

**Report from** Financial Management Services, Accounting; and Transportation and Environmental Services, Director/City Engineer

**Date of Report:** February 8, 2018

**Date of Meeting:** February 21, 2018

**Report Number:** FMS-B009-2018

**File:** 10.57.10

**Subject:** 2018 Capital Budget, Program Report and Four Year Forecast

## Recommendation

That the report from Financial Management Services and Transportation and Environmental Services Departments dated February 8, 2018, regarding the 2018 Capital Budget, Program Report and Four Year Forecast be approved by the Budget Standing Committee (BSC) and referred to City Council for consideration after the Public Meeting scheduled for March 5, 2018 for which notice will be duly given.  
FORTHWITH

## Staff Recommendation

That the BSC approve the 2018 Capital Budget, including the related funding, 2018 Program Report and Four Year Forecast as detailed in Appendix 1, Tab 2, Schedules A to O; and

That BSC provide early budget approval for those projects identified in Appendix 1, Tab 3, Schedules P and Q. FORTHWITH

## Background

The 2018 Capital Budget and related Program Report details the City's commitment to undertake specific capital expenditures, utilizing specified funding sources. The Four Year Forecast outlines a plan for annual capital expenditures for each of the subsequent years between 2019 and 2022. Together the capital budget, program report and the Four Year Forecast reflect the City's plans to maintain and provide the infrastructure required to deliver services to the citizens of St Catharines.

Asset management requires planning related to purchase, paying for and ongoing maintenance of existing assets. The City of St. Catharines owns, operates and maintains infrastructure with an estimated replacement value of over \$4.1 billion. The nature of this infrastructure is varied and complex. While these infrastructure assets can be grouped and classified in several ways, for the purposes of this report, the City's assets (and their estimated replacement values) have been categorized as presented in Table 1 below.

**Table 1 – City of St Catharines – Asset Categories and Replacement Values**

Asset Category	Inventory	Asset Replacement	
		Value (\$M)	% of Total
Roads	562 km	\$808.0	19.6%
Bridges & Major Culverts	74 ea	48.0	1.2%
Water Distribution System	610 km	1,150.0	27.9%
Sanitary Sewer Collection System	570 km	820.0	19.9%
Storm Sewer Collection System	403 km	641.0	15.5%
Sidewalks	583 km	134.5	3.3%
Facilities & Improved Lands	113 sites	456.5	11.1%
Playgrounds / Courts	109 ea	12.8	0.3%
Paid Parking Facilities	14 sites	56.3	1.4%
<b>Total</b>		<b>\$ 4,127.1</b>	<b>100.0%</b>

The preparation and approval of both a budget and forecast covering a five year period, reflects the requirement for planning for capital expenditures and the identification of available funding. The forecast is also required to comply with the Municipal Act. The 2018 Capital Budget and four year forecast for 2019-2022 was determined through studies that identify required and recommended capital work to maintain or enhance City infrastructure. These studies include, but are not limited to, the Parks Master Plan, Recreation Master Plan, Fire Services Master Plan, Pollution Control Plan, Municipal Space Study, Parking Study and Asset Management Plan.

The City's 2013 Asset Management Plan (AMP) which addresses a large portion of the Corporation's assets, supports a corporate view of asset management. Recent Provincial regulations also mandate more attention on corporate asset management strategy and reporting. Throughout 2018 staff will continue to work on delivering on these requirements so as to further the City's comprehensive and coordinated approach to asset management. More details of the City's AMP can be found in Tab 1 of Appendix 1.

Closely tied to AMP is Infrastructure Deficit. For purposes of this report, the City's Infrastructure Deficit for a particular asset is being defined as the replacement value of known deficiencies for that asset. Depending upon the asset, this may include assets rated as poor or very poor or as a high priority building deficiency identified through condition assessments. Details of asset categories with replacement values and infrastructure deficit values are provided in Appendix 1 - Tab 1 and summarized in Table 2 below. Overall the City's current infrastructure deficit of approximately \$272

Million represents approximately 7% of the replacement value of those asset categories. The Canadian Infrastructure Report Card (CIRC) – 2016 report indicated that the replacement value of municipal assets rated as poor or very poor across the country was approximately \$141 billion or 12% of the total replacement value of those assets. With the City's infrastructure deficit currently below the national average, the infrastructure deficit needs to be considered in relation to sustainable funding and annual reinvestment targets for the City's assets, as the City's current contributions are below the recommended reinvestment targets.

The Budget Standing Committee (BSC) at its meeting of June 20, 2016, approved a motion that a date in April 2017 be set as target for the 2017 capital budget presentation and that in future years a first quarter date would be set. This report achieves this direction for the 2018 capital budget.

## Report

The 2018 Capital Budget totals \$25,173,397. The Capital budget project details and related funding as well as summary information on the four year forecast is included in Appendix 1.

The 2018 Capital budget also contains:

- Narrative related to each of the Capital programs
- Capital expenditure amounts
- Narrative related to funding sources of capital assets

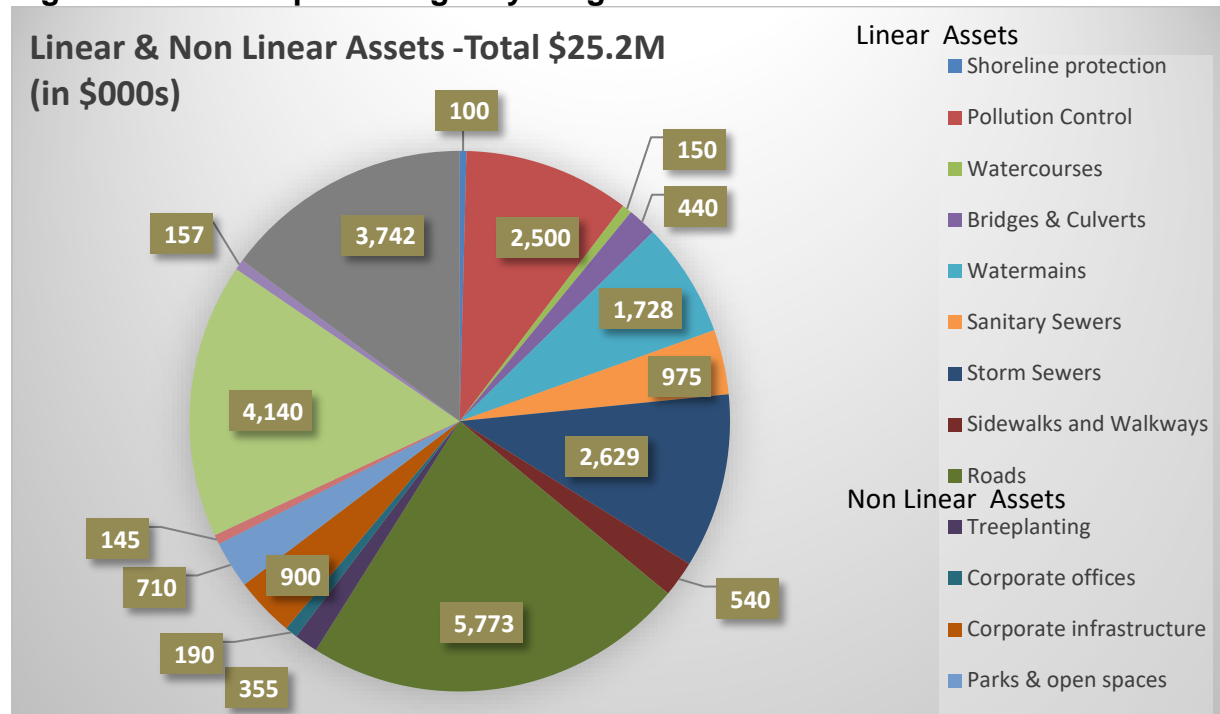
The contents of the 2018 Capital Budget, Program Report and Four Year Forecast in Appendix 1 are as follows:

<u>Item</u>	<u>Description</u>	<u>Appendix Page #</u>
<b>Tab 1 Asset Management Background Information</b>		3
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Schedule A	Summary breakdown of capital expenditures for 2018 with funding sources	8
Schedules B - O	2018 Capital Budget detailed expenditures proposed by function, including narrative for each function and the related projects listed.	9-43
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<b>Item</b>	<b>Description</b>	<b>Appendix Page #</b>
Schedules R - T	2018 Operating Budget Improvement program details of capital expenditures included in the approved 2018 operating budget	48-51
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Below Figure 1 shows how the capital budget is allocated between the linear and non-linear assets. Assets are often discussed as being either linear or non-linear. When AMP was first introduced, the focus was primarily on linear assets. As AMP became more comprehensive and developed, its focus expanded to include both linear and non-linear asset categories.

**Figure 1 – 2018 Capital Budget by Program**



## Prioritizing Capital Projects

As stated in the 2013 Asset Management Plan, the goal is that all City owned infrastructure assets are sustainable into the future, which requires that the first priority in the capital budget, is providing funds for maintaining existing infrastructure while the second priority is to expand or replace existing assets aimed at improving services and programs for residents.

For each asset class there are a series of criteria specific for that asset that assist in determining which projects to proceed with. However, the general priority criteria are similar; namely that the highest priorities are given to:

- Regulatory requirements
- Health and safety concerns
- Maintenance of the basic asset / preventative maintenance
- Service level requirements or system reliability
- Programming quality of the asset

Capital projects which are a result of a current regulation or guideline are as follows:

- Accessibility upgrades (roads and buildings)
- Pollution control plan implementation
- New storm sewers for combined sewer separation; and
- Water/Wastewater Financial Plan

In fulfilling City's Asset Management Plan, Transportation Environmental Services (TES) has identified that \$24.02M of the 2018 Program Report is related to maintaining the City's assets comprising roads, bridges & major culverts, water mains, sanitary sewers and facilities, split between the operating, capital, and water/ wastewater budgets as shown in Table 2 below.

**Table 2 - City of St Catharines Reinvestment Rates Compared to 2018 budget**

Asset Category	Asset Replace-ment	Infrastruc-ture Deficit	2018 Budgets - \$M			Target Annual reinvest. rate in \$M *		
	Value in \$M	Value in \$M	Optg.	Water / Wastewater	Capital	Total	Lower \$M	Upper \$M
Roads	\$808.0	\$ 45.0	\$2.31	-	\$5.52	\$7.83	\$16.2	\$24.2
Bridges & Culverts	48.0	4.8	0.13	-	0.44	0.57	0.5	0.7
Water	1,150.0	34.5	-	5.5	1.73	7.23	11.5	17.3
Sanitary	820.0	106.6	-	2.3	0.98	3.28	8.2	10.7
Storm	641.0	32.1	-	-	-	-	6.4	8.3
Sidewalks	134.5	6.7	0.35	-	0.24	0.59	2.7	4.0

Facilities & Improved Lands	456.5	32.8	-	-	4.04	4.04	7.8	11.4
Playgrounds / Courts	12.8	5.8	-	-	.33	0.33	0.2	0.3
Paid Parking Facilities	56.3	3.8	-	-	0.15	0.15	1.0	1.4
<b>Total Replacement &amp; Maintenance (TES)</b>	<b>\$ 4,127.1</b>	<b>\$ 272.1</b>	<b>\$ 2.79</b>	<b>\$ 7.8</b>	<b>\$ 13.43</b>	<b>\$ 24.02</b>	<b>\$ 54.5</b>	<b>\$78.3</b>
<b>Other Items Funded Through Capital Budget:</b>								
Fire – Radio Equipment					4.10			
Storm Sewers – New					2.63			
Pollution Control Plan Infrastructure - New					2.50			
Corporate Infrastructure – IT					0.90			
Trees – New					0.36			
Canada Summer Games – Year 1 of 4					0.32			
Sidewalks – New					0.30			
Watercourse & Shoreline					0.25			
Traffic Signals					0.25			
Niagara District Airport					0.16			
<b>Sub-Total Other Items Funded Through Capital Budget</b>					<b>\$11.77</b>	<b>11.77</b>		
<b>Total 2018</b>					<b>\$ 25.2</b>	<b>\$ 35.79</b>		

*\*Target Average Annual Reinvestment - Source: Canadian Infrastructure Report Card 2016*

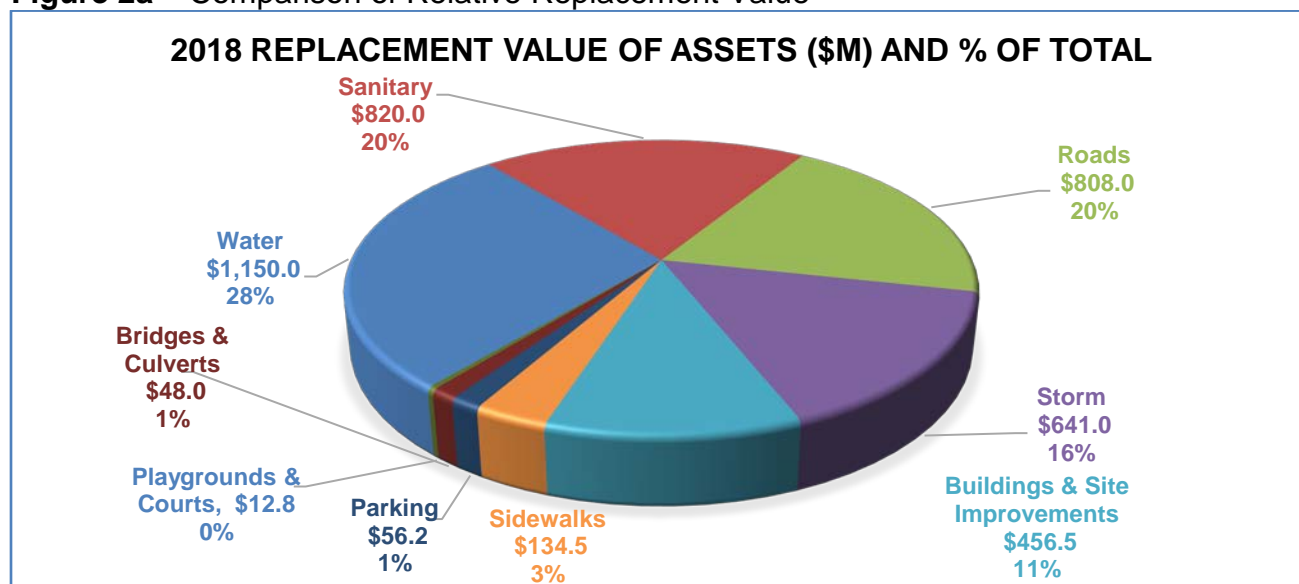
TES and other areas responsible for capital assets prioritize capital work by considering deficiencies, target condition ratings, as well as co-ordination with other construction activities in order to minimize impact on the public. The introductory paragraphs in each capital budget section provide additional details of how these general priority criteria are applied to each group of assets.

As indicated in Table 2 above, the reinvestment rates are based on each asset category's life expectancy as published in the CIRC-2016. The infrastructure deficits include the replacement value of assets that through a condition assessment have been rated as in poor or very poor condition or as a high priority building deficiency. The City's experience is consistent with many municipalities across the country. This widening infrastructure gap is caused by the shortage of sustainable funding options for the City. Funding programs like the Federal Gas Tax are an example of upper level of government grant programs that support sustainable funding for municipalities.

While the 2018 budgeted spending on capital assets identifies many projects, it is insufficient to reduce the City's infrastructure deficit estimated at \$272M. Furthermore the 2018 budgets allocation related to capital assets totaling \$36M represents 66% of the lower or 46% of the upper annual target reinvestment rate as per the CIRC-2016. (See Table 2) Total annual contributions below the targeted reinvestment rates furthers asset deterioration and increases infrastructure deficit.

Various budgetary pressures, whether they be for the Operating Budget (the objective for lower tax rates), the Water/Wastewater Budget (the aim for lower water/wastewater rates) or the Capital Budget (the goal for lower debt levels) have challenged staff in maintaining the funding levels required to sustainably maintain the City's infrastructure.

**Figure 2a – Comparison of Relative Replacement Value**



**Figure 2b - 2018 Budget Allocations by Asset Category**

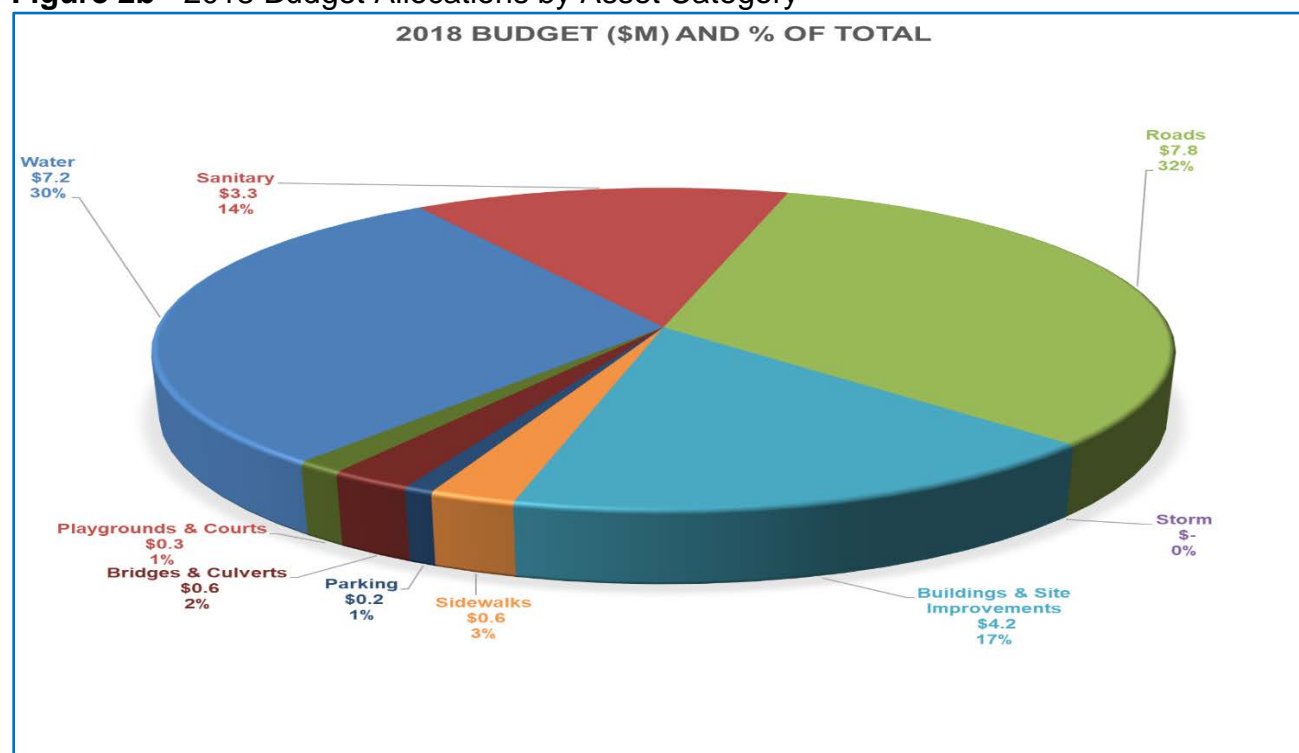


Figure 2a above shows the replacement value of various assets categories and the percentage they represent of the total assets. With annual allocation for capital asset renewal and improvement below the sustainable levels of funding required, staff share available funding among all assets categories so that each category receives some

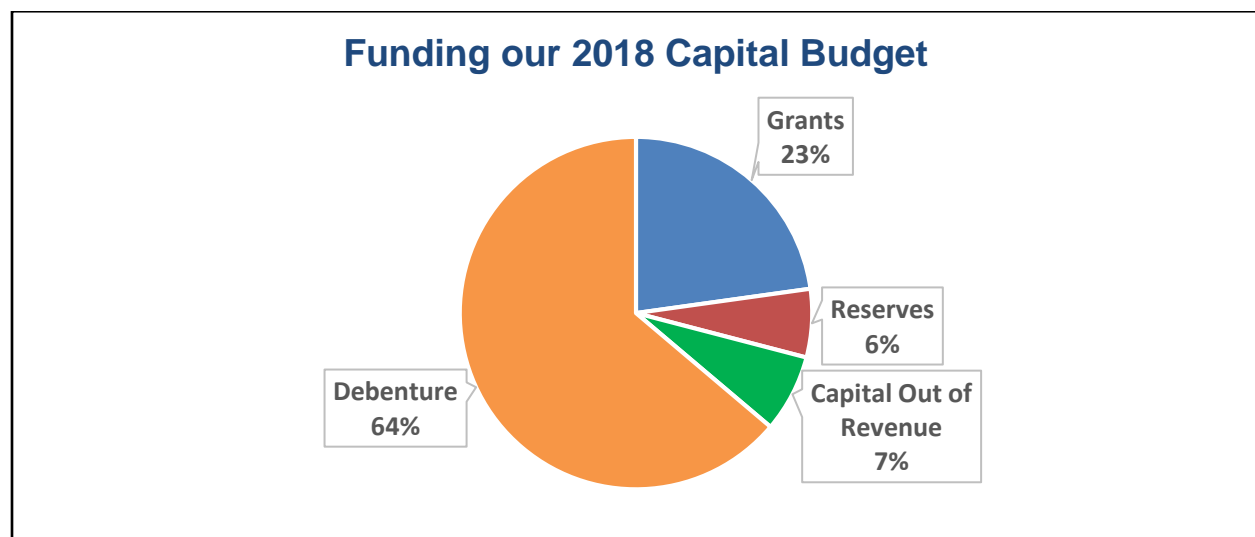


funding. Figure 2b above shows how the 2018 budgets support the various asset categories. As expected the annual budget support of the various asset categories closely resembles the percentage of the total asset categories. There can be some variation of this allocation due to grants being received for specific assets categories, and some asset categories work needing to precede others, based on the prioritization of projects. Overall, the main limitation on asset renewal and improvement is the limitations on available funding. This will be further explained below.

