

Analyst Briefing Notes

Budget Committee

(October 16, 2007)

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PART I: CAPITAL PROGRAM**Executive Summary**

- The 2007 Approved Capital Budget of \$410.001 million was 16% or \$65.374 million spent, as at June 30th, 2007. Actual expenditures by year-end are anticipated to be \$287.001 million or 70% of the 2007 Approved Capital Budget, as reported in the 2nd Quarter Capital Variance Report. The projection of 2007 funding to be carried forward into the 2008 Recommended Capital Budget is \$111.981 million.
- The 2008 Recommended Capital Budget; 2009 to 2012 Plan and 2013 to 2017 Estimates total \$7,207.773 million of which \$3,020.149 million is projected for the Program's 5-Year Capital Plan requiring no debt funding. The 5-Year Capital Plan, including carry forward funding from 2007 into 2008, requires 2008 cashflow of \$410.000 million; \$578.829 million in 2009; \$631.402 million in 2010; \$690.642 million in 2011; and, \$709.276 million in 2012. This represents a cash flow increase of approximately 73% or \$299.276 million from 2008 to 2012.
- The 2008 Recommended Capital Budget includes:
 - previously approved commitments and new/change in scope projects requiring 2008 cash flow of \$298.019 million. This cash flow combined with carry forward funding of \$111.981 million for 2007 projects brings the total 2008 Recommended Capital Budget to \$410.000 million.
 - future year commitments of \$347.271 million in 2009; \$298.530 million in 2010; \$261.881 million in 2011; \$225.007 million in 2012; and (\$1.012) million in 2013-2017. Many of the projects included in the 2008 Recommended Capital Budget require construction duration of several years with cash flow spread out over the period.
- The 2008 Recommended Capital Budget for prior approved and new/change in scope projects (excluding 2007 carry forward funding) of \$298.019 million is 51% allocated to state of good repair projects at \$151.464 million; 9% to legislative projects at \$27.894 million; 18% to service improvement projects at \$52.608 million; and, 22% to growth related projects at \$66.053 million.
- The 5-Year Capital Plan will reduce the state of good repair backlog from \$1,062.981 million in 2007 to \$300.616 million in 2012.
- Approval of the 2008 Recommended Capital Budget will result in incremental operating impacts of \$0.299 million in 2008; \$2.077 million in 2009; and, (\$1.300) million in 2010.
- Funding for the 5-Year Capital Plan advances the Wet Weather Flow Master Plan; reduces the state of good repair backlog; continues the City's Water Efficiency Plan; ensures compliance with new Provincial legislation and Ministry of the Environment requirements for drinking water safety and stringent reporting requirements; increases system capacity to keep pace with population growth; and, service improvement projects, such as biosolids treatment and disposal; odour control; automated metering; increases lead water services connection replacement; and, basement flooding protection.

Recommendations

It is recommended that:

1. the 2008 Recommended Capital Budget for Toronto Water with a total project cost of \$897.874 million and a 2008 cash flow of \$410.000 million and future year commitments of \$1,131.677 million be approved. The 2008 Recommended Capital Budget consists of the following:
 - a) New Cash Flow Funding for:
 - i) 224 new sub-projects with a 2008 total project cost of \$897.874 million that requires cash flow of \$87.458 million in 2008 and a future year commitment of \$213.037 million in 2009; \$196.457 million in 2010; \$190.657 million in 2011; \$214.338 million in 2012; and (\$4.072) million in 2013-2017;
 - ii) 184 previously approved sub-projects with a 2008 cash flow of \$210.561 million and a future year commitment of \$134.234 million in 2009; \$102.073 million in 2010; \$71.224 million in 2011; \$10.669 million in 2012; and, \$3.060 million in 2013-2017;
 - b) 2007 approved cash flow for 151 previously approved sub-projects with carry forward funding from 2007 into 2008 totalling \$111.981 million;
2. operating impacts of \$0.299 million in 2008; \$2.077 million in 2009; and, (\$1.300) million in 2010 emanating from the approval of the 2008 Recommended Capital Budget, be approved for inclusion in the 2008 and future year operating budgets;
3. no new debt be issued to finance the 2008 cash flow requirement for the capital program and that the 2008 Recommended Toronto Water Capital Budget be fully funded from service charges; available reserve funds; including development charges; and, other revenues;
4. the 2009-2012 Capital Plan for Toronto Water totalling \$2,610.149 million in project commitments and estimates, comprised of \$578.829 million in 2009; \$631.402 million in 2010; \$690.642 million in 2011; and \$709.276 million in 2012, be approved;
5. the General Manager for Toronto Water, in consultation with the Financial Planning Division, report to Budget Committee on the financial implications arising from new and emerging legislation prior to deliberation of the 2009 Capital Budget;
6. Toronto Water provide the “A-List and “B-List” of capital projects, as set out in the Plan to Improve the Development and Implementation of a Coordinated Multi-Year Joint Transportation Services and Toronto Water Capital Program, to the Budget Committee prior to consideration of the 2008 Recommended Capital Budget by Council; and,
7. this report be considered concurrently with the 2008 Water and Wastewater Service Rate and Related Matters (October 2007), from the Deputy City Manager and Chief Financial Officer and General Manager for Toronto Water.

