



## Solid Waste Management Services

### 2017 – 2026 Capital Budget and Plan Overview

Solid Waste Management Services (SWMS) is responsible for maintaining infrastructure valued at \$596 million excluding landfills, comprised of 7 transfer stations, 2 organics processing facilities, 5 collection yards and approximately of 1.6 million organics, recycling and waste bins. Landfills include the active Green Lane Landfill and 160 closed landfills.

The 2017-2026 Recommended Capital Plan totaling \$667.1 million focuses on funding major diversion facilities to advance the City's goal of 70% Waste Diversion by investing in facilities and systems necessary to achieve this target as well as to continue Collection Yard and Transfer Station Asset Management and Perpetual Care of closed landfills. The 10-Year Capital Plan includes funding of \$138 million for the Council approved Long Term Waste Management Strategy (Waste Strategy), which includes recommendations to reduce, reuse, recycle and recover and dispose of the City's waste over the next 30 to 50 years.

[toronto.ca/budget2017](http://toronto.ca/budget2017)

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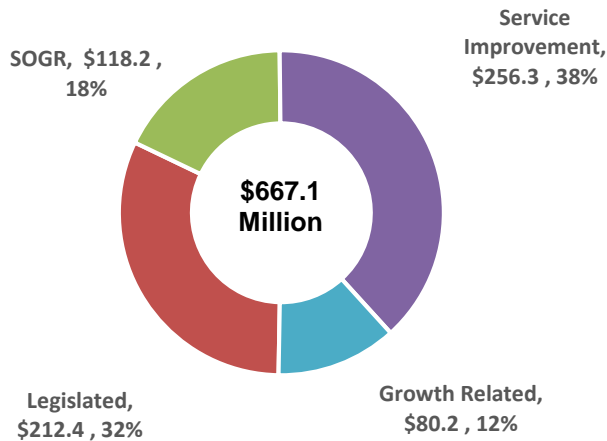
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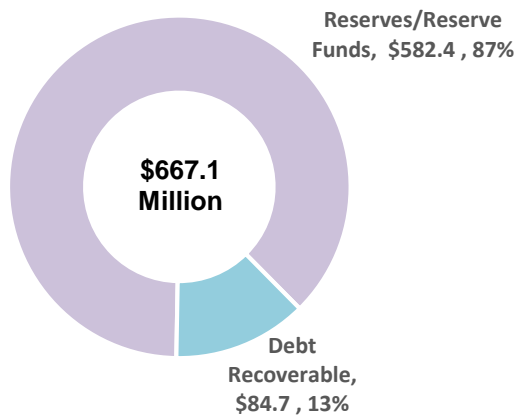
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**Capital Spending and Financing**

**2017-2026 Capital Budget and Plan by Expenditures Category**



**2017-2026 Capital Budget and Plan by Funding Source**



**Where does the money go?**

The 2017–2026 Recommended Capital Budget and Plan totalling \$667.096 million provides funding for:

- State of Good Repair (SOGR) projects including improving and maintaining transfer station, collection yard and diversion facilities capacity and effectiveness.
- Service Improvement projects that include the expansion of the Green Bin organics program to include apartments and condominiums, life-cycle replacement of all bins as well as building gas utilization facilities. The Waste Strategy is an integral part of Service Improvement projects.
- Legislated projects include ongoing development of the Green Lane Landfill and perpetual care of closed landfills, as well as strategic studies and investments in facilities and technologies as determined by the Waste Strategy.
- Growth related projects that are focused on building additional organics and waste processing capacity at the Dufferin and Disco sites.

**Where does the money come from?**

The 10-Year Capital Plan is funded by two major sources:

- Capital financing of \$582.423 million or 87.3% will be provided primarily from the Waste Management Reserve Fund, with annual contributions to the reserve generated from user fee (rate) revenue in the Operating Budget.
- Recoverable debt funding of \$84.673 million comprises 12.7% of SWMS 10-year capital funding. The City initially funds this debt; SWMS then repays the debt servicing costs over its term through the collection of user fees in their Operating Budget.

**State of Good Repair Backlog**

The Solid Waste Management Program does not currently have a backlog of State of Good Repair (SOGR). The funding allocated in the 10-Year Capital Plan for SWMS for SOGR projects for 2017 and future years is deemed appropriate to maintain the assets in a state of good repair. The Program is undertaking an asset condition assessment and will report any changes to their SOGR backlog during future Capital Budget processes.

**Key Issues & Priority Actions**

**70% Waste Diversion** - The SWMS' capital program is driven primarily by the City's objective to achieve the 70% waste diversion target.

- ✓ SWMS has developed a Waste Strategy that will guide how the City's waste will be managed over the next 30 – 50 years.
- ✓ The 2017 – 2026 Capital Budget and Plan includes funding of \$138 million for the Waste Strategy as approved by Council in July 2016.

**Long-Term Capital Funding** - To ensure generated rate revenue is adequate to support SWMS' 10-year capital needs as well as allow for the continued transition to a fully sustainable utility model, reducing the application of recoverable debt when appropriate.

- ✓ The 2017 Recommended Operating Budget for SWMS includes a 3.9% rate increase with anticipated 3.9% annual rate increases over the next 5 years to ensure sufficient capital funding for future diversion programs and facilities that maximize the lifespan of the Green Lane landfill beyond 2029, as well as ensure effective solid waste management and disposal.
- ✓ Approval of a multi-year planned rate increases will allow for sustainable long term capital planning based on predictable annual rate increases.

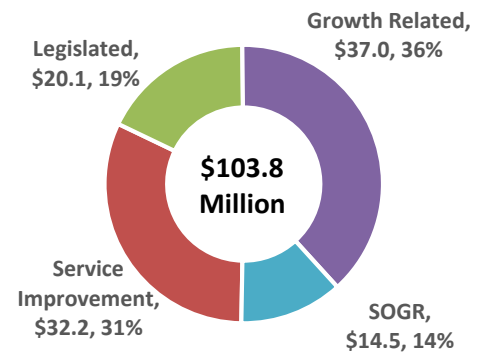


**2017 Capital Budget Highlights**

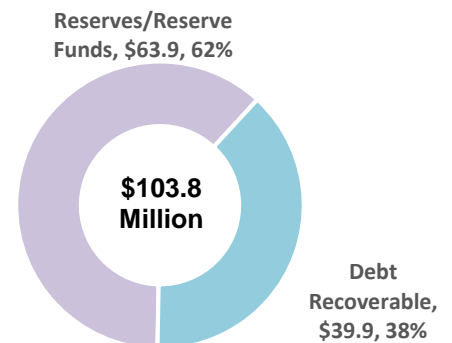
The 2017 Recommended Capital Budget for SWMS of \$103.777 million, excluding carry forward funding, will:

- Continue improving Diversion Systems with multi-unit organics & recycling containers and single family next generation Green Bin organics containers & waste / recycling containers (\$22.7 million);
- Continue building organics processing & waste capacity at the Dufferin & Disco facilities (\$37 million);
- Continue improving and maintaining Transfer Stations and Collection Yards and Diversion Facilities (\$12.5 million);
- Continue developing the Green Lane Landfill (\$10.2 million) with Gas Utilization projects (\$0.6 million) and providing perpetual care of closed landfills (\$9.9 million);
- Continue implementation of approved Waste Strategy options (\$5.4 million).

**2017-2026 Rec'd Capital Budget by Project Category**



**By Funding Source**



## Actions for Consideration

Approval of the 2017 Recommended Capital Budget as presented in these notes requires that:

1. City Council approve the 2017 Recommended Capital Budget for Solid Waste Management Services with a total project cost of \$27.719 million, and 2017 cash flow of \$105.451 million and future year commitments of \$185.188 million comprised of the following:
  - a) New Cash Flow Funds for:
    - i. 28 new / change in scope sub-projects with a 2017 total project cost of \$27.719 million that requires cash flow of \$(10.437) million in 2017 and future year cash flow commitments of \$35.186 million for 2018; \$9.186 million for 2019; \$(10.672) million for 2020; \$(0.870) million for 2021; \$(1.174) million for 2022; \$1.000 million for 2023; \$1.000 million for 2024; \$1.000 million for 2025; and \$3.500 million for 2026.
    - ii. 23 previously approved sub-projects with a 2017 cash flow of \$114.214 million; and future year cash flow commitments of \$48.939 million for 2018; \$38.259 million for 2019; \$28.694 million for 2020; \$13.450 million for 2021; \$15.175 million for 2022 and \$2.515 million for 2023.
  - b) 2016 approved cash flow for 8 previously approved sub-projects with carry forward funding from 2016 into 2017 of \$1.514 million and into 2018 of \$160.
2. City Council approve the 2018 - 2026 Recommended Capital Plan for Solid Waste Management Services totalling \$378.131 million in project estimates, comprised of \$22.643 million for 2018; \$38.042 million for 2019; \$40.465 million for 2020; \$41.369 million for 2021; \$40.432 million for 2022; \$52.804 million for 2023; \$47.302 million for 2024; \$48.152 million for 2025 and \$46.922 million in 2026.
3. City Council consider the operating costs (savings) of \$0.266 million net in 2017; \$0.393 million net in 2018; \$(0.703) million net in 2019; \$0.109 million net in 2020; \$(0.061) million net in 2021; \$(0.065) million for 2022; \$(0.018) million for 2023; \$(0.072) million for 2024; and \$(0.075) million for 2025 resulting from the approval of the 2017 Recommended Capital Budget for inclusion in the 2017 and future year operating budgets.
4. City Council approve 10 new temporary capital positions for the delivery of 2017 capital projects and that the duration for each temporary position not exceed the life and funding of its respective projects / sub-projects.
5. This report be considered concurrently with the Recommended 2017 Solid Waste Rates report (November 2016) from the Deputy City Manager and Chief Financial Officer and General Manager for Solid Waste Management Services.



