwillimbury, Newmarket, Aurora, Richmond Hill, King and Markham. Vaughan will indirectly benefit from the diversion of flows in the existing York Durham Sewage System (YDSS) thereby allowing increased flows from Vaughan.

Current Project Status/ Milestones

Construction of the 16th Avenue Sewer was completed in June 2007. A flow control structure is proposed at the junction of the existing Highway 404 sewer and the 16th Avenue Sewer. Connection to the existing Highway 404 sewer to introduce flow into the 16th Avenue Sewer will be made immediately after the proposed flow control structure is installed. The connection is expected to be completed by July 2008.

5.4 York Durham Sewage System Interceptor Sewer *CRITICAL PROJECT*

The Lower Leslie Trunk and the YDSS Interceptor are intended to work together to service new developments in Richmond Hill, Aurora, Newmarket, East Gwillimbury and King by providing relief to the existing YDSS, south of 19th Avenue.

Current Project Status/ Milestones

Construction of this sewer is divided into two contracts: the 19th Avenue tunnelling section and the Leslie Street open-cut section. The Leslie Street section was completed in January 2007. Due to the mechanical problems with the tunnelling machine, the 19th Avenue tunnelling contract is now scheduled for completion in July 2008. (last reported: spring 2008)

5.5 Duffin Creek Water Pollution Control Plant *CRITICAL PROJECT*

Expansion of Duffin Creek is required to provide additional capacity to serve growth in all municipalities serviced by the YDSS. This phase of the expansion will increase the capacity of the plant to 630 ML/day subject to completion of future works to address limitations of the existing outfall and will also include two new incineration units. The expansion will also provide upgrades required to meet evolving environmental standards.

Current Project Status/ Milestones

Following the denial of Class Environmental Assessment (EA) Part II Order requests by the Minister of the Environment on March 21, 2007, York and Durham Regions have substantially completed the site preparation contract and have commenced the contract for construction of the liquid treatment facility. Award of the remaining construction

contracts required to deliver the capacity increase is to occur between March and April of 2008, and completion of the works is scheduled for December 2010. (last reported: December 2010)

Key milestones for the project are as follows:

- | | |
|--|---------------|
| • EA approval | March 2007 |
| • Site Preparation contract substantial completion | December 2007 |
| • Commissioning of the plant expansion | December 2010 |

5.6 Bathurst Langstaff Sewer

The Bathurst Collector and the Langstaff sewers are required to provide additional capacity to Vaughan. These sewers are proceeding under a pre-payment of development charges credit agreement, and release of additional capacity for these developments is contingent upon the completion of these sewers and other required infrastructure.

Current Project Status/ Milestones

This is a design-build project managed by the Region and financed by a group of developers through the pre-payment of development charges. The contract was awarded in March 2006 and is scheduled for completion at the end of 2008. (last reported: 4th quarter of 2008)

5.7 Queensville/Holland Landing/Sharon Servicing

The Queensville/Holland Landing/Sharon servicing proposal will provide servicing to the communities of Sharon, Queensville and Holland Landing as well as divert flow from the existing Holland Landing Sewage Lagoons. This servicing is being considered through an agreement with a developer group.

Current Project Status/ Milestones

The review of the Class Environmental Assessment (EA) was completed in August 2007. The Class EA document was filed on the public record for a 30-day period during which time three requests for a Part II Order were submitted to the MOE. Timing of this project is dependent on the outcome of the Minister's decision on these Part II Order requests as well as execution of the prepaid development charge credit agreement. The project schedule as proposed by the developer group has not changed since the last report and is as follows:

- | | |
|---------------------------------|---------------|
| • Completion of Class EA | August 2007 |
| • Completion of detailed design | June 2008 |
| • Construction completion | December 2009 |

5.8 Southeast Collector Sewer *CRITICAL PROJECT*

The Southeast Collector Sewer through parts of Markham and Pickering is required to provide additional capacity to the existing YDSS trunk sewer. The critical need for this sewer is driven by growth in all municipalities serviced by the YDSS.