PART I: CAPITAL PROGRAM

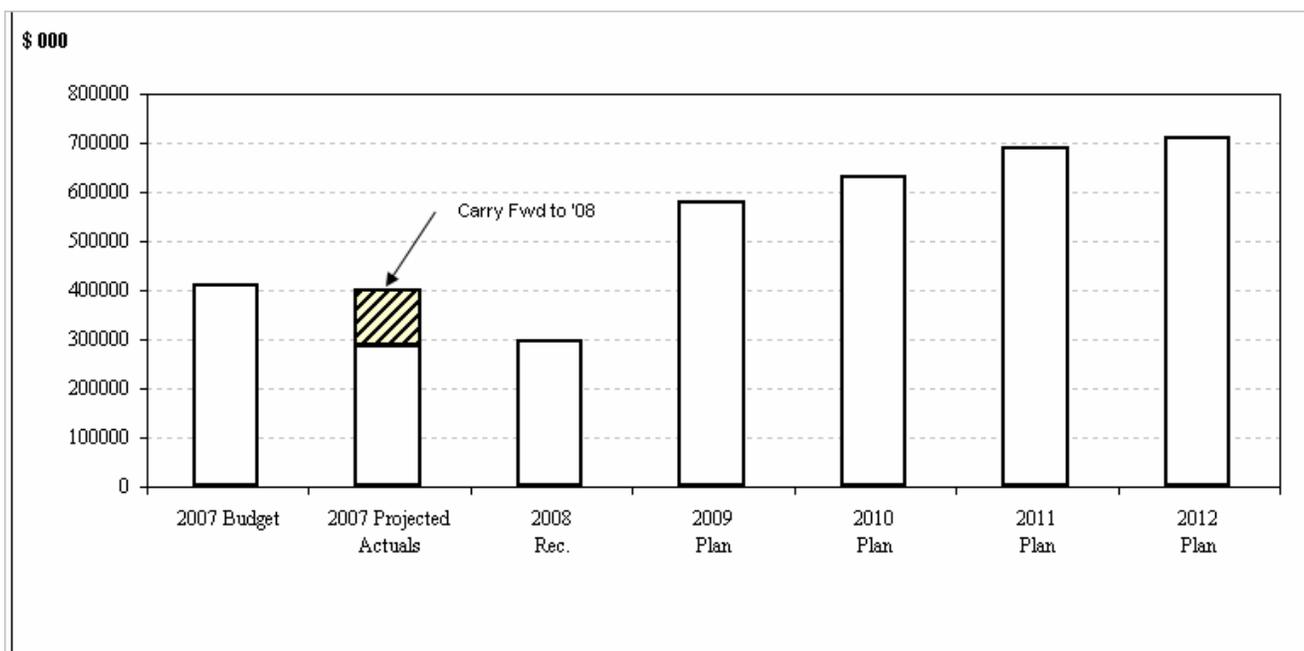
2007 Capital Variance Review

2007 Budget to Actuals Comparison - Total Gross Expenditures (\$000s)					
2007 Approved	Actuals as of June 30 (2nd Qtr Variance)		Projected Actuals at Year End		Balance
\$	\$	% Spent	\$	% Spent	\$ Unspent
410,001	65,374	16	287,001	70	123,000

Comments / Issues:

- The Toronto Water 2007 Approved Capital Budget of \$410.001 million was 16% or \$65.374 million spent, as at June 30th, 2007. Actual expenditures by year-end are anticipated to be \$287.001 million or 70% of the 2007 Approved Capital Budget, as reported in the 2nd Quarter Capital Budget Variance Report. This represents an increase of \$22.456 million or 8% in spending over the 2006 rate of 67% or \$264.545 million.
- The 2007 water and wastewater rate setting process assumed a capital spending rate of 80%; however, several factors will limit the Program's ability to achieve this rate. This includes a lengthy labour disruption at the beginning of summer shutting down construction on several multi-million dollar contracts, such as the digester refurbishment at the Ashbridges Bay and Humber Wastewater Treatment Plants and waste activated sludge upgrades at the Humber Wastewater Treatment Plant. Activities have now been accelerated given that the labour disruption has been resolved. The delay in obtaining Environmental Assessment approvals from the Ministry of the Environment has also contributed to the lower than targeted capital expenditures.
- The funding from 2007 carried forward into 2008 included in the 2008 Capital Budget is \$111.981 million and is lower than the projected unspent actuals of \$123.000 million identified in the 2nd Quarter Capital Budget Variance Report. The 2008 Capital Budget does not reflect any subsequent changes to funding being carried forward from 2007 into 2008 based on the unspent cash flow balance projected as at June 30th, 2007. Adjustments to carry forward funding based on actual expenditures will be reported through to Budget Committee with its consideration of the City's 2008 Capital Budget in November 2007.
- 2007 carry forward funding is provided for several large projects, which include the Humber Wastewater Treatment Plant sludge thickening building upgrade; Wet Weather Flow Master Plan Class Environmental Assessments; Island Filtration Plant winterisation; Automated Meter Reading System program; yard and building renovations; and, the Horgan Water Treatment Plant HVAC rehabilitation.

5-Year Capital Plan (2008-2012)