# Part 1:

## 10-Year Recommended Capital Plan

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## Challenges and Opportunities

### Challenges:

- Ensuring adequate processing capacity for all materials.
- Maintaining facilities' State of Good Repair through ongoing asset management projects for transfer stations, collection yards and diversion facilities.
- Escalating contractor costs.
- Improving capital spend rate through analysis of capacity to spend and readiness to proceed.
- Uncertainty around future legislation in Ontario including the requirement to achieve revised criteria for multi-residential properties regarding provision of solid waste management services.

### Opportunities:

- Investment in biogas technologies to allow for future revenue streams.
- Development of a comprehensive Asset Management Program.
- Completion of Green Bin 2.0 rollout.

## Objectives and Priority Actions

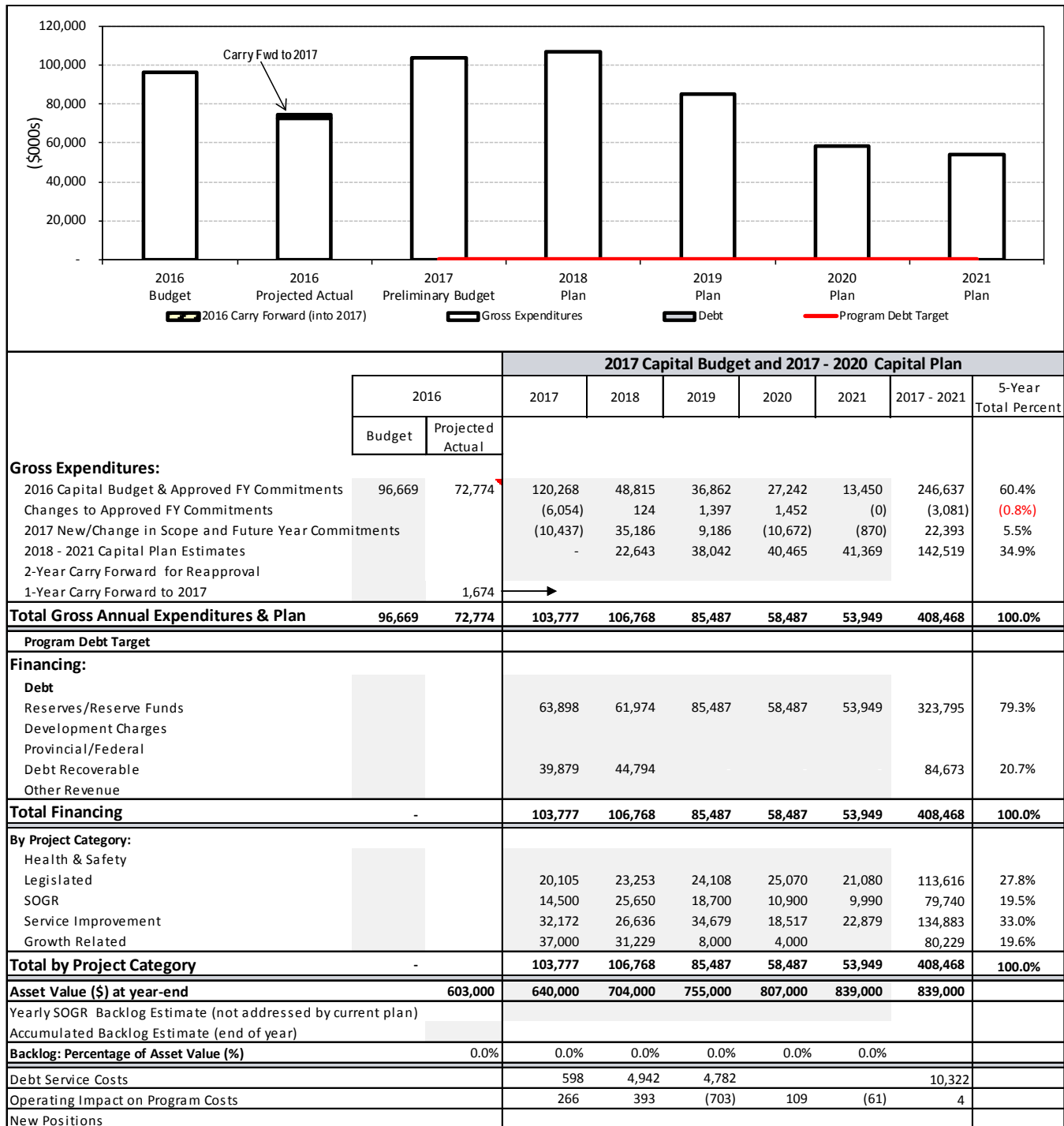
**Long Term Waste Management Strategy** will begin with the planning and implementation of City Council approved recommendations, including:

- New reduction, reuse, and recycling programs, with a specific emphasis on: increasing waste diversion from multi-residential buildings and the Industrial, Commercial and Institutional (ICI) sector.
- Piloting mixed waste processing with organics recovery technology.
- Enhanced promotion, education and enforcement of existing programs.

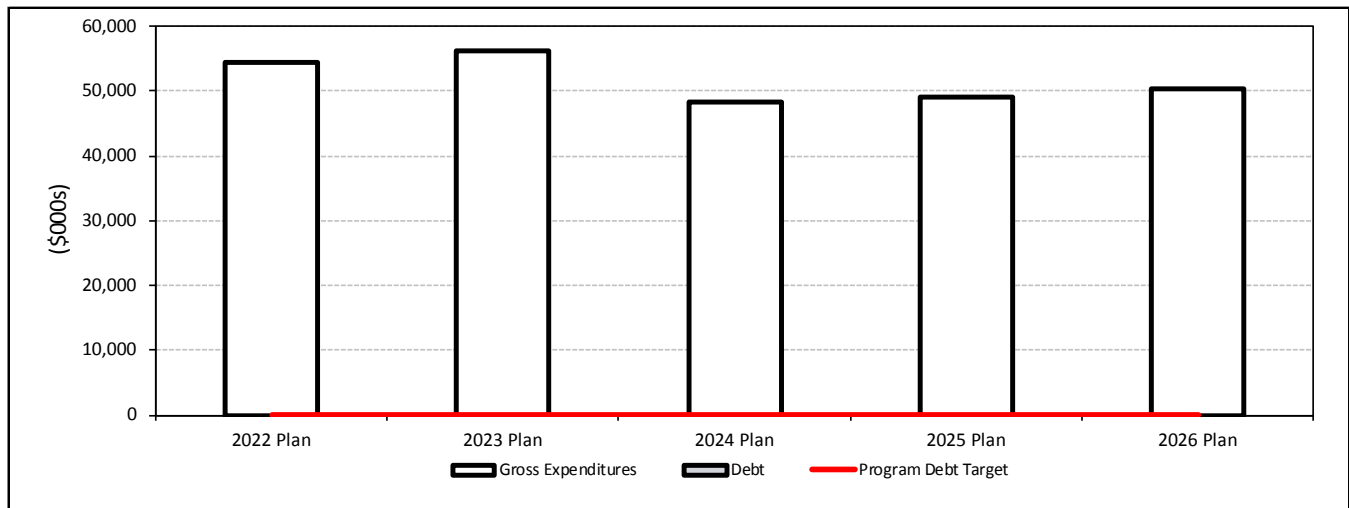
### Major ongoing and future committed investments include:

- Dufferin SSO Facility Expansion
- Green Bin 2.0 Rollout
- Transfer Station Asset Management
- Green Lane (Development and Perpetual Care)
- Strategic IT Initiatives

**Figure 1a**  
**10-Year Capital Plan**  
**2017 Recommended Capital Budget and 2018 - 2021 Recommended Capital Plan**



**Table 1b**  
**10-Year Capital Plan**  
**2022 - 2026 Recommended Capital Plan**



	2022 - 2026 Capital Plan						10-Year Total Percent
	2022	2023	2024	2025	2026	2017 - 2026	
<b>Gross Expenditures:</b>							
2016 Capital Budget & Approved FY Commitments	15,174	2,515				264,326	39.6%
Changes to Approved FY Commitments	1					(3,080)	(0.5%)
2017 New/Change in Scope and Future Year Commitments	(1,174)	1,000	1,000	1,000	3,500	27,719	4.2%
2022 - 2026 Capital Plan Estimates	40,432	52,804	47,302	48,152	46,922	378,131	56.7%
2-Year Carry Forward for Reapproval						-	
<b>Total Gross Annual Expenditures &amp; Plan</b>	<b>54,433</b>	<b>56,319</b>	<b>48,302</b>	<b>49,152</b>	<b>50,422</b>	<b>667,096</b>	<b>100.0%</b>
<b>Program Debt Target</b>							
<b>Financing:</b>							
<b>Debt</b>							
Reserves/Reserve Funds	54,433	56,319	48,302	49,152	50,422	582,423	87.3%
Development Charges							
Provincial/Federal							
Debt Recoverable						84,673	12.7%
Other Revenue							
<b>Total Financing</b>	<b>54,433</b>	<b>56,319</b>	<b>48,302</b>	<b>49,152</b>	<b>50,422</b>	<b>667,096</b>	<b>100.0%</b>
<b>By Project Category:</b>							
Health & Safety							
Legislated	19,501	19,815	19,815	19,815	19,815	212,377	31.8%
SOGR	8,000	7,160	7,600	7,850	7,850	118,200	17.7%
Service Improvement	26,932	29,344	20,887	21,487	22,757	256,290	38.4%
Growth Related						80,229	12.0%
<b>Total by Project Category</b>	<b>54,433</b>	<b>56,319</b>	<b>48,302</b>	<b>49,152</b>	<b>50,422</b>	<b>667,096</b>	<b>100.0%</b>
<b>Asset Value(\$)</b> at year-end	<b>840,000</b>	<b>842,000</b>	<b>842,000</b>	<b>842,000</b>	<b>842,000</b>	<b>842,000</b>	
Yearly SOGR Backlog Estimate (not addressed by current plan)							
Accumulated Backlog Estimate (end of year)							
<b>Backlog: Percentage of Asset Value (%)</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>		
Debt Service Costs	0	0	0	0	0	10,322	
Operating Impact on Program Costs	(65)	(18)	(72)	(75)		(226)	
New Positions							

