

Toronto 2018 BUDGET



CAPITAL BUDGET NOTES



Toronto Water

2018 – 2027 CAPITAL BUDGET AND PLAN OVERVIEW

Toronto Water is responsible for: water treatment and supply; wastewater collection and treatment; and stormwater management across the City. It services 3.6 million residents and businesses in Toronto and portions of York and Peel Region.

Toronto Water has stewardship of an inventory of capital assets valued at \$28.561 billion. Toronto Water maintains two categories of capital assets: linear infrastructure, such as distribution (5,551 km) and transmission (550 km) watermains, sanitary (3,730 km), combined (1,411 km) and storm (4,981 km) sewers; and facilities/plant assets such as water filtration (4) and waste water treatment (4) plants, water (18), wastewater (67), combined (8) and stormwater (12) pumping stations, as well as a variety of reservoirs, storage and detention tanks.

The Program's 10-Year Capital Plan is \$12.724 billion with \$7.496 billion or 59% allocated to Health and Safety, Legislated and State of Good Repair (SOGR) projects, which remain a priority for Toronto Water given the significant backlog in infrastructure renewal. Funding of \$5.228 billion is also included in the 2018-2027 Capital Budget and Plan for investments in Service Improvement and Growth Related projects, including Basement Flooding Protection and Wet Weather Flow Master Plan projects.

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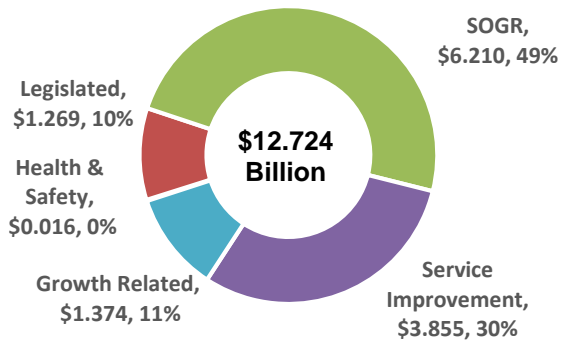
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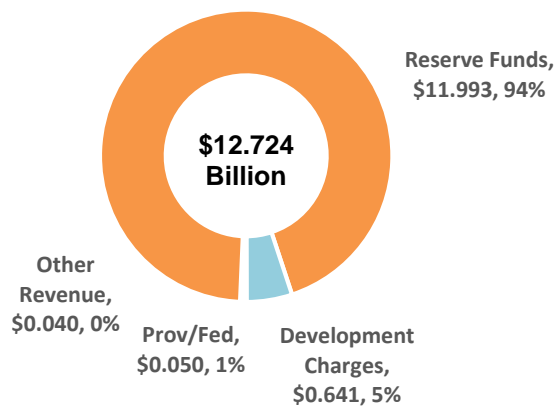
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Capital Spending and Financing

**2018-2027 Recommended Capital Budget and Plan
By Project Category**



By Funding Source



Where the money goes:

The 2018–2027 Recommended Capital Budget and Plan totalling \$12.724 billion provides funding for:

- Health and Safety, Legislated and State of Good Repair (SOGR) projects which are the focus of the 10-Year Capital Plan totaling \$7.496 billion or 59% of program funding and are allocated for on-going state of good repair projects (including health and safety and legislated projects) for linear infrastructure and treatment facilities.
- Service Improvement projects totaling \$3.855 billion or 30% of funding, and include: the Basement Flooding Protection Program to reduce the risk of future flooding from extreme storm events (\$1.542 billion); and Wet Weather Flow Master Plan to improve water quality and city's environments (\$1.277 billion).
- Growth related projects totaling \$1.374 billion or 11% of the total funding will provide the necessary servicing capacity for projected population growth. The largest projects are the Trunk Sewer and Pumping Station projects (\$0.304 billion) and New Service Connections (\$0.388 billion).

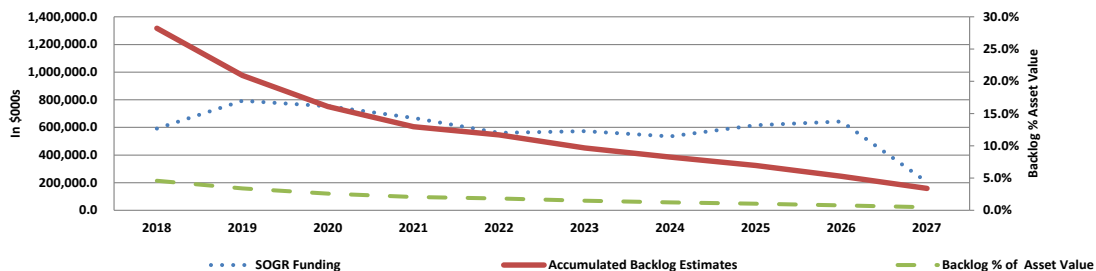
Where the money comes from:

The Recommended 10-Year Capital Plan will be funded by:

- Toronto Water's Capital Financing Reserves totaling \$11.993 billion and accounting for approximately 94% of program capital financing sources.
- Development charges for growth related projects, capital cost sharing with York Region, and Provincial/Federal grants totaling \$0.732 billion or 6% of the total capital financing.

State of Good Repair Backlog

The 10-Year Recommended Capital Plan includes cash flow funding of \$6.210 billion for State of Good Repair to address the backlog in capital repairs. The SOGR backlog of \$1.482 billion or 5.2% of asset replacement value in 2017 (projected) will be effectively eliminated by the end of 2027.



Our Key Issues & Priority Actions

- **Aging Infrastructure** – Toronto Water's infrastructure is aging (some of the City's pipes are 100 years old) and it has an accumulated state of good repair backlog estimated at \$1.482 billion in particular for linear infrastructure, which may result in service interruption.

 - ✓ The 10-Year Capital Plan funding of \$6.210 billion for SOGR will effectively eliminate backlog by 2027.
- **Stormwater Management and Resiliency** – Significant investment is required to manage basement flooding and other stormwater issues across the City. Funding for stormwater management represents approximately 25% of the 10-Year Capital Plan's expenditures.

 - ✓ The 10-Year Capital Plan includes an added \$138.179 million for Wet Weather Flow projects that will improve the City's resiliency to extreme weather events.
- **Strict Regulatory Control and Oversight** – The water and wastewater industry continues to experience increased legislative and regulatory reform.

 - ✓ The 10-Year Capital Plan includes funding of \$644.020 million for the design and construction of a new effluent disinfection system and outfall at the Ashbridges Bay Water Treatment Plant to meet the most recent federal regulations.
- **Long-term Financial Sustainability & Planning for Growth** - The 10-Year Capital Plan relies primarily on successive water rate increases of 5% in year 2018 and 3% thereafter.

 - ✓ The City of Toronto is experiencing significant growth. Development charges are insufficient to fund the growth related share for projects that are eligible for development charge funding, resulting in approximately \$200.0 million in additional draws from Toronto Water' capital reserves to accommodate development growth over the next 10 years.

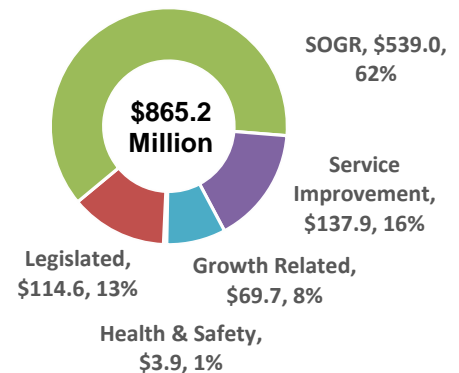


2018 Capital Budget Highlights

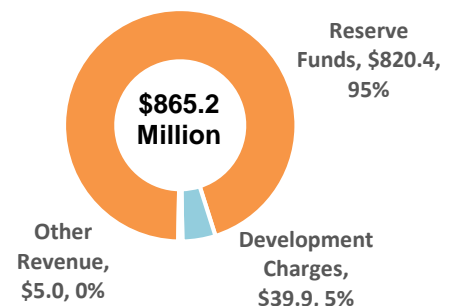
The 2018 Recommended Capital Budget for Toronto Water of \$865.221 million, excluding carry forward funding, will:

- Deliver continued state of good repair projects to address infrastructure renewal such as Watermain Replacement and Rehabilitation (\$134.684 million), Sewer System Replacement and Rehabilitation (\$83.550 million) and Trunk Sewer and Pumping Station projects (\$46.339 million)
- Implement Basement Flooding Protection projects (\$43.078 million), Wet Weather Flow Master Plan (\$42.043 million), and Erosion Control projects (\$2.827 million)
- Continue to provide funding for the TRCA erosion control projects including critical erosion sites (\$13.832 million).

2018 Recommended Capital Budget By Project Category



By Funding Source



Actions for Consideration

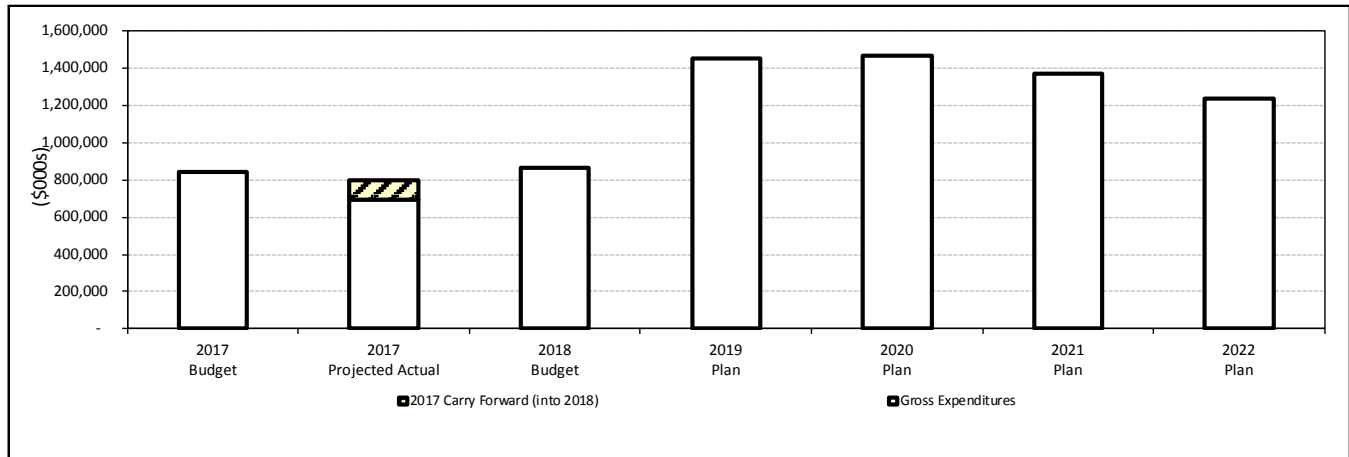
Approval of the 2018 Recommended Capital Budget as presented in these notes requires that:

1. City Council approve the 2018 Recommended Capital Budget for Toronto Water with a total project cost of \$1.842 billion, and 2018 cash flow of \$ 964.089 million and future year commitments of \$ 5.157 billion comprised of the following:
 - a) New Cash Flow Funds for:
 - i. 335 new / change in scope sub-projects with a 2018 total project cost of \$1.842 billion that requires cash flow reduction of \$146.796 million in 2018 and future year cash flow commitments of \$433.544 million for 2019; \$434.355 million for 2020; \$370.877 million for 2021; \$259.002 million for 2022; \$182.901 million for 2023; \$88.646 million for 2024; \$40.737 million for 2025; \$107.083 million for 2026; and \$71.985 million for 2027;
 - ii. 286 previously approved sub-projects with a 2018 cash flow of \$1.012 billion; and future year cash flow commitments of \$811.796 million for 2019; \$616.290 million for 2020; \$442.761 million for 2021; \$357.754 million for 2022; \$320.691 million for 2023; \$280.639 million for 2024; \$244.423 million for 2025; and \$93.968 million for 2026;
 - b) 2017 approved cash flow for 183 previously approved sub-projects with carry forward funding from 2017 into 2018 totalling \$98.868 million.
2. City Council approve the 2019 - 2027 Recommended Capital Plan for Toronto Water totalling \$6.702 billion in project estimates, comprised of \$202.994 million for 2019; \$411.500 million for 2020; \$558.996 million for 2021; \$618.112 million for 2022; \$795.058 million for 2023; \$874.430 million for 2024; \$992.793 million for 2025; \$1.072 billion for 2026 and \$1.176 billion in 2027.
3. City Council consider the operating costs of \$1.496 million net in 2018; \$0.984 million net in 2019; \$1.494 million net in 2020; \$0.848 million net in 2021; \$2.203 million net in 2022; \$0.050 million net in 2023; and \$1.0 million net in 2025, resulting from the approval of the 2018 Recommended Capital Budget for inclusion in the 2018 and future year operating budgets.
4. City Council approve 3 new temporary capital positions for the delivery of 2018 capital projects and that the duration for each temporary position not exceed the life and funding of its respective projects / sub-projects.
5. All sub-projects with third party financing be approved conditionally, subject to the receipt of such financing in 2018 and if such funding is not forthcoming, their priority and funding be reassessed by City Council relative to other City-financed priorities and needs.
6. This report be considered concurrently with the 2018 Water and Wastewater Consumption Rates and Service Fees Report from the Acting Chief Financial Officer and the General Manager for Toronto Water.