## Funding Capital Assets

The Capital budget is funded first by available grants, reserves, operating fund contributions and the remainder is funded by debt. Figure 3 below depicts the split between funding sources.

**Figure 3 - Funding sources of 2018 Capital Budget**



After applying external grants, the City has the option to use pay-as-you-go financing for infrastructure, however with the high cost of capital projects, using this funding source alone would result in significant underfunding of infrastructure and a significant impact on the operating budget. Increasing the annual operating budget support of the capital out of revenue (tax levy) from 10% to a higher percentage is a method to increase the amount of sustainable funding provided for the City's capital assets. In addition, staff apply for various grants as they become available from upper levels of government to support renewal and aid in additional investment in our capital assets.

A separate infrastructure tax rate levied annually has been implemented to help address the existing infrastructure deficit. The projects funded from the 2018 Infrastructure Levy are shown in Appendix 1 - Tab 6 - Schedule Z. Increasing the Infrastructure Levy

percentage in future years is another method to raise the amount of sustainable funding provided for the City's capital assets.

As shown in the graph in Figure 3 above, debt continues to be used to finance the major portion of the City's capital assets as it allows for the cost of large long-life assets to be spread over several years. Annual debt repayments are spread over a longer term, approximating the period that the public benefit from the use of the related asset. However, in compliance with Council policy debentures are taken for shorter timeframes which are typically five or ten years. Economic sustainability as well as provincial regulations limit the amount of infrastructure that can be financed with debt.

### Restrictions on Debt Issuance

Ontario Regulation 403/02 Debt Repayment Limit, restricts annual debt charges to no more than 25% of the City's net revenue fund revenues. The City Treasurer has updated the Limit for the City and the debenture amount proposed in the 2018 Capital Budget will not cause the City to exceed its limit. This updated document is available in Appendix 1, Tab 6, Schedule AC. Using this Limit calculation there is significant remaining debt capacity of at least \$122.0 million.

The Ministry of Municipal Affairs (MAH) has also issued guidance stating that debt costs between 5% and 10% are considered moderate risk, which is where the City of St. Catharines currently resides based on the most recent report from MAH. The City has adopted a strategy aimed at containing debt charges at approximately 10% of the City's total own expenditures. Given the current debt charges as a percentage of operating budget, are almost 9% and the 2022 forecast is for slightly over 10%, very little debt capacity remains, within the City's self-imposed guideline; however within the Provincial Regulation there is ample debt capacity. (See Table 3 below)

**Table 3 – Debt Forecast for 2017 to 2022**

	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>
<b>Outstanding Debt</b>	\$114.6m	\$115.7m	\$117.7m	\$119.6m	\$121.5m	\$124.3m
<b>Debt Per Household</b>	\$1,953.31	\$1,971.30	\$2,006.66	\$2,039.17	\$2,072.18	\$2,118.87
<b>Total Annual Debt Charges</b>	\$15.1m	\$16.0m	\$16.3m	\$17.2m	\$ 18.4m	\$20.4m
<b>As % of Operating Budget</b>	8.96%	9.24%	9.20%	9.44%	9.88%	10.66%

Conservative assumptions are employed to generate the estimates above. Any changes made to any of the assumptions – whether that is timing, term or interest rate for debt issuances, or the level of capital spending supported by debt, will have an impact on the debt charges as a percentage of expenditures, projected debt balance and future tax levies.

In addition to the quantitative debt limits, the current Debt Management Strategy also outlines other restrictions on the types of asset eligible for debt financing, and

requires for any capital project a 10% down payment through property taxes. The debt financing proposed for the 2018 capital budget complies with these requirements.

### **Prior Year Capital Budget Approvals**

Council, at the December 19, 2016 meeting, authorized the recommendation for early budget approval in the amount of \$320,000 per year for 2018, 2019, 2020 and 2021 for the 2021 Canada Summer Games. The bid for the games was awarded to Niagara in 2017, the funds will be targeted towards capital facility investments as detailed in report PRCS/CAO-320-2016. The \$320,000 annually has been included in the four year forecast See Appendix 1, Schedule B for portion included in the 2018 Capital Budget.

### **Reprioritization of Capital Budgets**

Reprioritization of projects is ongoing to meet the Council adopted policy of containing debt charges at approximately 10% of the City's total expenditures. As well, work continues on the Asset Management Plan so that the City progresses towards achieving a sustainable level of funding for all levels of infrastructure. Details of reprioritized capital projects are attached in Appendix 1 - Tab 6 - Schedule AE.

## **Financial Implications**

The 2018 Capital Budget, Program Report and Four Year Forecast allows the Corporation to address the capital needs of the Corporation. Financial implications are outlined within the report.

## **Relationship to Strategic Plan**

The 2018 Capital Budget and Program Report reflects and implements many of the Strategic Plan's goals and actions. Renewal of existing infrastructure and newly constructed infrastructure is critical to a municipality. The recommendations of this report support the following:

### **Economic Stability:**

Goal 1: Attracting public investment

- By providing safe, reliable, attractive infrastructure and by providing employment opportunities to locally owned companies.

Goal 2: Be an affordable city for all

- Action 2.4 Refine the asset management plan and establish a program office with the objective of optimizing the City's capital infrastructure, ensuring effective asset management and sustainable investment

### **Social Sustainability:**

Goal 4. Strive for the highest quality of life for all citizens. The capital budget and annual program report addresses all areas of the City's infrastructure.

- Action 4.1 Prioritize and implement recommendations from the Parks and Recreation Master Plan with focus on balancing recreation services for all ages, demographics and abilities

- Action 4.4 Expand implementation of the St. Catharines accessibility plan, specifically 2018 projects include the new Victoria Lawn Cemetery Administration building, washrooms at the Port Weller Community Centre and design upgrades for the Bill Burgoyne arena.

Goal 5: Connect people, places and neighbourhoods

- Action 5.2 Establish a complete neighbourhoods matrix to ensure that redevelopment of properties enhance the livability of neighbourhoods. All road reconstructions will be designed in consideration of the “Complete Streets” philosophy.
- Action 5.3 Accelerate the implementation of active transportation connections that link people and enhance accessibility of parks, trails and waterfronts, and supports the development of complete streets.

## **Environmental Sustainability**

Goal 7: Lead in the protection of our environment for future generations.

- Action 7.1. Establish a plan to integrate green energy and sustainable technologies in municipal infrastructure and program delivery.
- Action 7.2. Continue to achieve the tree canopy targets in the city as identified in the Urban Forestry Management Plan. All road reconstruction and new building projects include provisions for greening. All other infrastructure includes funding for replacement of any trees removed by the proposed construction.
- Action 7.3. Promote water conservation, enhance protection of the City’s water sources and maintain and improve the health of our waterfront by working with partners on enhancements projects and pollution reduction programs to ensure long-term sustainability. CSO reductions proposed by the Burleigh Hill CSO Project and storm sewer separation projects will directly improve water quality in our watercourses.

Goal 8: Be prepared for the impacts of climate change.

- Action: 8.1. Review and update all municipal operations to minimize the impacts of and ensure preparation for climate change including winter control procedures and flooding. All sanitary sewer and storm sewer designs are undertaken using updated design criteria.

### **Prepared and Submitted by:**

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## **2018 Capital Budget, Four Year Forecast and Program Report**

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## **Asset Management**

The City's Asset Management Plan (AMP) was presented to Council in 2013. At that time, the AMP included the major asset categories of roads, bridges & major culverts, water mains, sanitary sewers and facilities. Subsequently, staff have, with limited resourcing, continued to refine and update the City's AMP, however several asset classes and subclasses are not represented in this report. These assets include:

- Fleet
- Other Corporate Assets (Furniture, IT equipment, etc.)
- Recreational trails
- Shoreline protection
- Street and Park Furniture (Waste Receptacles, Benches)
- Street lights
- Traffic lights
- Traffic signage
- Trees (Street and Park)
- Watercourse improvements
- Niagara District Airport assets

While not incorporated into this report, information regarding these assets is maintained to varying degrees by staff to inform decisions regarding the rehabilitation or replacement of those assets. For example, information is maintained regarding the operational and replacement costs and ultimate replacement timing for our various fleet equipment. Funding for fleet replacement is incorporated as part of various equipment reserves in the Operating Budget.

As staff resourcing allows, these additional asset classes and subclasses will be incorporated into a more comprehensive AMP. In addition, with the new legislation from the Province related to Asset Management, TES and FMS staff will be working together in 2018 and onward to ensure that the City of St. Catharines meets all of the various milestones required by the new Provincial legislation.

### **Infrastructure Deficit**

In 2016, the Federation of Canadian Municipalities (FCM), in cooperation with the Canadian Construction Association (CCA), the Canadian Public Works Association (CPWA) and the Canadian Society for Civil Engineering (CSCE) published the *Canadian Infrastructure Report Card – 2016 (CIRC – 2016)*.

The CIRC – 2016 assessed the state of municipal roads and bridges, public transit, buildings, sport and recreation facilities, stormwater, wastewater and potable water infrastructure, providing a snapshot in time of the replacement value, condition (good, fair, poor, etc.) and reinvestment monies being spent on those asset categories by municipalities across Canada. The City of St. Catharines was one of a total of 120 survey respondents from municipalities across Canada that helped to inform the report.

The City's Infrastructure Deficit for a particular asset is being defined as the replacement value of known deficiencies for that asset. Depending upon the asset, this may include assets rated as poor or very poor or as a high priority building deficiency identified through condition assessments. A summary of the infrastructure deficit by asset category for the City is provided in Table 1 below.

**Table 1 – City of St Catharines – Asset Categories - Replacement Values & Infrastructure Deficit**

Asset Category	Asset Replacement		Infrastructure Deficit	
	Value (\$M)	% of Total	Value (\$M)	% of Replacement Value
Roads	\$ 808.0	19.6%	\$ 45.0	5.6%
Bridges & Major Culverts	48.0	1.2%	4.8	10.0%
Water Distribution System	1,150.0	27.9%	34.5	3.0%
Sanitary Sewer Collection System	820.0	19.9%	106.6	13.0%
Storm Sewer Collection System	641.0	15.5%	32.1	5.0%
Sidewalks	134.5	3.3%	6.7	5.0%
Facilities & Improved Lands	456.5	11.1%	32.8	7.2%
Playgrounds / Courts	12.8	0.3%	5.8	45.0%
Paid Parking Facilities	56.3	1.4%	3.9	6.9%
<b>Total</b>	<b>\$4,127.1</b>	<b>100.0%</b>	<b>\$ 272.1</b>	<b>6.6%</b>

The City's current infrastructure deficit of approximately \$272 million represents approximately 7% of the replacement value of those asset categories. The CIRC – 2016 report indicated that the replacement value of assets rated as poor to very poor across the entire country was estimated to be approximately \$141 billion or 12% of the total replacement value of those assets. With the City's infrastructure deficit currently below the national average, the infrastructure deficit needs to be considered in relation to sustainable funding and annual reinvestment targets for the City's assets, as the City's current contributions are below the recommended reinvestment targets.

### **Sustainable or Reinvestment Funding**

Each asset category has a life expectancy. Hence, there is a need to renew these assets on a regular basis. Generally speaking, the replacement value divided by the expected life provides an approximation of the anticipated level of annual sustainable funding. The CIRC – 2016 report provides a lower and upper range of suggested



annual reinvestment rates (based as a percentage of replacement value) for various asset classes. A summary of the sustainable, or target reinvestment rates for the City's assets are presented in Table 2 below.

**Table 2 – City of St Catharines – Asset Categories - Replacement Values, Infrastructure Deficit & Reinvestment Rate**

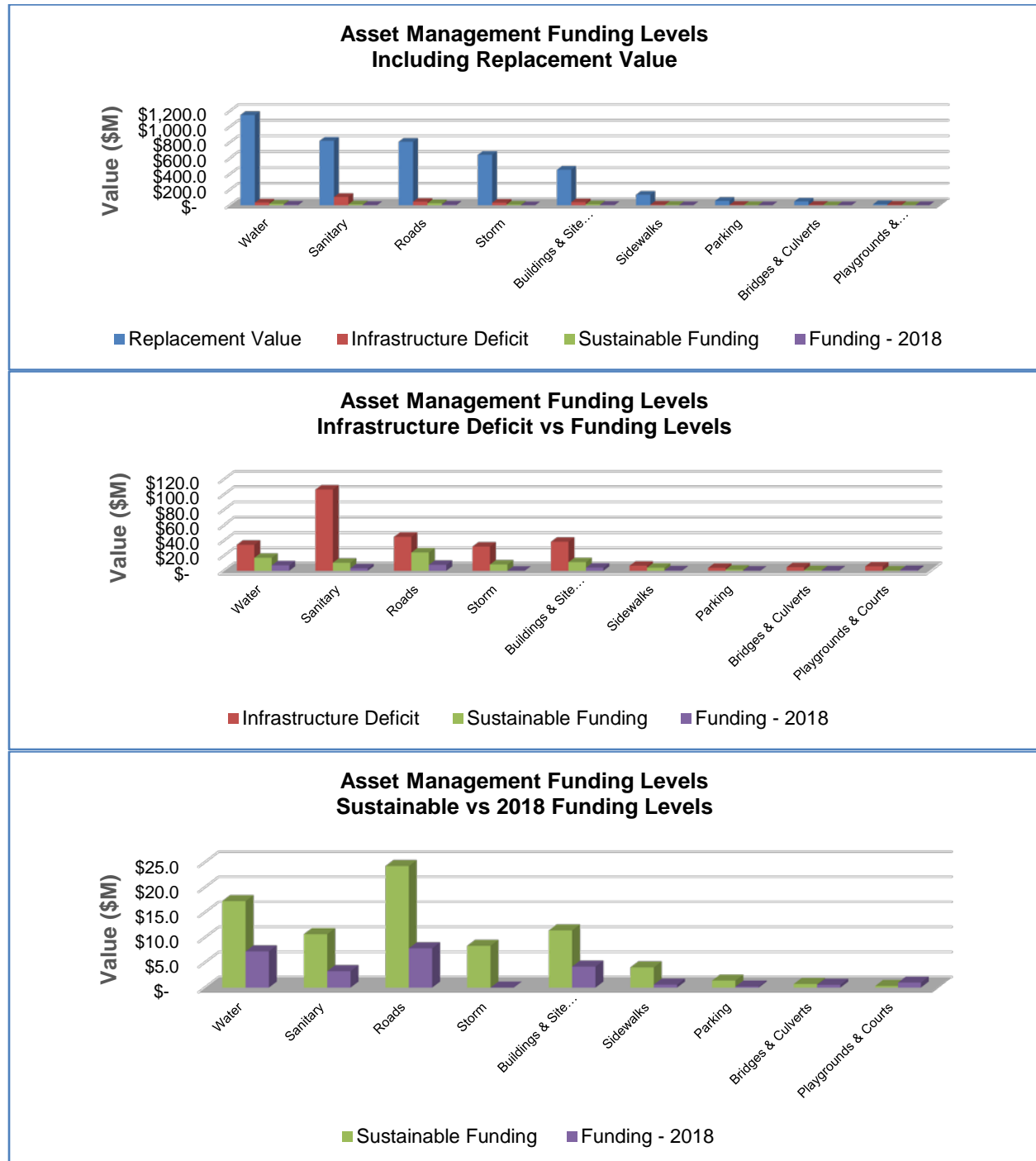
Asset Category	Asset Replacement	Infrastructure Deficit	Target Reinvestment Rate *			
	Value (\$M)	Value (\$M)	Lower %	Upper %	Lower \$M	Upper \$M
Roads	\$808.0	45.0	2.0%	3.0%	\$16.2	\$24.2
Bridges & Major Culverts	48.0	4.8	1.0%	1.5%	0.5	0.7
Water Distribution System	1,150.0	34.5	1.0%	1.5%	11.5	17.3
Sanitary Sewer Collection System	820.0	106.6	1.0%	1.3%	8.2	10.7
Storm Sewer Collection System	641.0	32.1	1.0%	1.3%	6.4	8.3
Sidewalks	134.5	6.7	2.0%	3.0%	2.7	4.0
Facilities & Improved Lands	456.5	32.8	1.7%	2.5%	7.8	11.4
Playgrounds / Courts	12.8	5.8	1.7%	2.5%	0.2	0.3
Paid Parking Facilities	56.3	3.8	1.7%	2.5%	1.0	1.4
<b>Total</b>	<b>\$4,127.1</b>	<b>272.1</b>			<b>\$54.4</b>	<b>\$78.4</b>

**Notes:**

\* - Target Average Annual Reinvestment - Source: Canadian Infrastructure Report Card 2016

As highlighted above and discussed further in the 2018 Capital Budget and Program Report, funding levels still fall well short of the sustainable levels of funding required, which does not reduce the City's growing Infrastructure Deficit. Figure 1, provides a comparison of the replacement value, infrastructure deficit, sustainable funding and the 2018 budget allocation by asset category.

**Figure 1 - Comparison of Replacement Value, Infrastructure Deficit, Sustainable Funding and 2018 Budget Allocation by Asset Category**



## **Prioritization of Construction Programs**

For each asset class there are a series of criteria specific for that asset that assist in determining which projects to proceed with. As an example, pavement condition ratings provide input into the pavement management system that provides suggested roads to be rehabilitated; water main break rates prioritize the replacement of water mains, etc. However in all classes, the general priority criteria are similar; namely that the highest priorities are given to:

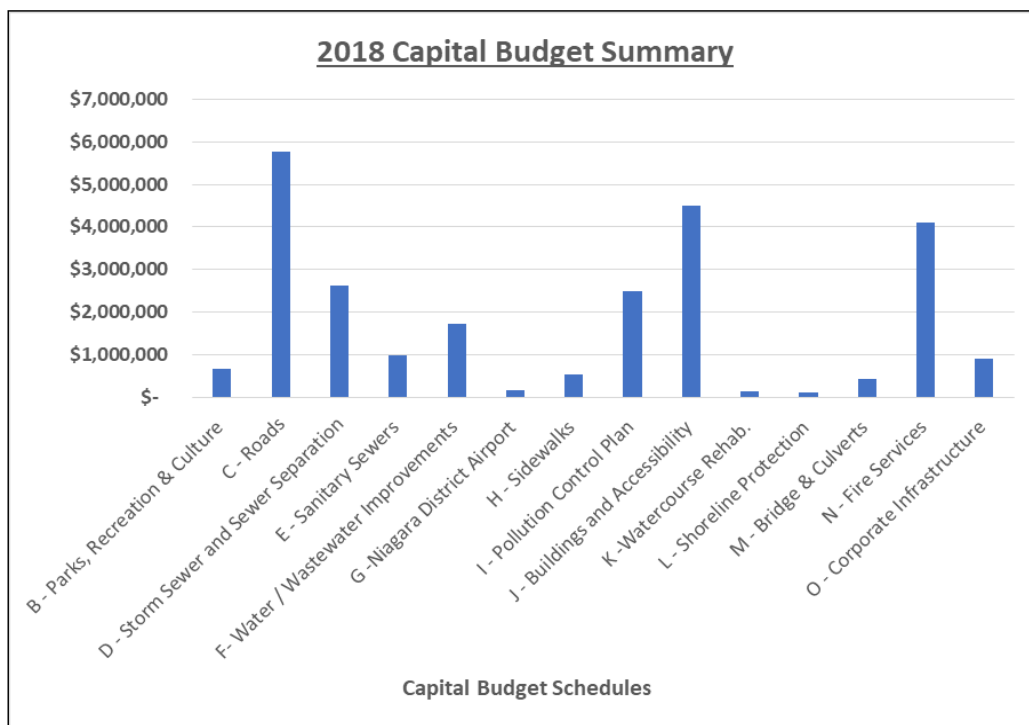
- Regulatory requirements
- Health and safety concerns
- Maintenance of the basic asset / preventative maintenance
- Service level requirements or system reliability
- Programming quality of the asset

The introductory paragraphs of each capital budget section provide additional details of how these general priority criteria are applied to each asset class.

For asset categories within the road allowance (roads, sidewalks, sewers, water mains), coordination with other construction activities is also always taken into consideration to take advantage of economies of scale and reduce the impact of construction on abutting property owners and the travelling public. This coordination may impact the timing of asset renewal for some asset categories. As an example, the need to rehabilitate a certain section of roadway may accelerate the timing of sewer or water main replacement under that section of roadway. Determination of the final construction program for all of the assets for a particular year is the result of an iterative effort by staff in reviewing all of the asset categories.