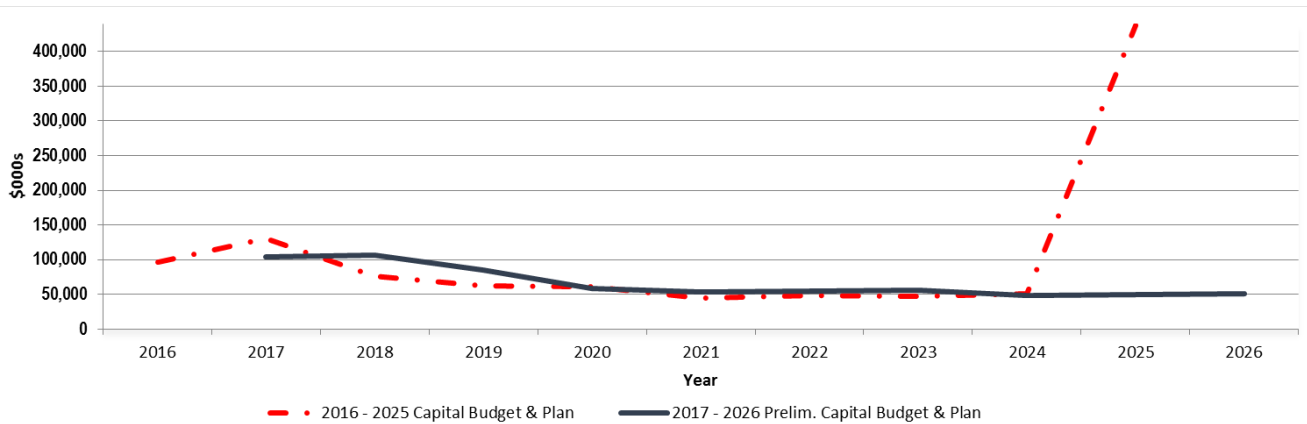


**Key Changes to the 2017 - 2025 Approved Capital Plan**

The 2017 Recommended Capital Budget and the 2018 – 2026 Recommended Capital Plan reflects a decrease of \$388.581 million in capital funding from the 2016 - 2025 Approved Capital Plan.

The table and chart below provide a breakdown of the \$388.581 million or 36.8% decrease in the Capital Program on an annual basis from 2016 to 2026.

**Chart 1  
Changes to the 2016 - 2025 Approved Capital Plan (In \$000s)**



(\$000s)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	10-Year Total
2016 - 2025 Capital Budget & Plan	96,669	130,772	76,535	61,958	60,579	44,614	48,783	47,011	50,501	438,255		1,055,677
2017 - 2026 Prelim. Capital Budget & Plan		103,777	106,768	85,487	58,487	53,949	54,433	56,319	48,302	49,152	50,422	667,096
Change %		(20.6%)	39.5%	38.0%	(3.5%)	20.9%	11.6%	19.8%	(4.4%)	(88.8%)		(36.8%)
Change \$		(26,995)	30,233	23,529	(2,092)	9,335	5,650	9,308	(2,199)	(389,103)		(388,581)

As made evident in the chart above, the \$388.581 million decrease in the Capital Program reflects changes approved by Council regarding the implementation of the Waste Strategy and associated annual cash flow funding estimates. As a result, \$500 million in funding to implement the Waste Strategy (including a \$404.6 million provisional estimate) that were included in the 2016 – 2025 Plan have been replaced with \$138.3 million in capital funding in defined Waste Strategy costs.

As reflected in Table 2 on the following page, changes to the 2016 – 2025 Approved Capital Plan, specifically the \$342.334 million decrease in capital funding over the nine common years of the Capital Plans (2016 – 2025) arise from the reprioritization of Solid Waste Management Services' capital projects based on the following factors:

- A requirement to invest in Transfer Station Asset Management in the short term to ensure facilities are maintained in a state of good repair.
- Additional cost for the Dufferin organics processing facility as well as a revised project schedule.
- On-going revision to the estimates for the Waste Strategy with the majority of funding being moved beyond the year 2026.

A summary of project changes for the years 2016 to 2024 totalling \$342.334 million are provided below:

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

\$000s	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2017 - 2025 Total
2016 - 2025 Capital Budget & Plan	96,669	130,772	76,535	61,958	60,579	44,614	48,783	47,011	50,501	438,255		959,008
2017 - 2026 Requested Capital Budget	-	103,777	106,768	85,487	58,487	53,949	54,433	56,319	48,302	49,152	50,422	616,674
<b>Capital Budget &amp; Plan Changes (2017 - 2025)</b>		<b>(26,995)</b>	<b>30,233</b>	<b>23,529</b>	<b>(2,092)</b>	<b>9,335</b>	<b>5,650</b>	<b>9,308</b>	<b>(2,199)</b>	<b>(389,103)</b>		<b>(342,334)</b>

	Total Project Cost	2017	2018	2019	2020	2021	2022	2023	2024	2025	2017 - 2025	2026	Revised Total Project Cost
<b>Previously Approved</b>													
Transfer Stn Asset Mgmt		(2,102)	2,098	3,145	3,995	5,000	1,935	1,095	(955)	2,150	16,361	6,150	
Diversion Facilities Asset Mgmt		(1,000)	(1,500)	(700)							(3,200)	1,500	
Collection Yard Asset Mgmt												200	
Diversion Systems		2,900	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	10,900	3,600	
Landfill Development		(1,501)					1				(1,500)	14,815	
Perpetual Care of Landfills					(64)	(165)	(3,272)	(3,731)	(3,731)	(3,731)	(14,694)	5,000	
Dufferin SSRM Facility	3,077	(50)	(50)								(100)		2,977
Dufferin SSO Facility	74,943	(5,000)	5,000										74,943
Disco SSO Facility	87,506												87,506
Biogas Utilization	11,182			240	900	3,570						4,710	15,892
Landfill Gas Utilization	19,645												19,645
Long Term Waste Management Strategy	497,505	(2,615)	(2,864)	(1,543)	(2,808)	1,801	8,160	10,944	1,487	(388,522)	(375,960)	17,657	139,202
SWM IT Application Initiatives	10,061	(970)	(1,001)	3,632	844						2,505		12,566
IT Corporate Initiatives	11,266	(2,738)	299	1,569	1,713							843	12,109
Engineering Planning Studies	15,000	(1,500)	(700)								(2,200)	1,500	14,300
<b>Total Previously Approved</b>		<b>(14,576)</b>	<b>2,282</b>	<b>7,343</b>	<b>5,580</b>	<b>11,206</b>	<b>7,824</b>	<b>9,308</b>	<b>(2,199)</b>	<b>(389,103)</b>	<b>(362,335)</b>	<b>50,422</b>	<b>379,140</b>
<b>Change in Scope</b>													
Transfer Stn Asset Mgmt		2,436	2,055	7,000							11,491		
Diversion Systems -SSO Kit Contain.		100									100		
Diversion Facilities Asset Mgmt		2,000	2,750	700							5,450		
Perpetual Care of Landfills		(66)	(325)	856							465		
Landfill Gas Utilization		262	5,120	4,078	(9,460)								
Landfill Development		(5,887)	(3,920)	(1,476)	(2,212)	(1,870)	(2,174)				(17,539)		
Dufferin SSO Facility		(6,006)	6,220	(214)									
Disco SSO Facility		(4,405)	4,405										
Long Term Waste Management Strategy													
Biogas Utilization		(2,587)	2,945	(2,758)							(2,400)		(2,400)
IT Corporate Initiatives		(266)									(266)		(266)
Engineering Planning Studies		1,500	700								2,200		2,200
<b>Total Change in Scope</b>		<b>(12,919)</b>	<b>19,950</b>	<b>8,186</b>	<b>(11,672)</b>	<b>(1,870)</b>	<b>(2,174)</b>				<b>(499)</b>		<b>(466)</b>
<b>New</b>													
Dufferin Waste Facility		500	8,000	8,000	4,000						20,500		20,500
<b>Total New</b>		<b>500</b>	<b>8,000</b>	<b>8,000</b>	<b>4,000</b>						<b>20,500</b>		<b>20,500</b>
<b>Total Changes</b>		<b>(26,995)</b>	<b>30,232</b>	<b>23,529</b>	<b>(2,092)</b>	<b>9,336</b>	<b>5,650</b>	<b>9,308</b>	<b>(2,199)</b>	<b>(389,103)</b>	<b>(342,334)</b>	<b>50,422</b>	<b>399,174</b>

**Significant Capital Project Changes in Solid Waste Management Services:**

Cash flow funding for the following previously approved capital projects have been adjusted based on historical spending rates, capacity and expected progress and completion of the projects, as outlined below:

- **Transfer Station Asset Management:** The overall project cost has increased by \$16.4 million over the period 2017 to 2025 due to increased requirements to maintain the SOGR (State of Good Repair) of transfer station facilities particularly at Dufferin and Bermondsey. This increase will fund repair work for various projects such as roofing, paving, drainage systems, sprinkler systems and repairs to tipping floors.
- **Diversion Systems:** The recommended increase of \$10.9 million over the period 2017 to 2025 is primarily driven by the Replacement Residential Bins project. A POA was approved for the contract to add additional funds in 2014. The added service has enhanced customer service and operational efficiencies. Additional funds are required due to an increase in the overall demand from residents for bin-related service requests due to campaigns to upsize recycle bins or downsize garbage bins to increase participation in diversion programs.