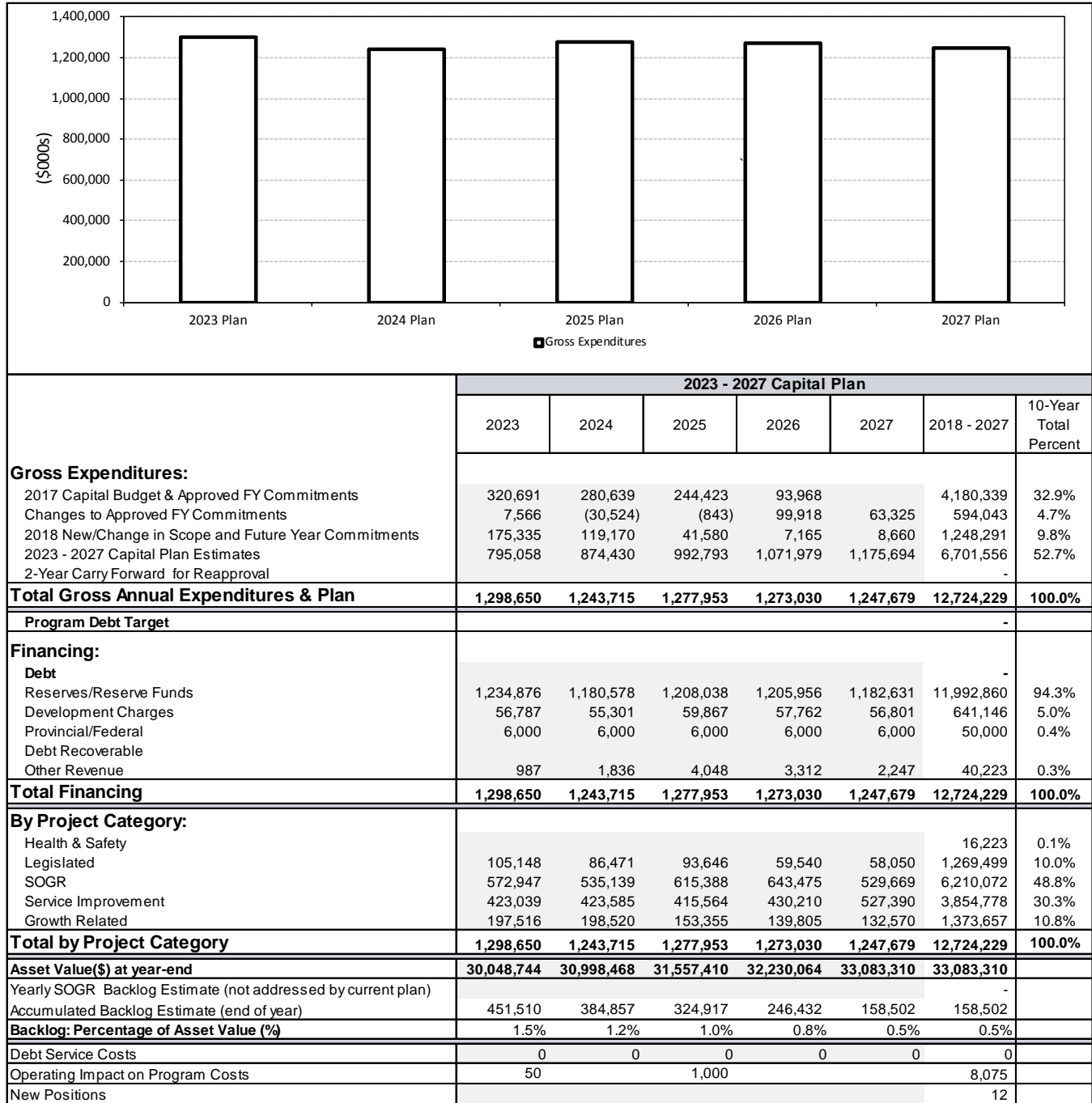
Part 1: 10-Year Recommended Capital Plan

**Table 1a
10-Year Capital Plan
2018 Recommended Capital Budget and 2019 - 2022 Recommended Capital Plan**



		2018 Capital Budget and 2019 - 2022 Capital Plan								
		2017	2018	2019	2020	2021	2022	2018 - 2022	5-Year Total Percent	
		Budget	Projected Actual							
Gross Expenditures:										
2017 Capital Budget & Approved FY Commitments		843,535	695,832	1,012,017	811,796	616,290	442,761	357,754	3,240,618	50.8%
Changes to Approved FY Commitments				(245,315)	224,306	233,243	174,362	68,005	454,601	7.1%
2018 New/Change in Scope and Future Year Commitments				98,519	209,238	201,112	196,515	190,997	896,381	14.0%
2019 - 2022 Capital Plan Estimates					202,994	411,500	558,996	618,112	1,791,602	28.1%
2-Year Carry Forward for Reapproval										
1-Year Carry Forward to 2018			98,868							
Total Gross Annual Expenditures & Plan		843,535	695,832	865,221	1,448,334	1,462,145	1,372,634	1,234,868	6,383,202	100.0%
Program Debt Target										
Financing:										
Debt										
Reserves/Reserve Funds		782,414	648,367	820,371	1,339,453	1,361,891	1,287,151	1,171,915	5,980,781	93.7%
Development Charges		42,864	32,416	39,885	92,485	87,280	78,311	56,667	354,628	5.6%
Provincial/Federal					5,000	5,000	5,000	5,000	20,000	0.3%
Debt Recoverable										
Other Revenue		18,256	15,049	4,965	11,396	7,974	2,172	1,286	27,793	0.4%
Total Financing		843,535	695,832	865,221	1,448,334	1,462,145	1,372,634	1,234,868	6,383,202	100.0%
By Project Category:										
Health & Safety				3,903	8,595	2,086	1,608	31	16,223	0.3%
Legislated				114,629	188,721	209,893	188,769	164,632	866,644	13.6%
SOGR				539,022	792,168	753,093	668,547	560,624	3,313,454	51.9%
Service Improvement				137,927	324,936	378,714	402,716	390,697	1,634,990	25.6%
Growth Related				69,740	133,914	118,359	110,994	118,884	551,891	8.6%
Total by Project Category				865,221	1,448,334	1,462,145	1,372,634	1,234,868	6,383,202	100.0%
Asset Value (\$) at year-end		28,560,672		28,639,709	28,800,326	28,981,642	29,187,663	29,795,095	29,795,095	
Yearly SOGR Backlog Estimate (not addressed by current plan)										
Accumulated Backlog Estimate (end of year)			1,481,733	1,317,191	976,432	750,959	604,972	546,375	546,375	
Backlog: Percentage of Asset Value (%)			5.2%	4.6%	3.4%	2.6%	2.1%	1.8%		
Debt Service Costs				0	0	0	0	0	0	
Operating Impact on Program Costs				1,496	983	1,494	848	2,203	7,025	
New Positions				1	5	6			12	

Table 1b
10-Year Capital Plan
2023 - 2027 Recommended Capital Plan

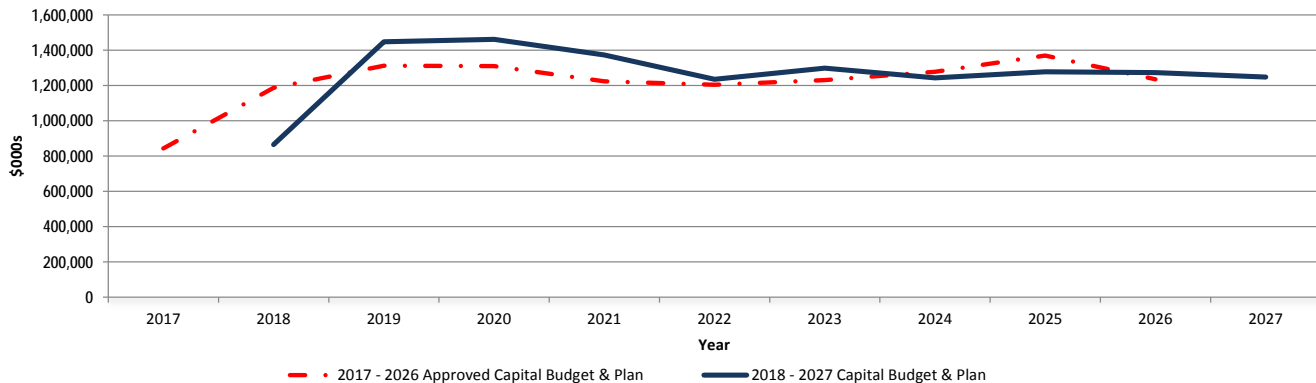


Key Changes to the 2017 - 2026 Approved Capital Plan

The 2018 Recommended Capital Budget and the 2019 – 2027 Recommended Capital Plan reflects an increase of \$530.104 million in capital funding from the 2017 - 2026 Approved Capital Plan.

The chart and table below provide a breakdown of the \$530.104 million or 4.3% increase in the Capital Program on an annual basis from 2017 to 2027.

Chart 1
Changes to the 2016 - 2026 Approved Capital Plan (In \$000s)



(\$000s)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	10-Year Total
2017 - 2026 Approved Capital Budget & Plan	843,535	1,187,154	1,311,882	1,310,274	1,223,800	1,203,849	1,230,785	1,277,576	1,369,783	1,235,487		12,194,125
2018 - 2027 Capital Budget & Plan		865,221	1,448,334	1,462,145	1,372,634	1,234,868	1,298,650	1,243,715	1,277,953	1,273,030	1,247,679	12,724,229
Change %		-27.1%	10.4%	11.6%	12.2%	2.6%	5.5%	-2.7%	-6.7%	3.0%		4.3%
Change \$		-321,933	136,452	151,871	148,834	31,019	67,865	-33,861	-91,830	37,543		530,104

The \$530.104 million increase in the Capital Program reflects an increase of \$404.144 million in various capital projects in the outer years of the 10-Year Capital Plan. The remaining \$125.960 million represents an increase in capital funding over the nine common years of the Capital Plans (2018-2026) as reflected in Table 2 on the following page. This arises from the reprioritization of Toronto Water's capital projects based on the following factors:

- In order to accommodate escalating construction prices, Toronto Water has its modified renewal strategy for linear projects, directing efforts towards rehabilitation rather than replacement of linear infrastructure.
- The 10-Year Capital Program was aligned with available funding as calculated by the Water and Wastewater Rate Model to ensure positive reserve balances during major capital spending years.
- Changes have also been made based on updated schedules for coordinated and sequenced delivery of projects requiring large capital funding, as well as new condition assessments.
- The 2018 Recommended Capital Budget was aligned with historical spending rates and ability to deliver future year projects.

A summary of project changes for the years 2018 to 2026 totalling \$125.960 million are provided in Table 2:

**Table 2
Summary of Project Changes (In \$000s)**

\$000s	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2018 - 2026 Total
2017 - 2026 Capital Budget & Plan	843,535	1,187,154	1,311,882	1,310,274	1,223,800	1,203,849	1,230,785	1,277,576	1,369,783	1,235,487		11,350,590
2018 - 2027 Capital Budget & Plan		865,221	1,448,334	1,462,145	1,372,634	1,234,868	1,298,650	1,243,715	1,277,953	1,273,030	1,247,679	11,476,550
Capital Budget & Plan Changes (2018 - 2026)		(321,933)	136,452	151,871	148,834	31,019	67,865	(33,861)	(91,830)	37,543		125,960

	Total Project Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2018 - 2026	2027	Revised Total Project Cost
Previously Approved													
Water Treatment & Supply													
FJ Horgan TP		(1,658)	1,052	2,735	1,040	(5)					3,164	200	3,364
Island TP		(2,242)	5,012	6,117	4,832	2,650	1,925	175			18,469	375	18,844
RL Clark TP		(2,330)	705	(174)							(1,799)	200	(1,599)
RC Harris TP		(12,394)	10,170	5,660	1,534	600		150			5,720	12,550	18,270
WM Replacement		(57,888)	51,134	10,150	18,377	553	(2)				22,324	114,000	136,324
Trunk Water Mains		(12,317)	12,868	3,645	(14,545)	(11,900)	(32,970)	(25,725)	(12,490)	(105,334)	37,825	37,825	(67,509)
WT - Storage & Treatment		(15,628)	6,084	29,903	15,946	(4,111)	(6,039)	(26,520)	(12,920)	(2,415)	(15,700)	16,830	1,130
Water Meter Program (AMR)		(150)	(500)	(346)							(996)		(996)
Business & Technology		(15,838)	(3,037)	(812)	6,232	4,650	2,985	1,800			(4,020)		1,814
WM Rehabilitation		12,822	1,559	(1,593)	739	2,060	3,902	3,263	2,890	2,790	28,432	73,800	102,232
Water Service Replacement		(7,473)	7,524	(2,949)	(2,749)	(2,750)	(2,750)	(2,750)	(2,750)	(2,750)	(19,397)	41,250	21,853
Pumping Stations		(10,020)	(1,503)	10,768	(1,876)	3,425	6,735	7,040	13,465	9,135	37,169	9,800	46,969
Water Efficiency Plan		(150)	(75)	(75)	(75)	(75)					(450)	520	70
Subtotal		(125,267)	90,993	63,029	29,455	(4,903)	(5,144)	(49,812)	(25,040)	(5,730)	(32,419)	309,164	276,745
Wastewater Collection & Treatment & Stormwater Management													
Ashbridges Bay TP		(46,284)	(20,445)	28,346	37,613	36,946	76,672	55,329	9,312	38,819	216,308	117,064	333,372
Highland Creek TP		(15,518)	15,654	22,419	16,500	(13,075)	(47,945)	(18,240)	33,605	34,410	27,810	47,512	75,322
Humber TP		(38,514)	1,555	(4,260)	14,675	1,547	23,739	8,200	4,106	4,710	15,758	45,359	61,117
Sewer Rehabilitation		5,964	11,641	15,730	3,398	1,857	2,014	2,764	4,414	3,164	50,946	65,950	116,896
Sewer Replacement		(5,917)	18,827	4,768	2,620	830					21,128	15,000	36,128
Trunk Sewers & Pumping Stations		(10,979)	20,520	25,567	35,921	24,413	21,753	(15,215)	(26,733)	(17,666)	57,581	58,105	115,686
Basement Flooding		(54,375)	(7,865)	406	(7,135)	(27,784)	(22,270)	(19,109)	(11,349)	2,953	(146,528)	211,263	64,735
WTP-Plantwide		(4,549)	(2,976)	(3,848)	(10)	24,023	18,912	3,552	(45,365)	(23,780)	(34,041)	3,375	(30,666)
WWF-Implementation Projects		(8,262)	(1,797)	(7,964)	391	(26,229)	(10,060)	4,510	(33,120)	13,240	(69,291)	207,470	138,179
WWF-TRCA		450	450								900	16,473	17,373
WWF - Stream Restoration		(5,592)	(1,517)	(5,039)	(4,259)	4,534	(5,211)	(12,774)	(7,414)	1,041	(36,231)	14,292	(21,939)
Yards & Facility		555	8,084	6,258	2,100	146					(20,900)	10,540	6,783
Subtotal		(183,021)	42,131	82,383	101,814	27,208	57,604	9,017	(72,544)	35,991	100,583	812,403	912,986
New													
Linear Eng		(6,428)	4,547	2,009	9,065	4,414	13,405	1,934	754	2,282	31,982	77,612	109,594
New Connections		(375)	1,323	2,000	2,000	2,000	2,000	5,000	5,000	5,000	23,948	41,000	64,948
New Sewers		(6,842)	(2,542)	2,450	6,500	2,300					1,866	7,500	9,366
Total Previously Approved		(321,933)	136,452	151,871	148,834	31,019	67,865	(33,861)	(91,830)	37,543	125,960	1,247,679	1,373,639
Total New													
Total Changes		(321,933)	136,452	151,871	148,834	31,019	67,865	(33,861)	(91,830)	37,543	125,960	1,247,679	1,373,639

Significant Capital Project Changes in Toronto Water:

Cash flow funding for the following previously approved capital projects have been adjusted based on historical spend rates, thereby accommodated capacity to spend, reflecting the expected progress and completion of the projects, and updated costs, as outlined below.