Current Project Status/ Milestones

York and Durham Regions are co-proponents for this undertaking. Since approval of the Terms of Reference for the Individual Environmental Assessment (IEA) by the MOE in February 2006, the project team has completed the baseline condition report, feasibility study report, evaluation of alternatives report and conceptual design report. Impact assessment reports are currently being prepared. The public consultation program is well underway and an enhanced consultation process for First Nations has been initiated.

The IEA is scheduled to be filed in October 2008. The expected approval date is May 2009, on the assumption that the MOE will require seven months for review. Based on this, the expected completion date for the project is December 2012 and has not changed since the last report. Key milestones for the project are as follows:

- Submission of the IEA to MOE October 2008
- Expected MOE approval of the IEA May 2009
- Completion of detailed design and tender December 2009
- Obtain all regulatory approvals September 2009
- Completion of Construction December 2012

5.9 York Durham Sewage System Flow Control Structures* CRITICAL PROJECT*

As a result of the revised completion date of 2012 for the Southeast Collector Sewer, staff are now undertaking a project to implement flow control on the YDSS. The flow control structures to be installed in selected locations in the YDSS will attenuate peak wastewater flows, thereby allowing additional capacity for growth prior to completion of the Southeast Collector Sewer. These flow control structures will also provide operational flexibility after the Southeast Collector Sewer is constructed.

Current Project Status/ Milestones

Key milestones for the project are as follows:

- Completion of detailed design November 2008
- Tender the works December 2008
- Construction completion December 2009

6. STATUS OF WATER PROJECTS

Priority water projects are those which are required within the five-year horizon to meet imminent demands. Priority projects are listed below and are also presented in Attachment 4 - Priority Water Projects Map.

6.1 Aurora/ Newmarket Feedermain

This project will provide additional water supply to the Towns of Aurora and Newmarket to supplement the well supply from the Yonge Street Aquifer. It will also provide additional supply to northern areas of Richmond Hill and generally increase capacity in the York Water System and in East Gwillimbury. Completion of this project will assist in meeting the long term demands due to growth in Richmond Hill, Newmarket, Aurora and East Gwillimbury.

The project consists of five construction contracts:

- Keele Street watermain (Teston Road. to King/Vaughan Road).
- King/Vaughan Road watermain (Keele Street. to Bathurst Street.).
- Bathurst Street watermain (King/Vaughan Road to Wellington Street.).
- Maple Pressure District 8 Pumping Station.
- Aurora South Reservoir.

Current Project Status/ Milestones

Construction works for the first three contracts (Keele Street, King/Vaughan Road and Bathurst Street watermain) are complete. The Aurora/Newmarket feedermain was commissioned in January 2008 (last report: December 2007), with completion of all works in March 2008.

Key project milestones are as follows:

- | | |
|---|---------------|
| • Complete property acquisition for the in-ground reservoir | April 2006 |
| • Tender Aurora South reservoir contract | February 2007 |
| • Commissioning of the Aurora/Newmarket feedermain | January 2008 |
| • Completion of all work | March 2008 |

6.2 Bathurst Street Watermain (Aurora/Newmarket West Connection)

This watermain on Bathurst Street from Orchard Heights Reservoir to the West Newmarket Reservoir will provide additional water supply and system security to both Aurora and Newmarket West Pressure Districts.

Current Project Status/ Milestones

The project schedule has not changed since last report. The work was tendered with the Bathurst Street road widening works from Wellington Street to Mulock Drive in June

2007. The tender closed in July and notice to commence construction was issued in September. Construction is expected to be completed in March 2008.

Key project milestones are as follows:

- Detailed design completed September 2006
- Tender the works June 2007
- Construction completion March 2008

6.3 Bathurst Watermain (Newmarket Clearmeadow to Woodsprings)

The Bathurst Street watermain in Newmarket's West Pressure District will provide additional water supply to Newmarket's northwest quadrant to meet the growth needs for this area.