**CITY OF ST. CATHARINES**  
**SCHEDULE A - 2018 CAPITAL BUDGET SUMMARY**

DESCRIPTION	SCHEDULE	ESTIMATED GROSS COSTS	GRANTS	RESERVES	CAPITAL OUT OF REVENUE	NET DEBENTURE AMOUNT
<u>PARKS, RECREATION AND CULTURE SERVICES:</u>	SCHEDULE B	675,000	-	355,000	32,000	288,000
<u>ROAD CONSTRUCTION AND IMPROVEMENTS:</u>	SCHEDULE C	5,772,682	952,098	248,000	459,000	4,113,584
<u>STORM SEWER AND SEWER SEPARATION</u>	SCHEDULE D	2,629,000	752,000	-	188,000	1,689,000
<u>SANITARY SEWERS</u>	SCHEDULE E	975,000	975,000	-	-	-
<u>WATER IMPROVEMENTS</u>	SCHEDULE F	1,728,215	1,728,215	-	-	-
<u>NIAGARA DISTRICT AIRPORT</u>	SCHEDULE G	157,000		-	16,000	141,000
<u>SIDEWALK CONSTRUCTION</u>	SCHEDULE H	540,000	190,000	50,000	30,000	270,000
<u>POLLUTION CONTROL PLAN</u>	SCHEDULE I	2,500,000	1,000,000	-	150,000	1,350,000
<u>BUILDING IMPROVEMENTS</u>	SCHEDULE J	4,506,500	-	925,000	361,000	3,220,500
<u>WATERCOURSE REHABILITATION</u>	SCHEDULE K	150,000	-	-	15,000	135,000
<u>SHORELINE PROTECTION</u>	SCHEDULE L	100,000	-	-	10,000	90,000
<u>BRIDGE AND CULVERT REHABILITATION</u>	SCHEDULE M	440,000	140,000	-	30,000	270,000
<u>FIRE SERVICES</u>	SCHEDULE N	4,100,000	-	-	410,000	3,690,000
<u>CORPORATE INFRASTRUCTURE</u>	SCHEDULE O	900,000	-	-	90,000	810,000
		<u>\$25,173,397</u>	<u>\$5,737,313</u>	<u>\$1,578,000</u>	<u>\$1,791,000</u>	<u>\$16,067,084</u>



## **Parks, Recreation and Culture Services - Non-Building Assets Schedule B**

There are two projects that will be the focus of budgeted capital dollars for Parks, Recreation and Culture Services in 2018; tree planting and a commitment to the 2021 Canada Summer Games.

### **Tree Planting**

The City of St. Catharines plants trees to help improve air quality and add economic value, beauty and shade to a neighbourhood. Trees are planted on public boulevards, road allowances fronting residences and in circles where trees do not currently exist.

In 2017 the City of St. Catharines held two tree giveaways and with the current tree canopy at approximately 14%, these capital dollars assist towards increasing that percentage on both public and private property.

### **Canada Summer Games**

In the Spring of 2017 Niagara was named the host of the 2021 Canada Summer games. The capital budget dollars set aside for this event are the first of a four year commitment the City has made for this unique occasion that will take place in our City.

Funds will be targeted towards capital facility investments as detailed in report PRCS/CAO-320-2016. The \$320,000 annual commitment set aside for this event has been included in the four year forecast for Parks, Recreation and Culture Services.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE B: PARKS, RECREATION AND CULTURE SERVICES - NON-BUILDING ASSETS**

<b><u>Project / Description</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
Canada Summer Games commitment - Year 1 of 4	\$320,000	Funding towards the Canada Summer Games ( <i>Has received early budget approval</i> ).
Tree Planting Program	355,000	* Tree Planting efforts across the City to increase our canopy percentage.
	<b><u>\$675,000</u></b>	
 <u>Funding Source Breakdown:</u>		
Capital Out of Revenue (10%)	\$32,000	
*Reserves - Infrastructure levy	355,000	
Debentures	288,000	
	<b><u>\$675,000</u></b>	

## **Road Construction and Improvement Program**

### **Schedule C and Schedule R**

The City owns and maintains 562 km of roadway or 1,150 km of traffic lanes. The current replacement cost is estimated at \$808 million. Over 98 per cent of the City's roadways are made up of asphalt, asphalt on concrete or concrete surfaces.

Of the City's roadways, approximately 31% are rated in excellent or good condition, 31% are rated in fair condition, and 38% rated in poor condition. Less than 1% of the roads have received a fail rating.

Age of the City's road network could result in increased failing grades appearing in 10 years if funding remains at 2017 level. To address this scenario, the City's Asset Management Plan recommended the implementation of a 4% annual funding increase. This increase would help address the aging road network and work towards attaining desired levels of service. The current roadway infrastructure deficit is estimated to be \$45 million.

The funding for the Road Construction Improvement Program comes from two budgets:

- Capital budget (Schedule C) - \$5,772,682 - funds major road works, such as complete reconstruction and coordinates with other major asset improvement projects occurring in the same geographical area
  - Includes \$552,098 funding from the Ontario Commuter Cycling Fund
- Operating budget (Schedule R) - \$2,306,000 - funds support city wide repairs to curbs, concrete and asphalt, milling, crack sealing and guardrails
  - this funding approved by Council in December 2017 as part of the 2018 operating budget
    - specific project details provided in this document

Based on the 2018 funding for this program and comparison to the minimum annual target reinvestment rate of \$16.2 million, the City is supporting reinvestment at approximately 50% of the recommended level.

### **Pavement Management System**

The City uses a pavement management software, dTIMS to guide long-term planning for the road system. The software predicts the condition of roads into the future, based on historical data collected on how similar roads have performed in the past, and the risks of delaying treatments. Generally this means that priority is given to roads with higher volumes and which in turn means higher risk to the City and the residents.

The existing pavement conditions for various streets are given a pavement condition rating (PCR) of between 1 and 100 (with 100 being a newly reconstructed road). Council had approved a "target" average PCR of 75 for the entire road network. Depending upon the class of road, a PCR of 75 is typically a pavement approximately 10-20 years old with few cracks. The average PCR for the City's entire road network is currently 68.7.

Generally, this means that the program will recommend resurfacing rather than more costly reconstruction. This is confirmed by the fact that over the past five years, the City has expended almost \$13.5 million on resurfacing works (approximately 39% of the entire road rehabilitation budget). An amount of approximately \$2.561 million (\$1.966 funded by the operating budget and \$0.595 funded by the capital budget) is being recommended for resurfacing this year to resurface approximately 6.2 km of roadway.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE C: ROAD CONSTRUCTION AND IMPROVEMENTS**

<u>Project / Location</u>	<u>From</u>	<u>To</u>	<u>Gross Cost</u>	<u>Remarks</u>
<b>Additional Budget Dollars for Previously Approved Projects</b>				
<b>P13-067</b> Rivercrest Drive	Riverview Boulevard	Hillside Drive	\$170,000	Additional funding for road reconstruction and drainage improvements in conjunction with watermain, sanitary sewer and storm sewer works
<b>P15-066</b> Moffatt Street Reconstruction	North Limit	South Limit	300,000	Additional funds required for anticipated utility relocations in advance of future road reconstruction
<b>P15-067</b> Third Street Louth Improvements	South Service Road	Third Avenue	2,650,000	*** Road reconstruction to accommodate Active Transportation including, \$552,098 from Ontario Commuter Cycling Fund
Third Street Louth Improvements	South Service Road	Third Avenue	250,000	** Partial funding for road resurfacing
<b>P16-065</b> Downtown Street System Conversion			675,000	Additional funds for city's share of costs for the downtown two way traffic street conversion
Church Street	Niagara Street	King Street		
Geneva Street	Church Street	St Paul Street		
Niagara Street	Geneva Street	Church Street		
Queenston Street	Geneva Street	Riordon Street		
St Paul Street	Geneva Street	Court Street		
<b>P17-064</b> Highland Avenue Reconstruction	Ridgewood Road	Rockcliffe Road	187,000	Additional funds for road reconstruction in conjunction with sidewalk replacement
Ridgewood Road	Highland Avenue	Riverdale Avenue		Top course asphalt following 2017/2018 reconstruction
<b>P17-068</b> Terry Lane Reconstruction	Shelley Avenue	Graham Avenue	30,000	Additional funding for road reconstruction and drainage improvements in conjunction with watermain replacement
<b>Active Transportation Infrastructure</b>				
<b>P18-069</b> St David's Road Multi Use Path			150,000	** Partial funding of City's share of costs for a Multi-Use Path constructed by MTO for Region (50%), Thorold (25%) and St. Catharines (25%).
<b>Subtotal:</b>			<b><u>\$4,412,000</u></b>	
<b>Budget Dollars for New Projects</b>				
<b>Environmental Assessment and Design</b>				
<b>P18-061</b> Gale Crescent Road Improvements	Geneva Street	Oakdale Avenue	\$100,000	Engineering Services for an Environmental Assessment and Design for future road reconstruction
<b>P18-062</b> Lake Street	Welland Avenue	Queen Street	100,000	
<b>P18-063</b> Merritt Street Road Improvements	Almond Lane	Walnut Street	100,000	



**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE C: ROAD CONSTRUCTION AND IMPROVEMENTS**

<u>Project / Location</u>	<u>From</u>	<u>To</u>	<u>Gross Cost</u>	<u>Remarks</u>
<b>Road Improvements</b>				
<b>P18-064</b>				
Race Street	McGuire Street	Carlisle Street	77,000	Improvements to Race Street to improve parking in conjunction with new sidewalk to be installed on the traffic island
<b>P18-080</b>				
2018 Resurfacing Program			595,682	Spot curb repairs, milling and asphalt resurfacing. Top Course asphalt following reconstruction in 2017.
Pelham Road	Nash Street	Kent Street		
Queenston Street	Page Street	Eastchester Avenue		
<b>Feasibility Study and Preliminary Design</b>				
<b>ST18-09</b>				
Merritt Street Guiderail	Ball Avenue East	Ball Avenue West	80,000	Feasibility Study and Preliminary Design for guiderail improvements
<b>ST18-12</b>				
Traffic Management Study	Ridley Road Neighbourhood Traffic Management Study		60,000	Traffic measurement study in residential neighbourhood near future GO station
<b>Traffic Signal Replacement Program</b>				
Locations - TBD			208,000	* Priority determined by Region of Niagara
Pedestrian Signal - Vine Street			40,000	* Replace with a crossover signal on Vine Street between Ricci and Nello
	<b>Subtotal:</b>		<b><u>\$1,360,682</u></b>	
	<b>Grand Total:</b>		<b><u>\$5,772,682</u></b>	
<b>Funding Source Breakdown:</b>				
Capital Out of Revenue (10%)			\$459,000	
***Grant - Ontario Commuter Cycling Fund			552,098	
**Grant - Federal Gas Tax			400,000	
*Reserves - Infrastructure Levy			248,000	
Debenture			<u>4,113,584</u>	
			<b><u>\$5,772,682</u></b>	

**Legend:**

P - Project

ST - Study

## - Year of Commencement

Ex. P13-067 = Project, Started in 2013 - 67 (identifier number for the project)

## **Storm Sewer Program Schedule D**

The total length of storm sewers in the City is approximately 403 km with current estimated replacement value of \$641 million, in 2018 dollars.

With storm sewer separation forming a significant component of a multifaceted approach to alleviate basement flooding problems, the construction of storm sewers is concentrated in combined sewer areas which experienced recent basement flooding or have combined sewage overflow. New storm sewers will reduce the amount of surface water entering the sanitary or combined sewer system thereby providing relief to the immediately adjacent areas as well as the properties upstream and downstream of the new sewers. New storm sewers are also proposed in areas with surface flooding when open channel solutions will not be effective.

The funding for the Storm Sewer and Sewer Separation Program comes from the Capital budget (Schedule D) in the amount of \$2,629,000 with \$752,000 provided by the Federal Gas Tax Program.

Unlike sanitary and combined sewers, storm sewers were not inspected and as a result their conditions are mostly unknown. A zoom camera inspection program is underway to prioritize further investigations, maintenance and replacements. Preliminary data for the City's north end indicates that approximately 9% of the existing storm sewer system is in a poor condition. At this point in time the infrastructure deficit for all storm sewers is estimated at \$32.1 million which is 5% of the replacement value.

Based on an estimated life cycle of a hundred years, the annual sustainable replacement value of the storm sewer system should be approximately \$6.4 million. In 2018, the storm sewer work proposed is for new storm sewers. Therefore there are no funds allocated to the sustainable replacement value of this asset category.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE D: STORM SEWER AND SEWER SEPARATION PROJECTS**

<u>Project / Location</u>	<u>From</u>	<u>To</u>	<u>Gross Cost</u>	<u>Remarks</u>
<b>Additional Budget Dollars for Previously Approved Projects</b>				
<b>P15-007</b> Francis Creek Drain Improvements	Ridley Road	30m north of Fourth Avenue	\$1,037,000	Additional funds for channel cleaning, bank stabilization and erosion control to improve the drain's function
<b>P16-003</b> Else Street	Linwell Road	Scott Street	510,000	Additional funds for storm sewer construction for CSO control
<b>P16-004</b> Rodger/Sharon	New Storm Sewer/Urbanized Roadway		267,000	** Additional funding for storm sewer and road improvements to alleviate surface flooding
<b>P16-008</b> Hartzel Rd	Storm Sewer Replacement		485,000	** Additional funds to replace storm drainage system to alleviate surface flooding ( <i>Note: Early budget approval, January 15, 2018</i> )
<b>P16-063</b> St George Street	Dieppe Road	Facer Street	20,000	Additional funds for storm sewer construction with sanitary sewer works
<b>P16-104</b> Park Avenue	Cedardale Avenue	Seymour Avenue	40,000	Additional funds for storm sewer construction in conjunction with watermain works
<b>P17-009</b> Yale Crescent	Vine Street	Berryman Avenue	20,000	Additional funds for storm sewer construction in conjunction sanitary sewer and watermain replacement
<b>P17-020</b> Admiral Road Park Avenue	Ferndale Avenue Admiral Road	Park Avenue Rockwood Avenue	80,000	Additional funds for storm sewer construction in advance of future roadworks
<b>Subtotal:</b>			<b><u>\$2,459,000</u></b>	
<b>Budget Dollars for New Projects</b>				
<b>P17-063</b> Glenwood Avenue South Drive	Rockcliffe Road Cliff Road	End Rockcliffe Road	70,000	Funds for Engineering Services to initiate combined sewer separation in conjunction with future watermain and roadworks
<b>P18-006</b> Catchbasin and Storm Service Installations	Various		80,000	Installations of catch basins, catch basin leads and storm laterals to alleviate isolated surface flooding

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE D: STORM SEWER AND SEWER SEPARATION PROJECTS**

<u>Project / Location</u>	<u>From</u>	<u>To</u>	<u>Gross Cost</u>	<u>Remarks</u>
<b>ST18-11</b>				
Maplewood Area Storm Sewer Study	Maplewood Dr and surrounding area		20,000	Storm sewer study on Maplewood and the surrounding area to alleviate flooding issues
		<b>Subtotal:</b>	<b>\$170,000</b>	
		<b>Grand Total:</b>	<b>\$2,629,000</b>	
 <u>Funding Source Breakdown:</u>				
**Grants - Federal Gas Tax			\$752,000	
Capital out of Revenue (10%)			188,000	
Net Debenture Amount			1,689,000	
			<b>\$2,629,000</b>	

## **Sanitary Sewer Improvement Program Schedule E and Schedule P**

The total length of combined and sanitary sewers in the City is approximately 570 km with an estimated replacement value of \$820 million in 2018 dollars. The current sanitary sewer collection system infrastructure deficit is \$107 million. Based on an estimated life cycle of 75 years for sewers, the annual sustainable replacement value of the sanitary sewer system should be \$11 million.

A City-wide Zoom camera inspection of the sewer systems started in August 2017 with results anticipated by the end of 2018. Preliminary data for a quarter of the system indicate that approximately 5% of the existing sewer system is in a poor condition structurally while approximately 20% of the existing sewer system is in a poor condition from an operational point of view. In City's 2013 Asset Management Plan, 13% of the sanitary sewers were noted to be in poor condition and in need of rehabilitation. In four years, the percentage of poor condition assessments increased by 7%.

A continued increase in the number of deficiencies has been identified including blockages from collapsed pipe sections, grease and severe root infiltration, which restricts capacity and may lead to backup during periods of high flow. Rehabilitation of these sewers will ensure an adequate level of service and reduce the likelihood of basement flooding in adjacent and upstream areas of the sewer system.

The funding for the Sanitary Sewer Improvement Program comes from two budgets:

- Capital budget (Schedule E) - \$975,000 provided by the Federal Gas Tax Program
- Wastewater Operating budget (Schedule P) - \$2,300,000 – which has not yet been approved by Council.
  - This budget will be tabled with Council in early March 2018 with public meeting and deliberations before the end of March 2018.

Based on the 2018 funding for this program and comparison to the minimum annual target reinvestment rate of \$8.2 million, the City is supporting reinvestment at approximately 40% of the recommended level.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE E: SANITARY SEWER IMPROVEMENTS**

<u>Project / Location</u>	<u>From</u>	<u>To</u>	<u>Gross Cost</u>	<u>Remarks</u>
<b>Additional Budget Dollars for Previously Approved Projects</b>				
<b>P16-061</b> Greenwood Ave Beatrice Street	Bunting Rd. Dundonald St.	Dundonald St. End	\$410,000	** Additional funds to replace sanitary sewers
<b>P17-008</b> Burness Drive	Ferndale Ave	Alexandra Blvd.	495,000	** Additional funds to replace sewer in conjunction with watermain works
<b>P17-068</b> Terry Lane	Shelley Ave.	Graham Ave.	70,000	** Funds to replace sewer in conjunction with watermain replacement and road works
<b>Grand Total:</b>			<b><u>\$975,000</u></b>	

Funding Sources Breakdown:

\*\*Grants - Federal Gas Tax

**\$975,000**

## Water System Improvement Program

### Schedule F and Schedule Q

The total length of watermain under the City's jurisdiction is approximately 610 km with an estimated replacement value of \$1,150 million (including water service replacements) in 2018 dollars. If the City were to replace all of the watermain sections made of the older materials, the cost in 2018 dollars will be approximately \$535 million. Assuming an average service life of 50 years for watermain, the annual cost for watermain replacement should be 2% of the total replacement cost of the whole system or \$23 million, in order to maintain a sustainable watermain distribution system. It is estimated that approximately 5% of all the watermain sections are currently in a critical condition. The cost to replace these sections is approximately \$28 million.

The funding for the Water System Improvement Program comes from two budgets:

- Capital budget (Schedule F) - \$1,728,215 – supported by the Federal Gas Tax Grant
- Water Operating budget (Schedule Q) -\$5,500,000 – which has not yet been approved by Council
  - This budget will be tabled with Council in early March 2018 with public meeting and deliberations before the end of March 2018.
  - Council has directed that each year's water budget should include an allocation of at least \$750,000 for the replacement of watermain in areas experiencing coloured water problems
    - \$3,095,000 is proposed to be spent on replacement of old and deteriorated cast iron watermain which are usually the cause of coloured water in the system
    - This will generally help in alleviating coloured water problems in the areas where the watermain are being replaced.

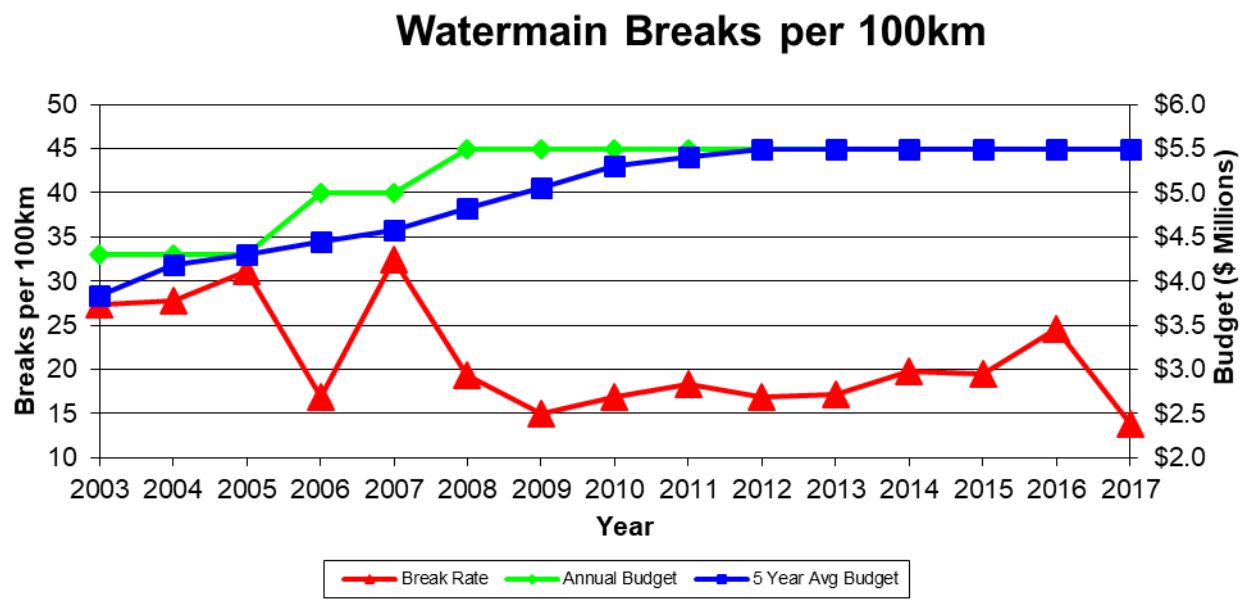
Based on the 2018 funding for this program and comparison to the minimum annual target reinvestment rate of \$11.5 million, the City is supporting approximately 63% of the recommended reinvestment level.