Increases in Previous Approved Project Costs:

The following Toronto Water capital projects have been allocated increased funding:

- *The Watermain Replacement project* has increased funding of \$22.324 million or 2.1%, from \$1.046 billion to reflect increases in unit rates for linear infrastructure replacement.
- The allocation for *the Island Water Treatment Plant project* has increased by \$18.469 million or 27.9% from \$66.126 million in capital funding during the nine common years of the 2017 – 2026 Approved Capital Plan to upgrade the power supply to the plant to support planned facility upgrades and reflect a revised estimate for the Residuals Management Facility – Dewatering project.
- Funding for *New Service Connection projects* has been increased by \$23.948 million or 7.4% from \$323.2 million to provide the necessary servicing capacity based on projected population growth and for the installation of service connections for new homes and developments.
- *The Ashbridges Bay Wastewater Treatment Plant project* costs have increased by \$216.308 million or 12.1% from \$1.789 billion to reflect updated cost estimates based on progression of pre-design or detailed design for

the following projects: Disinfection System construction, Integrated Pumping Station construction and Waste Activated Sludge construction.

- Increased funding of \$57.581 or 10.6% from \$544.232 million has been allocated to *the Trunk Sewers and Pumping Station projects*.
- Additional funding of \$50.946 million or 9.2% from \$554.430 is required for *the Sewer System Rehabilitation projects* to reflect expanded use of trenchless rehabilitation for infrastructure renewal.
- *The Watermain Rehabilitation project* has been allocated additional funding of \$28.432 million or 4.5%, from \$638.778 million to reflect expanded use of trenchless rehabilitation for infrastructure renewal.
- *The Highland Creek Wastewater Treatment Plant* project costs have increased by \$27.810 million or 5.7% from \$489.916 million.
- Increased funding totalling \$85.705 has been allocated to a number of other projects including *Transmission Pumping Stations, New Sewers, Sewer Replacement, RC Harris and FJ Horgan Water Treatment Plant projects and Linear Infrastructure Engineering projects*.

Deferral/ Reductions in Previously Approved Capital Projects:

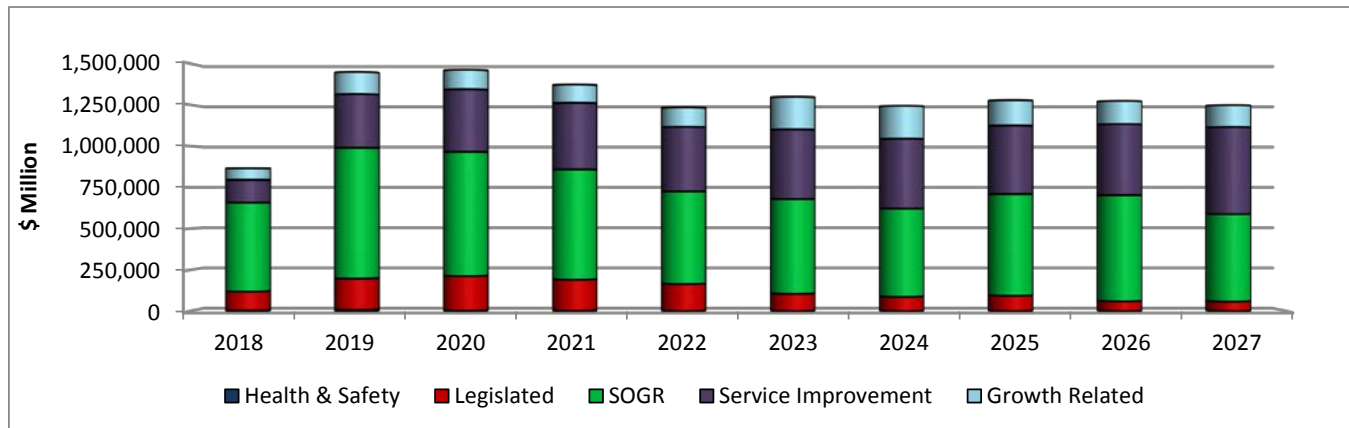
Significant reductions in capital expenditures have been made due to the escalation in unit rate prices for linear infrastructure replacement, as well as the anticipated continuing decline in water consumption which has resulted in a need to defer/delay a number of capital projects over the 10 year planning horizon as follows:

- A decrease in funding of \$34.041 million or 13.2% from \$257.602 million is anticipated for *Water Treatment capital projects plantwide* for construction of UV Disinfection facilities at each of the water treatment plants.
- Some of *the Basement Flooding projects* have been deferred or reduced by \$146.528 million or 9.9% from \$1.478 billion in the realignment of program delivery timelines, and to undertake additional flow monitoring, modelling and design to ensure the timing of proposed projects.
- The funding allocation for *Trunk Watermain projects* has been reduced by \$105.334 million or 25.7%, from \$409.203 million to reflect updates in program delivery timelines.
- *The Wet Weather Flow Stream Restoration and Implementation* project funding (except for TRCA erosion control projects) has been reduced by \$105.522 million or 8.1% from \$1.310 billion as the Don & Waterfront Trunk/CSO Construction – Phase 2 project was deferred post the 10-year planning period to accommodate other Don and Central Waterfront projects including the High Rate Treatment Facility and the bundling of construction projects related to an offline storage tank and connection points to the Coxwell trunk sewer.
- Funding totalling \$15.7 million or 5.5% of \$286.246 million has been reduced to reflect lower costs for *Water Treatment and Storage projects*.
- *The Water Service Replacement project* has decreased funding of \$19.397 million or 4.7%, from \$412.999 million reflecting estimated volume of priority and planned water service replacement.
- *Yards and Facility projects* have been decreased by \$3.756 million or 8.2% from \$45.786 million due to a deferral of the Lab & EMP Facilities project.
- Decrease in costs totalling \$7.265 million for several projects including *RL Clark Water Treatment Plant, Automated Meter Reader (AMR), Business & Technology projects and Water Efficiency Plan*.

Over the 2018-2027 planning period, there are also cashflow changes that reflect updated project schedules for and realignment of projects between different program areas.

2018 – 2027 Recommended Capital Plan

Chart 2
2018 – 2027 Recommended Capital (In \$000s) Plan by Project Category



As illustrated in Chart 2 above, the 10-Year Recommended Capital Plan for Toronto Water of \$12.724 billion focuses funding on State of Good Repair (SOGR) projects (including Health and Safety and Legislated projects), which represent 58.9% of total funding over the 10-year period. Service Improvement and Growth Related Projects account for the remaining funding allocations of 30.3% and 10.8% respectively.

- Health and Safety projects represent approximately 0.1% or \$16.223 million. Funding is allocated within the first 5 years of the 10-Year Capital Plan period in order to improve the safety and upgrade electrical systems at Ashbridges Bay, Humber and North Toronto wastewater treatment plants.
- Legislated projects account for 10.2% or \$1.269 billion of total funding. These projects are required to comply with existing and emerging provincial and federal legislation. Funding for Legislative projects is expected to increase in future years as regulations governing water supply and wastewater treatment continue to become more stringent.
- State of Good Repair projects continue at stable levels with an average annual investment of about \$621 million over the 10 year period in order to ensure the continued reduction of Toronto Water's infrastructure renewal backlog estimated at \$1.482 billion for the end of 2017.
- Service Improvement projects represent approximately 30.3% or \$3.855 billion of total funding in the 10-Year Capital Plan. Capital funding for these projects increases consistently over the 10 year period, from \$130.927 million in 2018 to \$527.39 million in 2027.
- Growth Related projects constitute about 10.8% or \$1.374 billion of the total. Funding for anticipated growth projects such as new and enhanced watermains and service connections is consistent over the 10-Year Capital Plan period, averaging \$38.815 million per year. However, funding for planned significant standalone projects will vary from year to year based on growth requirements.

The following table provides details by project category within the 2018 – 2027 Recommended Capital Budget and Plan for Toronto Water:

**Table 3
2018 - 2027 Capital Plan by Project Category (In \$000s)**

	Total App'd Cash Flows to Date*	2018 Budget	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	2027 Plan	2018 - 2027 Total	Total Project Cost
Total Expenditures by Category													
Health & Safety													
Ashbridges Bay TP		1,684	5,215	2,063	1,585	31						10,578	
Humber TP		2,219	3,380	23	23							5,645	
Sub-Total		3,903	8,595	2,086	1,608	31						16,223	-
Legislated													
Water Service Replacement		39,863	54,161	41,301	41,301	43,250	43,250	43,250	42,750	41,250	41,250	431,626	
Pumping Stations		3,519	5,883	9,025	8,481	7,090	6,123	4,305	8,700	6,925	6,250	66,301	
WT - Storage & Treatment		100	100									200	
Ashbridges Bay TP		57,631	110,922	129,648	111,475	105,992	55,175	37,716	35,696	65		644,320	
Highland Creek TP		6,549	11,105	14,019	8,532	50	400	1,000	6,500	11,300	10,550	70,005	
Humber TP		2,981	1,000									3,981	
RL Clark TP		2,875	2,750									5,625	
Island TP		1,111	2,800	15,900	18,980	8,250	200	200				47,441	
Sub-Total		114,629	188,721	209,893	188,769	164,632	105,148	86,471	93,646	59,540	58,050	1,269,499	-
State of Good Repair													
Business & Technology		6	160		78	80						324	
Linear Eng		81,966	89,622	79,783	75,594	73,886	75,061	65,894	66,758	75,725	69,487	753,776	
Sewer Rehabilitation		72,097	77,377	70,366	64,043	64,143	63,200	64,100	65,650	64,400	65,950	671,326	
Sewer Replacement		8,970	30,637	22,292	19,536	15,830	15,000	15,000	15,000	15,000	15,000	172,265	
WM Rehabilitation		78,588	75,699	71,284	72,364	73,475	75,300	73,800	73,400	73,300	73,800	741,010	
WM Replacement		41,622	119,020	106,268	106,850	95,253	95,000	95,000	95,000	95,000	95,000	944,013	
Water Service Replacement		1,613	1,613									3,226	
Pumping Stations		4,412	7,769	11,289	2,022	3,760	7,935	7,875	6,815	4,260	3,550	59,687	
Trunk Water Mains		8,197	6,244	3,340	2,100	14,450	25,000	27,400	21,750	25,575	25,525	159,581	
WT - Storage & Treatment		19,991	35,041	57,354	40,205	8,206	9,288	13,150	25,750	35,585	16,830	261,400	
Trunk Sewers & Pumping Stations		45,840	53,998	57,538	71,196	48,301	24,672	15,872	19,515	13,222	6,205	356,359	
Ashbridges Bay TP		88,776	142,292	142,291	131,164	107,266	127,216	100,750	134,794	141,077	69,999	1,185,625	
Highland Creek TP		14,147	51,121	45,999	24,115	12,654	10,140	16,840	23,455	24,890	7,862	231,223	
Humber TP		37,494	48,115	43,722	42,432	23,240	29,889	17,200	38,200	41,210	45,359	366,861	
RL Clark TP		7,425	9,407	4,480	260	235	200	200	200	200	200	22,807	
RC Harris TP		7,872	12,300	7,519	2,247	1,850	1,000	11,150	11,500	11,500	12,550	79,488	228,231
FJ Horgan TP	220,669	1,809	1,724	1,522	825	678	202	200	200	200	200	7,562	
Island TP		7,498	11,094	7,981	382	625	3,275	525	375	525	375	32,655	
WWF-Implementation Projects		7,337	9,050	9,677	3,015	4,586	1,500	4,000	4,000	4,000	6,000	53,165	
WWF - Stream Restoration		2,827	9,548	9,621	8,386	10,729	7,584	4,696	11,541	16,321	14,292	95,545	
Yards & Facility		535	337	767	1,733	1,377	1,485	1,485	1,485	1,485	1,485	12,174	
Sub-Total	220,669	539,022	792,168	753,093	668,547	560,624	572,947	535,139	615,388	643,475	529,669	6,210,072	228,231
Service Improvements													
Water Meter Program (AMR)	246,496	3,030										3,030	249,526
Basement Flooding		43,078	113,279	139,113	153,223	152,216	172,730	175,891	183,651	197,997	211,263	1,542,441	
Business & Technology		7,830	15,060	12,993	11,946	7,584	6,069	4,569	2,714	1,814	1,814	72,393	
Linear Eng		1,765	2,025	3,075	3,175	4,075	7,175	8,975	8,475	7,975	7,975	54,690	
Sewer Replacement		2,483	1,624									4,107	
Pumping Stations		231	512									743	
Trunk Water Mains		699	5,357	4,625	91	92						10,864	
WT - Storage & Treatment		5,927	10,063	3,425	33	14						19,462	
Ashbridges Bay TP		7,331	11,162	12,206	8,323	10,775	2,175	1,250	1,050	21,300	46,865	122,437	
Highland Creek TP		4,635	5,544	10,060	31,126	28,670	32,115	44,000	44,200	33,070	29,100	262,520	
Humber TP		1,676	6,641	7,990	8,974	9,177	7,500					41,958	
RC Harris TP		3,269	7,226	1,558								12,053	
FJ Horgan TP		713	2,108	2,325	1,010							6,156	
Island TP		1,052	1,644	833	695	650						4,874	
WTP-Plantwide		1,425	9,783	29,073	42,990	55,221	44,397	20,832	9,420	10,420	3,375	226,936	
WWF-Implementation Projects		34,706	107,132	127,754	123,806	106,881	134,315	151,381	149,240	140,690	201,470	1,277,375	
WWF-TRCA		13,832	14,791	14,104	14,219	14,337	15,958	16,082	16,209	16,339	16,473	152,344	
Yards & Facility		4,245	10,985	9,580	3,105	1,005	605	605	605	605	9,055	40,395	
Sub-Total	246,496	137,927	324,936	378,714	402,716	390,697	423,039	423,585	415,564	430,210	527,390	3,854,778	249,526
Growth Related													
Linear Eng		252	807	150	150	150	150	150	150	150	150	2,259	
New Connections		34,825	37,323	38,000	38,000	38,000	38,000	41,000	41,000	41,000	41,000	388,148	
New Sewers		7,398	12,688	9,450	7,500	3,300	1,000	6,000	9,000	9,000	7,500	72,836	
WM Replacement		14,474	51,375	34,372	26,433	18,133	18,071	18,040	19,000	19,000	19,000	237,898	
Pumping Stations		4,625	6,411	4,907	3,430	4,265	1,975	10				25,623	
Trunk Water Mains		6,323	20,700	22,710	20,136	18,000	18,300	14,300	20,845	17,635	12,300	171,249	
WT - Storage & Treatment		174	140		1,000	2,000	3,000					6,314	
Trunk Sewers & Pumping Stations		499	1,310	3,000	9,300	28,150	52,400	52,400	52,400	52,200	51,900	303,559	
Ashbridges Bay TP		800	2,500	4,500	4,000	6,300	64,000	66,000	10,350	300	200	158,950	
Highland Creek TP			190	800	500							1,490	
FJ Horgan TP						41						41	
Water Efficiency Plan		370	445	445	445	445	520	520	520	520	520	4,750	
WWF-Implementation Projects			25	25	100	100	100	100	90			540	
Sub-Total		69,740	133,914	118,359	110,994	118,884	197,516	198,520	153,355	139,805	132,570	1,373,657	-
Total Expenditures by Category (excluding carry forward)	467,165	865,221	1,448,334	1,462,145	1,372,634	1,234,868	1,298,650	1,243,715	1,277,953	1,273,030	1,247,679	12,724,229	477,757

*Life to Date approved cash flows will be provided for multi-year capital projects with cash flow approvals prior to 2017, excluding ongoing capital projects.