Current Project Status/ Milestones

The project schedule has not changed since last report. The work was tendered with the Bathurst Street road widening works from Wellington Street to Mulock Drive in June 2007. The tender closed in July and notice to commence construction was issued in September. Construction is expected to be completed in March 2008.

Key project milestones are as follows:

- Detailed design completed July 2006
- Tender the works June 2007
- Construction completion March 2008

6.4 Queensville Elevated Tank

Construction of a 7.0 ML elevated tank in Queensville will provide equalization, emergency and fire storage to the community.

Current Project Status/ Milestones

Timing for this project will be dictated by the initiation of new development in Queensville and Sharon, which in turn will be subject to the timing of the work for the YDSS Extension to Holland Landing/Queensville/Sharon. The target completion date for this project has not changed since last report and is for December 2009, corresponding to the completion date for the YDSS Extension to Holland Landing/Queensville/Sharon.

6.5 King City Water Supply

The King City Water Supply Project consists of a 2.74 ML elevated tank and additional water supply from new wells or other sources, such as the York Water System.

Current Project Status/ Milestones

The Environmental Study Report for augmenting the water supply and storage capacity to King City was completed in September 2007. Three Part II Order (bump up) requests

were received during the 30-day review period. Subject to the final results of the EA, the preferred solution at this time is to connect King City to the York Water System. The schedule for this project has not changed since last report. Key milestones for this project are as follows:

- Completion of Class EA September 2007
- Completion of detailed design Winter 2008
- Tender and contract award Winter 2008
- Completion of construction Summer 2010

6.6 Richmond Hill (Oak Ridges) Elevated Tank No. 1

The 7.55 ML elevated tank will provide equalization, emergency and fire storage to the Pressure District 9 area in Richmond Hill. This is one of the two new elevated tanks needed for the area, with the second one planned for completion in 2010.

Current Project Status/ Milestones

The Class Environmental Assessment (EA) was completed in January 2007. The preferred site for the elevated tank is located within the Ontario Realty Corporation lands on the north side of Bloomington Road, west of Yonge Street. The work was awarded in March 2007. The expected completion date of August 2008 for this project has not changed since last report. Key milestones for this project are as follows:

- Completion of Class EA January 2007
- Tender and contract award March 2007
- Completion of construction August 2008

6.7 Stouffville Water Supply

Additional water supply is required for the community of Stouffville to service new development areas. The approved Class EA identified connection to the York Water System as the preferred solution.

Current Project Status/ Milestones

Design of the proposed water supply works was completed in January 2008 (last reported: winter 2007). Due to longer than expected time required for land acquisition, construction is now expected to be completed in March 2009. (last reported: fall 2008)

Key milestones for this project are as follows:

- Completion of Class EA March 2006
- EA Approval May 2007
- Completion of detailed design January 2008
- Completion of construction March 2009

6.8 Toronto East Water Supply

The Toronto East Water Supply Project is required to bring additional water to the Markham Pressure District 6 area from Toronto to meet long term growth demands in areas serviced by the York Water System.

As part of the project, a new watermain along Kennedy Road from the Kennedy Pumping Station to Major Mackenzie Drive is required. While construction of the works will be carried out by York Region, the Class Environmental Assessment was conducted by the City of Toronto in accordance with the York-Toronto Water Supply Agreement.

Current Project Status/ Milestones

The Class EA for the Kennedy Road watermain was completed in October 2007. The updated schedule for this project is as follows:

- Completion of Class EA October 2007
- Detailed design completed December 2008
(last reported: September 2008)
- Tender and contract award February 2009
(last reported: November 2008)
- Construction completion December 2010

6.9 Richmond Hill Pressure District 9 (PD9) Elevated Tank No. 2

The project will augment storage capacity for the PD9 water system required to service additional growth beyond the current allocation limit in the Richmond Hill PD9 service area.