	2007		5-Year Plan					2008-2012
	Budget	Projected Actual	2008	2009	2010	2011	2012	
Gross Expenditures:								
2007 Capital Budget & Future Year Commitments	410,001	287,001	226,399	128,528	88,551	53,881		497,359
Recommended Changes to Commitments			(15,838)	3,706	10,022	11,342	4,669	13,901
2008 New/Change in Scope and Future Year Commitments			87,458	213,037	196,457	190,657	214,338	901,947
2009 - 2012 Plan Estimates				233,558	336,372	434,762	490,269	1,494,961
1-Year Carry Forward to 2008		111,981	→					
Total Gross Annual Expenditures & Plan	410,001	398,982	298,019	578,829	631,402	690,642	709,276	2,908,168
Financing Sources:								
Reserves/Reserve Funds	382,599		272,721	505,553	529,492	582,905	624,091	2,514,762
Development Charges	13,794		6,161	24,546	33,197	32,051	12,168	108,123
Federal								
Provincial								
Other Revenue	13,608		19,137	48,730	68,713	75,686	73,017	285,283
Total Financing	410,001		298,019	578,829	631,402	690,642	709,276	2,908,168
By Category:								
Health & Safety								
Legislated	21,713		27,894	25,312	20,192	22,894	19,039	115,331
SOGR	297,897		151,464	387,993	415,163	446,626	482,368	1,883,614
Service Improvement	55,079		52,608	67,747	70,385	93,309	87,413	371,462
Growth Related	35,312		66,053	97,777	125,662	127,813	120,456	537,761
Total By Category	410,001		298,019	578,829	631,402	690,642	709,276	2,908,168
Yearly SOGR Backlog Estimate (not addressed by current plan)			(113,100)	(167,111)	(162,650)	(163,729)	(155,776)	(762,366)
Accumulated Backlog Estimate (end of year)		1,062,981	949,882	782,770	620,121	456,391	300,616	300,616
Operating Impact on Program Costs			299	2,431	1,131	1,534	1,862	7,257

5-Year Capital Plan (2008-2012)

Overview

- The 5-Year Capital Plan is 100% self-sustaining with no debenture financing and does not impact the municipal property tax levy.
- The cash flow funding, including carry forward funding from 2007 into 2008, increases significantly over the 5-Year Capital Plan from \$410.000 million in 2008 to \$709.276 million in 2012. This represents a cash flow increase of approximately 73% or \$299.276 million over 5-years. The increase in new cash flow will balance the infrastructure deficit for state of good repair projects with future growth and capacity demands within an increasingly stringent regulatory framework for the delivery of water supply and wastewater disposal services.
- **State of Good Repair Projects:** Toronto Water's assets have a replacement value of approximately \$26.600 billion. The Program currently has a large infrastructure and renewal backlog. For example, 20% of the water supply network is at least 80-years old while 10% of the wastewater collection and disposal system is at least 80-years old.

The 5-Year Capital Plan reflects the allocation of significant financial resources to state of good repair projects to address the renewal needs of aging and deteriorating infrastructure. Projects that maintain assets in a state of good repair represent 65% or \$1,883.614 million of the total planned new cash flow of \$2,908.168 million.

- **Service Improvement Projects:** Represent approximately 13% or \$371.462 million of the 5-Year Capital Plan. Examples of service improvement projects include biosolids treatment and disposal; odour control at wastewater treatment plants; automated metering; Wet Weather Flow Master Plan; basement flooding protection; landscaping; and, plant optimization.
- **Growth Projects:** Account for 18% or \$537.761 million of the 5-Year Capital Plan. Additional capacity will be required to service a projected population of 3 million people by 2031. To address this need, the 5-Year Capital Plan includes initiatives for improving water efficiency; reducing water loss; and, expansion projects required for future water and wastewater service needs.
- **Legislative Projects:** Account for 4% or \$115.331 million of the 5-Year Capital Plan. These projects address existing and emerging Provincial legislation, which includes Bill 195, Safe Drinking Water Act and Bill 81, Nutrient Management Act. Legislative projects also include compliance with the Federal government's Environmental Protection Act. Funding for legislative projects is expected to increase in future years as regulations governing water and wastewater services continue to become more stringent in the post-Walkerton period.
- The 5-Year Capital Plan is funded primarily from the Program's reserves, which account for approximately 86% or \$2,514.762 million. Development charges provide funding for approximately 4% or \$108.123 million. Capital cost sharing with York Region and other sources of revenue such as user fees for construction of new water and sewer connections represent the remaining 10% or \$285.283 million.

Multi-Year Debt Affordability Target

The City did not set a multi-year debt affordability guideline for the 5-Year Capital Plan. The Program is self-sustaining and does not impact the municipal property tax levy. Operating and capital investments are funded through water and sewage rates established each year by Council and included in the City's By-law (Municipal Code, Chapter 849: Water and Sewage Services). Other sources of funding include user fees; capital cost sharing with York Region; and, development charges.

Changes to the 2007-2012 Capital Plan

The following highlights the changes from the 2007-2011 Approved Capital Plan with the 2008-2012 Capital Plan.

- **2008:** Decrease of \$62.201 million or 13% compared to the 2007-2011 Approved Capital Plan of \$472.201 million for 2008. This decrease represents delays in initiating multi-year projects in 2007. The 2007 Approved Capital Budget assumed that construction would commence in early 2008 on these projects, cashflow has now been deferred in recognition that tendering will likely not occur until mid-2008 resulting in a late 2008 construction start date.
- **2009; 2010; and, 2011:** Increases of \$35.303 million in 2009; \$29.102 million in 2010; and, \$22.353 million in 2011 compared to the 2007-2011 Approved Capital Plan. Factors that contribute to the increases include:
 - Projects delayed in 2008 have been compressed into an accelerated workplan for 2009; 2010; and, 2011 respectively in order to meet commitments.
 - Inflationary pressures for commodities, such as aggregate; copper; steel; fuel; and, labour market conditions are forecasted to increase substantially.
 - Increase in the use of tunnelling techniques for new construction projects. Tunnelling reduces the level of disruption to local communities during construction compared to traditional construction methods however results in higher costs.
 - 2009 is anticipated to be the first full year of construction activities for the Horgan Water Treatment Plant Expansion and trunk projects which accounts for a significant percentage of the cashflow needs.
- **2012:** Decrease of \$13.123 million or 2% compared to the 2007-2011 Approved Capital Plan of \$722.399 million for 2012. The decrease results from refined capital costs through improved design and engineering work, particularly with respect to odour control and process upgrade work at the Ashbridges Bay Wastewater Treatment Plant.