2018 – 2027 Capital Projects

The 10-Year Recommended Capital Plan supports Toronto Water's objectives by balancing infrastructure renewal needs for State of Good Repair with new Service Improvement projects, while providing the capacity to keep pace with population growth, and ensuring the delivery of water supply and wastewater treatment within an increasingly stringent regulatory framework.

In addition to the state of good repair projects, considerable funding is provided to support the implementation of the Wet Weather Flow Master Plan, Basement Flooding and growth related projects, some of which is to be recovered from Development Charges. Additional financial pressures are also accommodated within the Plan the result of updated cost estimates for engineering services for the Ashbridges Bay Wastewater Treatment Plant upgrades and the addition of the Wet Weather Flow Stream Restoration and Implementation Projects in 2027.

State of Good Repair (SOGR), Health & Safety, and Legislated projects

- The on-going state of good repair projects for linear infrastructure renewal to ensure the replacement or rehabilitation of aging watermains and sewers, and investment in the City's aging wastewater treatment facilities, are the focus of the 2018-2027 Recommended Capital Budget and Plan.
- The 10-Year Capital Plan includes \$7.496 billion or 58.9% of the total funding of \$12.724 billion for new SOGR projects (including Health & Safety and Legislated projects of \$1.286 billion or 10.1%) over the next 10 years.
- The 2018-2027 Recommended Capital Budget and Plan also includes funding of \$644.020 million or 5.1% of the total funding to meet legislated requirements governing the Ashbridges Bay Wastewater Treatment Effluent System. Another \$50.926 million or 0.4% of the total is allocated to legislated odour control projects at Highland Creek and Humber wastewater treatment plants.
- State of Good Repair funding included in the 10-Year Recommended Capital Plan is intended to address Toronto Water's SOGR backlog, estimated at \$1.482 billion by year-end 2017, with the backlog projected to be effectively eliminated by year-end 2027, provided current funding allocations for State of Good Repair projects are maintained over the next 10 years.
- Adjustments to project costing rates to align with market experience calculated through the bidding process, will require that the SOGR estimate be regularly updated.
- It should be noted that Toronto Water is developing a strategy to implement harmonized asset management planning across its linear and vertical infrastructure in response to multiple pressures driving capital investments. The review is currently on-going, with recommendations for an implementation plan is expected to be completed in 2017.

Service Improvements

- Service Improvement projects totaling \$3.855 billion or 30.3% of total funding over the 10-year period, some of which is recovered from Development Charges.
 - Approximately \$1.542 billion or 12.1% has been allocated to implement the Basement Flooding Protection projects in 67 chronic basement flooding areas across the City.
- Funding is also included for the implementation of other water quality improvement projects from the City's Wet Weather Flow Master Plan to reduce and ultimately eliminate the adverse impacts of polluted stormwater and combined sewer overflows (CSOs) that are discharged from outfalls to the City's watercourses and the waterfront. These projects will achieve a measurable improvement in ecosystem health of the City's watersheds and waterfront, and improved water quality along the City's waterfront beaches and include:
 - The Don River and Waterfront Trunk / Combined Sewer Outfall (CSO) project with allocated funding of \$1.006 billion or 7.9% of the total.

- The Stormwater Management End of Pipe Facilities projects totalling \$211.222 million or 1.7% of total capital funding which are intended to address most of the storm sewer discharges to the waterfront and all but 9 of the 69 combined sewer overflow discharges in the City.
- Approximately \$152.344 million or 1.2% is included in the 10-Year Capital Plan in funding contributions to the TRCA for stream restoration and erosion control projects.
- Another \$261.069 million or 2.1% has been allocated to the Highland Creek Waste Water Treatment Plant upgrades and biosolids and gas handling projects implementation.
- Toronto Water also allocated \$72.393 million to the Business and Technology projects to upgrade reliability and connectivity of its water and wastewater treatment plant systems. This includes funding of \$5.930 million for the Enterprise Work Management System, a corporate initiative that will replace several legacy software applications with an enterprise solution in order to improve the coordination of daily maintenance activities across the four largest divisions, Parks, Forestry and Recreation, Solid Waste Management, Toronto Water and Transportation Services.

Growth Related

- Growth Related projects account for \$1.374 billion or 10.8% of the 10-Year Capital Plan's funding allocation.
- The largest projects in this category are the Trunk Watermain Expansion and Upgrade projects that will increase the hydraulic capacity in the Toronto Water supply system. Many of these projects are cost shared with the Region of York.
- The 2018-2027 Recommended Capital Budget and Plan allocates funding for the New Sewer Construction (\$63.058 million) and Trunk Sewer and Pumping Station projects (\$188.786 million), as well as New Service Connections (\$388.148 million) and Trunk Watermains (\$171.249 million) to provide the necessary servicing capacity based on projected population growth and for the installation of service connections for new homes and developments. It also allocates funding to construct 2 new aeration tanks at the Ashbridges Bay Treatment Plant (\$157.150 million).

2018 Recommended Capital Budget and Future Year Commitments

Included as a sub-set of the 10-Year Capital Plan is the 2018 Recommended Capital Budget and Future Year Commitments, that consists of 2018 and future year cash flow for projects previously approved by Council; adjustments (Scope Change) to those previously approved projects; as well as new projects that collectively require Council approval to begin, continue or complete capital work.

- Table 3a on the following page lists the 2018 Recommended Capital Budget and Future Year Commitments for Toronto Water:

Table 3a
2018 Cash Flow & Future Year Commitments (In \$000s)

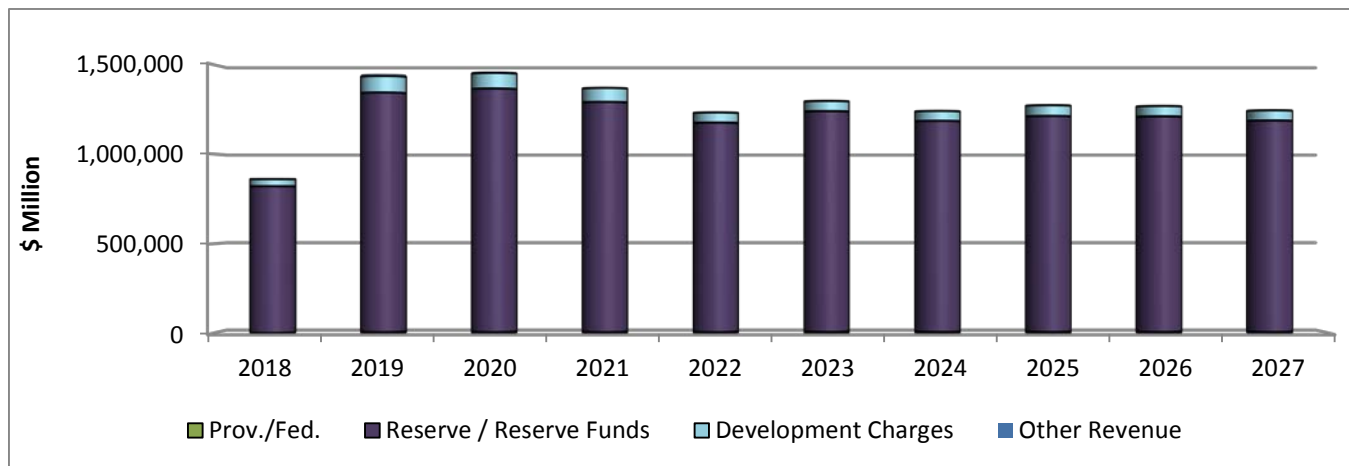
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total 2018 Cash Flow & FY Commits
Expenditures:											
Previously Approved											
Water Meter Program (AMR)	3,180	500	346								4,026
Basement Flooding	97,374	116,125	128,379	149,370	167,801	179,791	167,530	160,518	100		1,166,988
Business & Technology	21,767	16,620	12,168	1,471	460	350					52,836
Linear Eng	58,936	43,941	26,163	9,463	4,864	3,489	1,839	1,295	3,139		153,129
New Connections	35,200										35,200
New Sewers	13,240	12,230	5,000								30,470
Sewer Rehabilitation	64,633	24,236	1,736	1,700	1,700	150					94,155
Sewer Replacement	13,103	3,218	1,916	1,916							20,153
WM Rehabilitation	61,766	24,590	9,577	4,575	450	30	27				101,015
WM Replacement	47,057	22,789	10,129	2,306	33	73	40				82,427
Water Service Replacement	36,049	15,450	2,200								53,699
Pumping Stations	22,707	21,628	10,203	7,509	4,390	3,098	50				69,585
Trunk Water Mains	25,586	16,433	10,380	252	92						52,743
WT - Storage & Treatment	40,040	33,530	13,976	3,932	881	1,267	1,000	700	350		95,676
Trunk Sewers & Pumping Station	56,768	33,288	31,616	29,945	20,083	7,089	850	33	26		179,698
Ashbridges Bay TP	197,206	245,186	189,512	133,594	93,778	89,254	71,647	68,888	77,883		1,166,948
Highland Creek TP	40,849	51,806	37,559	21,273	6,449	5,200	7,430	5,200	11,950		187,716
Humber TP	82,234	52,181	50,595	34,249	27,920	10,650	2,300	394			260,523
RL Clark TP	12,630	11,252	4,454	60	35						28,431
RC Harris TP	23,335	6,706	767	213	150						31,171
FJ Horgan TP	4,180	2,480	237	20	49						6,966
Island TP	11,754	10,151	18,072	14,850	6,200	75	25				61,127
WTP-Plantwide	3,594	2,429	2,971	1,850	1,098	925	530	500	400		14,297
Water Efficiency Plan	520	520	35								1,075
WWF-Implementation Projects	24,765	35,034	42,030	19,840	19,286	17,765	27,061	6,600			192,381
WWF-TRCA	1,000	350									1,350
WWF - Stream Restoration	8,319	7,015	4,060	3,515	2,035	1,485	310	295	120		27,154
Yards & Facility	4,225	2,108	2,209	858							9,400
Subtotal	1,012,017	811,796	616,290	442,761	357,754	320,691	280,639	244,423	93,968		4,180,339
Change in Scope											
Water Meter Program (AMR)	(150)	(500)	(346)								(996)
Basement Flooding	(54,296)	(2,927)	10,051	(8,033)	(28,899)	(23,403)	(20,260)	(12,518)	91,965	15,300	(33,020)
Business & Technology	(13,931)	(3,200)	(505)	7,872	3,270	2,825	1,800				(1,869)
Linear Eng	22,150	14,153	11,444	8,271	9,881	3,511	590	(590)	(1,000)		68,410
New Connections	(375)	12,323									11,948
New Sewers	(6,842)	(1,542)	3,450	6,500	2,300						3,866
Sewer Rehabilitation	7,464	51,141	34,780	6,543	5,743	(150)					105,521
Sewer Replacement	(7,131)	5,436	110		800						(785)
WM Rehabilitation	16,637	48,434	9,517	(4,336)	(275)	(30)	(27)				69,920
WM Replacement	(38,865)	14,660	5,116	5,295	228	(2)					(13,568)
Water Service Replacement	(1,573)	20,324	6,701	2,001							27,453
Pumping Stations	(10,295)	(1,978)	10,838	(2,026)		500	5				(2,956)
Trunk Water Mains	(10,767)	14,868	16,095	2,525	250						22,971
WT - Storage & Treatment	(14,198)	4,464	10,053	6,781	(66)	(1,219)	(1,000)	(700)	(350)		3,765
Trunk Sewers & Pumping Station	(10,429)	20,770	25,872	41,201	19,693	2,268	(708)	(33)	(26)		98,608
Ashbridges Bay TP	(46,227)	(7,145)	42,096	48,978	44,036	14,397	1,079	3,362	(4,356)	10,384	106,604
Highland Creek TP	(15,528)	16,084	30,319	18,000	9,925	(445)	(1,090)	6,955	(410)	1,362	65,172
Humber TP	(38,914)	555	(6,860)	9,530	(2,053)	21,139	8,600	4,506	4,910	3,009	4,422
RL Clark TP	(2,330)	905	26	200	200						(999)
RC Harris TP	(12,244)	10,670	6,160	2,034	1,100						7,720
FJ Horgan TP	(1,658)	1,252	2,935	1,240	195						3,964
Island TP	(2,093)	5,387	6,492	5,207	3,075	125	175				18,368
WTP-Plantwide	(2,239)	2,079	1,897	3,270	1,783	22	202	(450)	(400)		6,164
Water Efficiency Plan	(150)	(75)	410	445	445						1,075
WWF-Implementation Projects	(7,022)	(2,787)	4,416	10,521	(3,929)	(11,700)	(20,050)	(1,260)	9,600	33,200	10,989
WWF-TRCA	12,832	450									13,282
WWF - Stream Restoration	(5,492)	28	1,660	701	(97)	(272)	160	(115)	(15)	70	(3,372)
Yards & Facility	(1,649)	477	516	1,642	400						1,386
Subtotal	(245,315)	224,306	233,243	174,362	68,005	7,566	(30,524)	(843)	99,918	63,325	594,043

Table 3a
2018 Cash Flow & Future Year Commitments (In \$000s) – Continued

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total 2018 Cash Flow & FY Commits
New w/Future Year											
Linear Eng	2,897										2,897
New Sewers	1,000	2,000	1,000								4,000
Sewer Replacement	5,481	5,225	3,839	129	30						14,704
WM Rehabilitation	185	1,675	640	75							2,575
WM Replacement	47,904	53,731	14,611	928							117,174
Water Service Replacement	7,000	10,000	3,000								20,000
Pumping Stations	375	925	3,925	6,975	7,365	4,175	3,110	100			26,950
Trunk Water Mains	400	1,000	1,100	1,700	700	700	700	245	35		6,580
WT - Storage & Treatment	350	5,000	17,200	11,750	5,250	5,250	2,650	25			47,475
Ashbridges Bay TP	5,243	30,100	52,000	57,000	62,000	52,000	35,000	34,000			327,343
Highland Creek TP	10	70	3,000	25,000	25,000	25,000	15,000	7,000	6,920		107,000
Humber TP	1,050	6,400	8,000	7,500	5,550	3,000					31,500
RC Harris TP	50	1,150	1,000								2,200
WTP-Plantwide	70	375	305								750
WWF-Implementation Projects	24,300	82,850	85,000	85,000	85,000	85,000	62,500				509,650
Yards & Facility	2,204	8,737	6,492	458	102	210	210	210	210	8,660	27,493
Subtotal	98,519	209,238	201,112	196,515	190,997	175,335	119,170	41,580	7,165	8,660	1,248,291
Total Expenditure	865,221	1,245,340	1,050,645	813,638	616,756	503,592	369,285	285,160	201,051	71,985	6,022,673
Financing:											
Reserves/Res Funds	820,371	1,159,991	980,419	770,164	590,355	485,375	357,248	280,770	199,346	69,000	5,713,039
Development Charges	39,885	73,953	62,252	41,392	25,302	17,544	11,575	4,375	1,705	2,985	280,968
Other (Region of York)	4,965	11,396	7,974	2,082	1,099	673	462	15			28,666
Total Financing	865,221	1,245,340	1,050,645	813,638	616,756	503,592	369,285	285,160	201,051	71,985	6,022,673

- Approval of the 2018 Recommended Capital Budget of \$865.221 million will result in future year funding commitments of \$1.245 billion in 2019, \$1.051 billion in 2020, \$813.638 million in 2021, \$616.756 million in 2022, \$503.592 million in 2023; \$369.285 million in 2024, \$285.160 million in 2025, \$201.051 million in 2026, and \$71.985 million in 2027, for a total of \$6.023 billion.