The table below represents the total length of watermain included within the proposed budget. As shown in this table the available funding supports less than the 2% replacement target.

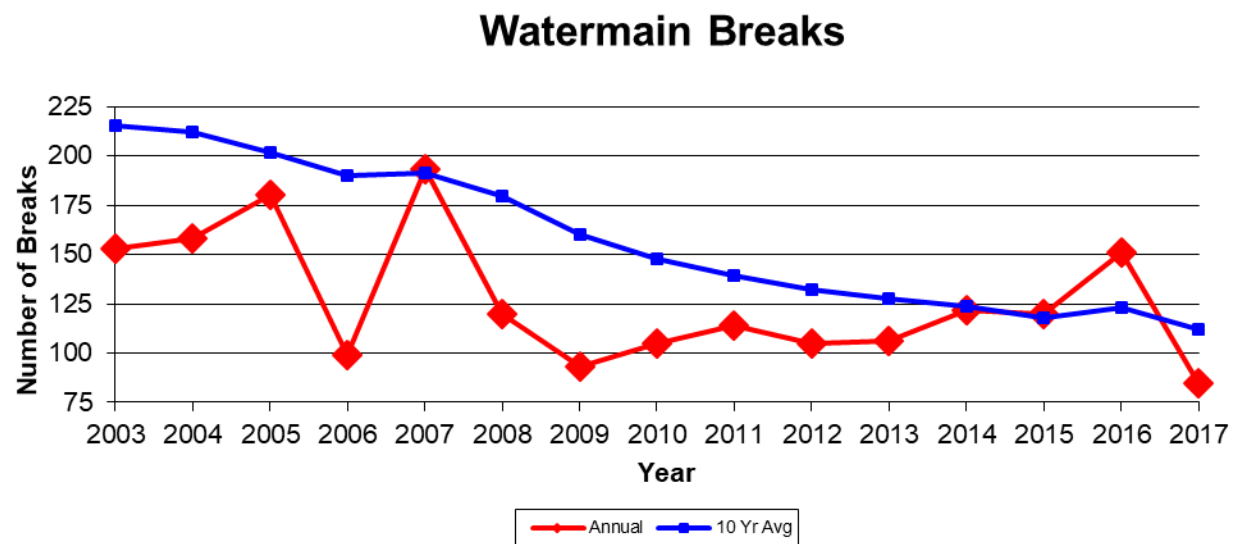
	Additional funds for previously approved projects (km)	Newly identified replacement watermain (km)	Engineering Services (km)
Water Budget	7.15	0.00	0.00
Capital - Gas Tax	0.00	0.37	0.74
Capital - City share of Region	0.00	0.00	0.00
Total (km)	7.15	0.37	0.74
<b>% of Total Existing Watermain System</b>	<b>1.20%</b>	<b>0.06%</b>	<b>0.12%</b>

Figures 1 and 2 present records for the past 15 years and reflect the high variability in the number of annual watermain breaks.

**Figure 1 – Watermain Breaks per 100km**



**Figure 2 – Watermain Breaks**





**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE F: WATER SYSTEM IMPROVEMENTS**

<u>Project / Location</u>	<u>From</u>	<u>To</u>	<u>Gross Cost</u>	<u>Remarks</u>
<b>Additional Budget Dollars for Previously Approved Projects</b>				
✓ <b>P15-117</b>				
Water Meter Replacement Program	Year 5 of a multi year program to replace existing water meter to AMR's		\$1,000,000	** Additional funds (year 5) of multi-year project.
	<b>Subtotal:</b>		<u><b>\$1,000,000</b></u>	
<b>Budget Dollars for New Projects</b>				
<b>P18-100</b>				
Champa Dr.	Scott St.	Agar Dr.	35,000	** Engineering Services for existing C.I. watermain replacement
<b>P18-101</b>				
Rendale Ave.	Dorchester Blvd.	Cushman Rd.	50,000	** Engineering Services for replacement of existing C.I. watermain
<b>P18-202</b>				
Smythe Street	Oakdale Ave.	Haight St.	185,000	** Replace existing C.I. watermain
<b>P18-123</b>				
Burleigh Hill Drive	Glendale Ave.	Warkdale Ave.	458,215	** Existing C.I. watermain replacement in conjunction with sewer improvements and Regional Road reconstruction.
	<b>Subtotal:</b>		<u><b>\$728,215</b></u>	
	<b>Grand Total:</b>		<u><b>\$1,728,215</b></u>	
<b>Funding Source Breakdown:</b>				
**Grants - Federal Gas Tax			<u><b>\$1,728,215</b></u>	

✓ - Request for early budget approval

**Legend:**

C.I - Cast Iron

D.I - Ductile Iron

A.C. - Asbestos Cement

## **Niagara District Airport Schedule G**

The City of St. Catharines has budgeted \$157,000 of capital dollars for various works at the Niagara District Airport. The City supports the capital needs of the airport based on population percentage portion along with the City of Niagara Falls and the Town of Niagara on the Lake.

The details of the upgrades include work to fences, crack sealing and security cameras.

The funding sources for these costs are further explained in schedule G.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE G: NIAGARA DISTRICT AIRPORT**

<b><u>Project / Details</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
<b>2018 Municipal Working Capital Grant</b>	\$157,000	As per request submitted by the Niagara District Airport
Fire Hydrant Line - East Apron		
Fence - East Apron		
Crack Sealing		
Kubota Drive on Mower		
Fence - 06 Threshold		
Security Cameras		
	<b><u>\$157,000</u></b>	
 <u>Funding Source Breakdown:</u>		
Capital Out of Revenue (10%)	\$16,000	
Debentures	141,000	
	<b><u>\$157,000</u></b>	

## **New Sidewalk Construction & Sidewalk Rehabilitation Programs Schedule H and Schedule T**

The total length of existing City sidewalks and walkways is approximately 559 km. The estimated replacement value of the sidewalks is \$130 million. The estimated replacement value of the 23.5 km of walkways and emergency accesses is \$4.5 million. Based on an estimated life cycle of thirty years, the annual sustainable replacement value of the sidewalks, walkways and emergency accesses is \$4.5 million. These totals exclude the recreational trails and sidewalks leading to parks and schools, which were partially included in previously reported lengths. Existing sidewalks are replaced to maintain safe walking routes for pedestrians.

Staff estimates approximately 5% of the existing sidewalks are in poor condition representing a \$6.8 million dollar deficiency. Locations for sidewalk replacement are determined from a list of sidewalk deficiencies compiled by Operations staff based on field observations and resident complaints. The lists are then analyzed and in cases where more than 50% of the existing sidewalks are deficient, then the entire block is recommended for replacement. Locations not meeting the 50% threshold are repaired as “spot” repairs. Spot repairs are carried out by both City crews and contractors. The spot repairs are budgeted through the Operations Division of TES.

The funding for the New Sidewalk Construction & Sidewalk Rehabilitation Program comes from two budgets:

- Capital budget (Schedule H) - \$540,000 - funds the installation of new sidewalks located within municipal road allowances and construction of new sidewalks based on requests from residents and businesses and to complete the gaps of existing sidewalk network
  - Includes \$50,000 support from the Infrastructure Levy for repair of existing walkways
    - Walkways are those sidewalks on City owned lands which interconnect two road allowance and are not associated with a park or City owned building
  - Includes \$190,000 of support from Federal Gas Tax Grant for new sidewalks
- Operating Budget (Schedule T) - \$350,000 - funds the repair of existing sidewalks located within municipal road allowances
  - Funding approved by Council in December 2017 as part of the 2018 Operating Budget
    - Specific project details provided in this document schedule

Based on the 2018 funding for this program and comparison to the minimum annual target reinvestment rate of \$2.7 million, the City's is supporting approximately 33% of the recommended reinvestment level.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE H: SIDEWALK CONSTRUCTION PROGRAM**

<u>Location</u>	<u>From</u>	<u>To</u>	<u>Cost</u>	<u>Remarks</u>
<b>Additional Budget Dollars for Previously Approved Projects</b>				
<b>P13-019</b>				
Burleigh Hill / Glendale Ave CSO Control Warkdale Dr.	Burleigh Hill Dr.	Approx. 80m West of Burleigh Hill	\$40,000	New sidewalk at Sainte- Marguerite-Bourgeoys Elementary Catholic School in conjunction with sewer works
		<b>Subtotal:</b>	<b>\$40,000</b>	
<b>Budget Dollars for New Projects</b>				
<b>P18-040</b>				
2018 Walkway Improvement Program	City Wide - priority locations		50,000	* Annual program, priority location(s) to be determined
<b>P18-041</b>				
2018 New Sidewalk Construction Program	City Wide		230,000	Priority location(s) to be determined
<b>P18-064</b>				
Race Street Parking Improvements Race Street	McGuire St.	Carlisle St.	30,000	New sidewalk on traffic island in conjunction with Race Street Improvements
<b>RN18-A</b>				
Martindale Road Improvements Martindale Road	South Service Rd.	Bridge St.	190,000	** City's share of costs for new and existing sidewalks in conjunction with Regional Road reconstruction
		<b>Subtotal:</b>	<b>\$500,000</b>	
		<b>Grand Total:</b>	<b>\$540,000</b>	
<b>Funding Source Breakdown:</b>				
*Reserves - Infrastructure Levy			\$50,000	
**Grants - Federal Gas Tax			190,000	
Capital out of Revenue (10%)			30,000	
Debentures			270,000	
			<b>\$540,000</b>	

## **Pollution Control Plan Schedule I**

Projects identified by the City's Pollution Control Plan are the City's effort to meet or exceed the requirements of the Ministry of the Environment and Climate Change's Procedure F-5-5 Determination of Treatment Requirements for Municipal and Private Combined and Partially Separated Sewer Systems. The Pollution Control Plan (PCP) identified a number of initiatives to upgrade the existing sewage infrastructure to address combined sewer overflow discharges to the natural environment.

An update of the Pollution Control Plan is underway.

Engineering phases continue for the Burleigh Hill / Glendale Combined Sewer Overflow (CSO). A tender for an initial construction phase is anticipated soon for works south of Glendale Avenue. Prior to finalizing tank storage design, an additional geotechnical investigation is in-progress to reconfirm soil properties within Glengarry Park.

A final phase of funding for the Burleigh Hill / Glendale Avenue CSO Control project is included in the in the 2018 Capital Budget at \$2.5 Million. An application will be submitted for 40% funding from the Region's CSO MAP program which is equivalent to \$1 million.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE I: POLLUTION CONTROL PLAN**

<u>Project / Location</u>	<u>Description</u>	<u>Gross Cost</u>	<u>Remarks</u>
Additional Budget Dollars for Previously Approved Projects			
P13-19			
Burleigh Hill/Glendale Avenue	Glengarry Park CSO storage facility and inlet sewer	\$2,500,000	Additional funds for installation of CSO storage facility and inlet sewer.
		<u>\$2,500,000</u>	
Funding Sources Breakdown:			
Capital Out of Revenue (10%)		\$150,000	
Grant: Regional CSO funding		1,000,000	
Debentures		1,350,000	
		<u>\$2,500,000</u>	

## **City Building and Accessibility Improvements**

### **Schedule J**

This schedule identifies the key initiatives and programs that will be carried out to improve City owned facility assets. The various building programs below highlight costs associated with the asset management of individual building features such as roofing, washrooms or accessibility upgrades or the costs associated with various classes of building such as Heritage Buildings and Arenas.

The total cost amounts included in the program summaries in Schedule J include funding only from the Capital Budget. The Operating Budget does fund some building improvements, however those are minor and have been outlined within the 2018 Operating Budget when it was presented and approved by Council in 2017.

The estimated total replacement value of City facilities is \$456.5M. The current infrastructure deficit is estimated to be \$32.8M. The total facility improvements proposed in 2018 are \$4.506M. This represents 57.8% of the lower end or 39.5% of the upper end of the annual targeted reinvestment rate, as per the Canadian Infrastructure Report Card 2016.

#### **Accessibility Implementation**

In 2007 approximately 47 City buildings were audited by an external consultant for their compliance with FADS. The final report outlining all of the non-compliant items as a result of the audit was received in 2008. An estimated total of \$5,750,000 in non-compliant items was identified. Historically, Council had approved \$250,000 be budgeted annually for the Accessibility Implementation Program.

The 2018 Budget has a \$135,000 allocation included for accessible upgrades to the Bill Burgoyne Arena, Port Weller Community Centre, and the Victoria Lawn Cemetery.

#### **Heritage Building Rehabilitation**

The Old Court House, Montebello Park Pavilion and Band Shell, City Hall, the Morningstar Mill, Dalhousie House, and the Old Robertson School at 85 Church Street are examples of City owned buildings which are classified as Heritage Buildings.

Building Condition Assessments have been carried out on the Heritage Buildings by various consultant teams. Due to the age of these buildings many of the architectural, structural, mechanical and electrical components of these structures have well exceeded their useful service life and will require regular maintenance and rehabilitation in order to preserve the integrity of these buildings. There are also components within these structures that do not meet current codes and regulations with regards to safety which require retrofits in order to remain in operation. The estimated total value of the identified deficiencies for the City's heritage buildings, based on the original and some updated reports, is approximately \$9,000,000.

The 2018 Heritage Building Rehabilitation Program will include an allocation of \$250,000 for repairs at the Morningstar Mill.



### **Roofing Rehabilitation**

The total roof area of all of City buildings is approximately 923,000 square feet. Many of these roofs have either passed or are close to the end of their service lives. Condition assessments and the annual inspections are carried out on many of the roofs. Based on the most recent roof reports it was estimated that the total replacement value of the roofs is \$9.7 million.

The proposed 2018 program includes an allocation of \$85,000 for roof repairs / replacements at the Old Court House, Montebello Park Pavilion, and the St. Catharines Municipal Golf Course Old Clubhouse.

### **Washroom Repair Initiative**

The City has various washroom facilities in parks and buildings throughout the City for use by both the public and staff. The condition of these facilities has deteriorated significantly over the years, requiring that many of them be either rehabilitated or replaced. Washrooms are also a primary component of a building that requires upgrade in order to meet accessibility needs of a facility.

The 2018 Budget includes funds to upgrade the existing washrooms at Port Weller Community Centre, and to make them accessible from the exterior of the building.

### **Arena Improvement Initiative**

There is an estimated deficiency of \$18.6 million within the City's arenas (excluding Meridian Centre). This number represents architectural, structural, mechanical and electrical deficiencies identified in the most recent condition assessments that were carried out on these facilities, along with needs that have been identified by staff. Items not included in the estimated deficiency are upgrades for accessibility, security systems and any other initiatives.

The replacement value for the four older arenas including demolition and replacement with new equivalent size facilities is approximately \$41 million. Priority repairs include those items which did not meet current code as well as deteriorated items which require replacement.

The 2018 Arena Improvement program will have an allocation of \$951,500 to address deficiencies, and to perform preventative maintenance on equipment at Seymour Hannah, Garden City Arena, Bill Burgoyne Arena and Merritton Arena.

### **Fire and Emergency Management Services and Parking**

Also included in Schedule J are capital works to be undertaken for Fire Services and Parking. 2018 Fire Services program will have an allocation of \$40,000 to carry out repairs to Fire Station #1. The 2018 Parking Improvement program has an allocation of \$190,000 to carry out preventative maintenance on the Carlisle Street Parking Garage and the Ontario Street Parking Garage.

**General Building Improvement**

Based on the result of recent condition assessments and requirements of regulatory bodies, repairs are required on some of the City Buildings. The 2018 General Building Improvement Program will include an allocation of \$836,500 to address some of these issues. Items that will be addressed under this program include the structural, architectural, mechanical and electrical components of various City buildings that have reached the end of their service life.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE J: CITY BUILDING AND ACCESSIBILITY IMPROVEMENTS**

<b>Project / Location</b>	<b>Details</b>	<b>Gross Cost</b>	<b>Remarks</b>
<b>Additional Budget Dollars for Previously Approved Projects</b>			
<b>Parks, Recreation, Culture Services</b>			
<b>P18-168</b>			
Victoria Lawn Cemetery	Administration Building - Additional Funds	\$450,000	Additional Funds for new Administration Building
	Accessibility Measures - Additional Funds	50,000	Additional Funds Implement accessibility measures in new Admin building
<b>P18-181</b>			
St Catharines Museum HVAC	Replace HVAC system - Additional Funds	900,000	Additional Funds for HVAC system replacement
<b>P18-178</b>			
Bogart Street splashpad - additional funds		65,000	Additional funds for splashpad. (Note: Early budget approval on January 29, 2018)
	<b>Subtotal:</b>	<b>\$1,465,000</b>	
<b>Budget Dollars for New Projects</b>			
<b>Parks, Recreation and Culture Services</b>			
<b>P18-141</b>			
Market Square Building	Reseal and coat concrete floor	60,000	Perform Preventative maintenance
	Lighting conversion to LED	50,000	Improve energy efficiency
<b>P18-131</b>			
Happy Rolph's Bird Sanctuary	Screening for animal pens and sun protection	30,000	Ensure integrity of animal and public safety
<b>P18-174</b>			
Kiwanis Aquatic Centre	RegROUT Deck	90,000	To address building deficiency
	Install VFD on HVAC unit	30,000	Improve energy efficiency
	Additional Lighting	45,000	Ensure integrity of public safety
<b>P18-134</b>			
Montebello Park	Pavillion Roof replacement	60,000	To address building deficiency
<b>P18-175</b>			
St Catharines Municipal Golf Course	Old Clubhouse roof replacement	15,000	To address identified roofing deficiency
<b>P18-178</b>			
Port Weller Community Centre	Update and add parking lot lighting	50,000	To address lighting deficiency and site safety
	Washroom renovations	600,000	Renovate existing washrooms and make accessible from exterior of the building
	Accessibility upgrades	60,000	Implement accessibility measures
<b>P18-167</b>			
Victoria Lawn Cemetery	Demolish old Administration building	25,000	Demolish existing building once new administration building is completed
<b>P18-177</b>			
Morningstar Mill	Grist Mill repointing - phase 2	250,000	Heritage repairs to existing grist mill

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE J: CITY BUILDING AND ACCESSIBILITY IMPROVEMENTS**

<b>Project / Location</b>	<b>Details</b>	<b>Gross Cost</b>	<b>Remarks</b>
<b>P18-137</b> Douglas Park	Playground Equipment upgrade	100,000	* Park Upgrades
<b>P18-174</b> Pearson Park / Clifford's Creek Park	Tennis and basketball court upgrades	225,000	* Tennis court upgrade at Pearson Park and a basketball court upgrade at Cliffords Creek Park
<b>2018 Arena Improvement Program</b>			
<b>P18-160</b> Merritton Arena	Replace dehumidifier	40,000	Asset Renewal
	Replace head cooling pump/condensor pump	20,000	Asset Renewal
	Resurface Ice Resurfacer access area and snow melt area	50,000	To address building deficiency
<b>Maint 2018-7</b> Merritton Arena	Install electrical outlet at rear of facility	1,500	
<b>Maint 2018-8</b> Seymour Hannah	Replace sprinkler valves	35,000	Ensure integrity of public safety
<b>P18-164</b> Seymour Hannah	Dehumidification system upgrade for pads 1 and 2 - Phase 1	300,000	Upgrade to improve performance and user experience
	Replace netting Rink 1	50,000	Ensure integrity of public safety
	Install battery packs on Ice Resurfacer OH doors	20,000	Ensure integrity of public safety
<b>P18-161</b> Garden City Arena	Replace damaged rubber flooring (1600sf)	40,000	Replace damaged flooring
	Install CO sensors in public areas	10,000	Ensure integrity of public safety
<b>P18-166</b> Bill Burgoyne Arena	Compressor 1	65,000	Asset Renewal
	Compressor 2 motor	75,000	Asset Renewal
	Electrical Panel/Controls	100,000	Asset Renewal
<b>P18-165</b> Bill Burgoyne Arena	Install Door to isolate bowl from changerooms	100,000	Provide doors to improve HVAC and dehumidification performance
<b>Maint 2018-5</b> Bill Burgoyne Arena	Install Puck Netting	45,000	Ensure integrity of public safety
<b>ST18-015</b> Bill Burgoyne Arena	Preliminary design for accessibility upgrades	25,000	Design for accessibility upgrades
<b>Transportation and Environmental Services</b>			
<b>P18-140</b> City Hall	Remove asbestos and repair 3rd floor hallway	75,000	Ensure integrity of staff and public safety
	Council Chambers - Microphone replacement	25,000	Improve performance experience

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE J: CITY BUILDING AND ACCESSIBILITY IMPROVEMENTS**

<b>Project / Location</b>	<b>Details</b>	<b>Gross Cost</b>	<b>Remarks</b>
<b>P18-144</b>			
Buchanan House	Implement Security	50,000	Ensure safety of staff and public using the facility
<b>P18-145</b>			
Buchanan House	Repair floor drains in basement	40,000	To address building deficiency
<b>P18-151</b>			
Carlisle Street Parking Garage	Stairwells- crack repairs	15,000	Perform preventative maintenance
	Install 2" high flow water line for cleaning	30,000	Improve cleaning procedure for the facility
	Top floor drain repairs	50,000	Perform preventative maintenance
	Membrane repairs	50,000	Perform preventative maintenance
<b>Fire and Emergency Management Services</b>			
<b>P18-153</b>			
Firehall #1	Replace and level garage floor slab	40,000	To address safety concerns
<b>Subtotal:</b>		<b>\$3,041,500</b>	
<b>Grand Total:</b>		<b>\$4,506,500</b>	

Funding Sources Breakdown:

*Reserves - Infrastructure Levy	\$325,000
Reserves - Building Improvement Program	600,000
Various projects throughout schedule J	
Capital out of Revenue (10%)	361,000
Net Debenture Amount	3,220,500
	<b>\$4,506,500</b>

**Accessibility Upgrades Summarized for Information Purposes**

Victoria Lawn Cemetery Admin Building	\$50,000
Port Weller Community Center - Washroom	\$60,000
Bill Burgoyne Arena - Preliminary Design for Upgrades	\$25,000

## **Watercourse Rehabilitation Program Schedule K**

The City of St. Catharines has approximately 36.5 km of watercourses that generally drain water from within the City out to Lake Ontario. The deterioration of the protective works for these watercourses and the limited funds available to rehabilitate them, may lead to the erosion of public and private lands and structures.