Program Capacity and Readiness to Proceed

The 2007 Approved Capital Budget of \$410.001 million was 16% or \$65.374 million spent, at of June 30th, 2007. Actual expenditures by year-end are anticipated to be \$287.001 million or 70% of the 2007 Approved Capital Budget. The 2007 projected spending rate by year-end represents a continued improvement over the Program's historic spending capacity. The last several years have shown a consistent ramping up of capital spending, with 2004 expenditures of \$191.323 million or 76%; 2005 expenditures of \$202.853 million or 57%; and, 2006 expenditures of \$264.545 million or 67%.

Please refer to the Issues Section for an expanded discussion on the Program's capital budget spending capacity.

Facility and needs assessment studies have now been completed for major capital works included in the 5-Year Capital Plan. Final designs are underway for many of the large projects, which include the Horgan Water Treatment Plant expansion and Ashbridges Bay Wastewater Treatment Plant odour control. It is anticipated that the tendering of the projects will occur in mid-2008. Many of the environmental assessments for trunk watermains are nearing completion and final design is anticipated to proceed by year-end with construction to commence in late 2008 or early 2009.

Cost projections are based on engineering estimates using historical unit rates from City tenders and data from other municipalities for similar projects. Future year costs have been adjusted based on industry recognized inflationary indices for raw materials; fuel; and, labour market conditions. In addition, project costs, where applicable, have considered foreign exchange exposure.

Backlog of Projects – Unmet Needs

Toronto Water currently has a significant infrastructure rehabilitation backlog. The 2007 end-year value of the infrastructure deficiency is estimated at \$1,062.981 million. The backlog experienced by the City may be more than any other major Canadian urban centre. For example, cast-iron pipes put in service during the 1920's are nearing the end of their 80 to 120-year lifecycles. In addition, the thinner-walled water mains installed in North York and parts of Scarborough in the 1950s are also reaching the end of their lifecycle.

Currently, 0.69% of the watermains and 0.47% of the sewers are being replaced annually. This is creating a backlog given that the optimal replacement rate should range 1% to 2% per annum. The 5-Year Capital Plan reflects an increase in the replacement rate to achieve the optimal level in approximately 10-years and mitigate most of the accumulated backlog. The 5-Year Capital Plan will reduce the state of good repair backlog from \$1,062.981 million in 2007 (year-end) to \$300.616 million in 2012.

The rate of pipe leaks and breaks have increased substantially over the last decade and are currently the highest of Ontario municipalities. Pipe leaks and breaks not only result in lower revenues from water sales and sewer surcharges but also contribute to the following:

- Disruption to local residential; traffic; and, business activities.
- Significant repair and rehabilitation costs for roads and underground utilities.
- Potential loss of fire protection to high-rise buildings.
- Increased energy consumption and related CO₂ emissions as pumps and motors must work harder to deliver service.

Capital Project Highlights

The 5-Year Capital Plan aligns with the strategic direction of the Toronto Water Multi-Year Business Plan and supports the Mayor's Mandate and Council's policy agenda.

Climate Change, Clean Air and Sustainable Energy Action Plan:

The 5-Year Capital Plan provides approximately \$188.778 million in funding for a broad range of projects that will form part of the Action Plan for Climate Change. This includes the following:

- **Water Efficiency Plan:** \$47.736 million in funding is recommended to advance municipal system leak detection; toilet and clothes washer replacement rebates; computer controlled irrigation for City facilities; ICI indoor and residential outdoor water audits; and public education and promotions.

The direct environmental benefits associated with the Water Efficiency Plan include reduced chemical and energy use. The electricity used in treating and pumping drinking water and subsequent treatment of wastewater is produced partially by gas and oil fired generating stations, resulting in smog and CO₂ emissions. It is estimated that during the implementation period of the Water Efficiency Plan, 90,000 tonnes of CO₂ emissions will have been avoided. When fully implemented, the Plan will avoid about 14,000 tonnes per year of CO₂ emissions. Reductions in energy consumption will also reduce SO₂ and, NO_x emissions.

- **Water Metering Pilot:** \$74.000 million is recommended to supply and install water meters and a fixed area network for meter reading. With the completion of the project, all homes and businesses will be metered, providing direct feedback to encourage conservation of water resources.
- **Energy Efficiency Measures:** \$64.842 million is provided for energy efficiency measures to achieve optimal savings and reduce CO₂ emissions, such as completion of the Deep Lake Water Cooling project; energy audits; facility lighting and electrical upgrades; replacement of pumps and motors with high efficiency units; and, implementation of real-time monitoring.
- **Tree Planting and Green Roof Technology:** \$2.000 million for tree planting and \$0.200 million for green roof technology is recommended to improve the retainment of rainwater to reduce surface run-off. In addition, the planting of trees will contribute to the reduction of CO₂ and other green house gases in the atmosphere.

The 5-Year Capital Plan includes \$242.679 million in funding to advance the following strategic priorities:

Implementation of a Ravine Improvement Team that will Clean, Beautify, and Improve Access and Stewardship to Toronto's Ravines:

The 5-Year Capital Plan includes \$37.105 million to advance this initiative through stream restoration projects and tree planting for source water protection.

Help to Clean Up Lake Ontario to Make Toronto's Beaches More Swimmable:

The 5-Year Capital Plan includes \$183.674 million in funding for projects to continue the Wet Weather Flow Master Plan to manage the discharge of pollutants into waterways and Lake Ontario. The goal of the Plan is to reduce and ultimately eliminate the adverse impacts of wet weather flow on the built and natural environments to achieve a measurable improvement in ecosystem health of the City's watersheds and waterfront, with particular emphasis on improving water quality along the City's waterfront beaches.