Current Project Status/ Milestones

The schedule for this project has not changed since last report. Key milestones for the project are as follows:

- Completion of Class EA Process April 2008
- Detailed design completed December 2008
- Property Acquisition June 2009
- Tender and contract award June 2009
- Construction completion June 2010

6.10 Leslie Street Watermain (Wellington St. to just north of Newmarket)

The Leslie Street watermain connects to the existing Aurora East pumping station on Wellington Street, and runs easterly along Wellington Street then northerly along Leslie Street ending just north of the Aurora/Newmarket boundary.

The work was originally scheduled for completion in the spring of 2011. The Region has retained a consultant to undertake the engineering work. A Newmarket developer group has requested that the project be advanced to service their proposed developments in

Newmarket. Staff is currently reviewing the feasibility of advancing a portion of the watermain to permit servicing of the proposed developments.

7. FINANCIAL IMPLICATIONS

A summary of the costs of the priority infrastructure projects is provided in Table 1 (wastewater projects) and Table 2 (water projects). The total cost of these projects is \$1.45 billion. Estimated expenditures for these projects between 2007 and 2012 total \$1.12 billion, representing 53% of the total water and wastewater capital expenditures for the same period.

Table 1
Wastewater Projects

Project	Current Project Cost Estimates	Anticipated Completion Dates
16 th Avenue Sewer Phase 2 *	\$104,100,000	June 2007**
Newmarket Equalization Tank	\$10,000,000	January 2008 (completed)
YDSS Interceptor (19 th Avenue and Leslie Street) *	\$102,200,000	July 2008
Aurora Equalization Tank	\$16,300,000	July 2008
Bathurst Langstaff Sewer	\$86,000,000	December 2008
YDSS Flow Control*	\$4,000,000	December 2009
Queensville/Holland Landing Servicing	\$44,100,000	December 2009
Duffin Creek Water Pollution Control Plant *	\$391,000,000	December 2010
Southeast Collector *	\$514,000,000	December 2012
Total Wastewater Projects	\$1,272,000,000	

*critical projects

**connection works ongoing

Table 2
Water Projects

Project	Current Project Cost Estimates	Anticipated Completion Dates
Aurora/Newmarket Water Supply	\$69,500,000	January 2008
Bathurst Watermain (Orchard Heights Reservoir to Newmarket Reservoir)	\$2,800,000	March 2008
Bathurst Watermain (Clearmeadow to Woodsprings)	\$3,800,000	March 2008
Richmond Hill 1 st PD9 Elevated Tank	\$10,300,000	August 2008
Stouffville Water Supply	\$7,700,000	March 2009
Queensville Elevated Tank	\$8,600,000	December 2009
Richmond Hill 2 nd PD9 Elevated Tank	\$29,000,000	June 2010
King City Water Supply	\$15,600,000	Summer 2010
Toronto East Water Supply	\$17,600,000	December 2010
Leslie Street Watermain (Wellington St. to Newmarket)	\$13,500,000	Spring 2011
Total Water Projects	\$178,000,000	

8. LOCAL MUNICIPAL IMPACT

The “priority” and “critical” projects reviewed in this report are crucial to providing timely servicing capacity to the municipalities serviced by the York Durham Sewage System and the York Water System. The capacity is necessary to meet growth expectations while maintaining a desirable level of environmental and public health protection.

Release of additional capacity as well as granting of approvals in each phase of the plan approval process is contingent on all of these projects being completed as planned. Projects will be continually monitored to ensure the risk of delay is minimized and capacity will be available as planned. Staff will continue to work closely with the local municipalities affected by this infrastructure program to ensure that impacts to planned community growth are minimized to the extent possible considering the constraints created by these projects.

9. CONCLUSION

The “priority” and “critical” projects identified in this report are essential to provide the additional capacity needed for the projected growth in York Region. Continuing to monitor these projects will ensure that capacity allocation and granting of planning approvals are synchronized with the project schedules. This report provides Council with a status of these priority and critical projects and, in turn, their relationship to the timing of plan approvals.

For more information on this report contact Tracey McLean, extension 5095, Acting Manager Technical Support of the Water and Wastewater Branch in the Environmental Services Department.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause are attached to this report.)