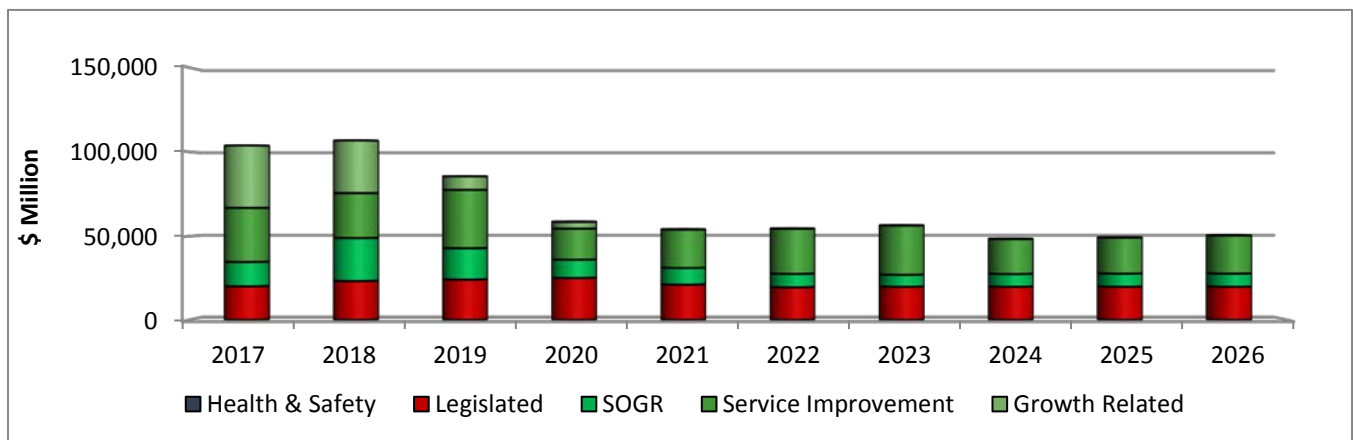
- **Long Term Waste Management Strategy:** This project for the Waste Strategy is being decreased by \$376 million. Estimated cash flows per year for future diversion and waste management programs and facilities have been deferred and extended from the period 2016 to 2025 to now encompass the period 2017 to 2026 and beyond. The 10-Year Plan now includes \$138 million to begin the implementation phase of the strategy with possible facility requirements starting in 2027. Cost estimates reflect the July 2016 Council approval of the Waste Strategy.

New project totalling \$20.5 million added to the 2017 – 2026 Approved Capital Plan:

- **Dufferin Waste Facility:** This project is to fund the design, contract administration, and construction of a new staff facility at the Dufferin Waste Management Facility (DWMF) at 75 Vanley Crescent. An assessment of staff facility needs at the DWMF was completed in 2015 by a consultant to address future staff facility needs and current deficiencies. The assessment recommended that a new staff facility be implemented to help staff further improve efficient and effective delivery of services within SWMS. The execution of this project will address existing and future staff facility needs at the DWMF and SWMS will be further aligned with the goals of the SWMS strategic plan: Motivated and Engaged Employees and Operation Excellence.

**2017 – 2026 Recommended Capital Plan**

**Chart 2  
2017 – 2026 Recommended Capital Plan by Project Category (In \$000s)**



As illustrated in the chart above, the 10-Year Capital Plan for SWMS of \$667.1 million provides 38.4% for Service Improvement projects as priorities and Legislative mandated projects representing 31.8%. The remaining funding is comprised of 17.7% funding for State of Good Repair (SOGR) projects with Growth Related projects representing 12% over the 10-year period.

- Legislated projects include on-going landfill projects at the Green Lane landfill and the perpetual care of closed landfill sites.
- Funding is dedicated to State of Good Repair projects for Transfer Stations, Collection Yards and Diversion Facilities and is relatively constant over the 10-year plan with more emphasis on the short term to complete required repairs.
- Service Improvement projects comprise all bin purchases, gas utilization projects, IT projects and waste diversion programs and facilities resulting from an approved Waste Strategy.
- The Growth Related projects are major organics (SSO) processing facilities at Dufferin and Disco including a new staff facilities at the Dufferin Waste site.

The following table provides details by project category within the 2017 – 2026 Recommended Capital Budget and Plan for SWMS:

**Table 3  
Summary of Capital Plan by Project Category (In \$000s)**

	Total App'd Cash Flows to Date*	2017 Budget	2018 Plan	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	2017 - 2026 Total	Total Project Cost
<b>Legislated</b>													
<i>Perpetual Care of Landfills</i>	*	9,876	8,100	9,000	8,000	8,000	5,000	5,000	5,000	5,000	5,000	67,976	*
<i>Landfill Development</i>	*	10,229	15,153	15,108	17,070	13,080	14,501	14,815	14,815	14,815	14,815	144,401	*
<b>Sub-Total</b>		<b>20,105</b>	<b>23,253</b>	<b>24,108</b>	<b>25,070</b>	<b>21,080</b>	<b>19,501</b>	<b>19,815</b>	<b>19,815</b>	<b>19,815</b>	<b>19,815</b>	<b>212,377</b>	
<b>State of Good Repair</b>													
<i>Transfer Stn Asset Mgmt</i>	*	12,300	22,700	17,000	9,200	8,290	6,300	5,460	5,900	6,150	6,150	99,450	*
<i>Collection Yard Asset Mgmt</i>	*	200	200	200	200	200	200	200	200	200	200	2,000	*
<i>Diversion Facilities Asset Mgmt</i>	*	2,000	2,750	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	16,750	*
<b>Sub-Total</b>		<b>14,500</b>	<b>25,650</b>	<b>18,700</b>	<b>10,900</b>	<b>9,990</b>	<b>8,000</b>	<b>7,160</b>	<b>7,600</b>	<b>7,850</b>	<b>7,850</b>	<b>118,200</b>	
<b>Service Improvements</b>													
<i>Diversion Systems</i>	*	22,670	3,900	3,900	3,900	3,900	3,900	3,900	3,900	3,900	3,600	57,470	*
<i>Green Lane: Landfill Gas Utilization</i>	19,645	462	5,150	13,538	-	-	-	-	-	-	-	19,150	19,645
<i>Biogas Utilization</i>	11,182	188	3,435	1,442	900	3,570	-	-	-	-	-	9,535	13,492
<i>Dufferin SSRM Facility</i>	3,077	-	-	-	-	-	-	-	-	-	-	-	2,977
<i>Engineering Planning Studies</i>	15,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	15,000	16,500
<i>SWM IT Application Initiatives</i>	10,061	964	2,226	4,066	964	108	372	-	-	-	-	8,700	12,566
<i>IT Corporate Initiatives</i>	11,266	1,003	3,289	1,776	2,061	-	-	-	-	-	-	8,129	11,843
<i>Long Term Waste Mgmt Strategy</i>	502,407	5,385	7,136	8,457	9,192	13,801	21,160	23,944	15,487	16,087	17,657	138,306	144,104
<b>Sub-Total</b>	<b>572,638</b>	<b>32,172</b>	<b>26,636</b>	<b>34,679</b>	<b>18,517</b>	<b>22,879</b>	<b>26,932</b>	<b>29,344</b>	<b>20,887</b>	<b>21,487</b>	<b>22,757</b>	<b>256,290</b>	<b>221,127</b>
<b>Growth Related</b>													
<i>Dufferin SSO Facility</i>	74,943	36,500	18,824	-	-	-	-	-	-	-	-	55,324	74,943
<i>Disco SSO Facility</i>	87,506	-	4,405	-	-	-	-	-	-	-	-	4,405	87,506
<i>Dufferin Waste Facility</i>	n/a	500	8,000	8,000	4,000	-	-	-	-	-	-	20,500	20,500
<b>Sub-Total</b>	<b>162,449</b>	<b>37,000</b>	<b>31,229</b>	<b>8,000</b>	<b>4,000</b>							<b>80,229</b>	<b>182,949</b>
<b>Total Expenditures by Category (excluding carry forward)</b>	<b>735,088</b>	<b>103,777</b>	<b>106,768</b>	<b>85,487</b>	<b>58,487</b>	<b>53,949</b>	<b>54,433</b>	<b>56,319</b>	<b>48,302</b>	<b>49,152</b>	<b>50,422</b>	<b>667,096</b>	<b>404,077</b>

**2017 – 2026 Capital Projects**

The 10-Year Capital Plan for SWMS is primarily comprised of Growth Related and Service Improvement projects for facilities; SOGR and Legislated projects for facility and landfill development and on-going asset management. Dufferin organics facility expansion / renovation and implementation of the Waste Strategy have been included in the 10-Year Capital Plan to progress toward achieving the waste diversion target of 70%.

*Growth Related*

- Growth Related projects account for \$80.229 million or 12% of the total 10-Year Recommended Capital Plan.
  - Dufferin Organics Facility (\$55.324 million) – Construction of this facility that began in 2012 and will increase organics processing capacity from 25,000 to approximately 55,000 tonnes per year to expand the receiving area and to install a system to treat wastewater before discharge to the sanitary sewer.