The 5-Year Capital Plan includes funding to complete environmental assessments followed by the design and construction for projects identified in the Master Plan. Projects included in the 5-Year Capital Plan which directly affect improvements to waterfront quality include the following: Etobicoke Waterfront Storm Sewer Discharges; Bonar Creek Stormwater Wetland (Etobicoke Waterfront); Don and Waterfront Trunk Sanitary Sewer and Combined Sewer Overflow Control Project; Coatsworth Cut Storm Sewer and Combined Sewer Overflow Control Project; Eastern Beaches Storm Sewer Discharges; and, the Scarborough Waterfront Combined Sewer Overflow Discharges.

- **Water Treatment Plant Residual Control:** The 5-Year Capital Plan includes \$21.900 million for residue management facilities at the City's water treatment plants. Facilities will be operational at the Harris Water Treatment Plant and the R.L. Clark Water Treatment Plant in early 2008. This

will allow residue to be treated on-site rather than entering directly into the lake. Design of facilities at the Island Water Treatment Plant will proceed in 2008 and additional facilities will be included in the Horgan Water Treatment Plant expansion work that forms part of the cost sharing agreement with the Region of York.

Addressing Renewal Needs of Aging and Deteriorating Infrastructure – State of Good Repair

Projects that maintain aging water and sewer infrastructure in a state of good repair represent more than 64% or \$1,870.114 million of the 5-Year Capital Plan. These projects are intended to extend the useful life of assets; ensure service reliability; and, postpone replacement.

- **Rehabilitation:** Programs designed to rehabilitate aging watermains include installing cathodic protection to prevent corrosion; cleaning and lining; and, replacing deficient hydrants and valves to improve system performance.
- **Replacement:** Projects are included in the capital program for pipes that are structurally deficient or where increased water demand or sewer flow warrants larger pipe sizes. In many areas, pipe relining and trenchless technology will be used to minimise the impact on local communities.

Increasing Total Capacity to Keep Pace with Population Growth

Additional capacity will be required to service a projected population of 3 million people by 2031. To address this need, the 5-Year Capital Plan includes \$537.761 million in new cash flow for growth projects. Projects to increase system capacity for future growth include the following:

- **Water Efficiency Plan:** The aim of the Plan is to reduce water demand by 15% by 2011, freeing up capacity to accommodate growth needs while delaying costly plant expansions. The Program will cost approximately \$74 million, which compares favourably to the cost of providing an equivalent capacity through the expansion of infrastructure, at an estimated cost of \$220 million.
- **Reducing Watermain Leakage:** The 5-Year Capital Plan includes projects aimed at reducing watermain leakage. Programs are being developed to identify areas of the distribution system experiencing undetected water loss. These deficient pipe sections will be rehabilitated, repaired or replaced depending on the severity of damage.

Continuous Improvements in Service Delivery

Numerous continuous improvements in service delivery programs are underway; examples include the following:

- **Basement Flooding Program:** At its meeting of April 25, 26 and 27, 2006, City Council approved a work plan to address basement flooding across the City. The work plan incorporates a new integrated approach to alleviate basement flooding that focuses on preventing, to the degree possible, surface flooding and reducing the amount of stormwater entering all sewer systems: storm, sanitary and combined. The first phase of Environmental Assessments initiated in the chronic basement flooding areas are nearing completion and have identified capital works necessary to reduce or eliminate the causes of basement flooding. While the 5-Year Capital Plan includes \$77.800 million for this initiative, a report will be forthcoming to Council to provide an update on the financial implications of implementing similar upgrades across all identified basement flooding areas.
- **Accelerated Replacement of Lead Water Service Connections:** The 5-Year Capital Plan includes \$114.290 million aimed at an accelerated replacement of lead water service connections over a 9 year period. The replacement of the current Water Service Connection Replacement

Program with a Lead Water Service Connection Replacement Program was approved by Council on July 16, 17, 18 and 19, 2007, in response to anticipated amendments to O.Reg 170/03, which came into force on July 26, 2007. The new program would accelerate the replacement of the estimated 65,000 remaining lead water service connections, effectively removing all lead sources within the City’s water distribution system within the next 9 years, while providing for the emergency replacement of water service connections with flow rates of less than 7 litres per minute and connections with leaks.

- The District Service Improvement Program extends the review of best practices; technological upgrades; management; and, operation of the City’s linear water and wastewater infrastructure. Funding of \$0.300 million has been included in the 2008 Capital Budget to complete implementation of the Program.
- An aggressive restructuring has begun on the watermain and sewer replacement programs coordinated with Transportation Services’ Road Construction Program. This new initiative will provide a coordinated and fixed 5-Year Capital Plan that will minimise construction disruption to the public. Please refer to the Issues Section for a discussion regarding the Plan to Improve the Development and Implementation of a Coordinated Multi-Year Joint Transportation Services and Toronto Water Capital Program.

Summary of Major Capital Initiatives

(In 000s)	2008 Rec. Budget	2009 Plan	2010 Plan	2011 Plan	2012 Plan	Total 2008 - 2012	Total 2013 -2017
Facilities Projects: New and Expanded	21,295	54,575	82,250	110,320	119,284	387,724	15,500
IT sub-projects	2,500	8,500	1,000	8,000	8,000	28,000	
Total	23,795	63,075	83,250	118,320	127,284	415,724	15,500
Other Major City Initiatives:							
Basement Flooding Relief	8,800	13,500	17,500	17,000	21,000	77,800	
Lead Service Replacement	30,150	27,383	20,352	21,370	15,035	114,290	
Climate Change Action Plan	26,741	38,102	36,442	44,105	43,388	188,778	
Other Strategic Priorities:	38,905	39,443	47,900	55,169	61,262	242,679	
Total	104,596	118,428	122,194	137,644	140,685	623,547	-

- The 5-Year Capital Plan includes new/expanded facilities funding of \$387.724 million.
- Information technology projects amount to \$28.000 million of the 5-Year Capital Plan. The project provides funding for the implementation of the Toronto Water Technology Blueprint to accomplish the Program’s strategic and technical objectives using integrated technologies.