Chart 3
2018 – 2027 Recommended Capital Plan by Funding Source (In \$000s)

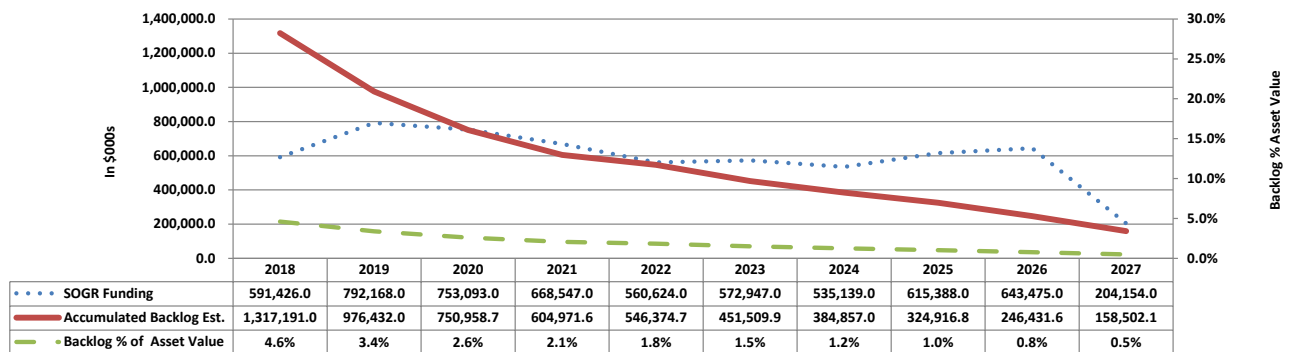


- Over the 10-year planning horizon, Toronto Water's Capital Plan continues to be 100% funded and does not require debenture financing.
- The 10-Year Recommended Capital Plan of \$12.724 billion will be funded primarily from the Program's reserves, representing approximately 94% or \$11.993 billion of total capital financing.
 - Capital funding from Toronto Water reserves increases from \$820.371 million in 2018 to \$1.362 billion in 2020. This increase in reserve funding coincides with the implementation schedules for large capital projects such as the Ashbridges Bay Waste Water Treatment Plant disinfection and outfall construction projects, the Highland Creek Biosolids project and Basement Flooding Protection projects.

- The 10-Year Capital Plan is based on planned water rate increases of 5% in 2018, and 3% thereafter.
- Development Charges (DC) provide approximately 5% or \$641.146 million of financing included the 10-Year Capital Plan. The use of Development Charge funding has been maximized based on project eligibility.
 - Due to insufficient funding collected from Development Charges, Toronto Water will not be able to fully offset the costs of the growth related share for projects that are eligible for development charge funding incorporated in its 10-Year Capital Plan.
 - Approximately \$200.0 million in project costs related to the growth component will be funded from Toronto Water's capital financing reserves, thus reducing Toronto Water's ability to address its SOGR backlog of projects at a faster rate.
 - It is anticipated that a new Development Charges Background Study (currently in review) will address some of the funding requirements resulting from significant growth the City of Toronto has been experiencing in recent years, with many landowners submitting development applications requesting amendments to the zoning by-law to increase the permitted density.
 - The increase in Development Charge funding will assist Toronto Water in maintaining a positive reserve balance, while accommodating increased capital funding needs of its SOGR program.
- Other financing sources include funding of \$40.223 million from Region of York for cost sharing projects and Federal/Provincial Grant funding of \$50.0 million, totalling approximately 0.3% and 0.4% of the total respectively.

State of Good Repair (SOGR) Backlog

**Chart 4
SOGR Funding & Backlog (In \$000s)**



- By the end of 2017, the replacement value of Toronto Water's assets is estimated at \$28.561 billion incorporating both linear (watermains, sewers) and facility/plant (water treatment plants, wastewater treatment plants, pumping stations) assets.
 - Linear infrastructure assets represent approximately 74% of the total asset value at \$21.250 billion.
 - Facility/plant assets account for the remaining 26% or \$7.310 billion.
- The 2017 year-end backlog of state of good repair work for linear and plant infrastructure renewal is projected at \$1.482 billion, representing 5.2% of the asset replacement value. Approximately 53% or \$0.790 billion of the backlog relates to linear infrastructure, with the remaining 47% or \$0.692 billion representing facilities.
- The linear infrastructure and facilities State of Good Repair backlog and annual renewal need estimates have been periodically updated to reflect changes in unit rates for replacement and the changing condition of the asset.

- The 10-Year Capital Budget and Plan dedicates \$6.210 billion or \$621 million on average annually, to address state of good repair, which is anticipated to effectively eliminate the backlog by 2027.

Table 4
SOGR Backlog by Asset Category (In \$000s)

Total	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
State of Good Repair Funding	591,426	792,168	753,093	668,547	560,624	572,947	535,139	615,388	643,475	204,154
Accumulated Backlog Est. (yr-end)	1,317,191	976,432	750,959	604,972	546,375	451,510	384,857	324,917	246,432	158,502
Backlog %Asset Value	4.6%	3.4%	2.6%	2.1%	1.8%	1.5%	1.2%	1.0%	0.8%	0.5%
Asset Value	28,639,709	28,800,326	28,981,642	29,187,663	29,795,095	30,048,744	30,998,468	31,557,410	32,230,064	33,083,310
Plants										
State of Good Repair Funding	210,369	318,769	315,585	244,513	158,541	185,480	164,777	238,174	256,707	818
Accumulated Backlog Est. (yr-end)	623,112	445,877	271,826	168,847	151,841	107,895	84,652	84,652	84,652	71,301
Backlog %Asset Value	8.5%	6.1%	3.7%	2.3%	1.9%	1.4%	1.1%	1.0%	0.9%	0.8%
Asset Value	7,311,698	7,335,765	7,376,120	7,376,120	7,801,582	7,854,465	8,008,628	8,387,919	8,929,996	9,421,156
Linear Infrastructure										
State of Good Repair Funding	381,057	473,399	437,508	424,034	402,083	387,467	370,362	377,214	386,768	203,336
Accumulated Backlog Est. (yr-end)	694,079	530,555	479,133	436,124	394,534	343,615	300,205	240,265	161,779	87,201
Backlog %Asset Value	3.3%	2.5%	2.2%	2.0%	1.8%	1.5%	1.3%	1.0%	0.7%	0.4%
Asset Value	21,328,011	21,464,561	21,605,522	21,811,543	21,993,513	22,194,279	22,989,840	23,169,491	23,300,068	23,662,154

- While both categories of assets have historically received funding for state of good repair projects, the accumulated backlog of projects for linear infrastructure has been addressed at a higher rate, resulting in a proportionally lower backlog representing 3.7% of its replacement value at the end of 2017, compared to 9.5% for facilities.
- Additional condition assessments of infrastructure continue to be undertaken based on asset classes through discrete projects. The condition assessment of booster pumping stations and sewer pipes was completed in 2014 and has resulted in the addition of a pumping station rehabilitation plan to Toronto Water's 10 year Capital Plan in 2015.
- Condition assessments of sewage pumping stations continue to be undertaken on a prioritized basis and a facility condition assessment is being undertaken and is expected to be completed in 2018.
 - New methods for inspection of pressurized pipe are being explored to assess condition of assets without taking the pipes out of service during the inspection.
- In addition to condition assessments, Toronto Water is also undertaking a review to define its requirements to develop an integrated Asset Management Solution. This review is expected to be completed in 2017. The integrated Asset Management solution will support further development of its Asset Management Plans.
- It should be noted that continued trend of higher unit rates for linear infrastructure replacement projects may impact negatively on the state of good repair backlog for infrastructure renewal.
- Escalating unit rates for linear infrastructure replacement, due to additional funding requirement for those projects, have already resulted in a deferral of some previously planned capital projects by 1 to 5 years, to align with the funding availability projected by the Water and Wastewater Rate Model. Toronto Water has also modified the infrastructure renewal strategy to expand the use of trenchless rehabilitation to reduce the state of good repair backlog.

10-Year Capital Plan: Net Operating Budget Impact

Table 5
Net Operating Impact Summary (In \$000s)

Projects	2018 Budget		2019 Plan		2020 Plan		2021 Plan		2022 Plan		2018 - 2022		2018 - 2027	
	\$000s	Positions	\$000s	Positions	\$000s	Positions	\$000s	Positions	\$000s	Positions	\$000s	Positions	\$000s	Positions
Previously Approved														
Ashbridges Bay WWTP - Ferrous Upgrades	(180.0)										(180.0)		(180.0)	
Ashbridges Bay WWTP - D Building Phase 2									165.0		165.0		165.0	
Basement Flooding Relief - Tunnel Project							100.0				100.0		100.0	
Basement Flooding Relief - Group 2			206.0	2.0	87.2	1.0					293.2	3.0	293.2	3.0
Laboratory Equipment (Warranty Expiry)			25.0		35.0		15.0		50.0		125.0		175.0	
Highland Creek WWTP - Odour Control			100.0								100.0		100.0	
Ashbridges Bay WWTP - Service Air Upgrades	50.0										50.0		50.0	
CCTV Inspection	15.0										15.0		15.0	
Sewer Replacement Program - Waterfront Stormwater Infrastructure			160.6	2.0	76.2	1.0					236.8	3.0	236.8	3.0
Highland Creek WWTP - Proces & Facility Upgrades			5.0								5.0		5.0	
Highland Creek WWTP - Communication Systems			10.0								10.0		10.0	
Humber Treatment WWTP - New Substation	105.0	1.0									105.0	1.0	105.0	1.0
Ashbridges Bay WWTP - Liquid Treatment & Handling - Primary Treatment Upgrade	825.0		200.0	1.0	100.0	1.0	100.0				1,225.0	2.0	1,225.0	2.0
Ashbridges Bay WWTP - Liquid Treatment & Handling - Waste Activated Sludge Upgrade	620.0				(620.0)				1,700.0		1,700.0		1,700.0	
Ashbridges Bay WWTP - O & M Upgrades			161.9		(12.0)						149.9		149.9	
Ashbridges Bay WWTP - Odour Control - Biofilters Upgrade	100.0										100.0		100.0	
Island WTP - Chemical & Residuals Management	(39.0)		-		99.9	1.0					60.9	1.0	60.9	1.0
Water Treatment Plantwide - UV Desinfection							120.0		288.0		408.0		408.0	
SWM End of Pipe Facilities - Etobicoke							50.0				50.0		50.0	
Wet Weather Flow Master Plan			115.0				50.0				165.0		165.0	
Ashbridges Bay WWTP - Desinfection System Construction					712.1	2.0	413.0				1,125.1	2.0	1,125.1	2.0
Ashbridges Bay WWTP - Liquid Treatment & Handling - Integrated Pumping Station													1,000.0	
New Projects - Future Years														
Humber WTP - Odour Control Engineering					550.0						550.0		550.0	
North Toronto WTP - Treatment Plant Improvements					466.0						466.0		466.0	
Total (Net)	1,496.0	1.0	983.5	5.0	1,494.4	6.0	848.0		2,203.0		7,024.9	12.0	8,074.9	12.0

The 10-Year Recommended Capital Plan will increase future year Operating Budgets by a total of \$8.075 million net over the 2018 – 2027 period, as shown in the table above.

This is comprised of funding to sustain the operating costs of the following capital projects, once completed:

- Year 2018: An increase in operating costs for salaries, benefits, chemicals, energy, utilities, and contracted services from previously approved projects at the Ashbridges Bay Wastewater and Humber Wastewater Treatment plants (\$1.715 million) will be offset by savings in materials from the implementation of facility upgrades at the Ashbridges Wastewater Treatment Plant and Island Water Treatment Plant (\$0.219million), resulting in a net increase of \$1.496 million.
 - One position is required for the new substation at the Humber River Wastewater Treatment Plant.