*Service Improvements*

- Service Improvement projects account for \$256.290 million or 38.4% of the total 10-Year Recommended Capital Plan.
  - Diversion Systems (\$57.470 million) – Funding is provided for implementing and replacing garbage, recycling, and organics containers for single family residential and multi-residential buildings as well as recycling upgrades for multi-residential buildings.
  - Landfill Gas Utilization and Biogas Utilization (\$28.685 million) –The Landfill Gas project with cash flows that total \$19.15 million over the 10-Year plan is located at Green Lane; the Biogas project (\$9.5 million) will address requirements at the Dufferin/Disco organics processing facilities. The project funding will provide infrastructure whereby gas produced by decomposition of waste will be converted to heat and electricity.
  - Waste Strategy (\$138.306 million) – This project has a total project cost of approximately \$698 million with most cash flow funding planned beyond the last year of the 10-Year Capital Plan period to 2046.

Funding is for professional technical services to assist with the starting implementing study results, securing any Provincially mandated environmental approvals and permits, Request for Proposal (RFP) and construction service efforts required for a vendor procurement process.

- SWM IT Application Initiatives (\$8.7 million) – Funding is provided in order to implement various technology solutions in SWMS, including transfer station efficiencies, asset management, RFID/GPS systems, revenue forecasting, eService delivery performance measurement, contract management and business process improvements.
- IT Corporate Initiatives (\$8.129 million) – This project is primarily comprised of the Work Management System which is the multi-year project to procure and implement a common new Work Management System that will be utilized by Toronto Water, Transportation Services, Parks Forestry & Recreation and SWMS.

#### *Legislated*

- Legislated projects include cash flow funding of \$212.377 or 31.8% of the total 10-Year Recommended Capital Plan funding.
  - Green Lane Landfill Cell Development, Systems & Acquisition (\$144.401 million) – The 10-Year Recommended Capital Plan provides annual funding for cell development at the Green Lane Landfill site including new waste cell excavation and construction, landfill systems and buffer land acquisition. Landfill Systems projects include leachate and gas control systems as well as final cover/storm control/site services and engineering and monitoring capability.
  - Perpetual Care (\$67.976 million) – Capital works necessary for the ongoing maintenance of closed environmentally sound landfill sites after primary operations have ended. Cash flow funding estimates allow for an average of \$8.7 million annually for ongoing control system requirements.

#### *State of Good Repair (SOGR)*

- SOGR projects account for \$118.200 million or 17.7% of the total 10-Year Recommended Capital Plan.
  - Transfer Station, Collection Yard & Diversion Facility Asset Management (\$12.5 million) – Projects that provide funding to build various improvements to these facilities that are required to meet health and safety, operational and environmental requirements.

### **2017 Recommended Capital Budget and Future Year Commitments**

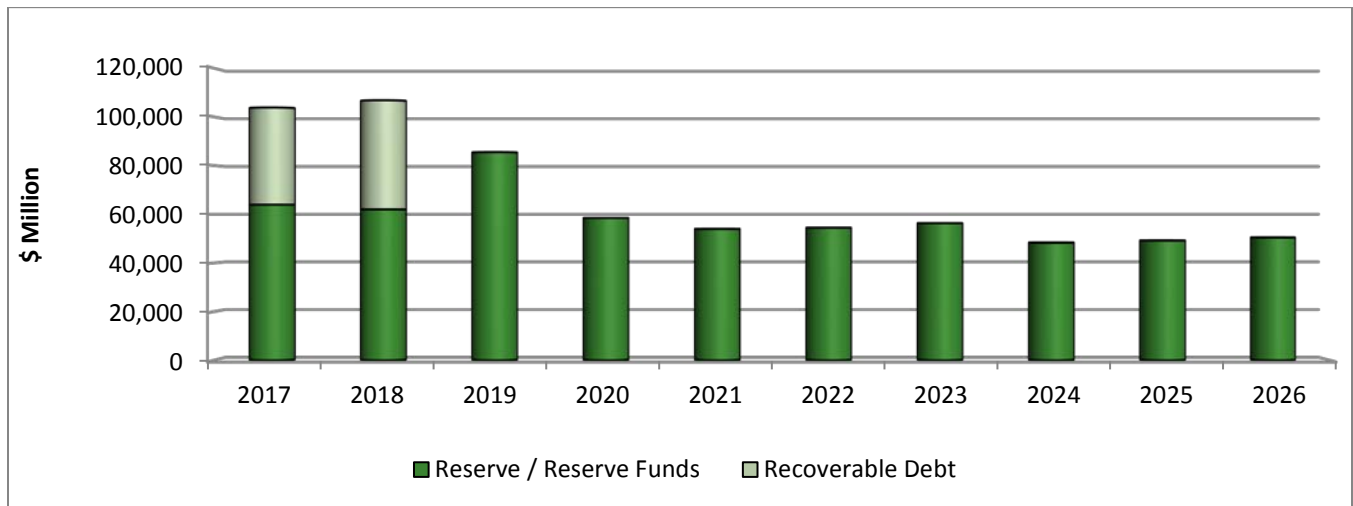
Included as a sub-set of the 10-Year Capital Plan is the 2017 Recommended Capital Budget and Future Year Commitments, that consists of 2017 and future year cash flow for projects previously approved by Council; adjustments (Scope Change) to those previously approved projects; as well as new projects that collectively require Council approval to begin, continue or complete capital work.

- Approval of the 2017 Recommended Capital Budget of \$103.777 million will result in the future year funding commitments of \$84.125 million in 2018, \$47.445 million in 2019, \$18.022 million in 2020, \$12.580 million in 2021 and \$23 million from 2022 to 2026 for a total of \$288.965 million.
- Table 3a below lists the 2017 Recommended Capital Budget and Future Year Commitments for SWMS that will be approved through the 2017 Capital Budget:

**Table 3a**  
**2017 Cash Flow & Future Year Commitments (In \$000s)**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total 2017 Cash Flow & FY Commits
<b>Expenditures:</b>											
Previously Approved											
<i>Diversion Systems</i>	19,570										19,570
<i>Perpetual Care of Landfills</i>	9,942	8,425	8,144								26,511
<i>Collection Yard Asset Mgmt</i>	200										200
<i>Landfill Development</i>	16,316	17,603	24,544	27,242	13,450	15,175	2,515				116,845
<i>Dufferin SSO Facility</i>	47,506	7,604	214								55,324
<i>Disco SSO Facility</i>	4,405										4,405
<i>Biogas Utilization</i>	2,775	490	3,960								7,225
<i>SWM IT Application Initiatives</i>	96										96
<i>IT Corporate Initiatives</i>	1,440		1,397	1,452							7,141
<i>Transfer Stn Asset Mgmt</i>	11,964	11,965									23,929
Subtotal	114,214	48,939	38,259	28,694	13,450	15,175	2,515	-	-	-	261,246
Change in Scope											
<i>Diversion Systems</i>	100										100
<i>Perpetual Care of Landfills</i>	(66)	(325)	856								465
<i>Landfill Development</i>	(5,625)	1,200	2,602	(11,672)	(1,870)	(2,174)					(17,539)
<i>Dufferin SSO Facility</i>	(11,006)	11,220	(214)								-
<i>Disco SSO Facility</i>	(4,405)	4,405									-
<i>Biogas Utilization</i>	(2,587)	2,945	(2,758)								(2,400)
<i>IT Corporate Initiatives</i>	(437)										(437)
<i>Transfer Stn Asset Mgmt</i>	336	4,155	7,000								11,491
<i>Diversion Facilities Asset Mgmt</i>	2,000	2,750	700								5,450
<i>Engineering Planning Studies</i>	1,500	700									2,200
Subtotal	(20,190)	27,050	8,186	(11,672)	(1,870)	(2,174)	-	-	-	-	(670)
New w/Future Year											
<i>Diversion Systems</i>	3,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	3,500	14,500
<i>Long Term Waste Mgmt Strategy</i>	5,385	7,136									12,521
<i>Dufferin Waste Facility</i>	500										500
<i>SWM IT Application Initiatives</i>	868										868
Subtotal	9,753	8,136	1,000	1,000	1,000	1,000	1,000	1,000	1,000	3,500	28,389
<b>Total Expenditure</b>	<b>103,777</b>	<b>84,125</b>	<b>47,445</b>	<b>18,022</b>	<b>12,580</b>	<b>14,001</b>	<b>3,515</b>	<b>1,000</b>	<b>1,000</b>	<b>3,500</b>	<b>288,965</b>
<b>Financing:</b>											
Debt/CFC											-
Debt Recoverable	39,879	41,654									81,533
Other											-
Reserves/Res Funds	63,898	42,471	47,445	18,022	12,580	14,001	3,515	1,000	1,000	3,500	207,432
Development Charges											-
Provincial/Federal											-
<b>Total Financing</b>	<b>103,777</b>	<b>84,125</b>	<b>47,445</b>	<b>18,022</b>	<b>12,580</b>	<b>14,001</b>	<b>3,515</b>	<b>1,000</b>	<b>1,000</b>	<b>3,500</b>	<b>288,965</b>

**Chart 3**  
**2017 – 2026 Recommended Capital Plan by Funding Source (In \$000s)**



The 10-Year Recommended Capital Plan of \$667.096 million in cash flow funding will be financed by the following sources:

- Reserve and Reserve Funds constitute \$582.423 million or 87.3% of required funding over 10 years. For the 2017-2026 Capital Plan, all projects will be financed through reserve funds starting in 2019. This is predicated on a sustainable financing model that will support the reserve funds through revenue from volume-based user fees.
  - Following completion and Council approval of the Waste Strategy in July 2016, current rate modeling has determined the required SWMS rate increases that will be necessary to continue the transition towards a fully sustainable utility, reducing the application of recoverable debt where appropriate as is reflected in this Capital Plan.
- Recoverable Debt, which provides \$84.673 million or 12.7% of the 10-Year Capital Budget and Plan's funding, is dedicated primarily to the following major capital projects in 2017 and 2018 only:
  - Green Lane Landfill Development (\$26.323 million).
  - Dufferin & Disco SSO Facilities (\$41.810 million).
  - Waste Strategy (\$8.764 million).
  - Biogas Utilization (\$2.537)
  - SWMS IT Projects (\$5.239)
  - City debt guidelines are not issued for SWMS, as debt is recoverable from user fees with repayment of the debt servicing costs funded in SWMS annual Operating Budget.