Operating Budget Impact – 5-Year Plan

Incremental Operating Impact Summary

Incremental Operating Budget Impact	2008	2009	2010	2011	2012
2008 Recommended Capital Budget					
Program Costs (net) (\$000s)	299	2,077	(1,300)		
Approved Positions	1				
Recommended 2009-2012 Capital Plan					
Program Costs (net) (\$000s)		354	2,431	1,534	1,862
Approved Positions		6			
Total					
Program Costs (net) (\$000s)	299	2,431	1,131	1,534	1,862
Approved Positions	1	6			

Program Operating Impacts

The incremental operating impacts outlined above include the following:

- Toronto Water has identified 7 new positions arising from the 5-Year Capital Plan. The 7 new positions are required in District Operations to manage the future growth of infrastructure.
- The 5-Year Capital Plan includes operating impacts from previously approved and new/change in scope capital projects for 2008 of \$0.299 million; 2009 of \$2.431 million; 2010 of \$1.131 million; 2011 of \$1.534 million; and, 2012 of \$1.862 million. The operating impacts reflect additional costs for labour; chemicals; and general maintenance required for various projects.
- The 5-Year Capital Plan is funded entirely from water and sewer rates; development charges; user fees and capital cost sharing with York Region. There is no reliance on the municipal tax levy.

Total 2008 Recommended Cash Flow & Future Year Commitments (\$000s)

	2006 & Prior Year Carry Forwards	2008 Previously Approved Cash Flow Commitments	2008 New Cash Flow Recommended	2008 Total Cash Flow Recommended	2008 Debt Target	2007 Carry Forwards	Total 2008 Cash Flow (Incl 2006 C/Fwd)	2009	2010	2011	2012	2013-2017	Total Cost
Expenditures													
Previously Approved		210,561		210,561		111,981	322,542	134,234	102,073	71,224	10,669	3,060	643,802
Change in Scope			(32,620)	(32,620)			(32,620)	101,702	111,507	124,256	166,304	(4,072)	467,077
New			8,813	8,813			8,813						8,813
New w/Future Year			111,265	111,265			111,265	111,335	84,950	66,401	48,034		421,985
Total Expenditure	0	210,561	87,458	298,019		111,981	410,000	347,271	298,530	261,881	225,007	(1,012)	1,541,677
Financing													
Reserves/Res Funds		189,314	83,407	272,721		105,827	378,548	296,621	248,559	214,784	187,712	(1,012)	1,325,212
Development Charges		8,697	(2,536)	6,161		3,851	10,012	13,283	14,717	14,963	5,929		58,904
Other		12,550	6,587	19,137		2,303	21,440	37,367	35,254	32,134	31,366		157,561
Total Financing	0	210,561	87,458	298,019		111,981	410,000	347,271	298,530	261,881	225,007	(1,012)	1,541,677

Comments / Issues:

- The 2008 Recommended Capital Budget is \$410.000 million and includes funding from 2007 projects carried forward into 2008 of \$111.981 million; previously approved commitment funding of \$210.561 million; and, \$87.458 million for new/change in scope projects.
- 2007 carry forward funding is provided for large multi-year projects such as the Humber Wastewater Treatment Plant sludge thickening building upgrade; storm sewer rehabilitation; Island Filtration Plant winterisation; Automated Meter Reading System program; yard and building renovations; and, the Horgan Water Treatment Plant HVAC rehabilitation.
- Approval of the 2008 Recommended Capital Budget will result in a commitment to future year funding for new/change in scope projects of \$213.037 million in 2009; \$196.457 million in 2010; \$190.657 million in 2011; and, \$214.338 million in 2012. Future year funding commitments have increased in comparison to previous years. Factors which contribute to the increase include the following:
 - Significant increase for project costs included in the Region of York capital cost sharing agreement, due to the construction techniques selected in consultation with the public (i.e. tunneling). Delivery of these projects, based on the current schedule, is a requirement of the agreement.
 - Many of the multi-year projects to be tendered, such as the Horgan Water Treatment Plant expansion; Milliken and Dufferin expansions; and, Ashbridges Bay Wastewater Treatment Plant odour control and primary treatment upgrades were in the early stages of planning and public consultation during the development of the 2007 Approved Capital Budget and as such, the 2007 budget submission identified these project costs as future year spending. As these projects are scheduled for tendering in 2008, approval is now being sought to commit these funds.

2008 Recommended Capital Budget

2008 Recommended Capital Budget by Category

- **State of Good Repair Projects:** The 2008 Recommended Capital Budget reflects the allocation of significant funding for state of good repair projects. These projects account for approximately \$151.464 million or 51% of the total new cash flow of \$298.019 million being recommended for 2008. State of good repair projects are driven by renewal needs for the watermain and sewer network and treatment facilities. These projects are designed to extend the useful life of assets; ensure service reliability; and, to postpone replacement.
- **Service Improvement Projects:** Represent approximately 18% or \$52.608 million of the total recommended cash flow for 2008. Examples of service improvement projects include biosolids treatment and disposal; odour control; automated metering; Wet Weather Flow Master Plan; basement flooding protection; landscaping; and, plant optimization.
- **Growth Projects:** Account for 22% or \$66.053 million of the 2008 Recommended Capital Budget and include initiatives for improving water efficiency; reducing water loss; and, expansion projects required for future water and wastewater service needs.
- **Legislative Projects:** Reflect 9% or \$27.894 million of the 2008 Recommended Capital Budget. These projects address existing and emerging Provincial legislation, which includes Bill 195, Safe Drinking Water Act, Bill 81, Nutrient Management Act and the recent Bill 43, Clean Water Act. Legislative projects also include compliance with the Federal government's Environmental Protection Act.

