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WATER AND WASTEWATER INFRASTRUCTURE STATUS REPORT

(Regional Council at its meeting on December 13, 2007, amended this Clause to provide that the Commissioner of Environmental Services be requested to provide a report in 2008 on the Stouffville Water Supply referred to in paragraph 6.7 of the report.)

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, November 14, 2007, from the General Manager, Water and Wastewater:

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 March, 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 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 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 in 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 which assigned an additional capacity of approximately 36,000 of the available 58,000 persons to meet Regional growth target to 2011. Additional infrastructure triggers required to realize the additional 58,000 persons capacity beyond the June 2005 allocation of 970,000 were 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 six subsequent reports to Council with the last update on September 27, 2007. The next update report is scheduled for March 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 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

4.1.1 Capacity Trigger for Servicing up to 970,000 People

As discussed in the previous status report update to Council, the trigger condition to permit pre-sales 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. Final registration of draft plan is projected to occur in late December, with the anticipation that all required infrastructure for the above areas will be in place by June 2008.

For Vaughan, in addition to the Woodbridge service area, the trigger condition to permit pre-sales has now been met for the Bathurst Langstaff Trunk Sewer service area and final registration of draft plan is projected to occur in the second quarter of 2008, with the Bathurst Langstaff Trunk Sewer on schedule for completion in October 2008.

For Richmond Hill, the trigger condition to permit pre-sales has now been met for the Pressure District 9 (PD9) service area, and 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.

4.1.2 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.
- 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. The installation of 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 service area will be the Duffin Creek plant expansion.

For the Aurora East service area, trigger condition to permit pre-sales is 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.

In future updates to this report, new priority projects required to service growth beyond the additional 58,000 people will be identified and added to the priority projects list, as new information becomes available from the current Water and Wastewater Master Plan Update, and completed projects will be removed from 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 project status, current issues affecting project progress and future activities.

These projects are identified as being required within the five-year horizon to meet future demand requirements. 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 to allow 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 that could be experienced in this system and will also aid in minimizing downstream capacity risks until the diversion to the 16th Avenue sewer is completed 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.

5.1.1 Current Project Status/ Milestones

The construction contract for the Newmarket equalization tank was awarded in November 2005, and construction will be completed in November 2007.

Key milestones associated with this project are as follows:

- Complete construction November 2007
(last reported: October 2007)

5.2 Aurora Equalization Tank

The Aurora equalization tank is required to allow 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. Similar to the Newmarket situation, this tank will also provide additional capacity to Aurora and will aid in minimizing downstream capacity risks. The tank will also 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.

5.2.1 Current Project Status/ Milestones

The construction contract for the Aurora equalization tank was awarded in October 2006, and construction will be completed in June 2008.

Key milestones for the project are as follows:

- Complete construction 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 and to provide the phased completion of the system along 16th Avenue. 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 YDSS thereby allowing increased flows from Vaughan.

5.3.1 Current Project Status/ Milestones

Installation of the 16th Avenue Sewer was completed in June 2007. Commissioning of the sewer is underway.

5.4 YDSS 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.

5.4.1 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. The 19th Avenue tunnelling contract is on schedule for completion in spring of 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.

5.5.1 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 now awarded the site preparation contract and the contract for the construction of the liquid treatment facility, the first two of an anticipated eight construction contracts.

Key milestones for the project are as follows:

- EA approval March 2007
- Construction completed 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.

5.6.1 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 on schedule for completion in the last quarter of 2008.

5.7 Queensville/Holland Landing Servicing

The Queensville/Holland Landing 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.

5.7.1 Current Project Status/ Milestones

The review of the Class Environmental Assessment (EA) was completed in August 2007. The Class EA review 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 will be dependent on the outcome of the minister's decision on these Part II Order requests as well as the execution of the prepaid development charge credit agreement. Current schedule for the project as proposed by the developer group 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 need for this sewer is driven by growth in all municipalities serviced by the YDSS.

5.8.1 Current Project Status/ Milestones

York and Durham Regions are co-proponents for this undertaking. Since the approval of the Terms of Reference by the MOE in February 2006, the project team has completed the baseline study, feasibility study, evaluation of alternatives report, inventoried the natural, geotechnical and hydrogeological, social and cultural environment within the study area and the process of identifying and short-listing alternatives to provide the necessary sewer capacity. The public consultation program for the Individual Environmental Assessment (IEA) is well underway and currently the team has completed evaluating the five short-listed alternatives and identified the preferred sewer route among the five alternatives. An enhanced consultation process for First Nations has been initiated.

The filing of the IEA is now scheduled for October 2008.