**State of Good Repair (SOGR) Backlog**

- Solid Waste Management Services has not currently identified a backlog of State of Good Repair projects. At this time, the funding allocated in the 10-Year Capital Plan for SWMS for State of Good Repair projects is deemed appropriate to maintain the assets in a steady state of good repair.
- SWMS is currently in the process of a thorough review of the state of good repair of their capital assets.

- Consultants have been hired to develop an Asset Management Framework together with an implementation plan to address business gaps. The implementation plan will generate asset management plans for different asset classes. The asset management plans will provide projected capital and maintenance spending budgets for SOGR based on asset conditions while ensuring specific levels of service.

**10-Year Capital Plan: Net Operating Budget Impact**

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

Projects	2017 Budget		2018 Plan		2019 Plan		2020 Plan		2021 Plan		2017 - 2021		2017 - 2026	
	\$000s	POS.	\$000s	POS.	\$000s	POS.	\$000s	POS.	\$000s	POS.	\$000s	POS.	\$000s	POS.
<b>Previously Approved</b>														
Biogas Utilization - Dufferin and Disco SSO					(1,007.0)		(58.0)		(61.0)		(1,126.0)		(1,406.0)	
Disco SSO Processing Facilities	(44.0)		(44.0)								(88.0)		(88.0)	
IT Stakeholder-Cust Relation Mgmt-2014					74.0						74.0		74.0	
IT Transfer Station Efficiencies-2014	224.0		90.0								314.0		314.0	
IT Electronic Doc & Records Mgmt -2015			52.0								52.0		52.0	
IT Work Mgmt System Implementation	86.0		86.0		180.0						352.0		352.0	
<b>New Projects - 2017</b>														
IT KPI Reporting and Measuring - Change			209.0								209.0		209.0	
<b>New Projects - Future Years</b>														
IT Business Systems Integration							117.0				117.0		117.0	
IT SWMS eService Delivery														50.0
IT Time & Attendance Management Solution					50.0						50.0		50.0	
IT Learning Management Solution (LMS)							50.0				50.0		50.0	
<b>Total (Net)</b>	<b>266.0</b>	<b>-</b>	<b>393.0</b>	<b>-</b>	<b>(703.0)</b>	<b>-</b>	<b>109.0</b>	<b>-</b>	<b>(61.0)</b>	<b>-</b>	<b>4.0</b>	<b>-</b>	<b>(226.0)</b>	<b>-</b>

The 10-Year Recommended Capital Plan will decrease future year Operating Budgets by a total of \$0.226 million net over the 2017 – 2026 period, as shown in the table above.

This is mainly comprised of operating impacts from the following projects once completed:

- Biogas Utilization – The City's organics processing facilities at the Dufferin Facility and Disco Road transfer station generate combustible biogas through anaerobic digestion. The biogas can be similarly utilized as a source of renewable energy (electricity or renewable natural gas) to provide an economic benefit to the City.
  - The sale of the renewable energy product will achieve a favourable return on the initial capital investment of \$13.8 million and will generate a revenue stream over a 20 year period. By 2026, the estimated incremental net operating revenue is \$1.406 million.
- Various Information Technology projects for SWMS which will address issues such as key performance indicators reporting and monitoring, business system integration, document management and e-service delivery. By 2026, the estimated incremental net operating cost is estimated to be \$1.268 million.

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)	2017	2018	2019	2020	2021	2022 - 2026	
2nd Generation Green Bin Implementation	SOL000065-110	Chief Booth Attendant	4.0	01/01/2016	12/31/2017	(243.6)						
SWMS Information Model	SOL907919-23	Systems Integrator	2.0	06/09/2014	03/01/2017	(167.7)						
Stakeholder-Customer Relationship Mgmt	SOL907919-27	Project Lead	1.0	09/08/2017	04/12/2019	37.0	37.0	(74.1)				
Time & Attendance Management Solution (TAMS)	SOL907956-6	Sr. Systems Integrator	1.0	05/01/2017	12/31/2018	92.9	23.2	(116.1)				
Work Management System (WMS) Implementation	SOL907956-8	Project Lead	2.0	05/01/2013	12/31/2018			(208.5)				
Waste Strategy	SOL907632	TBD	10.0	01/01/2017		1,158.9						
<b>Total</b>			<b>20.0</b>			<b>877.5</b>	<b>60.3</b>	<b>(398.7)</b>	-	-	-	-

Approval of the 2017 – 2026 Recommended Capital Budget and Plan will result in a requirement for 20 new temporary capital project delivery positions to implement the following projects:

- *SSO Multi-Residential Container Implementation* – Implementation of organics collection in apartments commenced in 2009. The program was to be rolled out over a period of years. The plan included a requirement for 9.5 temporary capital positions to deliver the capital project for organic Multi-Residential Container Implementation. Temporary Chief Booth Attendants were required for bin distribution activities. Originally, after implementation, there is to be a corresponding operating cost reduction of \$0.478 million in 2016. However, four temporary staff are now projected to be required until 2017.
- *SWMS and Corporate IT Initiatives* – Various technology projects such as the SWMS Information Model, Stakeholder-Customer Relationship Management, Time and Attendance Management and the Work Management System will require 10 temporary staff including System Integrators and Project Leads from 2016 through 2018.
- *Long Term Waste Management Strategy (LTWMS) Implementation* includes five initiatives in 2017 at a total cost of \$1.159 million. This cost is recoverable from capital. The Five initiatives proposed are as follows:
  1. Increased Promotion and Education to enhance current waste programs and support the implementation of the Strategy.
  2. Implementation of Waste Strategy programs that support reduction and reuse of materials, supporting increased diversion in multi-residential buildings and supporting partnerships to incentivize diversion.
  3. Testing technology and plan, build design of Mixed Waste Processing facility with Organics Recovery.
  4. Planning and implementation of enhanced services for ICI customers, and research and development of programs to divert construction, renovation and demolition waste at transfer stations.
  5. A new unit within SWMS that advances innovative ideas and solutions, promoting resource conservation and supporting the goal of a circular economy.

It is recommended that Council approve these new 10 temporary capital positions for the delivery of the above capital projects / sub-projects 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

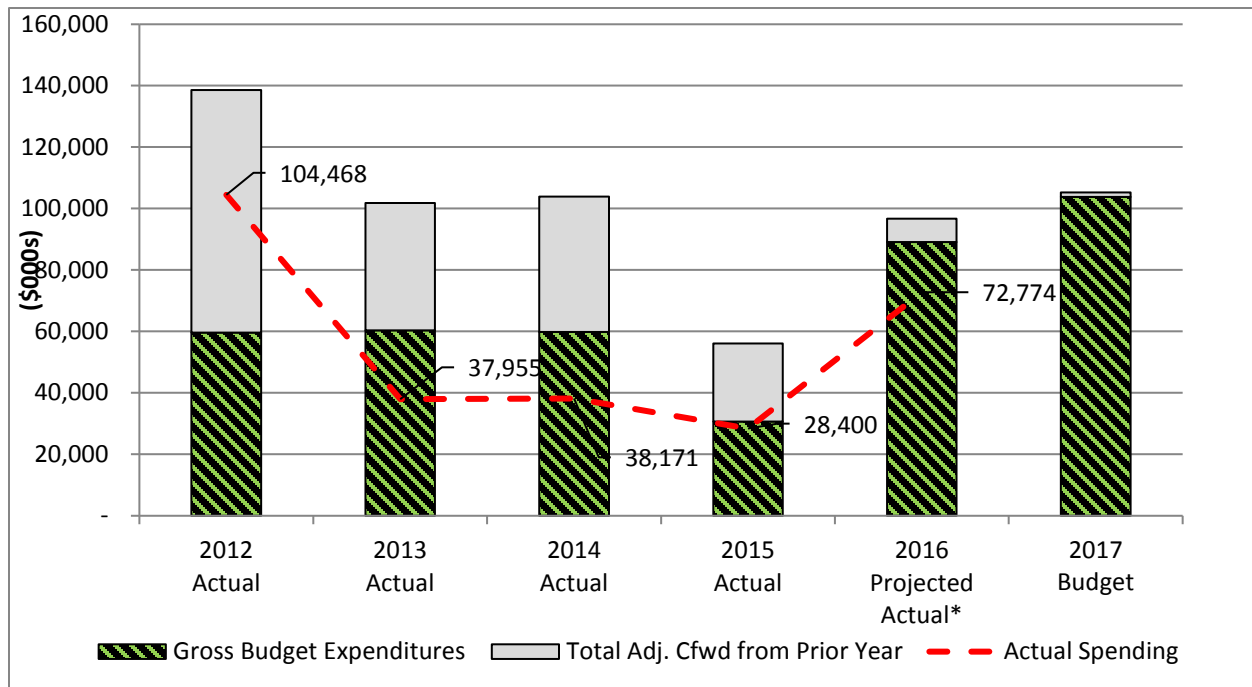
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## Issues for Discussion

### Issues Impacting the 2017 Capital Budget

#### Program Spending Capacity and Readiness to Proceed with Capital Projects

- City Council, at the meeting of July 12, 2016 considered the report *EX16.37 2017 Budget Process - Budget Directions and Schedule* and directed staff to:
  - Submit their 2017 - 2026 Capital Budget and Plans requiring that annual cash flow funding estimates be examined to more realistically match cash flow spending to project activities and timing, especially in the first 5 years of the Capital Plan's timeframe.
- The chart below shows the spending trend of the total capital program for SWMS since 2012. The budget bars are split between new annual cash flows and funding carried forward from prior years.