PART II: ISSUES FOR DISCUSSION

2008 Capital Budget Issues

90 Megawatts Electricity Savings Program – Toronto’s Sustainable Energy Plan

As part of the Toronto Energy Plan, Council approved in March 2007 the development of a Program to achieve 90 megawatts (MW) of electricity savings across the City by 2010. Under the Program, the Ontario Power Authority will provide incentive payments to eligible City and community projects. The Program requires Toronto Water, the Toronto Transit Commission, the Toronto Community Housing Corporation and other ABCDs, as appropriate, to work with Facilities and Real Estate to identify approved capital projects and projects proposed in their 2007 Capital Budgets and 2008-2011 Capital Plans with the potential for energy savings.

The City is currently negotiating the agreement with Ontario Power Authority. The amount of capital budget funding will be based on the electricity savings generated. Given that the City is currently negotiating the agreement with the Authority, Toronto Water has not included funding from the Program in the 2008 Recommended Capital Budget; however there are a number of projects, as identified in the Water Efficiency Plan, which may be considered eligible.

5-Year Capital Plan Issues

Development Charges

Growth projects included in the Recommended 5-Year Capital Plan are significantly under-funded from development charges. Eligible projects included in the By-law do not reflect current inflationary pressures for commodities such as copper; steel; aggregates; fuel; and, labour market conditions. This has limited development charges as a sustainable source of funding for growth projects and resulted in added pressure on water and wastewater rate revenues. It is anticipated that this issue will be managed through the scheduled update of the Development Charges By-law in 2009.

Capacity Issues – Ability to Spend

The Program’s Approved Capital Budgets and spending rate from 2000 to 2007 are provided in the table below. In 2000, approximately 76% or \$183 million of the budget was spent, in 2001 this spending rate decreased to 60% or \$132 million, in 2002 it was 57% or \$155 million and the rate for 2003 increased to 82% or \$198 million. The capital expenditure to budget ratio was 76% or \$191 million in 2004 and 57% or \$203 million in 2005. The 2006 Capital Budget spending rate was \$265 million or 67%; representing an increase of \$62 million compared to the 2005 rate. Toronto Water is forecasting a spending rate of \$287 million or 70% by year-end for 2007, reflecting a growth of \$22 million or 8% in spending over the 2006 experience.

(In \$ Millions)	2000	2001	2002	2003	2004	2005	2006	2007*
Capital Budget	241	221	271	242	252	353	394	410
Actual Expenditures \$	183	132	155	198	191	203	265	287
Actual Expenditures %	76%	60%	57%	82%	76%	57%	67%	70%

The Recommended 5-Year Capital Plan is an aggressive undertaking, funding increases from \$410.000 million in 2008 to \$709.276 million in 2012, representing a growth of 73% or \$299.276 million. In addition, the cash flow funding is not evenly distributed over the Recommended 5-Year Capital Plan. There is a substantial increase in funding of 41% or \$168.829 million from 2008 to 2009. The increase reflects the delay of projects in 2008 that been compressed into an accelerated workplan for 2009; 2010; and, 2011 respectively and the start of construction on several of multi-year projects in 2009.

In delivering the Recommended 5-Year Capital Plan's targeted expenditure levels, the Program will continue to work with other City Divisions to ensure that the procurement of services proceeds as expediently as possible. In addition, Toronto Water will continue consultation and detailed coordination with external consulting engineers and the construction industry to ensure that contract suppliers are able to meet the higher level of demand. Toronto Water is in regular contact with Greater Toronto Area municipalities in an attempt to co-ordinate the scheduling of tenders.

Council recently approved 2 new initiatives, which are anticipated to improve Toronto Water's Capital Budget spending and completion rates, as outlined below.

- **Multi-Year Joint Transportation Services and Toronto Water Capital Program:**

To strengthen the coordination between Transportation Services and Toronto Water, Council approved the "Plan to Improve the Development and Implementation of a Coordinated Multi-Year Joint Transportation Service and Toronto Water Capital Program" (July 2007). This cross-functional initiative outlines a new planning process to address a more efficient renewal strategy for rehabilitating the City's aging infrastructure. Once fully implemented, the Plan will secure a coordinated fixed 5-year capital program well in advance of construction activity. In addition, the initiative will permit Technical Services staff to proceed in an unimpeded manner with the scoping and design of capital works several years prior to their scheduled implementation dates.

The new planning process requires Transportation Services and Toronto Water to include as part of their annual capital budget submission an "A-List": Projects within the target budget and "B-List": Projects which could be accelerated to the A-list, as required. Toronto Water is currently finalizing the "A-List" and "B-List" of projects in consultation with Transportation Services and Technical Services. It is therefore recommended that:

Toronto Water provide the "A-List and "B-List" of capital projects, as set out in the Plan to Improve the Development and Implementation of a Coordinated Multi-Year Joint Transportation Services and Toronto Water Capital Program, to the Budget Committee prior to consideration of the 2008 Recommended Capital Budget by Council.

- **Bid Committee Authority:**

Council approved (March 2007) to revise the delegated authority for procurement awards. Bid Committee now has the authority to award contracts to a limit of \$20.000 million, replacing the previous \$5.000 million limit. This new threshold should have a positive impact to the Program's Capital Budget spending and project completion rates, as Bid Committee meets weekly as compared to monthly for Standing Committee and Council.