- Year 2019: An increase in operating costs in the amount of \$0.984 million mostly due to the operating impact of capital projects at Ashbridges Bay Wastewater Treatment Plant, the Highland Creek Wastewater Treatment Plant odour control project, the Water Quality Master Plan's taste and odour projects, the Waterfront/ East Bayfront sewer replacement projects and various Basement Flooding projects.
 - 2 new positions each will be needed to maintain new infrastructure resulting from the Waterfront/East Bayfront sewer replacement projects and Basement Flooding Program projects. Another position is required for primary treatment and other operating upgrades at Ashbridges Wastewater Treatment Plant, for a total of 5 new positions.
- Year 2020: Additional operating costs of \$2.126 million are anticipated from the implementation of the Ashbridges Bay disinfection and primary treatment upgrades, Humber Wastewater Treatment Plant odour control project and improvements at North Toronto Wastewater Treatment Plant, as well as the Island Water Treatment Plant chemicals and residual management. These costs will be partially offset by savings from implementation of liquid treatment capital projects and other upgrades at Ashbridges Bay Wastewater Plant (\$0.632 million), resulting in a net increase of \$1.494 million.
 - 3 new positions will be required to maintain new infrastructure resulting from Ashbridges Wastewater Treatment Plant capital projects (disinfection system and liquid treatment and handling). An additional one position each will be needed to maintain new infrastructure resulting from the Waterfront/East Bayfront sewer replacement projects, Basement Flooding Program projects and Island Water Treatment Plant chemical and residual management facility, for a total of 6 new positions.
- Years: 2021 to 2025. The operating cost increase of \$4.101 million is comprised of funding to sustain variety of capital projects as presented in the table above. There will be no need for additional positions.

These future operating impacts will be reviewed each year as part of the annual Operating Budget process.

Table 6
Capital Project Delivery: New Temporary Positions

Project Name	CAPTOR Project Number	Position Title	# of Positions	Project Delivery		Salary and Benefits \$ Amount(\$000s)					
				Start Date	End Date (m/d/yr)*	2018	2019	2020	2021	2022	2023 - 2027
<i>Enterprise Work Management System</i>	WAT907946	Senior Systems Integrator	1.0	01/01/2018	31/12/2023	116.1	117.6	117.6	117.6	117.6	117.6
<i>Scarborough Subway Extension</i>	TTC Capital Program	Senior Engineer	1.0	01/01/2018	31/12/2022	136.4	138.1	138.1	138.1	138.1	
<i>Scarborough Subway Extension</i>	TTC Capital Program	Engineer Water	1.0	01/01/2018	31/12/2022	117.5	119.0	119.0	119.0	119.0	
<i>Scarborough Subway Extension</i>	TTC Capital Program	Maintenance Worker 2 Water	1.0	01/01/2019	31/12/2022		77.3	77.3	77.3	77.3	
<i>Scarborough Subway Extension</i>	TTC Capital Program	Maintenance Worker 3	1.0	01/01/2019	31/12/2022		69.8	69.8	69.8	69.8	
Total			5.0			370.0	521.7	521.7	521.7	521.7	117.6

* End dates and salary/benefit information beyond 2022 subject to review during the 2019 Budget Process.

Approval of the 2018 – 2027 Recommended Capital Budget and Plan will result in a requirement for 5 new temporary capital project delivery positions to implement the following projects:

- *Enterprise Work Management System* – A Senior Systems Integrator position at cost of \$0.116 million (\$0.118 million from 2019 forward) will be supporting the Enterprise Work Management System, a corporate initiative that will replace several legacy software applications with an enterprise solution in order to improve the coordination of daily maintenance activities across the four largest divisions, Parks, Forestry and Recreation, Solid Waste Management, Toronto Water and Transportation Services.

- *Scarborough Subway Extension* – 2 positions, a Senior Engineer position and an Engineer position, are required in 2018 (\$0.254 million). Another 2 Water Maintenance Worker positions will be added in 2019 (0.148 million), for a total of 4 positions (\$0.401 million). These positions will undertake reviews and address water infrastructure related issues on the Scarborough Subway Extension project. These positions are to be fully funded by TTC.

It is recommended that Council approve these new 3 temporary capital positions for the delivery of the above capital projects / sub-projects in 2018 and that the duration for each temporary position not exceed the life of the funding of its respective capital projects / sub-projects.



Part 2: Issues for Discussion

Issues for Discussion

Issues Impacting the 2018 Capital Budget

2018 Water Consumption Forecast

- Over the last ten years, water consumption has continued to decline, despite population growth. Besides weather conditions, the decline in water consumption is attributed to water efficiency measures and economic factors. Toronto's water consumption has declined from 374 in 2005 to 327 million cubic metres at the end of 2015.
- In 2016 and 2017, water consumption levels have been impacted by extreme swings in precipitation.
 - Although 2016 water consumption was projected to decline further due to unexpectedly dry and warm summer weather conditions, actual water consumption exceeded 2015 actual consumption by almost 2%. This was the first year in over a decade with an increase in water consumption.
 - In contrast, available billing data to the end of August 2017, shows a significant drop in actual water consumption compared to the same period of 2016, as a result of a cooler, wet spring and summer, with record breaking rainfall experienced during the first 5 months. The summer consumption in 2017 was the lowest in the summer months over the last 10 years - 3% lower than in 2015 and 7% lower than in 2016.
- In order to mitigate the impact of irregular weather patterns that occurred in 2016 and 2017, the water consumption projections are based on the 2015 actual consumption. The 2017 projected year-end consumption is estimated at 320 million cubic metres or 2.5% below 2015 actual consumption and 1.2% lower than budgeted consumption, applying a 0.5% decrease a year.
- Similar to previous years, the 2018 Water and Waste Water Model continues to assume that the 2018 and future year water consumption (2019-2027) will continue to decline at a moderate annual rate of 0.5%:
- Given the above, uncertainty in revenues from the sale of water continues to be a challenge for Toronto Water, especially given that a 1% variance in water consumption estimates would have an \$11.6 million impact on anticipated annual sale of water revenues.

Water Rate Increases & Reserve Balances

- Council, as part of the 2015 Budget process, approved the direction that for planning purposes the 10-Year Capital Plan be based on 8% water and wastewater consumption rate increases for 2015 and 2016, followed by successive 5% increases in 2017 and 2018, and 3% thereafter, in order to reinstate approximately \$1 billion in capital funding lost from a systematic decline in consumption, and to fund emerging projects.
- For 2018, Toronto Water's 10 Year Capital Plan has been updated to enable it to deliver on key priorities, while also addressing emerging service improvement projects. In order to provide the necessary revenue stream for the 2018-2027 Recommended Capital Budget and Plan and in accordance with the Council decision from 2015, the following rate increases are incorporated in the 2018 Water and Wastewater Rate Model:
 - 5% in 2018.
 - 3% from 2019 to 2027.
- The following should be noted:

- Based on the above water consumption and water and wastewater rates, sufficient revenues will be generated to fund the 2018-2027 Capital Budget and Plan, leaving a positive capital financing reserve balance of \$83.4 million at the end of the 10-year period.
- Unit rate pricing for linear infrastructure replacement has escalated in recent years, requiring additional funding to cover these increased project costs. As a result, the Program has deferred some previously planned capital projects by 1 to 5 years, to align with the Water and Wastewater Rate Model financial projections of available rate funding. This trend, if it continues, will not only significantly impact the state of good repair backlog for infrastructure renewal, but possibly create funding pressures in future years.
- Toronto Water's 10-Year Capital Plan includes forecasted funding for the expanded TRCA Watercourse Erosion Control project for a total of \$75.0 million to be spent between 2019 and 2027. It is assumed that 2/3 (\$50.0 million) will be funded by other orders of government. This funding has yet to be secured.
- The 10-Year Capital Plan does not include any funding for unmet need projects identified by TRCA during the 2018 Budget process.
- Should any of the above funding be added to the 10-Year Capital Plan, the 2027 year-end capital financing reserve fund balance would be significantly reduced, if not depleted.
- Also, based on the fact that the reserve balance decreases to approximately \$14.9 million in 2025, as some of the largest multi-year projects are nearing completion, any further decline in water consumption would require an adjustment to the 10-Year Capital Plan's projects.

Issues Impacting the 10-Year Capital Plan

Review of Capital Projects and Spending

- Toronto Water's spending capacity over the previous five years, from 2012 to 2016, averaged \$565.028 million or 81.5% for a capital budget of \$693.588 million. The above average spending rate of 95.3% and 83.5% were achieved in 2014 and 2015 respectively.
- The 2018 Capital Budget request of \$964.089 billion (including carry forward funding of \$98.868 million) is higher than the historic 5-year average budget (\$693.588 million) by approximately 40%. This request is 15% higher than the 2017 Capital Budget of \$843.531 million.
- Combined with the City-wide road maintenance and utility excavation and cut repair capital work over the next ten years, as well as industry's limited capacity to deliver projects across the City, Toronto Water will be facing significant challenges to achieve high spending rates and/or deliver projects as planned, not only in 2018, but even more so in future years as Toronto Water's capital program and annual cash flows increases to implement some large upgrade projects at Ashbridges Bay Wastewater Treatment Plant and other facilities.

Stage Gating

- Stage gating for project delivery is regularly applied to all Toronto Water capital projects. Toronto Water also continues to monitor its expenditures throughout the year and revises projections accordingly based on the internal and external capacity to deliver. In order to improve spending rates, Toronto Water routinely realigns project costs and cash flows with actual spending through regular reporting to Council. This practice is anticipated to continue in 2018.

State of Good Repair (SOGR) Backlog

- Toronto Water currently has a significant infrastructure renewal backlog, higher than any other major Canadian urban centre. It has the largest asset base in the country, estimated at \$28.561 billion with some infrastructure dating back to the 1800s.

- However, some of the City's oldest pipes (100 years or older) are still performing well. As Toronto Water plans for the renewal of aging infrastructure, a risk based mitigation approach is taken that considers infrastructure age, condition and performance assessment, and analysis on upsizing infrastructure, which may be required to service future growth, and opportunities to reduce overall costs.
- Some key initiatives used to identify Toronto Water's State of Good Repair needs include:
 - Water Loss Reduction Program which includes leak detection surveys on distribution water mains that indicates the condition and performance of the watermain.
 - Closed camera TV (CCTV) inspection program that utilizes closed camera technology to assess the condition of sanitary and storm sewers.
- The projected 2017 year-end value of the infrastructure renewal backlog is estimated at \$1.482 billion, reflecting 5.2% of Toronto Water's total asset value of \$28.561 billion. This is based on a detailed analysis of current condition assessments and assumptions of service life by linear asset class, coupled with assessments of water and wastewater treatment facilities.
- Condition assessments of infrastructure by asset class continue to be reviewed and updated. In addition to the condition assessments, Toronto Water is undertaking a review to define its requirements for an integrated Asset Management Solution to support further development of its Asset Management Plans.
- The 10-Year Recommended Capital Plan State of Good Repair funding totals \$6.210 billion that averages \$621 million annually over the 10 year period. This level of funding will contribute towards reducing the watermain and sewer break rates. If the state of good repair backlog remains unchanged, the year-end backlog of \$1.482 billion in 2017 will be effectively eliminated by the end of 2027.
- A continued trend in escalating unit rate pricing for linear infrastructure will significantly impact the state of good repair backlog for infrastructure renewal as project deferral is required to align with projected funding. These unit rates are mostly impacted by construction industry capacity to deliver projects across the City.
- The Program's State of Good Repair Backlog analysis excludes stormwater management facilities (stormwater ponds and underground storage tanks) as they are relatively new assets and does not include stream restoration from erosion scars. A condition assessment of stormwater ponds is being undertaken to determine long term state of good repair requirements. Restoration of watercourses is planned on a priority basis to protect existing infrastructure and in coordination with the Toronto Region Conservation Authority based on site conditions resulting from extreme weather events.

Basement Flooding

- In April 2006, City Council approved a Basement Flooding Protection Work Plan (now referred to as the Basement Flooding Protection Program) to undertake comprehensive engineering studies in 31 basement flooding study areas that experienced significant flooding during extreme storms in May 2000 and August 2005.
- New service level standards were adopted, requiring storm drainage systems to accommodate a 1 in 100 year return frequency storm event, up from the current 1 in 2 to 1 in 5 year return frequency storm.
- Between 2006 and 2015, the number of study areas in the City was increased to 67 study areas and in response to additional storm events and new occurrences of basement flooding, City Council approved the city-wide expansion of the Basement Flooding Protection Program.
- In August 2014, Council approved an expanded program management capital delivery model for the Basement Flooding Protection Program that delivers more effectively a larger number of infrastructure improvements, and meet the needs of the city-wide expansion of the Program.
- As of the end of October 2017, Basement Flooding Environmental Assessment (EA) studies for 32 basement flooding study areas have been completed. These EA studies investigate the causes of basement and surface flooding and recommend sewer system improvements to reduce the risk of future basement flooding

during extreme storms. Another 11 studies are ongoing, one study is scheduled to be completed by the end of 2017, 8 studies are anticipated to be completed in 2018 and 2 studies are planned for completion in 2020.

- The construction of basement flooding protection projects began in 2009. Many challenges exist with the implementation of works recommended by the EA studies. Retrofitting an area to accommodate the higher level of storm drainage and overland flow controls in existing fully developed areas present the most significant challenge in terms of cost, scheduling and disruption to the local communities.
 - By the end of 2017, \$349 million will have been spent to upgrade storm and sanitary sewers and other related infrastructure to meet the enhanced level of service requirements required under the Basement Flooding Protection Program. A further \$24.6 million in construction projects has been committed.
- The 2018 – 2027 Recommended Capital Budget and Plan includes \$1.542 billion in funding for Basement Flooding Protection Program projects. Despite this level of funding, Toronto Water will continue to face the following challenges:
 - There are increasing demands and high expectations for the further acceleration of basement flooding EA studies and implementation of projects by residents and businesses as a result of the tremendous impacts of basement flooding during extreme weather events.
 - Some of the recommended basement flooding protection projects from completed basement flooding EA studies have a cost that is greater than the Council adopted threshold of \$32,000 per benefitting property, and therefore these projects are not proceeding to engineering design and construction.
- The cost to implement basement flooding protection projects across all 67 study areas need to be continuously updated, as basement flooding EA studies are completed and new works are recommended.

Stream Restoration and Critical Erosion Projects

- As a part of its Stormwater Management Program, Toronto Water provides an annual funding contribution to the Toronto and Region Conservation Authority (TRCA) for stream restoration and erosion control projects. The 2018-2027 Capital Budget and Plan allocates a total of \$152.344 million over a 10-year period, as Toronto Water continues to support the TRCA's efforts in watercourse management.
- Toronto Water's 2018-2027 Recommended Capital Budget and Plan also includes further funding of \$95.545 million over the next 10 year horizon for stream restoration and erosion management to carry out work to protect its own infrastructure in valley lands.