The 2015 Watercourse Flooding and Erosion Control Priority Study identified 87 watercourse sites citywide that are eroded and need rehabilitation. Out of the worst 25 eroded sites, six are located on private property and the City does not have any responsibility.

Although it is difficult to provide a figure for the work required, inflation adjusted cost estimates for rehabilitating the remaining 19 eroded sites is approximately \$9,000,000. Although each erosion site and the rehabilitation required at each site is different, for estimation purposes the above total cost translates to approximately \$475,000 for each erosion site, on average. If this average rehabilitation cost is applied to all the 87 erosion sites identified, the total citywide watercourse rehabilitation costs will be approximately \$41,325,000 in 2018 dollars.

A Watercourse Flooding and Erosion Control Priority Study Report was provided to the City in February 2015 for creeks within the urban areas of St. Catharines. Staff is using the report's findings and recommendations for prioritizing watercourse restoration works in conjunction with other required infrastructure works / projects. The study also has prioritized rehabilitation needs of culverts with diameters too small to be included in the mandatory biennial Bridge and Major Culvert Inspections.

During a previous study, deficiencies related to the Martindale Pond Weir were identified. Adjacent to the Martindale Pond Weir is the Heywood Generating Station which is owned by St. Catharines Hydro Generation Inc. In order to comply with Federal legislation, a facility safety review is required in order to identify and prioritize any required capital improvements to address deficiencies. Since these structures are adjacent to each other, the City retained a consultant to undertake the required safety review for both structures under one engineering assignment. The objective of this assignment is to complete a Dam Safety Review of the Martindale Pond Weir and Heywood Generating Station in accordance with the Ministry of Natural Resources and Forestry's (MNRF) Dam Safety Review Best Management Practices and technical bulletins, as legislated under the Lakes and Rivers Improvement Act.

Deficiencies for both dam structures will be identified along with recommendations, timelines and cost estimates to address any deficiencies. An amount of \$150,000 is proposed to be included in the 2018 Watercourse Rehabilitation Program in the Capital Budget to undertake the recommended improvements for the Martindale Pond Weir, once the Dam Safety Review is completed.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE K: WATERCOURSE REHABILITATION**

Project / Location	Details	Gross Cost	Remarks
Additional Budget Dollars for Previously Approved Projects			
P17-129			
Watercourse Rehabilitation	Martindale Pond near Lakeport Road	\$150,000	Partial (additional) funding to address identified deficiencies in stop logs and abutments
		<b>\$150,000</b>	
Funding Source Breakdown:			
Capital Out of Revenue (10%)		\$15,000	
Debenture		135,000	
		<b>\$150,000</b>	

## **Shoreline Protection Program Schedule L**

The City has installed approximately 2,800 meters of shoreline protection structures on public land. The 2018 replacement value of the existing shoreline protection is \$15 million. The cost to remediate identified medium and low priority deficiencies in the existing shoreline protection is estimated to be \$300,000.

In addition there are 16 sites of unprotected municipal lands or road right of ways where no formal shoreline protection works have been constructed. The unprotected lands total approximately 1,950 meters in length. A previous review of shoreline conditions identified remedial cost of \$330,000 at 9 of those 16 sites and \$3.3 million to provide 650 meters of shoreline protection at the remaining seven sites.

Due to the high water levels on Lake Ontario in the Spring / Summer of 2017, staff recommends \$100,000 be included in the 2018 Capital Budget for the Shoreline Protection Program to undertake a condition assessment of the existing infrastructure, prioritize rehabilitation of existing shoreline and to identify priority locations for new shoreline protection.



**ASSET IMPROVEMENTS 2018 CAPITAL BUDGET**

**SCHEDULE L: SHORELINE PROTECTION**

<b><u>Project / Location</u></b>	<b><u>Description</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
<b>P18-132</b>			
Shoreline Protection Program 2018	To undertake Citywide review of existing infrastructure and unprotected sites along the Lake Ontario shoreline.	\$100,000	Undertake engineering studies about existing infrastructure and unprotected sites along Lake Ontario
		<b><u>\$100,000</u></b>	
<b><u>Funding Source Breakdown:</u></b>			
Capital Out of Revenue (10%)		\$10,000	
Debenture		90,000	
		<b><u>\$100,000</u></b>	

## **Bridge and Culvert Rehabilitation & Replacement Programs Schedule M and Schedule S**

The 2018 replacement value for bridges and major culverts (greater than 3m span) is approximately \$48 million. The estimated infrastructure deficit is \$4.8M. The total 2018 funding for this asset category is \$0.565M. This is within the annual targeted reinvestment range of \$0.5M to \$0.7M.

### **Structural Maintenance Program**

The 2018 Structural Maintenance Program Bridge and Culvert Program includes \$300,000 in funding to proceed with the maintenance contract in order to extend the service life of three pedestrian bridges and the remove two others.

Staff also recommend hiring engineering services for maintenance to two vehicular structures, Dunkirk Road over Cushman Road and Third Avenue Louth over Richardson Creek. This work is being recommended to use funds from the Federal Gas Tax Program (FGTP) and is outlined in Schedule M of the Capital Budget.

### **Rehabilitation Programs**

Provincial regulations require that biennial inspections (once every two years) be carried out on bridge and culverts with spans greater than three meters. These inspections were last carried out in 2016 and will be undertaken in 2018.

During the 2016 inspections, there were a number of structures that require maintenance work, such as roadside safety improvements, replacement of rotten timber decking, reconstruction bearing seats, and recoating of structural steel, to extend the service life of the structures. Staff retained an engineering consultant in 2017 to undertake the necessary engineering work to complete the contract document and specifications in order to tender one larger maintenance contract.

In 2018 there are two annual programs being funded from the Operating Budget, which are the Bridge Rehabilitation Program and the Large Culvert Rehabilitation Program. Each annual program budget received Council approval in 2017 with the 2018 Operating Budget with further details outlined in Schedule S.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE M: BRIDGE AND CULVERT REHABILITATION PROGRAM**

<u>Project / Location</u>	<u>Details</u>	<u>Gross Cost</u>	<u>Remarks</u>
<b>Additional Budget Dollars for Previously Approved Projects</b>			
<b>P17-125</b>			
Dunkirk Road bridge	(South Service Road)	\$80,000	** Additional funding for engineering services (detail design) for bridge with identified deficiencies
	<b>Subtotal:</b>	<b>\$80,000</b>	
<b>Budget Dollars for New Projects</b>			
<b>P18-123</b>			
Third Avenue Louth bridge	Engineering services	60,000	** Engineering Services to initiate bridge rehabilitation to address identified bridge deficiencies
<b>2018 Structural Maintenance Program</b>			
<b>P18-122</b>			
Merritt Trail	Second Welland Canal at Lock 21	300,000	Removal of disused structure
Merritt Trail	Second Welland Canal at Lock 10		Repairs to existing pedestrian bridge to address identified deficiencies
Merritt Trail	Second Welland Canal at Lock 8		Repairs to existing pedestrian bridge to address identified deficiencies
Old Martindale Rd	Green Ribbon Trail		Removal of disused structure
Trillium Railway	CNR		Removal of structure
	<b>Subtotal</b>	<b>\$360,000</b>	
	<b>Grand Total:</b>	<b>\$440,000</b>	
<b><u>Funding Source Breakdown:</u></b>			
**Grants - Federal Gas Tax		\$140,000	
Capital Out of Revenue (10%)		30,000	
Debentures		270,000	
		<b>\$440,000</b>	

## **Fire and Emergency Management Services Infrastructure Schedule N**

The City of St. Catharines has budgeted \$4,100,000 of capital dollars for Fire Services infrastructure improvements.

This is the second phase of a radio console system upgrade that will work towards a technology integration with Niagara Regional Police Services.

**ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

**SCHEDULE N: FIRE SERVICES INFRASTRUCTURE**

<b><u>Location</u></b>	<b><u>Description</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
Fire Hall #1	Phase 2: Radio Console System Upgrade	\$4,100,000	Technology integration with NRPS
		<b><u>\$4,100,000</u></b>	
<u>Funding Source Breakdown:</u>			
Capital Out of Revenue (10%)		\$410,000	
Debenture		3,690,000	
		<b><u>\$4,100,000</u></b>	

## **Corporate Infrastructure Schedule O**

The City of St. Catharines has budgeted \$900,000 for infrastructure upgrades that will benefit the entire Corporation.

Included in the works for 2018 are upgrades to the telephone system, network and server improvements mobile services and on-line payment processing. Funds for a Record Management and Document Management System have also been included that will benefit many departments across the Corporation.

## **ASSET IMPROVEMENTS FROM THE 2018 CAPITAL BUDGET**

### **SCHEDULE O: CORPORATE INFRASTRUCTURE**

<b><u>Project Details</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
Document Management System and Record Management	\$100,000	The corporation is using manual processes, as greater documentation is coming online a new systems will provide efficiencies for control and easy access for Departments.
Telephone System - Cs 1000 switches to Avaya CM servers	180,000	Outdated technology and will gain efficiency by moving to virtualized phone systems that leverage new technology.
Technology Hardware Improvements - Network / Server Infrastructure	500,000	Ongoing upgrade of infrastructure based on life cycle of existing equipment.
Mobile Services	60,000	Leveraging cellular technologies to improve communication and provide mobile services at remote Corporate locations.
On Line Payment Processing	60,000	Utilizing new available technologies to improve public services.
	<b><u>\$900,000</u></b>	
<b><u>Funding Source Breakdown:</u></b>		
Capital Out of Revenue (10%)	\$90,000	
Debentures	810,000	
	<b><u>\$900,000</u></b>	

**ASSET IMPROVEMENTS FROM THE 2018 WATER / WASTEWATER BUDGET**

**SCHEDULE P: SANITARY SEWER IMPROVEMENT PROGRAM**

<b><u>Project Name / Location</u></b>	<b><u>From</u></b>	<b><u>To</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
<b>Additional Budget Dollars for Previously Approved Projects</b>				
<b>P13-067</b> MSI - Rivercrest Drive	Riverview Blvd.	Hillside Dr.	\$483,000	Additional funds to replace deteriorated combined sewer in conjunction with watermain works and road reconstruction
<b>P16-061</b> Greenwood Avenue Beatrice Street	Bunting Rd. Dundonald St.	Dundonald St. End	42,000	Additional funds to replace sanitary sewers
<b>P16-063</b> St. George Street	Dieppe Rd.	Facer St.	734,000	Additional funds to replace deteriorated sanitary sewers in conjunction with storm sewer works
<b>P17-007</b> Kilbourne Crescent Oriole Drive Underground Improvements	Grosvenor St. Grantham Ave.	Foxglove Ave. Foxglove Ave.	246,000	Additional funds to repair deteriorated sewer sections in
<b>P17-009</b> Yale Crescent Underground Improvements	Vine St.	Berryman Ave.	170,000	Additional funds for sewer replacement in conjunction with new storm sewer and watermain works
<b>Subtotal:</b>			<b><u>\$1,675,000</u></b>	
<b>Budget Dollars for New Projects</b>				
<b>P18-011</b> 2018 Spot Repair Program	City Wide		\$100,000	Spot repairs for sewers in various locations
<b>✓ P18-012</b> 2018 Sanitary Sewer Flushing & Reaming	City Wide		25,000	Reaming program, the physical cleaning of selected sewer sections with operational issues



**ASSET IMPROVEMENTS FROM THE 2018 WATER / WASTEWATER BUDGET**

**SCHEDULE P: SANITARY SEWER IMPROVEMENT PROGRAM**

<b><u>Project Name / Location</u></b>	<b><u>From</u></b>	<b><u>To</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
✓ <b>P18-014</b> 2018 CCTV Sewer Inspection	City Wide		125,000	CCTV inspection of existing sewers to identify condition and future works
<b>P18-015</b> Design for 2019 Projects	City Wide		25,000	Engineering services for 2019 construction projects
<b>ST18-10</b> Master Servicing Study	City Wide		350,000	City wide study of sewers to determine possible future servicing needs
<b>Subtotal:</b>			<b><u>\$625,000</u></b>	
<b>Grand Total:</b>			<b><u>\$2,300,000</u></b>	
<b><u>Funding Source Breakdown:</u></b>				
2018 Water/Wastewater Budget - Sewer Infrastructure			<b><u>\$2,300,000</u></b>	
✓ - <i>Request for early budget approval</i>				

**ASSET IMPROVEMENTS FROM THE 2018 WATER / WASTEWATER BUDGET**

**SCHEDULE Q: WATER SYSTEM IMPROVEMENT PROGRAM**

<b><u>Project Name / Location</u></b>	<b><u>From</u></b>	<b><u>To</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
<b>Additional Budget Dollars for Previously Approved Projects</b>				
<b>P13-067</b> Rivercrest Drive	Riverview Blvd.	Hillside Dr.	\$245,000	Additional funds to replace C.I. watermain in conjunction with sewer and road reconstruction
<b>✓ P16-101</b> Clover Street Heywood Avenue Sandy Cove	Heywood Ave. Niagara St. Shoreline Dr.	McKenzie St. Clover St. Cul-De-Sac	315,000	Additional funds to replace C.I. and D.I watermain
<b>✓ P16-103</b> Glendale Avenue	Glenridge Ave. Marlene Dr. Valerie Dr.	Valerie Dr. Jacobson Ave. Marlene Dr.	515,000	Additional funds to replace C.I. watermain
<b>✓ P16-104</b> Park Avenue	Grove Ave. Seymour Ave. South Limit	Rockwood Ave. Grove Ave. Seymour Ave.	755,000	Additional funds to replace D.I. watermain
<b>P17-007</b> Bessborough Drive Daley Drive Grosvenor Street Kilbourne Crescent Oriole Drive Underground Improvements	Grantham Ave. Grantham Ave. Grantham Ave. Grosvenor St. Graham Ave.	Foxglove Ave. Edinburgh Dr. Foxglove Ave. Foxglove Ave. Foxglove Ave.	885,000	Additional funds to replace C.I. watermain in conjunction with sewer rehabilitation
<b>P17-008</b> Burness Drive Underground Improvements	Ferndale Ave.	Alexandra Blvd.	180,000	Additional funds to replace C.I. watermain in conjunction with sewer replacement
<b>P17-009</b> Yale Crescent Underground Improvements	Vine St.	Berryman Ave.	165,000	Additional funds to replace C.I. watermain in conjunction with storm sewer and sanitary sewer works
<b>P17-068</b> Terry Lane Reconstruction	Shelley Ave.	Graham Ave.	50,000	Additional funds to replace C.I. watermain in conjunction with road reconstruction

**ASSET IMPROVEMENTS FROM THE 2018 WATER / WASTEWATER BUDGET**

**SCHEDULE Q: WATER SYSTEM IMPROVEMENT PROGRAM**

<b><u>Project Name / Location</u></b>	<b><u>From</u></b>	<b><u>To</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
<b>✓ P17-100</b>				
Briarsdale	Chestnut St. W	Glen Morris Dr. (N)	310,000	Additional funds to replace and
Glen Morris	Adelene Cres	Village Rd.		upgrade A.C. and C.I
Underground Improvements	Jacobson Ave.	Briarsdale Dr.		watermains
<b>P17-101</b>				
Bromley Drive	Stepney St.	South Limit	30,000	Additional funds to replace
Watermain Replacement				existing C.I. watermain in
				conjunction with new
				development
<b>P17-104</b>				
Lakeshore Road	Broadway	Seaway Haulage Rd.	1,150,000	Additional funds to replace
Seaway Haulage	Lakeshore Rd.	Keefer Rd.		watermains
Watermain Replacement				
<b>P17-105</b>				
Nancy Drive	Vine St.	Strathcona Dr.	800,000	Additional funds to replace
Rosemount Avenue	Vine St.	Gordon Pl.		existing C.I. watermains
Watermain Replacement				
		<b>Subtotal:</b>	<b><u>\$5,400,000</u></b>	
<b>Budget Dollars for New Projects</b>				
<b>P18-118</b>				
Valves, Hydrants & Services	City Wide		\$50,000	Replace existing valves,
				hydrants and services etc. in
				conjunction with other works
<b>P18-119</b>				
Design for 2019 Projects	City Wide		50,000	Design for 2019 Projects
		<b>Subtotal:</b>	<b><u>\$100,000</u></b>	
		<b>Grand Total:</b>	<b><u>\$5,500,000</u></b>	
<b><u>Funding Source Breakdown:</u></b>				
2018 Water / Wastewater Budget - Water Improvement Program			<b><u>\$5,500,000</u></b>	

**✓ - Request for early budget approval**

<b>Legend:</b>
C.I - Cast Iron
D.I - Ductile Iron
A.C. - Asbestos Cement

**ASSET IMPROVEMENTS APPROVED IN THE 2018 OPERATING BUDGET**

**SCHEDULE R: ROAD AND DRAINAGE IMPROVEMENT PROGRAM**

Location	From	To	Gross Cost	Remarks
<b>P18-080</b>				
<b>2018 Resurfacing Program</b>			\$1,966,000	
Beecher St.	Raymond St.	Welland Ave.		Spot curb repairs, milling and asphalt resurfacing
Broadway	Seaway Haulage Rd.	North Limit		Milling, base repairs and asphalt resurfacing
Churchill St.	Chetwood St.	Rykert St.		Top course asphalt following reconstruction completed in 2017
Croydon Dr.	Arthur St.	Arthur St.		Spot curb repairs, milling and asphalt resurfacing
Duncan Dr.	Linwell Rd.	Parnell Rd.		Milling, base repairs and asphalt resurfacing
Export Ave.	Dieppe Rd.	Welland Ave.		Milling, base repairs and asphalt resurfacing
Gerrard St.	Raymond St.	Welland Ave.		Spot curb repairs, milling and asphalt resurfacing
Hetherington St.	Catherine St.	Francis St.		Spot curb repairs, full depth milling and asphalt resurfacing
Lake St.	North Service Rd.	Lakeport Rd.		Spot curb repairs, milling and asphalt resurfacing
N.Entrance Pen Centre	Jacobson Ave.	Pen Centre		Spot curb repairs, milling and asphalt resurfacing
Old Fourth Ave.	Fourth Ave.	West Limit		Pulverize and resurface existing rural road
Rockwood Ave.	Hartzel Rd.	Thonton St.		Milling, base repairs and asphalt resurfacing
Rockwood Ave.	Woodrow St.	80m E of St. Augustine Dr.		Milling, base repairs and asphalt resurfacing
S. Entrance Pen Centre	Jacobson Ave.	Pen Centre		Spot curb repairs, milling and asphalt resurfacing
Welland Canals Pkwy	Approx. 75m S. Glendale Ave.	Approx. 185m S. Glendale Ave.		Spot curb repairs, full depth milling and asphalt resurfacing
Winnifred Ave.	Grantham Ave.	Flanders Ave.		Milling, base repairs and asphalt resurfacing