Recent and Emerging Provincial Regulations

The provision of water and wastewater services in Ontario is in the midst of an unprecedented period of regulatory reform. In the post-Walkerton period, changes in the water industry have focused on drinking water quality. These changes occurred through the Safe Drinking Water Act and the Drinking Water Protection Regulations.

However, there remain a number of very significant changes in the regulatory framework of the industry about which little are presently known. The Province is still developing the requirements beyond the current conceptual framework. The most important of these are the Sustainable Water and Sewage Systems Act and financial plan regulations under the Safe Drinking Water Act.

The following provides a summary of the key Provincial regulations for the water and wastewater services industry.

- **Bill 195, Safe Drinking Water Act:** This Act expands on existing controls and regulations of drinking-water systems and drinking-water testing for the protection of human health and the prevention of drinking water health hazards. In addition, regulations passed under the Act require municipalities to publish annual reports describing the operation of the water system and the results of testing required to ensure that residents are provided with safe drinking water.

Toronto Water treatment plant upgrades are nearing completion as required by the Act. In addition, Council approved the Lead Water Service Connection Replacement Program (July 2007) in response to amendments to the Act designed to reduce the potential for evaluated levels of lead in drinking water.

The Province issued a new Financial Plan Regulation on August 16, 2007 to aid municipalities in achieving financial sustainability for water and wastewater systems. The regulation only applies to drinking water systems, as a condition of licensure and does not apply to stormwater or wastewater systems. The regulation aligns with the transition to full accrual accounting that will be Provincially mandated as at January 1, 2009. The Ontario government has noted that municipal councils will act as water approval agencies for the plans.

- **Bill 81, Nutrient Management Act:** This Act addresses land-applied materials containing nutrients and requires review and approval of nutrient management plans; certification of land applicators; and, a new registry system for all land applications to protect surface and ground water resources from agricultural impacts.
- **Bill 43, Clean Water Act:** This Act provides protection for municipal drinking water supplies through developing collaborative; locally driven; science-based protection plans by municipalities; conservation authorities; and, the public. Bill 43 has recently been approved and regulations under the Act may have an impact on the implementation schedule of the Wet Weather Flow Master Plan. Further, the financial impact associated with the development of Source Water Protection Plans across the City's 6 watersheds and Lake Ontario is not known at this time.
- **Bill 175, Sustainable Water and Sewage Systems Act:** This Act will make it mandatory for municipalities to assess and cost-recover the full amount of water and sewer services, as recommended in the Walkerton Report. The implementation schedule for Bill 175 and regulatory framework has not been determined; 5-years after the Province passed the Act in 2002. However, it is currently anticipated that the municipal reporting requirements of Bill 175 may include a full

cost of service report and cost recovery plan report. It is expected that Bill 175 will not have a significant impact on the Recommended 5-Year Capital Plan; however, the regulations could affect the structure and balance requirements for capital reserves.

Toronto Water has included project costs in the Recommended 5-Year Capital Plan based on current information, where possible. Funding for legislative projects is expected to increase in future years as regulations governing water and wastewater services continue to evolve. Given that the full financial implications are not known at this time, it is therefore recommended that:

the General Manager for Toronto Water, in consultation with the Financial Planning Division, report to Budget Committee on the financial implications arising from new and emerging legislation prior to deliberation of the 2009 Capital Budget.

Biosolids and Residuals Master Plan

The final Biosolids and Residuals Master Plan is not complete pending a peer review of alternatives. A consultant has been retained to undertake the review which is scheduled for completion early in 2008. It is anticipated that, depending on the recommendations of the peer review, the Master Plan could be presented to Council in the summer of 2008. The Recommended 5-Year Capital Plan includes funding for completion of the Master Plan; and for design and construction of emergency repairs to existing biosolids management facilities. It is unlikely that additional work required in the Master Plan would start within the 5-year period due to the time required to design facilities and obtain Provincial approval.

Toronto and Region Conservation Authority Funding

Toronto Water has included the following funding in the Recommended 5-Year Capital Plan to partially fund Toronto and Region Conservation Authority capital projects for: \$3.300 million for 2008; \$3.467 million for 2009; \$3.554 million for 2010; \$3.643 million for 2011; and, \$3.734 million for 2012. Toronto Water will continue to evaluate Toronto and Region Conservation Authority's capital projects individually on merit and relevance, guided by criteria established through practice in recent years to determine future year funding.

Land Acquisition for Source Water Protection

The Recommended 5-Year Capital Plan includes land acquisition funding for source water protection of \$3.000 million in 2008; \$4.500 million in 2009; \$6.000 million in 2010; 2011; and, 2012 respectively. Funding will be used to purchase property within the jurisdictional boundaries of the Toronto and Region Conservation Authority based on a pre-selected list compiled by the Authority and Toronto Water and approved by Council in August 2005 and as amended in July 2007. A majority of the land purchased partially financed by Toronto Water from 2005 and 2006 was located outside the City's boundaries.

Reserves/Reserve Funds

Please refer to the 2008 Water and Wastewater Service Rate and Related Matters (October 2007), from the Deputy City Manager and Chief Financial Officer and the General Manager for Toronto Water, regarding the adequacy and strategies for managing Toronto Water's reserves/reserve funds.

Appendix 1

2008 Recommended Capital Budget; 2009 to Plan and 2013 to 2017 Estimates

Appendix 2
2008 Recommended Cash Flow
and Future Year Commitments

Appendix 3
2008 Recommended Capital Projects
with Financing Details

Appendix 4
Reserve / Reserve Fund Review

2008 Water and Wastewater Service Rate and Related Matters