- This chart illustrates that spending gains are anticipated in 2016 based on cash flow adjustments approved as part of the 2016 Budget process; with those adjustments approved in order to address under spending experienced from 2013 to 2015.
- Further efforts to align budgeted cash flows with the Programs capacity to spend have been made as part of the 2017 Budget process, with these actions taken:
  - ✓ The 2017 Recommended Capital Budget includes a recommended \$22.8 million in 2017 cash flow funding deferrals into 2018 and future years based on a review of each capital project's readiness to proceed in 2017 and the capacity to spend in each capital program area. 2017 adjustments include:
    - Dufferin SSO Facility (\$11.0 million);
    - Disco SSO facility (\$4.4 million);
    - IT Initiatives (\$3.7 million); and

- Biogas Utilization (\$2.6 million).
- ✓ The 2017 Recommended Capital Budget and Plan also recommends \$185.2 million in future year cash flows commitments that will allow the Program to initiate multi-year capital work that will ultimately result in greater spending and delivery rates in future years.
- SWMS in consultation with the Financial Planning Division, will continue to monitor spending in 2017, report capital spending quarterly through the City's variance reports and report on any future adjustments as required, as part of the 2018 Budget process.

## Issues Impacting the 10-Year Capital Plan

### ***Achieving the 70% Diversion Target & the Long Term Waste Management Strategy***

- The Solid Waste Management Services' capital program is driven primarily by the City's objective to achieve the 70% diversion target and it is therefore on that basis that the 2017 Capital Budget and 2018-2026 Capital Plan has been established.
- A significant change in the 10-Year Recommended Capital Budget and Plan as compared to the 10-Year Plan approved as part of the 2016 Budget process is that the 2016 – 2025 Capital Plan included a provisional estimate of \$404.6 million for funding to implement the Long Term Waste Management Strategy, which had not yet been considered by Council at the time of the 2016 Budget process.
- City Council, at its meeting of July 12, 2016 adopted report *PW14.2 Final Long Term Waste Management Strategy*, including recommended options and implementation plan, as presented in Attachment 1 to the report that identified \$143.916 million in required Operating and Capital funding from 2016 to 2026 along with \$560 million in additional capital funding requirements from 2027 to 2046.
- The link to the report and attachment are provided below:

#### Report

<http://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-94037.pdf>

#### Attachment 1

<http://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-94038.pdf>

- The 2017 – 2026 Recommended Capital Budget and Plan has been adjusted based on adoption of the LTWMS as follows:
  - Removal of the \$404.6 million provisional funding estimate to implement the Long Term Waste Management Strategy; and
  - The addition of \$138.3 million in capital funding from 2017 to 2026 for the Long Term Waste Management Strategy project.
- It is important to note that the Waste Strategy, as adopted in its entirety, is anticipated to divert an additional 200,000 tonnes of material by 2026 from all City serviced and non-City serviced sources (both residential and non-residential). Based on current projections, this will extend the life of Green Lane Landfill until approximately 2040.

### ***Long-Term Capital Program Reserve Funding***

- The 2017-2026 Recommended Capital Plan for SWMS is 12.7% funded through recoverable debt. The City advances debt funding annually required for Solid Waste Managements' capital work and the Program repays

the annual debt servicing costs (interest and principal) in the Program's Operating Budget funded by the volume based user fees collected.

- SWMS also utilizes the Waste Management Reserve Fund, which is maintained annually through contributions from SWMS' Operating Budget. The reserve fund then provides annual funding for the Program's capital requirements that are not funded through recoverable debt, this reserve fund also acts as a rate stabilization reserve. The projected 2016 year-end balance of the reserve fund is \$115.3 million.
- An analysis of SWMS capital needs was undertaken to determine annual capital reserve contribution requirements, funded from the SWMS Operating Budget to:
  1. Fund the SWMS 10-Year Recommended Capital Budget and Plan that requires \$667.1 million in total funded, excluding funds carried forward from 2016 into 2017.
  2. Begin to transition to a fully sustainable utility model, reducing the application of recoverable debt.
    - The level of recoverable debt funding on the 10-Year Plan of 12.7% is reduced from the 58.6% level of recoverable included in the 2016 – 2025 Approved capital Plan, reflecting a transition towards a full sustainable utility model;
    - By 2019, the use of recoverable debt will be phased out of the 10-Year Plan.
  3. Provide adequate annual funding to invest in future capital needs beyond the ten year planning period, including three significant investments that total \$560 million, noted below:
    - Mixed Waste Processing Facility with Organics Recovery (\$310 million);
    - Near and Long Term Residual Waste Management (\$150 million); and
    - Future Green Bin Organics Processing Capacity (\$100 million).

The analysis determined that an annual blended rate increase of 3.9% will be required over the next five years to allow for an adequate annual contribution to the reserve fund from the SWMS Operating Budget, ensuring the reserve funds can support the three objectives noted above while also maintaining a positive balance each year from 2017 to 2026.



# Appendices

## Appendix 1

### 2016 Performance

#### 2016 Key Accomplishments

In 2016, Solid Waste Management Services capital works supported moving towards 70% overall waste diversion by accomplishing the following:

- ✓ Waste Strategy progress which included Council approval of the Long Term Waste Management Strategy in July 2016;
- ✓ Major facility projects such as the Dufferin SSO Processing Facility, Green Lane Landfill cell development and Transfer Station Asset Management as well as all other projects budgeted for 2016 were fully underway as of the second quarter with the preliminary spending projection for year-end estimated to be 79.1% based on spending to August 2016.

#### 2016 Financial Performance

Table 9

2016 Budget Variance Analysis (In \$000's)

2016 Budget	As of June 30, 2016		Projected Actuals at Year-End		Unspent Balance	
\$	\$	% Spent	\$	% Spent	\$ Unspent	% Unspent
96,669	10,784	11.2%	72,774	75.3%	23,895	24.7%

\* Based on 2016 2nd Quarter Capital Variance Report

For additional information regarding the 2016 Q2 capital variances and year-end projections, please refer to the attached link for the report entitled "Capital Variance Report for the Six-Month Period Ended June 30, 2016" considered by City Council at its meeting on October 5, 2016.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX17.16>

#### Impact of the 2016 Capital Variance on the 2017 Recommended Capital Budget

- As a result of the delays in the capital projects, as described in the 2016 Q2 Capital Variance Report, funding of \$1.674 million is being carried forward to the 2017 Recommended Capital Budget to continue the capital work. This amount will be subject to revision in the first quarter of 2017.
- A detailed review of the 2017 – 2026 Recommended Capital Budget and Plan has been conducted and the necessary adjustments has been made to the timing of cash flow funding of \$7.150 million for major capital projects for the Dufferin organics facility and Transfer Station Asset Management which are the major contributors to annual under expenditures. By deferring the cash flow funding to future years, the 2017 Recommended Capital Budget reflects readiness to proceed and will lead to a higher rate of spending.

Appendix 2

Table 10  
2017 Recommended Capital Budget; 2018 to 2026 Recommended Capital Plan (\$000s)

Project	Total Project Cost	Prior Year Carry Forward	2017	2018	2019	2020	2021	2017 - 2021	2022	2023	2024	2025	2026	2017 - 2026 Total
<b>Legislated:</b>														
<i>Perpetual Care of Landfills</i>	*		9,876	8,100	9,000	8,000	8,000	42,976	5,000	5,000	5,000	5,000	5,000	67,976
<i>Landfill Development</i>	*		10,229	15,153	15,108	17,070	13,080	70,640	14,501	14,815	14,815	14,815	14,815	144,401
<b>Sub-Total</b>	-	-	20,105	23,253	24,108	25,070	21,080	113,616	19,501	19,815	19,815	19,815	19,815	212,377
<b>State of Good Repair:</b>														
<i>Transfer Stn Asset Mgmt</i>	*		12,300	22,700	17,000	9,200	8,290	69,490	6,300	5,460	5,900	6,150	6,150	99,450
<i>Collection Yard Asset Mgmt</i>	*		200	200	200	200	200	1,000	200	200	200	200	200	2,000
<i>Diversion Facilities Asset Mgmt</i>	*		2,000	2,750	1,500	1,500	1,500	9,250	1,500	1,500	1,500	1,500	1,500	16,750
<b>Sub-Total</b>	-	-	14,500	25,650	18,700	10,900	9,990	79,740	8,000	7,160	7,600	7,850	7,850	118,200
<b>Service Improvements:</b>														
<i>Diversion Systems</i>	*		22,670	3,900	3,900	3,900	3,900	38,270	3,900	3,900	3,900	3,900	3,600	57,470
<i>Green Lane: Landfill Gas Utilization</i>	19,645		462	5,150	13,538	-	-	19,150	-	-	-	-	-	19,150
<i>Biogas Utilization</i>	13,492		188	3,435	1,442	900	3,570	9,535	-	-	-	-	-	9,535
<i>Dufferin SSRM Facility</i>	2,977		-	-	-	-	-	-	-	-	-	-	-	-
<i>Engineering Planning Studies</i>	16,500		1,500	1,500	1,500	1,500	1,500	7,500	1,500	1,500	1,500	1,500	1,500	15,000
<i>SWM IT Application Initiatives</i>	12,566	384	964	2,226	4,066	964	108	8,712	372	-	-	-	-	9,084
<i>IT Corporate Initiatives</i>	11,843	1,290	1,003	3,289	1,776	2,061	-	9,419	-	-	-	-	-	9,419
<i>Long Term Waste Mgmt Strategy</i>	144,104		5,385	7,136	8,457	9,192	13,801	43,971	21,160	23,944	15,487	16,087	17,657	138,306
<b>Sub-Total</b>	221,127	1,674	32,172	26,636	34,679	18,517	22,879	136,557	26,932	29,344	20,887	21,487	22,757	257,964
<b>Growth Related:</b>														
<i>Dufferin SSO Facility</i>	74,943		36,500	18,824	-	-	-	55,324	-	-	-	-	-	55,324
<i>Disco SSO Facility</i>	87,506		-	4,405	-	-	-	4,405	-	-	-	-	-	4,405
<i>Dufferin Waste Facility</i>	20,500		500	8,000	8,000	4,000	-	20,500	-	-	-	-	-	20,500
<b>Sub-Total</b>	182,949	-	37,000	31,229	8,000	4,000	-	80,229	-	-	-	-	-	80,229
<b>Total</b>	<b>404,077</b>	<b>1,674</b>	<b>103,777</b>	<b>106,768</b>	<b>85,487</b>	<b>58,487</b>	<b>53,949</b>	<b>410,142</b>	<b>54,433</b>	<b>56,319</b>	<b>48,302</b>	<b>49,152</b>	<b>50,422</b>	<b>668,770</b>