**ASSET IMPROVEMENTS APPROVED IN THE 2018 OPERATING BUDGET**

**SCHEDULE R: ROAD AND DRAINAGE IMPROVEMENT PROGRAM**

<u>Location</u>	<u>From</u>	<u>To</u>	<u>Gross Cost</u>	<u>Remarks</u>
<b>✓P18-081</b> 2018 Asphalt Base Repair Program	City Wide		50,000	Annual Program, spot base repair and resurfacing
<b>P18-082</b> 2018 Concrete Base Repair Program	Various, City Wide		100,000	Annual Program
<b>P18-083</b> 2018 Crack Sealing	Various, City Wide		100,000	Annual Program
<b>P18-085</b> 2018 Guardrail Program	Various, City Wide		65,000	Annual Program to repair existing guardrail and / or install new guardrail
<b>P18-086</b> Design for 2018 Projects	City Wide		10,000	Engineering services for future road construction projects
<b>P18-092</b> 2018 Boulevard Reinstatements	City Wide		5,000	Annual Program
<b>ST18-05</b> DTIMS Update			10,000	Annual software update and license
			<b><u>\$2,306,000</u></b>	
<u>Funding Source Breakdown:</u>				
2018 Operating Budget - Road & Drainage Improvement Programs			<b><u>\$2,306,000</u></b>	

**✓ - Request for early budget approval**

**ASSET IMPROVEMENTS APPROVED IN THE 2018 OPERATING BUDGET**

**SCHEDULE S: BRIDGE AND CULVERT REHABILITATION PROGRAM**

<b><u>Project</u></b>	<b><u>Details</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
<b>P18-120</b> 2018 Bridge Rehabilitation Program	City Wide	\$65,000	Annual program - asphalt surface, approach, concrete and structural repair, vegetation and debris removal
<b>P18-121</b> 2018 Large Culvert Rehabilitation Program	City Wide	60,000	Annual Program - structural and gabion repairs, slope stabilization, erosion and debris removal
		<b><u>\$125,000</u></b>	
<u>Funding Source Breakdown:</u> 2018 Operating Budget - Bridge and Culvert Rehabilitation Program		<b><u>\$125,000</u></b>	

**ASSET IMPROVEMENTS APPROVED IN THE 2018 OPERATING BUDGET**

**SCHEDULE T: SIDEWALK CONSTRUCTION PROGRAM**

<b><u>Project Description</u></b>	<b><u>Location</u></b>	<b><u>Gross Cost</u></b>	<b><u>Remarks</u></b>
2018 Concrete Sidewalk Repair Program	City Wide	\$350,000	Annual Program, priority location(s) to be determined
		<b><u>\$350,000</u></b>	
<u>Funding Source Breakdown:</u>			
2018 Operating Budget - Sidewalk Construction Program		<b><u>\$350,000</u></b>	

# SCHEDULE U

## CITY OF ST. CATHARINES 2019 CAPITAL FORECAST

DESCRIPTION	ESTIMATED GROSS COSTS	GRANTS, RESERVES ETC.	RECOVERIES FROM OTHER FUNDS	NET DEBENTURE AMOUNT
<u>PARKS, RECREATION AND CULTURE SERVICES:</u>				
Canada Summer Games	320,000		32,000	288,000
Tree Planting program	375,000	375,000	-	-
	695,000	375,000	32,000	288,000
<u>ROAD CONSTRUCTION AND IMPROVEMENTS:</u>				
2019 Priority Program	5,046,420	250,000	480,000	4,316,420
Active Transportation Infrastructure	250,000	250,000	-	-
	5,296,420	500,000	480,000	4,316,420
<u>STORM SEWER AND SEWER SEPARATION:</u>				
Regional Projects - Cost Share - Ontario St.	45,072	45,072		
2019 Priority Program	2,524,195	550,000	197,000	1,777,195
	2,569,267	595,072	197,000	1,777,195
<u>SANITARY SEWERS</u>				
Regional Projects - Cost Share - Ontario St. - San Sewer	45,072	45,072	-	-
<u>WATER IMPROVEMENTS</u>				
Regional Projects - Cost Share - Ontario St. - Watermain	1,000,000	1,000,000	-	-
Water Distribution-water meter replacement	1,000,000	1,000,000	-	-
	2,000,000	2,045,072	-	-
<u>REGIONAL PROJECTS - CITY SHARE</u>				
Projects to be Determined	2,622,561	-	262,000	2,360,561
<u>NEW SIDEWALK CONSTRUCTION</u>				
Regional Projects - Cost Share - Ontario St.	45,071	45,071		
2019 Priority Program	300,000		30,000	270,000
2019 Walkway Improvements	50,000	50,000	-	-
	395,071	95,071	30,000	270,000
<u>SHORELINE PROTECTION:</u>				
2019 Priority Program	100,000	50,000	5,000	45,000
<u>POLLUTION CONTROL AND BASEMENT FLOODING</u>				
2019 Program	300,000	120,000	18,000	162,000
<u>BUILDING IMPROVEMENTS</u>				
Robertson School - Annex Windows	120,000		12,000	108,000
City Hall - window replacement	250,000		25,000	225,000
Building Improvement Program, 2019	850,000	650,000	20,000	180,000
Race Street parking lot rehabilitation	350,000		35,000	315,000
Carlisle Garage Membrane repairs	50,000		5,000	45,000
2019 Accessibility Program	250,000		25,000	225,000
Community Energy Systems-Ontario St garage lighting	300,000	300,000		
St Catharines Museum roof replacement	225,000		23,000	202,000
Playground Equipment - location tbd	89,000	89,000		
Basketball Court upgrades - location tbd	225,000	225,000		
Arena Improvement Program, 2019	800,000		80,000	720,000
	3,509,000	1,264,000	225,000	2,020,000
<u>WATERCOURSES</u>				
2019 Watercourse Program	650,000	-	65,000	585,000
<u>BRIDGES AND CULVERTS</u>				
2019 program	1,970,000	-	197,000	1,773,000
Local Roads and Bridges-Pelham Rd Bridge	1,500,000	1,500,000	-	-
	3,470,000	1,500,000	197,000	1,773,000
<u>FIRE SERVICES</u>				
Fire Tower Replacement	1,800,000	-	180,000	1,620,000
<u>CORPORATE INFRASTRUCTURE</u>				
Telephone Infrastructure	200,000		20,000	180,000
Network/Server Infrastructure	600,000		60,000	540,000
Wireless update	100,000		10,000	90,000
Digital Signage update	80,000		8,000	72,000
Website	350,000		35,000	315,000
	1,330,000	-	133,000	1,197,000
TOTAL 2019 CAPITAL FORECAST	\$24,782,391	\$6,544,215	\$1,824,000	\$16,414,176



## SCHEDULE V

**CITY OF ST. CATHARINES  
2018 CAPITAL BUDGET AND FOUR YEAR FORECAST  
SUMMARY OF CAPITAL EXPENDITURES AND SOURCES OF FINANCING**

<b>CAPITAL EXPENDITURES:</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Parks, Recreation and Culture Services	\$675,000	\$695,000	\$720,000	\$745,000	\$425,000
Road Construction and Improvements	5,772,682	5,296,420	5,238,277	5,437,808	5,238,277
Storm Sewer and Separation	2,629,000	2,569,267	4,717,770	4,822,776	4,931,983
Sanitary Sewers	975,000	45,072	0	0	0
Water Improvements	1,728,215	2,000,000	2,092,608	2,092,608	2,092,608
Regional Projects		2,622,561	220,000	230,000	280,000
Niagara District Airport	157,000				
Sidewalk/Walkway Construction	540,000	395,071	350,000	350,000	350,000
Shoreline Protection	100,000	100,000	30,000	110,000	110,000
Pollution Control	2,500,000	300,000	1,000,000	0	500,000
Building Improvements	4,506,500	3,509,000	4,550,000	4,235,000	5,410,000
Development Charges			3,350,000	0	0
Fire Services	4,100,000	1,800,000	2,000,000	2,000,000	2,800,000
Watercourses	150,000	650,000	1,000,000	500,000	500,000
Bridges and Culvert	440,000	3,470,000	885,000	0	0
Corporate Infrastructure	900,000	1,330,000	700,000	500,000	500,000
	<u>\$25,173,397</u>	<u>\$24,782,391</u>	<u>\$26,853,655</u>	<u>\$21,023,193</u>	<u>\$23,137,868</u>
<b>SOURCES OF FINANCING:</b>					
Grants, Reserve Funds etc.	\$7,315,313	\$6,544,215	\$8,922,216	\$6,405,216	\$6,785,216
Capital Out of Revenue Fund	1,791,000	1,824,000	1,794,000	1,462,000	1,636,000
Net Debenture Amount	16,067,084	16,414,176	16,137,439	13,155,977	14,716,652
	<u>\$25,173,397</u>	<u>\$24,782,391</u>	<u>\$26,853,655</u>	<u>\$21,023,193</u>	<u>\$23,137,868</u>

## **SCHEDULE W**

### **CITY OF ST CATHARINES POTENTIAL CAPITAL PROJECTS**

The list below includes the various capital projects that will require capital replacement or upgrades in years six through ten. This is not an exhaustive list. These projects have been listed without dollar amounts as the full scope of the capital needs is not yet completely assessed by Staff. Additionally, an estimate is less reliable the further out the year. Not included on the list are the regular on-going annual replacements to roads, sidewalks, sanitary sewers, watermains and park amenities.

#### CAPITAL PROJECTS 2023 and Beyond

Arena Complex - with Brock University and City of Thorold

Arena Upgrades - Ice Plants, Bleachers, Other

City Facilities - parking lot upgrades

City's Operational Fleet - vehicle yard

Civic Square

Destination Pool

Firehall #1 Rehabilitation

Firehall #2 Replacement

Firehall #3 Replacement

Fire Master Plan Recommendations

Old Courthouse - meeting FAD standards

Park Amenities - Infrastructure Deficit

Pollution Control - various tanks

Port Dalhousie Pier - upgrades beyond DFO works

Port Weller Community Centre - meeting FAD standards

Road and Drainage Improvements - infrastructure deficit

Robertson School - meeting FAD standards

Transportation Master Plan - action items

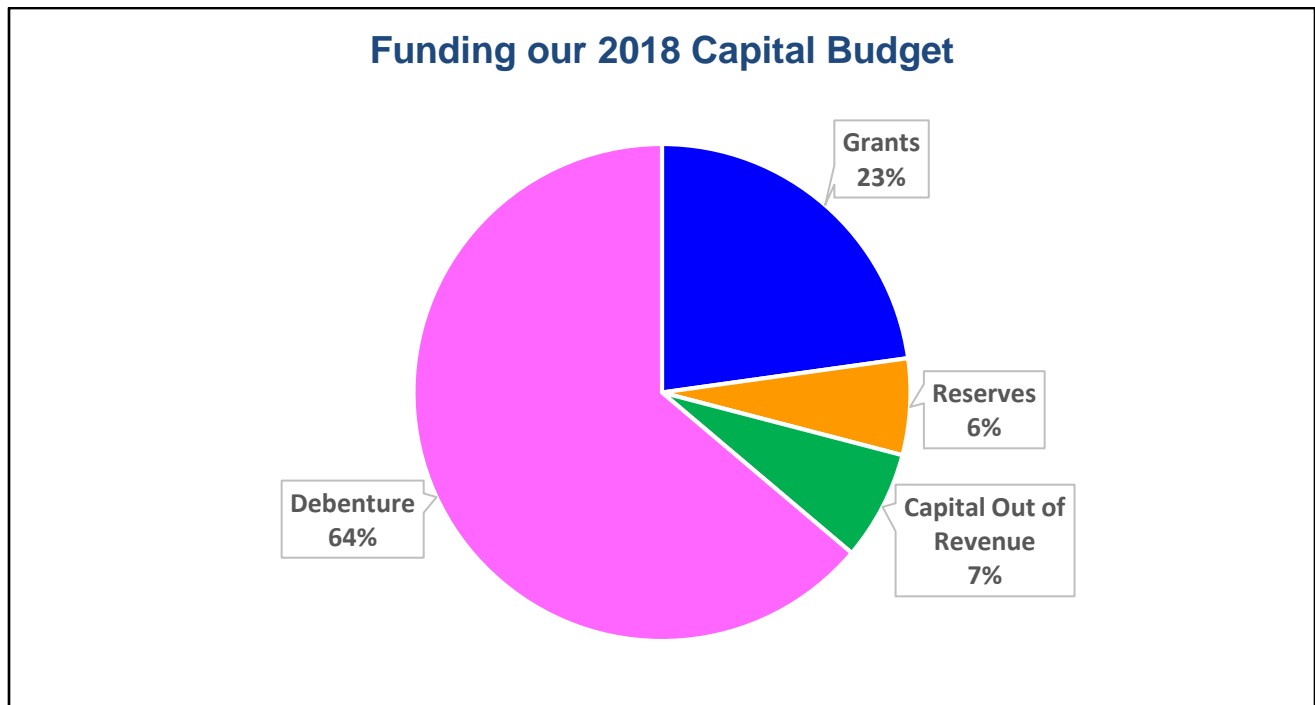
Watercourses - currently unfunded deficiencies

Watermain improvements - infrastructure deficit

## Schedule X

### Funding our Capital Budget

There are four sources that fund the 2018 capital Budget for the City of St. Catharines:



#### **Grants - \$5,737,313**

The City of St. Catharines receives various grants for specific work included in several projects throughout the City. The Federal Gas Tax Program (FGTP) is the largest of the grants received by the City for Capital projects.). The City's share of Gas Tax funding for 2018 is \$4,185,215 and is being put towards the Active Transportation Program among various other programs that are discussed in further detail later in this schedule.

In addition to the FGTP, other external funding opportunities have been identified as funding sources for 2018 works. The Niagara Region offers funding through the Combined Sewer Overflow Control Policy Funding Program (CSO Map Fund) and the Province provides funding opportunities through the Ontario Municipal Commuter Cycling Program. These two grant programs will provide an additional \$1,552,098 in funding.

#### **Reserves - \$1,578,000**

The City of St. Catharines also uses reserves to fund capital works. The primary reserve is the Infrastructure Levy, first approved in 2016, which will contribute \$978,000 to projects being undertaken in 2018. The Building Reserve Fund makes up the remaining \$600,000.

**Capital out of Revenue - \$1,791,000**

Capital out of revenue is the portion of the project cost that is funded from the operating budget after other sources of funding are applied. As required by Council approved strategy, it represents 10% of the project, or one years' worth of debenture costs of the project.

**Debentures - \$16,067,084**

Debentures are the fourth and most significant funding source of the annual Capital Budget. Borrowing is a valid form of infrastructure financing and sets out broad parameters on how cities should borrow; there are many advantages with long term debt financing such as a smoother impact on the operating budget, allows for more project work to be conducted simultaneously and payments are spread out over a longer term (for those assets with longer life expectancy).

## Schedule Y

### Grant Funding Details

#### Federal Gas Tax Program (FGTP) - \$4,185,215

Council endorsed a five-year capital investment plan for FGTP revenues in 2009 which identified continued funding for combined sewer system upgrades (storm sewer separations) and watermain replacement in conjunction with the combined sewer system upgrade and various road resurfacing projects. Council subsequently shifted focus away from underground infrastructure to include facility energy related initiatives and non-resurfacing roadwork. For 2018 staff recommend a refocusing on underground infrastructure and cycling related initiatives.

One of the requirements of the FGTP is that the expenditures are incremental, meaning that the funds cannot be used to displace current capital investment or reduce municipal taxes.

On January 15, 2018, Council approved an early budget request for additional funds to award Hartzel Road storm sewer replacement.

Below is a list of the 2018 capital projects funded by FGTP.

#### Schedule C – Road Construction

##### Active Transportation Infrastructure

- |   |           |
|---|-----------|
| - Third Street Louth from SSR to Third Avenue | \$250,000 |
| - St David's Road Multi Use Path              | 150,000   |

#### Schedule D – Storm Sewers

- |  |         |
|--|---------|
| - Hartzel Road storm sewer replacement | 485,000 |
| - Rodger / Sharon new storm sewer      | 267,000 |

#### Schedule E – Sanitary Sewers

- |   |         |
|---|---------|
| - Greenwood Ave. / Beatrice St. replacement | 410,000 |
| - Burness Dr. replacement                   | 495,000 |
| - Terry Ln. replacement                     | 70,000  |

#### Schedule F – Water System Improvements

- |   |           |
|---|-----------|
| - Water Meter Replacement Program                 | 1,000,000 |
| - Engineering Services for watermain replacements | 85,000    |
| - Watermain replacements                          | 643,215   |

#### Schedule H – Sidewalk Construction

- |   |         |
|---|---------|
| - Martindale Road – existing sidewalk repairs | 190,000 |
|---|---------|

#### Schedule M – Bridge and Culvert Rehabilitation Program

- |   |                    |
|---|--------------------|
| - Detailed design, Dunkirk Rd. bridge (South Service Rd.) | 80,000             |
| - Engineering Services, Third Avenue Louth bridge         | <u>60,000</u>      |
|   | <u>\$4,185,215</u> |

## **Regional Cost Sharing Projects**

This category includes the City's share of municipal works (such as sewer repairs, watermain replacements, sidewalk replacements and new storm sewer construction) on projects undertaken in cooperation with the Regional Municipality of Niagara. Coordinating the City's efforts in this way helps to minimize cost and disruption to the affected residents and businesses.

For 2018 Niagara Region has advised they will be proceeding with a construction tender for Martindale Road from South Service Road / Commerce Place to Bridge Street. The City's budget for its share of costs include improvements to the existing sidewalks and new sidewalks. Funding for these improvements is recommended to be the 2018 FGTP.

Niagara Region also plans to tender the final phase of the Downtown two-way street conversion. The City's share of this project is funded by the 2017 and 2018 Road and Drainage program.

## **Niagara Region: Combined Sewer Overflow Control Policy Funding Program (CSO Map Fund) - \$1,000,000**

The City has applied for \$1,000,000 of funding from Niagara Region under their Combined Sewer Overflow (CSO) Control Policy Funding Program. The applications include pollution control plan projects funded by the Capital Budget.

Project applications are ranked based on reduction, elimination and control of wet weather flows. Under the Region's policy, the Region's share of funding can range from 30% to 80% depending on the effectiveness of the project to meet the priorities set out in the policy.

To date, staff have not been informed if the City's applications have been successful.

## **Provincial: Ontario Municipal Commuter Cycling Program - \$552,098**

Late in 2017 the Province advised the City it was eligible for funds to be spent on commuter cycling facilities.

This program required municipalities to submit a list of potential projects and if approved the Province would fund up to 80% of costs for the improved cycling facility. The remaining 20% of funding must be funded by the City using its own funds. Claims must be submitted by 2020.

Staff recommend that all the approved funds be allocated to Third Street Louth. Utility relocations are currently underway. Should the utility companies finish on schedule, the City construction contract is anticipated to start in 2018. The project is mostly funded by the Road and Drainage Program with a small allocation from Federal Gas Tax. As such the 20% minimum City contribution requirement can be met and this project would utilize the total approved external funding.

A separate report, TES-B005-2018 is related to Active Transportation and provides more detail on this external funding program.

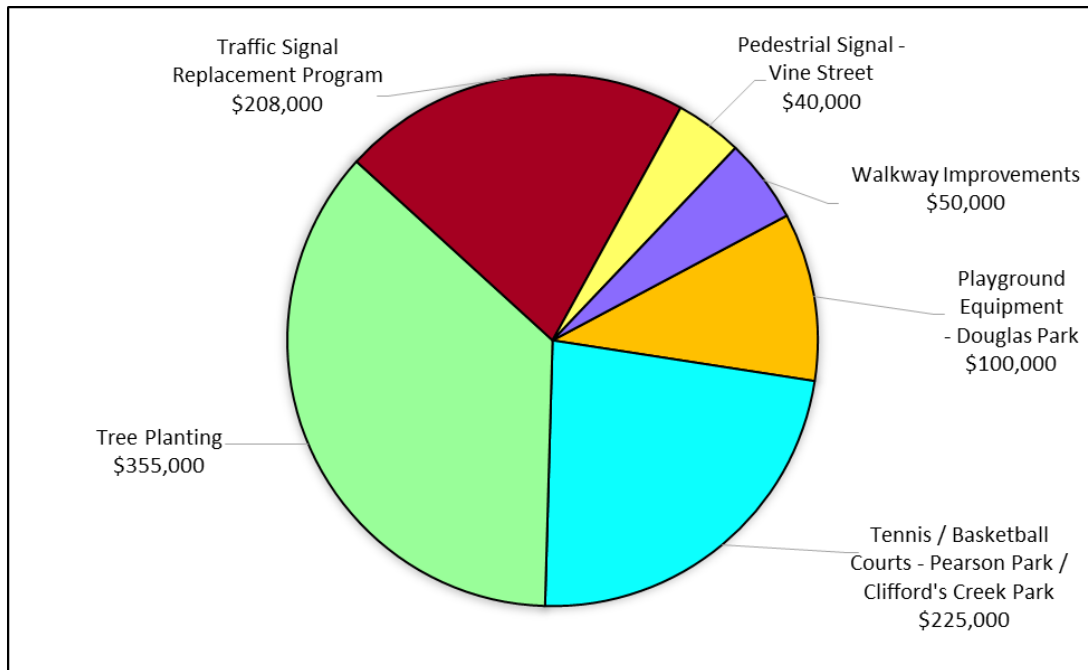
## Schedule Z

### Funding from Reserves - \$1,578,000

The primary reserve contributing to capital budget projects is funded from the one percent, infrastructure levy levied annually to help address the infrastructure deficit.