On the assumption that the MOE will require seven months for review, the expected date for approval is May 2009. Based on the updated schedule, key milestones for the project are as follows:

- Submission of the IEA to MOE October 2008
(last reported: September 2008)
- Expected MOE approval of the IEA May 2009
- Completion of detailed design and tender December 2009
(last reported: January 2010)
- Obtain all regulatory approvals September 2009
(last reported: January 2010)
- Completion of Construction December 2012

5.9 YDSS 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 the completion of the Southeast Collector Sewer. In addition to its temporary use, the flow control structures

will provide operational flexibility such as flow optimization after the Southeast Collector Sewer is constructed. Key milestones for the project are as follows:

- | | |
|---------------------------|--|
| • Completion of design | November 2008
(last reported: September 2008) |
| • Tender the works | December 2008
(last reported: November 2008) |
| • Construction completion | December 2009 |

6. STATUS OF WATER PROJECTS

Priority water projects are those which have been identified as being required within the five-year horizon to meet imminent demands. The 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 Newmarket and Aurora 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 Rd. to King/Vaughan Road).
- King/Vaughan Road watermain (Keele St. to Bathurst St.).
- Bathurst Street watermain (King/Vaughan Rd to Wellington St.).
- Maple Pressure District 8 Pumping Station.
- Aurora South Reservoir.

6.1.1 Current Project Status/ Milestones

Construction works for the first three contracts (Keele Street, King/Vaughan Road and Bathurst Street watermain) are complete.

The expected completion date for the Maple Pumping Station contract is revised to December 2007, as a result of construction related delays (last report: August 2007).

The Aurora South reservoir work was tendered in February 2007. The target date for commissioning the Newmarket/Aurora feedermain system is December 2007, with completion of all works in March 2008.

Key project milestones are as follows:

- Complete property acquisition for the inground reservoir April 2006
- Tender Aurora South reservoir contract February 2007
- Commissioning of the Newmarket/Aurora feedermain December 2007
- Complete all reservoir 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.

6.2.1 Current Project Status/ Milestones

The Class Environmental Assessment (EA) and detailed design of the watermain are complete. 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 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.

6.3.1 Current Project Status/ Milestones

The Class EA and detailed design of the watermain are complete. 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 June 2007
- Construction completion March 2008
(last reported: December 2007)

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.

6.4.1 Current Project Status/ Milestones

The 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 been revised to December 2009 (last reported: June 2009), as more time is required to coordinate with the Ontario Ministry of Transportation (MTO) since one of the alternative tank sites is adjacent to the proposed Highway 404 extension.

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.

6.5.1 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 completion date has been revised to summer of 2010 from fall of 2009, as more time is required to address the issues relating to the Part II Orders. Key milestones for this project are as follows:

- Completion of Class EA September 2007
- Tender and contract award Winter 2008
(last reported: Spring 2008)

- Completion of construction Summer 2010
(last reported: September 2009)

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 being planned for completion in 2010.

6.6.1 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 for completion in August 2008. 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 recently approved Class EA identified connection to the York Water System as the preferred solution.

6.7.1 Current Project Status/ Milestones

The Class Environmental Assessment (EA) was approved in May 2007. Design of the proposed water supply works has commenced and is expected to be completed by the winter of this year. Key milestones for this project are as follows:

- Completion of Class EA March 2006
- EA Approval May 2007
- Completion of detailed design Winter 2007
(last reported: summer 2007)
- Completion of construction Fall 2008

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 the long term growth demands in areas serviced by the York Water System.

As part of the project, a new watermain along Kennedy Road from 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.

6.8.1 Current Project Status/ Milestones

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

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

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

The project is required to augment the storage capacity for the PD9 water system in order to service additional growth beyond the current allocation limit in the Richmond Hill PD9 service area. 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. It is required for servicing growth in the Aurora East service area.

The work is scheduled for completion in the spring of 2011. The Class EA is originally scheduled to commence in 2008. A developer group has recently expressed interest to advance the project through entering into a prepaid development charge credit agreement with the Region. After reviewing the developer group's proposal, it is determined that the Region's schedule for commencing the EA be advanced to 2007. Key milestones for the project are as follows:

- Completion of EA Summer 2009
- Construction completion Spring 2011

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 approximately \$1.45 billion. The estimated expenditures of these projects between 2007 and 2012 total \$ 1.12 billion, representing 53% of the overall water and wastewater capital expenditures of the same period.

Table 1
Wastewater Projects

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

*critical projects

Table 2
Water Projects

Project	Current Project Cost Estimates	Anticipated Completion Dates
Aurora/Newmarket Water Supply	\$69,500,000	December 2007
Bathurst Watermain (Orchard Heights Reservoir to Newmarket Reservoir)	2,800,000	March 2008
Bathurst Watermain (Clearmeadow to Woodsprings)	3,800,000	March 2008
Queensville Elevated Tank	8,600,000	December 2009
King City Water Supply	15,600,000	Summer 2010
Richmond Hill 1 st PD9 Elevated Tank	10,300,000	August 2008
Stouffville Water Supply	6,300,000	Fall 2008
Toronto East Water Supply	17,600,000	December 2010
Richmond Hill 2 nd PD9 Elevated Tank	29,000,000	June 2010
Leslie Street Watermain (Wellington St. to Newmarket)	13,500,000	Spring 2011
Total Water Projects	\$177,000,000	

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 in providing the additional capacities needed for the projected growth in York Region. Continuing to monitor these projects will ensure that capacity allocation and granting of planning approvals are in synchronization 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 Ilmar Simanovskis, extension 5027, Manager Technical Support of the Water and Wastewater Branch in the Transportation and Works Department.

The Senior Management Group has reviewed this report.

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