## Appendix 3

### 2017 Recommended Capital Budget; 2018 to 2026 Recommended Capital Plan

## Appendix 4

### 2017 Cash Flow and Future Year Commitments

**Appendix 5**

**2017 Capital Budget with Financing Detail**

Appendix 6

Reserve / Reserve Fund Review

Table 11: Reserve / Reserve Fund – Program Specific (\$000s)

Reserve / Reserve Fund Name	Project / SubProject Name and Number	Balance as of December 31, 2016	Contributions / (Withdrawals) \$000s										
			2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	2017 - 2026 Total
<b>XR1013</b>	Beginning Balance (Jan. 1)	29,239	28,858	27,340	27,577	26,915	27,050	27,185	27,321	27,457	27,595	27,733	28,858
<b>Perpetual Care of Landfill Reserve Fund</b>	Estimated Interest Earned	143	159	137	138	135	135	136	137	137	138	139	1,390
	Contributions (Operating)	9,249	8,200	8,200	8,200	8,000	8,000	5,000	5,000	5,000	5,000	5,000	65,600
	Morningside Landfill Remediation	(524)											-
	Basic Perpetual Care	(6,166)	(6,584)	(5,400)	(6,000)	(5,333)	(5,333)	(3,333)	(3,333)	(3,333)	(3,333)	(3,333)	(45,317)
	New Control Systems	(3,083)	(3,292)	(2,700)	(3,000)	(2,667)	(2,667)	(1,667)	(1,667)	(1,667)	(1,667)	(1,667)	(22,659)
	Subtotal Perpetual Care Pproject	(9,249)	(9,876)	(8,100)	(9,000)	(8,000)	(8,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(67,976)
	Total Proposed Net Contributions/(Withdrawals)	(381)	(1,517)	237	(662)	135	135	136	137	137	138	139	(986)
<b>TOTAL RESERVE FUND BALANCE AT YEAR-END</b>		<b>28,858</b>	<b>27,340</b>	<b>27,577</b>	<b>26,915</b>	<b>27,050</b>	<b>27,185</b>	<b>27,321</b>	<b>27,457</b>	<b>27,595</b>	<b>27,733</b>	<b>27,871</b>	<b>27,871</b>

Reserve / Reserve Fund Name	Project / SubProject Name and Number	Balance as of December 31, 2016	Contributions / (Withdrawals) \$000s											
			2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	2017 - 2026 Total	
<b>XR1404 Waste Management Reserve Fund</b>	Beginning Balance (Jan. 1)	114,899	115,269	69,749	52,494	22,221	14,422	18,223	20,838	30,101	56,065	88,299	115,269	
	Estimated Interest Earned	566	576	349	262	111	72	91	104	151	280	441	2,438	
	Contributions (Withdrawals) Operating	20,475	25,269	34,495	37,955	33,912	41,611	49,866	58,256	67,001	74,631	86,596	509,591	
	Prior Y/E Operating Surplus	8,222												
	Transfer to/from Vehicle Reserve	-	(18,313)	-	6,104	6,104	6,104						(0)	
	Funding of Landfill Gas Utilization	-	(69)	(773)	(13,538)								(14,380)	
	Funding of Transfer Station Capital	(12,219)	(12,300)	(22,700)	(17,000)	(9,200)	(8,290)	(6,300)	(5,460)	(5,900)	(6,150)	(6,150)	(99,450)	
	Funding of Collection Yard Capital	(120)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(2,000)	
	Funding of Diversion Facilities Asset Mgmt.	(202)	(2,000)	(2,750)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(16,750)	
	Funding of Disco SSO Facility	(168)	-	(1,322)									(1,322)	
	Funding of Dufferin SSO Facility	(3,573)	(10,950)	(5,647)									(16,597)	
	Funding of Biogas Utilization	(12)	(56)	(1,031)	(1,442)	(900)	(3,570)						(6,999)	
	Funding of Long Term Waste Mgmt Strategy	(1,017)	(1,616)	(2,141)	(8,457)	(9,192)	(13,801)	(21,160)	(23,944)	(15,487)	(16,087)	(17,657)	(129,541)	
	Funding of Diversion Systems. Funding of SWM IT Application Initiatives	(9,434)	(22,670)	(3,900)	(3,900)	(3,900)	(3,900)	(3,900)	(3,900)	(3,900)	(3,900)	(3,600)	(57,470)	
	Funding of IT Corporate Initiatives	(449)	(289)	(668)	(4,066)	(964)	(108)	(372)					(6,467)	
	Funding of IT Revenue Services Billing System	(507)	(301)	(987)	(1,776)	(2,061)							(5,125)	
	Funding of Two-way Radios	(92)	(602)	(481)	(373)					(108)	(747)		(2,395)	
	Funding of Renewable Natural Gas Fleet Fuel From Biogas	(671)											-	
	Funding of Dufferin Waste Facility	(60)											-	
	Funding of Engineering Planning Studies		(500)	(8,000)	(8,000)	(4,000)							(20,500)	
	Funding of Green Lane Landfill Development (balance)	(370)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(15,000)	
	Funding of Green Lane Landfill Development (balance)				(12,842)	(14,510)	(11,118)	(12,326)	(12,593)	(12,593)	(12,593)	(12,593)	(101,167)	
	Net Total Proposed Contributions (Withdrawals)	371	(45,521)	(17,255)	(30,273)	(7,800)	3,801	2,615	9,263	25,964	32,234	43,838	16,867	
	Total Project Funding Withdrawals	(28,893)	(71,367)	(52,098)	(68,490)	(41,823)	(37,883)	(47,342)	(49,097)	(41,187)	(42,677)	(43,200)	(495,163)	
	<b>TOTAL RESERVE FUND BALANCE AT YEAR-END</b>		<b>115,269</b>	<b>69,749</b>	<b>52,494</b>	<b>22,221</b>	<b>14,422</b>	<b>18,223</b>	<b>20,838</b>	<b>30,101</b>	<b>56,065</b>	<b>88,299</b>	<b>132,137</b>	<b>132,137</b>

Appendix 6

Reserve / Reserve Fund Review

Table 11: Reserve / Reserve Fund – Program Specific (\$000s)

Reserve / Reserve Fund Name	Project / SubProject Name and Number	Balance as of December 31, 2016	Proposed Cash Flows \$000s										2017 - 2016 Total
			2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	
XR1408 Green Lane Reserve Fund	Beginning Balance (Jan. 1)	15,217.94	14,867	14,937	14,270	13,606	12,646	12,280	11,700	11,071	10,439	9,804	14,867
	Contributions / (Withdrawals)	1,403	1,547	1,547	1,547	1,547	1,547	1,547	1,547	1,547	1,547	1,547	15,471
	Estimated Interest Earned	82	58	58	56	53	49	48	46	43	41	38	490
	Buffer Land	(11)	(225)	(225)	(225)	(225)	(225)	(225)	(225)	(225)	(225)	(225)	(2,250)
	Cell Excavation and Base Const.	(934)	(445)	(1,604)	(1,368)	(962)	(947)	(1,183)	(1,198)	(1,198)	(1,198)	(1,198)	(11,300)
	Engineering and Monitoring	(8)	(11)	(21)	(27)	(23)	(22)	(23)	(19)	(19)	(19)	(19)	(202)
	Leachate Control System	(262)	(40)	(71)	(260)	(379)	(209)	(204)	(219)	(219)	(219)	(219)	(2,040)
	Landfill Gas Control System	(411)	(384)	(194)	(220)	(762)	(345)	(272)	(377)	(377)	(377)	(377)	(3,686)
	Site Services/Final Cover/Storm Control	(210)	(429)	(158)	(166)	(209)	(214)	(268)	(184)	(184)	(184)	(184)	(2,182)
	Total Proposed (Withdrawals)	(1,836)	(1,534)	(2,273)	(2,266)	(2,561)	(1,962)	(2,175)	(2,222)	(2,222)	(2,222)	(2,222)	(21,660)
Net Total Proposed Contributions / (Withdrawals)	(351)	71	(668)	(663)	(960)	(366)	(580)	(630)	(632)	(634)	(637)	(5,699)	
<b>TOTAL RESERVE FUND BALANCE AT YEAR-END</b>		<b>14,867</b>	<b>14,937</b>	<b>14,270</b>	<b>13,606</b>	<b>12,646</b>	<b>12,280</b>	<b>11,700</b>	<b>11,071</b>	<b>10,439</b>	<b>9,804</b>	<b>9,167</b>	<b>9,167</b>

\* Based on the 2016 Q2 Variance Report