Funding Pressures for Stormwater Management

- The City of Toronto's stormwater management program is currently funded from the water rate, rather than a separate charge. In December 2015, City Council directed staff to develop an implementation plan for a stormwater charge, dedicated to funding the City's stormwater management program, which would result in the removal of the portion from the water rate that currently funds the stormwater management program.
- After developing a detailed stormwater charge implementation plan, staff executed a substantial consultation campaign to solicit feedback on the model from stakeholders and the general public. The consultation process identified several issues related to the implementation of the stormwater charge such as strong demand from stakeholders and the public for more individualized stormwater charge formulations, potential exemptions from the stormwater charge, and requests for incentives for homeowners.
- The findings were presented in the ***"Proposed Stormwater Charge -- Results of Consultation and Next Steps"***, considered and adopted by Council at its meeting on May 24, 25 and 26, 2017.
 - As a result of issues identified during preparation of the implementation plan and public consultations, staff did not recommend the implementation of a stormwater charge.

- Instead, the recommendations of the report directed the General Manager, Toronto Water and the Deputy City Manager & Chief Financial Officer to consult with all stakeholders and report back to Executive Committee in the spring of 2019 with a review of the water rate structure as it pertains to identifying fixed-cost elements that would be appropriate to charge as fixed-charges; recovering costs of stormwater management from properties that do not have water accounts; incentivizing stormwater management on large properties; and attracting and retaining the manufacturing sector in Toronto.
- The recommendations also directed staff to assess the state of technology relevant to the viability of automated geographic information system (GIS) analysis of stormwater runoff contributions from properties across Toronto and to periodically report back during the annual budget process with findings of this assessment.

Other Challenges

- Planning for Extreme Weather Events
 - Due to the extreme cold weather events, Toronto Water experienced an unprecedented number of watermain breaks, leaking and frozen water services, not seen in 20 years, resulting in additional funding requirements in 2014 and 2015. Planning and preparing for an adequate response during extreme weather events remains to be a challenge for Toronto Water. This process is currently underway.
- Planning for Growth
 - The City of Toronto is experiencing significant growth with many landowners submitting development applications to increase the density permitted by the zoning-by-law.
 - The 10-Year Capital Plan includes \$641.146 million in funding for the growth related share of projects that were eligible for development charge funding. Due to insufficient funding collected through development charges, an additional \$200.0 million will be contributed from Toronto Water's capital financing reserves to accommodate implementation of the growth related component.
 - A strategy is required to ensure that water and wastewater services are available for the new developments since the above funding model will not be sustainable in the future.

Unmet Needs: TRCA Unfunded Projects

- As part of the 2018 Budget Process TRCA submitted an updated list of its unmet needs totaling \$404.460 million over the 10 year period, a significant increase compared to the 2017-2026 Capital Plan, mostly due to the addition of the Waterfront Rehabilitation project (\$100.0 million) and increased funding for the Scarborough Waterfront Access Trail Project (\$119 million).
- Funding of the TRCA unmet needs continues to be a subject of on-going discussion and work on the further development of business cases/studies for each project, refinement of cost estimates and prioritization of needs. Funding ratios need to be determined for each project affecting not only Toronto Water, but also other divisions such as Transportation Services and Parks, Forestry and Recreation. It is anticipated that this review will continue into 2019 and future year budget processes.
- In relation to the Waterfront Rehabilitation project, it should be noted that TRCA was requested by area Councillors to include this amount in the unmet needs list to address short and long term projects for the entire waterfront area, including damage sustained from rising lake water levels and restoration plans to waterfront parks from the extreme flooding that occurred in the Spring 2017.
 - To date, TRCA has identified \$14.5 million in restoration requirements to waterfront parks. In addition to this, the options to address damage to the Western Beaches from the flooding range from \$27.2 million to \$72.6 million.

- To date, TRCA has not provided detailed business cases and/or prioritized unmet needs project list eligible for Toronto Water's funding and/or a breakdown of the \$100 million waterfront rehabilitation project by priority (critical, required, preventative or pro-active measures).
- Another large project included in the list of unmet needs is the Scarborough Waterfront Access Trail Project. Original construction costs provided by TRCA during the 2017 Budget Process were estimated at \$51 million. This estimate did not include/provide separate costs for erosion control protection related to infrastructure of individual divisions.
 - The Draft Scarborough Waterfront Project (SWP) Environmental Assessment identified new estimated costs of about \$170 million, including property acquisitions costs of \$32.0 million, plus an additional \$22.5 million for a one time 25-year maintenance renewal of proposed new shoreline features.
 - The EA divides the study into West, Central and East Segments. A Preferred Alternative was selected based on the preferred alternative concept for each segment with an overall intent to provide. (a) improved aquatic and terrestrial habitat, (b) improved public access to the water's edge (restricted by private property and hazard risk), (c) a waterfront experience accessible for people of all abilities, and (d) a project compatible with plans or policies related to the environment.
 - As a result, the SWP will address crest migration, slope instability and toe erosion primarily to construct a formal 11 km waterfront trail, thereby decommissioning approximately 8 km of informal trails that damage the ecosystem due to trampling and other impacts from unmanaged use.
 - As the primary objective of the SWP is the construction of the trail, access and habitat enhancement, and the extent of erosion protection required is governed by risk mitigation to the public from use of a formal trail which is not part of Toronto Water's mandate, and as Toronto Water has allocated funding to critical erosion work managed by TRCA, Toronto Water cannot ascertain its funding requirements to this project that would benefit Toronto Water's infrastructure.

Issues Referred to the 2018 Capital Budget Process

- There are no issues referred to the 2018 Budget Process.



Appendices

Appendix 1 2017 Performance

2017 Key Accomplishments

In 2017, Toronto Water made significant progress and/or accomplished the following:

Water Treatment & Supply

- ✓ Approximately 32 km of watermain replacement (\$65 million) and 86 km of structural watermain lining (\$77 million).
- ✓ Water service replacement (\$29 million).
- ✓ Water treatment plant upgrades (\$30 million).
- ✓ Transmission watermain replacement (\$15 million).
- ✓ Reservoirs and pumping stations (\$20 million).
- ✓ Water Meter Program (\$4 million); Engineering Services (\$33 million); New Connections (\$35 million).

Wastewater Collection and Treatment

- ✓ 4 km of sewer replacement (\$20 million) and 105 km of sewer rehabilitation (\$58 million); trunk sewer rehabilitation (\$21 million).
- ✓ Ashbridges Bay Wastewater Treatment Plant Upgrades including P Building Upgrades, biofilters and engineering for the influent pump station and outfall projects (\$77 million).
- ✓ Highland Creek Treatment Plant Upgrades including biosolids and odour control upgrades (\$32 million).
- ✓ Humber Wastewater Treatment Plant Upgrades including gas compressor, odour control and secondary treatment upgrades (\$45 million).
- ✓ Pumping station and forcemain rehabilitation (\$6 million).
- ✓ Engineering Services (\$33 million); Business & Technology (\$7 million); Yards & Facilities (\$3 million).

Stormwater Management

- ✓ Basement Flooding Protection Program – ongoing (\$49 million).
- ✓ Wet Weather Flow Master Plan – ongoing (\$32 million).

2017 Financial Performance

2017 Budget Variance Analysis (in \$000's)

2017 Budget	As of Sept. 30, 2017		Projected Actuals at Year-End		Unspent Balance	
\$	\$	% Spent	\$	% Spent	\$ Unspent	% Unspent
843,535	215,723	25.6%	695,832	82.5%	147,702	17.5%

* Based on 2017 Second Quarter Capital Variance Report

For additional information regarding the 2017 Q2 capital variances and year-end projections for Toronto Water please refer to the attached link for the report entitled "*Capital Variance Report for the Six-Month Period Ended June 30, 2017*" considered by City Council at its meeting on October 2, 3 and 4, 2017.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX27.18>

Impact of the 2017 Capital Variance on the 2018 Recommended Capital Budget

- As a result of the delays in the capital projects, as described in the 2016 Q2 Capital Variance Report, funding of \$98.868 million is being carried forward to the 2018 Recommended Capital Budget to continue the capital work.

- A detailed review of the 2018 – 2027 Recommended Capital Budget and Plan has been conducted and the necessary adjustments have been made to the timing of cash flow funding for unique and major capital projects such as Ashbridges Bay, Highland Creek and Humber Wastewater Treatment Plant upgrades, watermain and sewer replacement projects, basement flooding and wet weather flow implementation projects totalling \$321.933 million.
 - By deferring the cash flow funding to future years, the 2018 Recommended Capital Budget reflects readiness to proceed and will lead to a higher rate of spending.

Appendix 2 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan (\$000s) (Including Carry Forward Funding)

Project	Total Project Cost	Prior Year Carry Forward	2018	2019	2020	2021	2022	2018 - 2022	2023	2024	2025	2026	2027	2018 - 2027 Total
Health & Safety:														
Ashbridges Bay TP		40	1,684	5,215	2,063	1,585	31	10,618						10,618
Humber TP		207	2,219	3,380	23	23		5,852						5,852
Sub-Total		247	3,903	8,595	2,086	1,608	31	16,470						16,470
Legislated:														
Water Service Replacement	5,596		39,863	54,161	41,301	41,301	43,250	225,472	43,250	43,250	42,750	41,250	41,250	437,222
Pumping Stations	59		3,519	5,883	9,025	8,481	7,090	34,057	6,123	4,305	8,700	6,925	6,250	66,360
WT - Storage & Treatment	4		100	100				204						204
Ashbridges Bay TP	1,284		57,631	110,922	129,648	111,475	105,992	516,952	55,175	37,716	35,696	65		645,604
Highland Creek TP	222		6,549	11,105	14,019	8,532	50	40,477	400	1,000	6,500	11,300	10,550	70,227
Humber TP	1		2,981	1,000				3,982						3,982
RL Clark TP	8		2,875	2,750				5,633						5,633
Island TP	2,969		1,111	2,800	15,900	18,980	8,250	50,010	200	200				50,410
Sub-Total		10,143	114,629	188,721	209,893	188,769	164,632	876,787	105,148	86,471	93,646	59,540	58,050	1,279,642
State of Good Repair:														
<i>Business & Technology</i>														
Linear Eng	3,447		81,966	89,622	79,783	75,594	73,886	404,298	75,061	65,894	66,758	75,725	69,487	757,223
Sewer Rehabilitation	4,886		72,097	77,377	70,366	64,043	64,143	352,912	63,200	64,100	65,650	64,400	65,950	676,212
Sewer Replacement	2,520		8,970	30,637	22,292	19,536	15,830	99,785	15,000	15,000	15,000	15,000	15,000	174,785
WM Rehabilitation	1,951		78,588	75,699	71,284	72,364	73,475	373,361	75,300	73,800	73,400	73,300	73,800	742,961
WM Replacement	12,812		41,622	119,020	106,268	106,850	95,253	481,825	95,000	95,000	95,000	95,000	95,000	956,825
Water Service Replacement			1,613	1,613				3,226						3,226
Pumping Stations	108		4,412	7,769	11,289	2,022	3,760	29,360	7,935	7,875	6,815	4,260	3,550	59,795
Trunk Water Mains	3,402		8,197	6,244	3,340	2,100	14,450	37,733	25,000	27,400	21,750	25,575	25,525	162,983
WT - Storage & Treatment	3,451		19,991	35,041	57,354	40,205	8,206	164,248	9,288	13,150	25,750	35,585	16,830	264,851
Trunk Sewers & Pumping Stations	1,471		45,840	53,998	57,538	71,196	48,301	278,344	24,672	15,872	19,515	13,222	6,205	357,830
Ashbridges Bay TP	7,099		88,776	142,292	142,291	131,164	107,266	618,888	127,216	100,750	134,794	141,077	69,999	1,192,724
Highland Creek TP	811		14,147	51,121	45,999	24,115	12,654	148,847	10,140	16,840	23,455	24,890	7,862	232,034
Humber TP	4,061		37,494	48,115	43,722	42,432	23,240	199,064	29,889	17,200	38,200	41,210	45,359	370,922
RL Clark TP	1,225		7,425	9,407	4,480	260	235	23,032	200	200	200	200	200	24,032
RC Harris TP	1,509		7,872	12,300	7,519	2,247	1,850	33,297	1,000	11,150	11,500	11,500	12,550	80,997
FJ Horgan TP	166		1,809	1,724	1,522	825	678	6,724	202	202	200	200	200	7,728
Island TP	1,132		7,498	11,094	7,981	382	625	28,712	3,275	525	375	525	375	33,787
WWF-Implementation Projects	580		7,337	9,050	9,677	3,015	4,586	34,245	1,500	4,000	4,000	4,000	6,000	53,745
WWF - Stream Restoration	1,773		2,827	9,548	9,621	8,386	10,729	42,884	7,584	4,696	11,541	16,321	14,292	97,318
Yards & Facility			535	337	767	1,733	1,377	4,749	1,485	1,485	1,485	1,485	1,485	12,174
Sub-Total		52,404	539,022	792,168	753,093	668,547	560,624	3,365,858	572,947	535,139	615,388	643,475	529,669	6,262,476
Service Improvements:														
Water Meter Program (AMR)	270		3,030					3,300						3,300
Basement Flooding	18,176		43,078	113,279	139,113	153,223	152,216	619,085	172,730	175,891	183,651	197,997	211,263	1,560,617
Business & Technology	1,010		7,830	15,060	12,993	11,946	7,584	56,423	6,069	4,569	2,714	1,814	1,814	73,403
Linear Eng	372		1,765	2,025	3,075	3,175	4,075	14,487	7,175	8,975	8,475	7,975	7,975	55,062
Sewer Replacement	400		2,483	1,624				4,507						4,507
Pumping Stations	10		231	512				753						753
Trunk Water Mains	26		699	5,357	4,625	91	92	10,890						10,890
WT - Storage & Treatment	5,363		5,927	10,063	3,425	33	14	24,825						24,825
Ashbridges Bay TP	429		7,331	11,162	12,206	8,323	10,775	50,226	2,175	1,250	1,050	21,300	46,865	122,866
Highland Creek TP	136		4,635	5,544	10,060	31,126	28,670	80,171	32,115	44,000	44,200	33,070	29,100	262,656
Humber TP	410		1,676	6,641	7,990	8,974	9,177	34,868	7,500					42,368
RC Harris TP	625		3,269	7,226	1,558			12,678						12,678
FJ Horgan TP	207		713	2,108	2,325	1,010		6,363						6,363
Island TP	478		1,052	1,644	833	695	650	5,352						5,352
WTP-Plantwide	931		1,425	9,783	29,073	42,990	55,221	139,423	44,397	20,832	9,420	10,420	3,375	227,867
WWF-Implementation Projects	2,030		34,706	107,132	127,754	123,806	106,881	502,309	134,315	151,381	149,240	140,690	201,470	1,279,405
WWF-TRCA	200		13,832	14,791	14,104	14,219	14,337	71,483	15,958	16,082	16,209	16,339	16,473	152,544
Yards & Facility	250		4,245	10,985	9,580	3,105	1,005	29,170	605	605	605	605	9,055	40,645
Sub-Total		31,323	137,927	324,936	378,714	402,716	390,697	1,666,313	423,039	423,585	415,564	430,210	527,390	3,886,101
Growth Related:														
Linear Eng	310		252	807	150	150	150	1,819	150	150	150	150	150	2,569
New Connections			34,825	37,323	38,000	38,000	38,000	186,148	38,000	41,000	41,000	41,000	41,000	388,148
New Sewers	732		7,398	12,688	9,450	7,500	3,300	41,068	1,000	6,000	9,000	9,000	7,500	73,568
WM Replacement	2,862		14,474	51,375	34,372	26,433	18,133	147,649	18,071	18,040	19,000	19,000	19,000	240,760
Pumping Stations			4,625	6,411	4,907	3,430	4,265	23,638	1,975	10				25,623
Trunk Water Mains	494		6,323	20,700	22,710	20,136	18,000	88,363	18,300	14,300	20,845	17,635	12,300	171,743
WT - Storage & Treatment	13		174	140				3,327	3,000					6,327
Trunk Sewers & Pumping Stations	47		499	1,310	3,000	9,300	28,150	42,306	52,400	52,400	52,400	52,200	51,900	303,606
Ashbridges Bay TP	200		800	2,500	4,500	4,000	6,300	18,300	64,000	66,000	10,350	300	200	159,150
Highland Creek TP	10			190	800	500		1,500						1,500
FJ Horgan TP	8							49						49
Water Efficiency Plan	75		370	445	445	445	445	2,225	520	520	520	520	520	4,825
WWF-Implementation Projects				25	25	100	100	250	100	100	90			540
Sub-Total		4,751	69,740	133,914	118,359	110,994	118,884	556,642	197,516	198,520	153,355	139,805	132,570	1,378,408
Total		98,868	865,221	1,448,334	1,462,145	1,372,634	1,234,868	6,482,070	1,298,650	1,243,715	1,277,953	1,273,030	1,247,679	12,823,097