In 2018 the Infrastructure Levy will contribute \$978,000 to the various projects outlined below:

#### 2018 Infrastructure Levy Allocations



The uncommitted balance in this reserve will remain in the reserve for use in the future and is available for use as matching dollars for Federal or Provincial Infrastructure funding programs. Currently there are no unallocated funds in this reserve.

The Building Reserve Fund makes up the remaining \$600,000 of reserves used in the 2018 Capital Budget. Details of these projects are shown on Tab 2 - Schedule J.

## Schedule AA

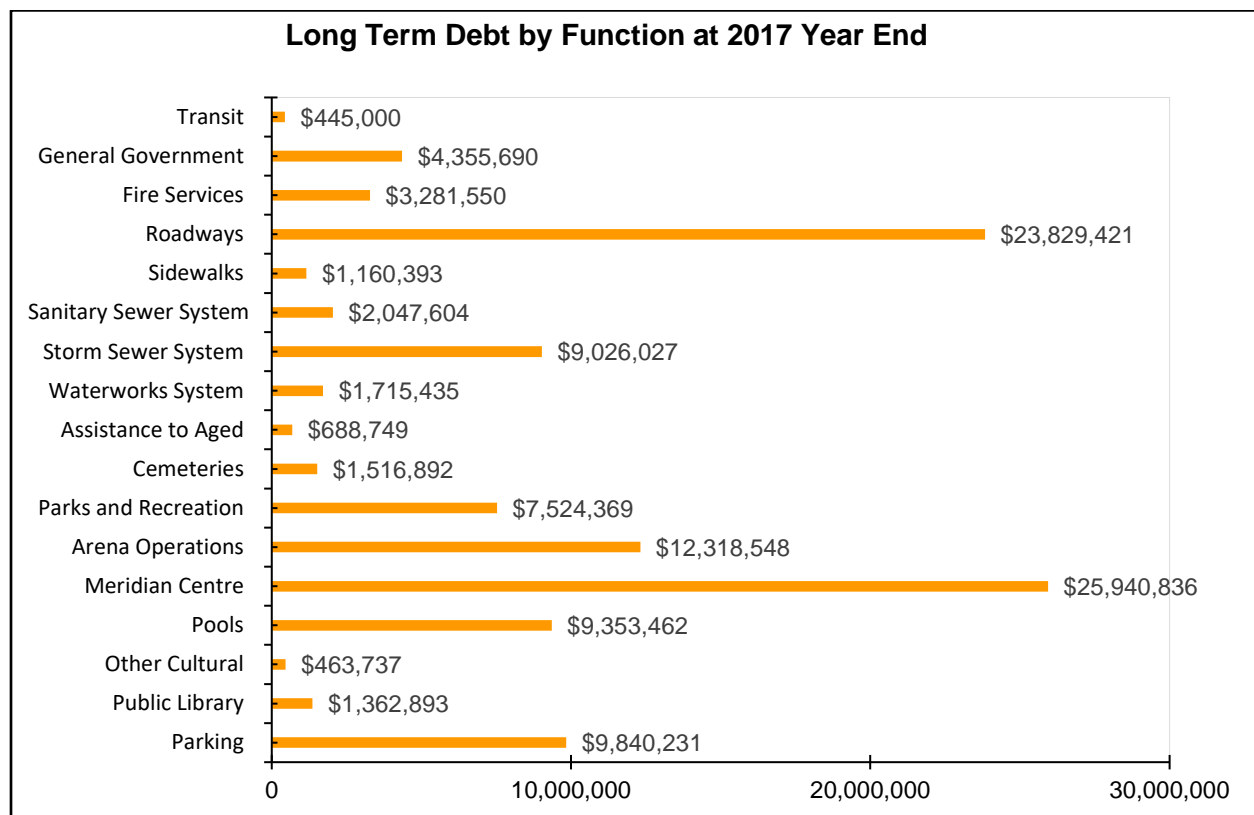
### Capital Budget and Debt

A capital strategy has two priorities; the first to maintain existing infrastructure, and the second is to expand or replace existing assets aimed at improving services and programs for residents.

A pay-as-you-go method of financing infrastructure investments avoids interest payments and debt issuance costs, however it directly and significantly impacts the Operating Budget year-to-year. The ability to begin more than one large project is also very limited which could result in the underfunding of infrastructure. Debt financing allows for a more manageable impact of the Operating Budget as it allows for the payments to be spread over a longer term which is appropriate for assets with a longer life expectancy. For these reasons, the City uses debt financing to maintain its assets and manage its operating budget requirements.

Debt management is the process of planning for new debt at a level that optimizes borrowing costs without damaging the financial position of the municipality. For a municipality this means projecting the capital budget's impact on the operating budget and developing a balance between the two to support one another.

The following graph shows the total debt breakdown among the various functional areas for infrastructure and facilities





## **Schedule AB**

### **Debt Management Strategy**

During the 2018 Operating budget process, the BSC reviewed the City's established Debt Management Strategy. The BSC further directed staff to review funding alternatives for capital and to report back to the BSC during the 2019 budget process. The currently established Debt Management Strategy, with Council's ongoing support, has the following criteria:

- 1) Eligibility: Not all capital projects are suited for debt financing. The City's strategy is to recommend debt financing only for infrastructure purposes. Large projects that provide assets with well-defined benefits to the community, have long asset lives and the ability to leverage additional financing elsewhere are eligible for debt financing.
- 2) Sustainable level of borrowing: For debt management purposes, the City has adopted a policy aimed at containing debt charges at approximately 10% of the City's total own expenditures. This constraint ensures that the debt service costs will not become an increasing burden and a larger portion of the City's budget, as it is essential the City ensure debt levels are sustainable within the Operating Budget.
- 3) Debt repayment: The City has a 10% down payment strategy which reduces the amount to be borrowed and at the same time, bringing the approximate costs of one year's debt service to the year of decision. As a result Council will raise, through property taxes, an amount which will be equivalent of future annual debt charges for each particular project. Debentures are taken for shorter timeframes versus longer timeframe which are typically five or ten years.

The debt issuance proposed in the 2018 Capital Budget complies with the current Debt Management Strategy.

## Schedule AC

### Debt and the Municipal Act

The Municipal Act requires that a Municipality have a five year capital financing forecast. Ontario Regulation 403/02 limits annual debt charges to no more than 25% of the City's net revenue fund revenues. Using this guideline, the City could increase its debt (approximately) by a further \$122.0 million based on an interest rate of 7%, which is the rate the Ministry of Municipal Affairs uses for illustrative purposes. (See calculation below)

Using the City's current estimated borrowing rate of 5%, the City's additional debt capacity would be \$135.7 million. Although there has never been a suggestion that this limit be approached, Council does have significant capacity available should circumstances warrant additional debt financing. The City Treasurer has updated the Debt Repayment Limit for the City, and the debenture amount proposed in the 2018 Capital Budget will not cause the City to exceed its limit.

In 2017, the City's debt charges were 8.96% of the City's total estimated expenditures. Each year, the Ministry of Municipal Affairs produces a financial indicator review that states debt costs between 5% and 10% are considered moderate risk – which is where the City of St Catharines currently resides. The chart below has the estimated impact of increased borrowing activities for the next five years.

	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Outstanding Debt</b>	\$114.6m	\$115.7m	\$117.7m	\$119.6m	\$121.5m	\$124.3m
<b>Debt Per Household</b>	\$1,953	\$1,971	\$2,007	\$2,039	\$2,072	\$2,119
<b>Total Annual Debt Charges</b>	\$15.1m	\$16.0m	\$16.3m	\$17.2m	\$18.4m	\$20.4m
<b>As % of Operating Budget</b>	8.96%	9.24%	9.20%	9.44%	9.88%	10.66%

The chart above shows the total debt charges as a percentage of operating budget slightly exceeding the 10% upper limit in 2022. There are many assumptions to determine this percentage, including the amount of debt to be issued, timing of the debt issuances and total amount of expenditures. This projection assumes all future debt being issued for a period of 10 years at an interest rate of 4%.

The assumptions made are conservative. Any changes made to any of the assumptions – whether that is timing, term or interest rate for debt issuances, or the level of capital spending supported by debt, will have an impact on the debt charges as a percentage of expenditures, projected debt balance and future tax levy impacts.

As the City continues to refine its Asset Management Plan and formulate its future debt needs these forecasts will be updated so that debt servicing remains within the 10% upper limit.

The information on the following page is the 2018 updated debt and annual repayment limit for the City of St. Catharines.

**CITY OF ST. CATHARINES**  
**2018 UPDATED DEBT AND ANNUAL REPAYMENT LIMIT**

2018 Debt and Financial Obligation Limit ( based on 2016 FIR ):

Calculation of Debt Charges:

Total Principal	10,340,020
Total Interest	3,619,486
	<b>\$13,959,506</b>
Less:	
Tile Drainage and Shoreline Assistance	
<b>NET DEBT CHARGES</b>	<b>\$13,959,506</b>

Calculation of Annual Repayment Limit:

Total Revenue Fund Revenue (sch10 9910)	\$174,398,626
Tile Drainage and Shoreline Assistance (SLC 12 1850 04)	0
Ontario Grants (SLC 10 0699 01+SLC 10 0810 01+ SLC10 0815 01)	(1,530,013)
Canada Grants (SLC 10 0820 01+SLC 10 0825 01)	(151,003)
Deferred Revenue Earned (Provincial Gas Tax) (SLC 10 830 01)	(3,046,965)
Deferred Revenue Earned (Canada Gas Tax) (SLC 10 831 01)	(3,385,803)
Other Municipalities including revenue for TCA (SLC 10 1098 01+SLC 101099 01)	(3,921,202)
Gain/Loss on sale of land & capital assets (SLC 10 1811 01)	(451,256)
Deferred revenue earned (Development Charges) (SLC 10 1812 01)	0
Deferred revenue earned (Recreation Land(the planning act) (SLC 10 1813 01)	(388,809)
Donated Tangible Capital Assets (SLC 53 0610 01)	0
Other Deferred revenue earned (SLC 10 1814 01)	(29,793)
Increase/Decrease in Gov't Business Enterprise equity (SLC 10 1905 01)	(2,582,228)
<b>NET REVENUE FUND REVENUES</b>	<b>\$158,911,554</b>
<b>25% OF NET REVENUE FUND REVENUE</b>	<b>\$39,727,889</b>

Adjustments to Annual Repayment Limit:

<b>ANNUAL REPAYMENT LIMIT UNDER REGULATION</b>	<b>\$25,768,383</b>
2017 Unfinanced Capital Projects	\$42,900,261
Capitalized Annual Repayment	
Years	10
Rate	7.00%
Factor	0.14237750
Annual Repayment Limit under Regulation	25,768,383
<b>ADJUSTED ANNUAL REPAYMENT LIMIT</b>	<b>19,660,350</b>

Remaining Debt Capacity

Capitalized Debt Capacity	138,086,075
2018 Capital Budget	(16,068,084)
<b>REMAINING DEBT CAPACITY</b>	<b>\$122,017,991</b>

## 2017 Undebentured Capital Projects / Unissued Debt

Lakeside Skating Path	\$225,000
Arenas Improvement Program	2,450,856
Pearson Park	24,000
Happy Rolph's Bird Sanctuary	45,000
Lock III Complex	315,000
Senior and Community Centers	567,000
RCS Buildings - various	957,000
Lancaster Park - Diamond 1 washroom accessibility	45,000
Lakeside Park Improvements	810,000
Cemetery Buildings - Improvements	1,277,000
Heritage Buildings Restoration	3,392,500
TES/PRCS Operations Consolidation	1,368,000
Road Construction and Improvements	9,356,222
Storm Sewer and Separation	6,759,111
Watermains	1,358,944
Regional Projects - City's Share	131,200
Development Charges	46,028
Local Improvements	114,000
Fire	4,203,000
Pollution Control Plan	3,755,400
New Sidewalks	1,210,000
Watercourse Rehabilitation	454,000
Corporate Infrastructure	2,286,000
Parking Operations	1,750,000
Undebentured Capital Projects Total:	<u>\$42,900,261</u>

## Schedule AD

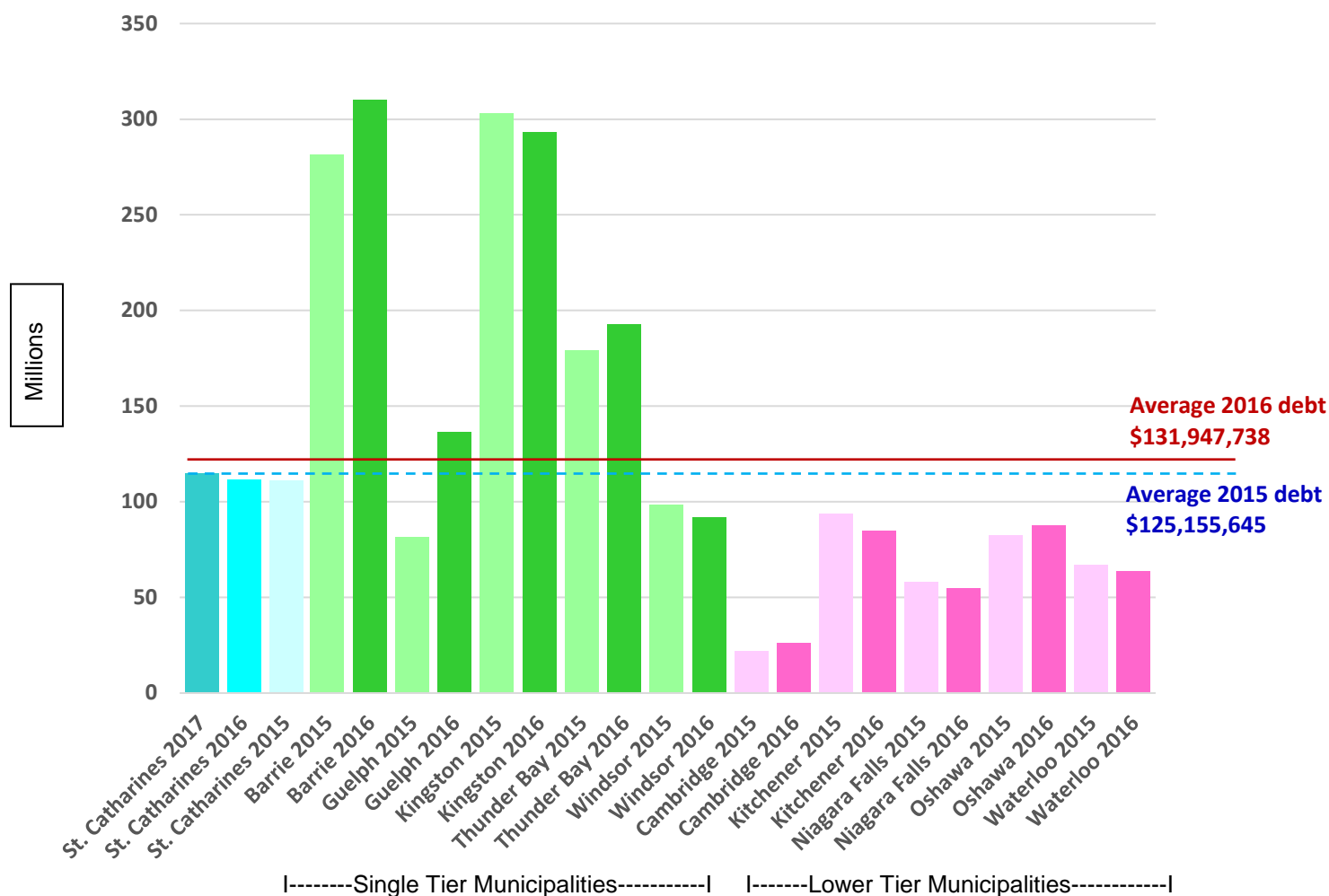
### Capital Budget and Debt – Municipal Comparators

Unlike Federal and Provincial budgets, municipal budgets are very capital intensive. Borrowing for capital projects provides many economic benefits for the future of the municipality, especially so, as choosing to be debt-free would result in substantially less infrastructure being renewed and available to the public.

City of St. Catharines Debt Figures	
2015	\$110,893,734
2016	\$111,292,927
2017	\$114,600,837

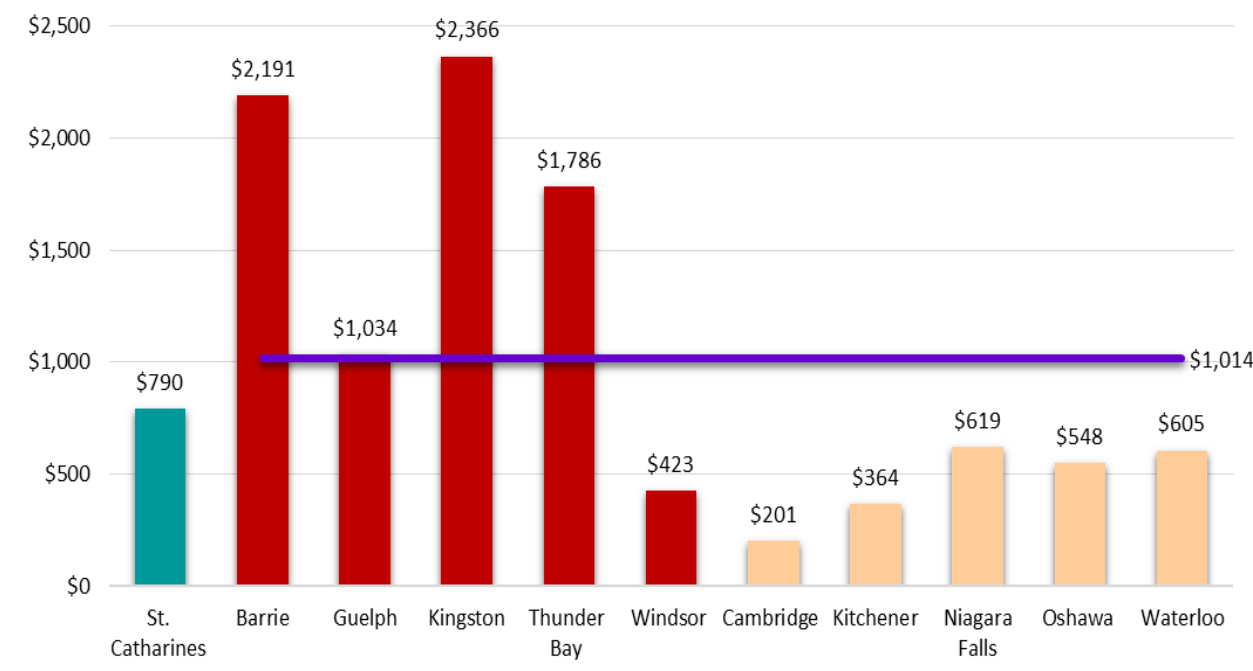
City Council has identified five single-tier and five lower-tier municipalities with similar characteristics to the City of St. Catharines. The chart below compares their debt burdens with the City of St. Catharines to demonstrate how our levels relate.

**Debt Levels: Comparator Municipalities**



Another common debt amount for debt analysis is debt per capita. The latest data available from the 2017 BMA Study based on 2016 FIRs is shown in the graph below.

### Debt Outstanding per Capita from 2017 BMA Study based on 2016 FIR



The City of St. Catharines total debt outstanding per capita for 2016 was \$790, which is slightly above the average for all reporting municipalities in the BMA study. The 2016 average for municipalities in the 2017 BMA Study was \$769 and the median was \$577.

Looking amongst our ten comparators the data is a bit different. The comparator municipalities' average for 2016 was \$1,014 and the median was \$612. St. Catharines outstanding debt per capita of \$790 is below the average for the Council approved municipal comparators. The average for these eleven municipalities is \$993.

If the top and bottom two municipalities are removed from the average, the remaining seven municipalities' average is \$829 per capita. The per capita amount of St. Catharines would still be below this average. Therefore the City of St. Catharines debt is at a reasonable level in comparison to other municipalities.

## **Schedule AE**

### **2017 Capital Budget and Four Year Forecast vs. 2018 Capital Budget and Four Year Forecast**

This summary of capital expenditures compares the projected four year forecast and capital budget completed in 2017 with the figures now projected in 2018 for the same period of time.

As the 2018 capital budget has a revised format for what projects shown in the various schedules, to provide an accurate comparison to 2017, this schedule has been completed reflecting the original format as presented in 2017.

The totals for each year remain the same, as there has not been any changes to any funding in this document – it is only the composition and project groupings inside the schedules that has been revised.