Appendix 3

2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

Appendix 4

2018 Cash Flow and Future Year Commitments

Appendix 5

2018 Recommended Capital Budget with Financing Detail

Appendix 6 Reserve / Reserve Fund Review

Reserve / Reserve Fund – Program Specific (\$000s)

Table 1		Projected Balance as at Dec. 31, 2017*	Proposed Withdrawals										2018 - 2027 Total Contributions / Withdrawals
Reserve / Reserve Fund Name	Project / SubProject Name and Number		2018 Budget	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	2027 Plan	
Water DC Reserve Fund XR2111 DC - Water (2009)	Beginning Balance	\$89,563	\$47,488	\$54,826	\$36,496	\$24,027	\$14,833	\$10,758	\$7,531	\$6,865	\$3,132	\$1,543	
	HORGAN W.T.P. EXPANSION		(\$3)				(\$13)						(\$16)
	WATER STORAGE EXPANSION		(\$15)										(\$15)
	WATER EFFICIENCY PROGRAM		(\$445)	(\$445)	(\$445)	(\$445)	(\$445)	(\$520)	(\$520)	(\$520)	(\$520)	(\$520)	(\$4,825)
	AVENUE ROAD TRUNKMAIN REPLACEMENT												
	HORGAN TRUNK MAIN EXPANSION		(\$152)	(\$380)	(\$1,176)	(\$6,717)	(\$6,718)	(\$6,718)	(\$3,302)	(\$93)	(\$13)		(\$25,269)
	ISLAND W.T.P. R&R		(\$167)	(\$91)	(\$912)	(\$1,094)	(\$450)						(\$2,714)
	DISTRICT WATERMANS - NEW		(\$10)	(\$50)	(\$500)	(\$500)	(\$500)	(\$500)	(\$500)	(\$500)	(\$500)	(\$500)	(\$4,060)
	PW ENGINEERING		(\$794)	(\$1,333)	(\$782)	(\$558)	(\$669)	(\$699)	(\$538)	(\$244)	(\$119)	(\$119)	(\$5,855)
	DOWNTOWN W/M ENHANCEMENT		(\$1)										(\$1)
	TRUNK WATERMAIN EXPANSION		(\$3,074)	(\$9,437)	(\$9,394)	(\$1,167)							(\$23,072)
	WATER SUSTAINABILITY PROGRAM		(\$656)	(\$605)	(\$209)	(\$2)	(\$1)						(\$1,473)
	RL CLARK W.T.P. R&R		(\$512)	(\$553)	(\$260)	(\$4)	(\$2)						(\$1,331)
	DIST W/M REPLACEMENT		(\$11,942)	(\$30,414)	(\$23,097)	(\$22,704)	(\$20,220)	(\$20,221)	(\$20,221)	(\$20,532)	(\$20,532)	(\$20,532)	(\$210,415)
	ISLAND W.T.P. R&R												
	DZ/D4 TRUNK WATERMAIN UPGRADES						(\$144)	(\$289)	(\$2,694)	(\$9,908)	(\$8,465)	(\$5,915)	(\$27,415)
	BAYVIEW TRUNK WATERMAIN - PH2												
	REGENT PARK CAPITAL CONTRIBUTION		(\$784)	(\$911)	(\$1,416)	(\$830)	(\$51)	(\$71)	(\$40)				(\$4,103)
	TRANSMISSION R&R		(\$57)	(\$53)		(\$380)	(\$759)	(\$1,139)					
	WT&S PLANTWIDE		(\$53)	(\$411)	(\$805)	(\$1,588)	(\$1,062)	(\$568)	(\$899)	(\$545)	(\$622)	(\$203)	(\$6,756)
Total Proposed Withdrawals		(\$67,654)	(\$18,665)	(\$44,683)	(\$38,996)	(\$35,989)	(\$31,034)	(\$30,725)	(\$28,714)	(\$32,342)	(\$30,771)	(\$27,789)	(\$319,708)
Projected Contributions		\$25,579	\$26,003	\$26,353	\$26,527	\$26,795	\$26,959	\$27,498	\$28,048	\$28,609	\$29,182	\$29,765	\$275,739
TOTAL RESERVE FUND BALANCE AT YEAR-END		\$47,488	\$54,826	\$36,496	\$24,027	\$14,833	\$10,758	\$7,531	\$6,865	\$3,132	\$1,543	\$3,519	

*Based on the 2017 Q2 Variance Report

Appendix 6 Reserve / Reserve Fund Review - Continued

Reserve / Reserve Fund – Program Specific (\$000s)

Table 2		Projected Balance as at Dec. 31, 2017*	Proposed Withdrawals										2018 - 2027 Total Contributions / Withdrawals
Reserve / Reserve Fund Name	Project / SubProject Name and Number		2018 Budget	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	2027 Plan	
Sanitary Sewer DC Reserve Fund	Beginning Balance	\$71,499	\$51,545	\$50,619	\$33,089	\$15,087	\$94	\$5	\$431	\$193	\$78	\$366	
	ASHBRIDGES BAY WWTP REHAB		(\$1,243)	(\$885)	(\$24)	(\$4)							(\$2,156)
	TRUNK SEWER SYSTEM			(\$778)	(\$1,867)	(\$3,800)		(\$7,000)	(\$10,300)	(\$6,400)	(\$6,500)	(\$6,500)	(\$43,145)
XR2026 DC - Sewer (2004)	HIGHLAND CREEK WWTP - ODOUR CONTROL		(\$531)	(\$530)	(\$428)	(\$5)	(\$4)	(\$34)	(\$80)	(\$523)	(\$909)	(\$849)	(\$3,893)
XR2112 DC - Sewer (2009)	ASHBRIDGES BAY T.P. - III YR2004		(\$2)										(\$2)
	HUMBER T.P. - II YR2004												
	SEWER ASSET PLANNING		(\$538)	(\$867)	(\$785)	(\$765)	(\$805)	(\$563)	(\$563)	(\$563)	(\$563)	(\$563)	(\$6,575)
	NEW SEWER CONSTRUCTION		(\$1,631)	(\$4,039)	(\$5,633)	(\$6,372)	(\$2,547)	(\$622)	(\$3,122)	(\$4,622)	(\$4,622)	(\$3,872)	(\$37,082)
	DIST SEWER REHAB OPS YR2005		(\$1)	(\$3)	(\$2)								(\$6)
	HIGHLAND CREEK TP YR2005												
	ASHRIDGES BAY TP YR2005		(\$40)	(\$53)	(\$6)								(\$99)
	SEWER SYSTEM REHABILITATION		(\$386)	(\$554)	(\$363)	(\$6)							(\$1,309)
	SEWER REPLACEMENT PROGRAM		(\$1,120)	(\$2,284)	(\$1,636)	(\$1,418)	(\$1,209)	(\$1,207)	(\$1,207)	(\$1,207)	(\$1,207)	(\$1,207)	(\$13,702)
	ASHBRIDGES BAY T.P. YR2006			(\$8)									(\$8)
	HIGHLAND CREEK WWTP UPGRADES		(\$74)	(\$34)	(\$67)	(\$40)							(\$215)
	HIGHLAND CREEK WWTP - SOLIDS & GAS HANDLING		(\$242)	(\$207)	(\$482)	(\$2,189)	(\$2,173)	(\$2,173)	(\$1,368)	(\$660)	(\$650)	(\$8)	(\$10,152)
	ASHBRIDGES BAY WWTP - EFFLUENT SYSTEM		(\$4,732)	(\$8,918)	(\$10,426)	(\$8,972)	(\$8,531)	(\$4,440)	(\$3,036)	(\$2,872)	(\$5)		(\$51,932)
	ASHBRIDGES BAY WWTP - LIQUID TREATMENT & HANDLING		(\$1,415)	(\$453)					(\$129)	(\$1,530)	(\$3,865)	(\$5,474)	(\$12,866)
	ASHBRIDGES BAY WWTP - SOLIDS & GAS HANDLING		(\$1,175)	(\$4,304)	(\$3,885)	(\$3,540)	(\$2,578)	(\$1,656)	(\$8)	(\$16)			(\$17,160)
	ASHBRIDGES BAY WWTP - ODOUR CONTROL		(\$436)	(\$136)	(\$68)	(\$6)							(\$646)
	HUMBER WWTP - LIQUID TREATMENT & HANDLING		(\$2,094)	(\$2,118)	(\$2,198)	(\$2,774)	(\$1,309)	(\$1,923)	(\$1,220)	(\$2,588)	(\$2,831)	(\$3,358)	(\$22,413)
	HUMBER WWTP - O&M UPGRADES			(\$31)									(\$31)
	HUMBER WWTP - ODOUR CONTROL		(\$240)	(\$80)									(\$320)
	SEWAGE PUMPING STATION UPGRADES		(\$296)	(\$476)	(\$759)	(\$953)	(\$913)	(\$652)	(\$348)	(\$700)	(\$557)	(\$503)	(\$6,157)
	DON & WATERFRONT TRUNK CSO												
	LAWRENCE ALLAN REVITALIZATION PLAN		(\$3,920)	(\$10,225)	(\$9,367)	(\$4,315)	(\$210)						(\$28,037)
	Land Acquisition for Source Water Protect				(\$2)	(\$32)	(\$134)	(\$33)					(\$201)
	Georgetown South City Infrastructure Upgrades		(\$412)	(\$412)									(\$824)
	Total Proposed Withdrawals	(\$39,236)	(\$20,528)	(\$37,395)	(\$37,998)	(\$35,191)	(\$20,411)	(\$20,303)	(\$21,381)	(\$21,681)	(\$21,709)	(\$22,334)	(\$258,931)
	Projected Contributions	\$19,282	\$19,602	\$19,865	\$19,996	\$20,198	\$20,322	\$20,729	\$21,143	\$21,566	\$21,997	\$22,437	\$207,855
TOTAL RESERVE FUND BALANCE AT YEAR-END		\$51,545	\$50,619	\$33,089	\$15,087	\$94	\$5	\$431	\$193	\$78	\$366	\$469	

* Based on the 2017 Q2 Variance Report

Table 3		Projected Balance as at Dec. 31, 2017*	Proposed Withdrawals										2018 - 2027 Total Contributions / Withdrawals
Reserve / Reserve Fund Name	Project / SubProject Name and Number		2018 Budget	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	2027 Plan	
Storm Water Management DC Reserve Fund	Beginning Balance	\$16,845	\$18,733	\$13,101	\$6,744	\$1,793	\$50	\$250	\$21	\$456	\$365	\$951	
	SWM END OF PIPE FACILITIES		(\$86)	(\$261)	(\$808)	(\$734)	(\$14)		(\$93)	(\$322)	(\$773)	(\$2,672)	(\$5,763)
	WET WEATHER FLOW MP		(\$476)	(\$378)	(\$234)	(\$109)	(\$20)	(\$8)	(\$8)	(\$7)			(\$1,240)
XR2113 DC - SWM (2009)	WESTERN BEACHES RETROFIT		(\$510)	(\$427)	(\$513)	(\$1)	(\$7)						(\$1,458)
XR2404 DC - SWM (2004)	STREAM RESTORATION & EROSION CONTROL		(\$370)	(\$567)	(\$461)	(\$339)	(\$156)	(\$98)	(\$38)	(\$15)	(\$9)	(\$6)	(\$2,059)
	SWM TRCA FUNDING		(\$353)										(\$353)
	Land Acquisition for Source Water Protect		(\$776)	(\$64)									(\$840)
	WATERFRONT STORMWATER INFRASTRUCTURE												
	DON & WATERFRONT TRUNK CSO		(\$2,351)	(\$7,604)	(\$8,262)	(\$5,948)	(\$5,025)	(\$5,653)	(\$5,067)	(\$5,500)	(\$4,500)	(\$4,000)	(\$53,910)
	SEWER REPLACEMENT PROGRAM		(\$1,624)	(\$1,062)									(\$2,686)
	EMERY CREEK POND		(\$40)	(\$44)	(\$8)								(\$92)
	Total Proposed Withdrawals	(\$3,256)	(\$6,586)	(\$10,407)	(\$10,286)	(\$7,131)	(\$5,222)	(\$5,759)	(\$5,206)	(\$5,844)	(\$5,282)	(\$6,678)	(\$68,401)
	Projected Contributions	\$5,144	\$5,229	\$5,300	\$5,335	\$5,388	\$5,422	\$5,530	\$5,641	\$5,753	\$5,868	\$5,986	\$55,452
	Other Program / Agency Net (Withdrawals) and Contributions		(\$4,275)	(\$1,250)									(\$5,525)
TOTAL RESERVE FUND BALANCE AT YEAR-END		\$18,733	\$13,101	\$6,744	\$1,793	\$50	\$250	\$21	\$456	\$365	\$951	\$259	

* Based on the 2017 Q2 Variance Report