# Schedule AE

## 2017 CAPITAL BUDGET AND FOUR YEAR FORECAST vs 2018 CAPITAL BUDGET AND FOUR YEAR FORECAST

### SUMMARY OF CAPITAL EXPENDITURES

	2018			2019			2020			2021		
	2017 Forecast	2018 Forecast	Variance \$	2017 Forecast	2018 Forecast	Variance \$	2017 Forecast	2018 Forecast	Variance \$	2017 Forecast	2018 Forecast	Variance \$
<b>CAPITAL EXPENDITURES:</b>												
Parks, Recreation and Culture Services	\$2,370,000	\$3,185,000	\$815,000	\$2,320,000	\$2,034,000	(\$286,000)	\$3,200,000	\$2,620,000	(\$580,000)	\$2,015,000	\$2,200,000	\$185,000
Road Construction and Improvements	\$4,861,942	\$5,372,682	\$510,740	\$5,046,420	\$5,046,420	\$0	\$5,238,277	\$5,238,277	\$0	\$5,238,277	\$5,437,808	\$199,531
Storm Sewer and Separation	2,427,111	\$1,877,000	(\$550,111)	\$2,524,194	2,524,195	\$1	\$2,524,195	\$2,625,162	\$100,967	\$2,839,375	\$2,730,168	(\$109,207)
Regional Projects	\$729,784		(\$729,784)	\$220,000	\$2,622,561	\$2,402,561	\$230,000	\$220,000	(\$10,000)	\$280,000	\$230,000	(\$50,000)
Niagara District Airport		\$157,000	\$157,000									\$0
Sidewalk/Walkway Construction	\$350,000	\$350,000	\$0	\$350,000	\$350,000	\$0	\$350,000	\$350,000	\$0	\$350,000	\$350,000	\$0
Shoreline Protection	\$100,000	\$100,000	\$0	\$30,000	\$100,000	\$70,000	\$110,000	\$30,000	(\$80,000)	\$110,000	\$110,000	\$0
Pollution Control	\$1,000,000	\$2,500,000	\$1,500,000	\$1,000,000	\$300,000	(\$700,000)		\$1,000,000	\$1,000,000	\$500,000		\$0
Heritage Building Rehabilitation									\$0			
Federal Gas Tax funded programs	\$4,185,216	\$4,185,215	(\$1)	\$4,185,216	\$4,185,215	(\$1)	\$4,185,216	\$4,185,216	\$0	\$4,185,216	\$4,185,216	\$0
Building Improvements	\$1,120,000	\$1,761,500	\$641,500	\$1,800,000	\$1,220,000	(\$580,000)	\$2,283,000	\$1,800,000	(\$483,000)	\$2,440,000	\$880,000	(\$1,560,000)
Accessibility Programme	\$250,000	\$135,000	(\$115,000)	\$250,000	\$250,000	\$0	\$1,500,000	\$250,000	(\$1,250,000)	\$300,000	\$1,500,000	\$1,200,000
Development Charges				\$3,350,000		(\$3,350,000)	\$2,370,000	\$3,350,000	\$980,000			\$0
Fire Services	\$4,200,000	\$4,100,000	(\$100,000)	\$1,500,000	\$1,800,000	\$300,000	\$160,000	\$2,000,000	\$1,840,000	\$2,800,000	\$2,000,000	(\$800,000)
Watercourses	\$150,000	\$150,000	\$0	\$650,000	\$650,000	\$0	\$1,000,000	\$1,000,000	\$0	\$500,000	\$500,000	\$0
Bridges and Culvert	\$485,000	\$300,000	(\$185,000)	\$1,970,000	\$1,970,000	\$0	\$885,000	\$885,000	\$0			\$0
New Buildings							\$0					
Parking Improvements	\$50,000	\$100,000	\$50,000	\$450,000	\$400,000	(\$50,000)	\$400,000	\$600,000	\$200,000	\$700,000	\$400,000	(\$300,000)
Corporate Infrastructure	\$900,000	\$900,000	\$0	\$980,000	\$1,330,000	\$350,000	\$700,000	\$700,000	\$0	\$500,000	\$500,000	\$0
St. Catharines Transit Commission	\$2,000,000	\$0	(\$2,000,000)			\$0			\$0			\$0
	\$25,179,053	\$25,173,397	-\$5,656	\$26,625,830	\$24,782,391	-\$1,843,439	\$25,135,688	\$26,853,655	\$1,717,967	\$22,757,868	\$21,023,192	-\$1,234,676

#### Projects Added/Increased

VLC Admin Building Increased	\$ 450,000
Arena Improvement Program Increased	\$ 325,000
Kiwanis Aquatic Center Lighting - Added	\$ 45,000
Bogart Street Splash Pad Increased	\$ 65,000
Road Program Increased	\$ 510,740
Niagara District Airport - Added	\$ 157,000
Pollution Glendale Ave CSO Control Added	\$ 1,500,000
Microphones - Council Chambers Added	\$ 25,000
Port Weller CC - Washroom Renos Added	\$ 600,000
Morningstar Mill Grist Mill Phase 2 Added	\$ 250,000
Carlisle Garage Concrete Repairs Added	\$ 50,000
	\$ 3,977,740

#### Projects Added/Increased

Arena Improvement Program Added	\$ 800,000
Playground Equipments Increased	\$ 114,000
Basketball Courts Increased	\$ 75,000
Regional Projects City Share Increase	\$ 352,561
Pelham Road Bridge Added	\$ 1,500,000
Active Transport. Infrastructure Added	\$ 250,000
Ont. St. Garage Lighting Added	\$ 300,000
Fire Tower Replacement Increased	\$ 300,000
Shoreline Protection Increased	\$ 70,000
Corporate Website Added	\$ 350,000
	\$ 4,111,561

#### Projects Added/Increased

Port Lions Pool Changerooms Added	\$ 550,000.00
Playground Equipment Increased	\$ 80,000
Basketball Court Upgrades Increased	\$ 75,000
Arena Improvement Program Added	\$ 1,000,000
Storm Sewer and Separation Increased	\$ 100,967
Pollution Control Added	\$ 1,000,000
Development Charges Increased	\$ 980,000
Fire Services Increased	\$ 1,840,000
Network Server Infrastructure Added	\$ 200,000
	\$ 5,825,967

#### Projects Added/Increased

Arena Improvement Program Added	\$ 500,000
Russell Ave. CC Repairs Added	\$ 600,000
Port Dalhousie Snrs Bldg Retrofit Added	\$ 100,000
Road Construction and Improvements Increased	\$ 199,531
Accessibility - Old Courthouse Elevator Added	\$ 1,200,000
	\$ 2,659,531

#### Projects Deferred/Reduced

Tree Planting Program Reduced	\$ 20,000
Tennis Courts Reduced	\$ 50,000
Storm Sewer and Separation Reduced	\$ 550,111
Regional Projects Reduced	\$ 729,785
Buchanan House Security Reduced	\$ 100,000
Building Improvement Program Reduced	\$ 13,500
Building Improvements Completed	\$ 120,000
Accessibility Program Reduced	\$ 115,000
Fire Training Tower Design Deferred	\$ 100,000
Bridges and Culverts Reduced	\$ 185,000
St. Catharines Transit - No Projects	\$ 2,000,000
	\$ 3,983,396
	\$ (5,656)

#### Projects Deferred/Reduced

Port Weller CC Washrooms - 2018 Proj	\$ 250,000
Tree Planting Program Reduced	\$ 25,000
Jaycee Park Lot and Driveway Deferred	\$ 700,000
Lakeside Park Landscape Deferred	\$ 300,000
Building Improvements Reduced	\$ 580,000
Pollution Control Reduced	\$ 700,000
Development Charges Reduced	\$ 3,350,000
Carlisle Garage Repairs - 2018 Proj	\$ 50,000
	\$ 5,955,000
	\$ (1,843,439)

#### Projects Deferred/Reduced

Russell Ave CC Repairs Deferred	\$ 660,000
Port Dalhousie Snrs Bldg Retrofit Deferred	\$ 100,000
Tree Planting Program Reduced	\$ 25,000
GCA - Demolition Deferred	\$ 1,000,000
Berkley Park Fields and Lighting Deferred	\$ 200,000
Bogart/Port Weller CC Parking Lot Deferred	\$ 300,000
Regional Projects Reduced	\$ 10,000
Shoreline Protection Reduced	\$ 80,000
Heritage Buildings Improvements Reduced	\$ 440,000
Other Building Improvements Reduced	\$ 43,000
Old Courthouse Elevator Deferred	\$ 1,250,000
	\$ 4,108,000
	\$ 1,717,967

#### Projects Deferred/Reduced

Montebello Park Walkway Deferred	\$ 75,000
West Park Lighting Controls Deferred	\$ 100,000
Tennis Court Upgrades Deferred	\$ 200,000
VLC Walkways at Holy Trinity Deferred	\$ 100,000
Burgoyne Woods Driveway Deferred	\$ 600,000
Storm Sewer and Separation Reduced	\$ 109,207
Regional Projects Reduced	\$ 50,000
Building Improvements Reduced	\$ 1,560,000
Fire Services Reduction	\$ 800,000
Parking Improvements Reduced	\$ 300,000
	\$ 3,894,207
	\$ (1,234,676)



# Schedule AF

## 2018 CONSTRUCTION PROGRAM - WARD LISTING - NON FACILITIES

PROJECT NUMBER	PROJECT TITLE	LOCATION	FROM	TO	BUDGET	WARD	
P18-069	ACTIVE TRANSPORTATION PROGRAM	St Davids Road	Highway 406	-	Gas Tax - Capital	1	2
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	Church Street	Niagara Street	King Street	Road - Capital	1	4
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	Geneva Street	Church Street	St Paul Street	Road - Capital	1	4
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	Niagara Street	Geneva Street	Church Street	Road - Capital	1	4
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	Queenston Street	Geneva Street	Riordon Street	Road - Capital	1	4
P16-065	DOWNTOWN STREET SYSTEM CONVERSION	St Paul Street	Geneva Street	Court Street	Road - Capital	1	4
P13-019	BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	-	-	-	Pollution Control Plan - Capital	1	
P13-019	BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	Burleigh Hill Drive	Glendale Avenue	Warkdale Drive	Gas Tax - Capital	1	
P13-019	BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	Burleigh Hill Drive	Glendale Avenue	Warkdale Drive	Sidewalk - New - Capital	1	
P13-019	BURLEIGH HILL / GLENDALE AVENUE CSO CONTROL	Warkdale Drive	Burleigh Hill Drive	80m W of Burleigh Hill Drive	Sidewalk - New - Capital	1	
P15-066	MOFFATT STREET RECONSTRUCTION	Moffatt Street	North Limit	South Limit	Road - Capital	1	
P16-008	HARTZEL ROAD	Hartzel Road	Queenston Street	Lincoln Avenue	Gas Tax - Capital	1	
P16-061	GREENWOOD AVENUE / BEATRICE STREET	Beatrice Street	Dundonald Street	End	Gas Tax - Capital	1	
P16-061	GREENWOOD AVENUE / BEATRICE STREET	Beatrice Street	Dundonald Street	End	Sanitary Sewer - Annual	1	
P16-061	GREENWOOD AVENUE / BEATRICE STREET	Greenwood Avenue	Bunting Road	Dundonald Street	Gas Tax - Capital	1	
P16-061	GREENWOOD AVENUE / BEATRICE STREET	Greenwood Avenue	Bunting Road	Dundonald Street	Sanitary Sewer - Annual	1	
P16-104	PARK AVENUE	Park Avenue	Cedardale Avenue	Seymour Avenue	Storm Sewer - Capital	1	
P16-104	PARK AVENUE	Park Avenue	South Limit	Rockwood Avenue	Water	1	
P17-008	BURNESS DRIVE UNDERGROUND IMPROVEMENTS	Burness Drive	Ferndale Avenue	Alexandra Blvd	Gas Tax - Capital	1	
P17-008	BURNESS DRIVE UNDERGROUND IMPROVEMENTS	Burness Drive	Ferndale Avenue	Alexandra Blvd	Water	1	
P17-009	YALE CRESCENT UNDERGROUND IMPROVEMENTS	Yale Cres	Vine Street	Berryman Avenue	Sanitary Sewer - Annual	1	
P17-009	YALE CRESCENT UNDERGROUND IMPROVEMENTS	Yale Cres	Vine Street	Berryman Avenue	Storm Sewer - Capital	1	
P17-009	YALE CRESCENT UNDERGROUND IMPROVEMENTS	Yale Cres	Vine Street	Berryman Avenue	Water	1	
P17-020	ADMIRAL / PARK STORM SEWERS	Admiral Road	Ferndale Avenue	Park Avenue	Storm Sewer - Capital	1	
P17-020	ADMIRAL / PARK STORM SEWERS	Park Avenue	Admiral Road	Rockwood Avenue	Storm Sewer - Capital	1	
P17-100	BRIARSDALE / GLEN MORRIS UNDERGROUND IMPROVEMENTS	Briarsdale Drive	Chestnut Street W	Glen Morris Drive (North Leg)	Water	1	
P17-100	BRIARSDALE / GLEN MORRIS UNDERGROUND IMPROVEMENTS	Glen Morris Drive (North Leg)	Adelene Cres	Village Road	Water	1	
P17-100	BRIARSDALE / GLEN MORRIS UNDERGROUND IMPROVEMENTS	Glen Morris Drive (North Leg)	Jacobson Avenue	Briarsdale Drive	Water	1	
P17-125	2017 BRIDGE REHABILITATION PROGRAM	Dunkirk Road	Cushman Road	-	Gas Tax - Capital	1	
P18-061	GALE CRESCENT ROAD IMPROVEMENTS	Gale Cres	Geneva Street	Oakdale Avenue	Road - Capital	1	
P18-063	MERRITT STREET ROAD AND STREETSCAPING IMPROVEMENTS	Merritt Street	Almond Lane	Walnut Street	Road - Capital	1	
P18-080	2018 RESURFACING PROGRAM	North Entrance Pen Centre	Jacobson Avenue	Pen Centre	Road - Annual	1	
P18-080	2018 RESURFACING PROGRAM	Queenston Street	Page Street	Eastchester Avenue	Road - Capital	1	
P18-080	2018 RESURFACING PROGRAM	Rockwood Avenue	Woodrow Street	80m E of St Augustine Drive	Road - Annual	1	
P18-080	2018 RESURFACING PROGRAM	Rockwood Avenue	Hartzel Road	Thornton Street	Road - Annual	1	
P18-080	2018 RESURFACING PROGRAM	South Entrance Pen Centre	Jacobson Avenue	Pen Centre	Road - Annual	1	
P18-080	2018 RESURFACING PROGRAM	Welland Canals Parkway	Approx. 75m south of Glendale Avenue	Approx. 185m south of Glendale Avenue	Road - Annual	1	
P18-102	SMYTHE STREET WATERMAIN	Smythe Street	Oakdale Avenue	Haight Street	Gas Tax - Capital	1	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Merritt Trail	Second Welland Canal	@ Lock 21	Bridge & Culvert - Replacement - Capital	1	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Merritt Trail	Second Welland Canal	@ Lock 10	Bridge & Culvert - Replacement - Capital	1	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Merritt Trail	Second Welland Canal	@ Lock 8	Bridge & Culvert - Replacement - Capital	1	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Trillium Railway	CNR	-	Bridge & Culvert - Replacement - Capital	1	
ST18-09	MERRITT STREET GUIDERAIL	Merritt Street	Ball Avenue E	Ball Avenue W	Road - Capital	1	
P15-007	FRANCIS CREEK DRAIN IMPROVEMENTS	Francis Creek	Ridley Road	30m N of Fourth Avenue	Storm Sewer - Capital	2	4
P13-067	MSI - RIVERCREST DRIVE	Rivercrest Drive	Riverview Blvd	Hillside Drive	Road - Capital	2	
P13-067	MSI - RIVERCREST DRIVE	Rivercrest Drive	Riverview Blvd	Hillside Drive	Sanitary Sewer - Annual	2	

**2018 CONSTRUCTION PROGRAM - WARD LISTING - NON FACILITIES**

PROJECT NUMBER	PROJECT TITLE	LOCATION	FROM	TO	BUDGET	WARD	
P13-067	MSI - RIVERCREST DRIVE	Rivercrest Drive	Riverview Blvd	Hillside Drive	Water	2	
P16-103	GLENDALE AVENUE	Glendale Avenue	Glenridge Avenue	Jacobson Avenue	Water	2	
P17-063	GLENWOOD / SOUTH RECONSTRUCTION	Glenwood Avenue	Rockcliffe Road	End	Storm Sewer - Capital	2	
P17-063	GLENWOOD / SOUTH RECONSTRUCTION	South Drive	Cliff Road	Rockcliffe Road	Storm Sewer - Capital	2	
P17-064	HIGHLAND AVENUE RECONSTRUCTION	Highland Avenue	Ridgewood Road	Rockcliffe Road	Road - Capital	2	
P17-064	HIGHLAND AVENUE RECONSTRUCTION	Ridgewood Road	Highland Avenue	Riverdale Avenue	Road - Capital	2	
P18-080	2018 RESURFACING PROGRAM	Churchill Street	Chetwood Street	Rykert Street	Road - Annual	2	
P18-080	2018 RESURFACING PROGRAM	Old Fourth Avenue	Fourth Avenue	West Limit	Road - Annual	2	
P18-080	2018 RESURFACING PROGRAM	Pelham Road	Nash Street	Kent Street	Road - Capital	2	
ST18-12	RIDLEY ROAD NEIGHBOURHOOD TRAFFIC MANAGEMENT STUDY	-	-	-	Road - Capital	2	
P16-063	ST GEORGE STREET	St George Street	Dieppe Road	Facer Street	Sanitary Sewer - Annual	3	
P16-063	ST GEORGE STREET	St George Street	Dieppe Road	Facer Street	Storm Sewer - Capital	3	
P18-080	2018 RESURFACING PROGRAM	Export Avenue	Dieppe Road	Welland Avenue	Road - Annual	3	
P18-080	2018 RESURFACING PROGRAM	Winnifred Avenue	Grantham Avenue	Flanders Avenue	Road - Annual	3	
P18-101	RENDALE AVENUE WATERMAIN	Rendale Avenue	Dorchester Blvd	Cushman Road	Gas Tax - Capital	3	
P18-080	2018 RESURFACING PROGRAM	Lake Street	North Service Road	Lakeport Road	Road - Annual	4	6
P15-067	THIRD STREET LOUTH ROAD IMPROVEMENTS	Third Street	South Service Road	Third Avenue	Gas Tax - Capital	4	
P15-067	THIRD STREET LOUTH ROAD IMPROVEMENTS	Third Street	South Service Road	Third Avenue	Road - Capital	4	
P18-062	LAKE STREET ROAD IMPROVEMENTS	Lake Street	Welland Avenue	Queen Street	Road - Capital	4	
P18-064	RACE STREET PARKING IMPROVEMENTS	Race Street	McGuire Street	Carlisle Street	Road - Capital	4	
P18-064	RACE STREET PARKING IMPROVEMENTS	Race Street	McGuire Street	Carlisle Street	Sidewalk - New - Capital	4	
P18-080	2018 RESURFACING PROGRAM	Beecher Street	Raymond Street	Welland Avenue	Road - Annual	4	
P18-080	2018 RESURFACING PROGRAM	Gerrard Street	Raymond Street	Welland Avenue	Road - Annual	4	
P18-080	2018 RESURFACING PROGRAM	Hetherington Street	Catherine Street	Francis Street	Road - Annual	4	
P18-123	THIRD AVENUE LOUTH BRIDGE	Third Avenue	@ Richardson's Creek	-	Gas Tax - Capital	4	
RN18-A	MARTINDALE ROAD IMPROVEMENTS	Martindale Road	South Service Road	Bridge Street	Gas Tax - Capital	4	
P18-132	SHORELINE PROTECTION PROGRAM	City Wide	-	-	Shoreline - Capital	5	6
P16-003	ELSE STREET	Eise Street	Linwell Road	Scott Street	Storm Sewer - Capital	5	
P16-004	RODGER STREET / SHARON STREET	Rodger Street	Glen Park Road	Linwell Road	Gas Tax - Capital	5	
P16-004	RODGER STREET / SHARON STREET	Sharon Street	Glen Park Road	Linwell Road	Gas Tax - Capital	5	
P16-101	CLOVER/HEYWOOD/SANDY COVE	Clover Street	Heywood Avenue	Mckenzie Street	Water	5	
P16-101	CLOVER/HEYWOOD/SANDY COVE	Heywood Avenue	Niagara Street	Clover Street	Water	5	
P16-101	CLOVER/HEYWOOD/SANDY COVE	Sandy Cove	Shoreline Drive	Cul-de-sac	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Bessborough Drive	Grantham Avenue	Foxglove Avenue	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Daley Drive	Grantham Avenue	Edinburgh Drive	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Grosvenor Street	Grantham Avenue	Foxglove Avenue	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Kilbourne Cres	Grosvenor Street	Foxglove Avenue	Sanitary Sewer - Annual	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Kilbourne Cres	Grosvenor Street	Foxglove Avenue	Water	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Oriole Drive	Grantham Avenue	Foxglove Avenue	Sanitary Sewer - Annual	5	
P17-007	BESSBOROUGH / DALEY / GROSVENOR / KILBOURNE / ORIOLE UNDERGROUND IMPROVEMENTS	Oriole Drive	Graham Avenue	Foxglove Avenue	Water	5	
P17-101	BROMLEY DRIVE WATERMAIN REPLACEMENT	Bromley Drive	Stepney Street	South Limit	Water	5	
P17-104	LAKESHORE / SEAWAY HAULAGE WATERMAIN REPLACEMENT	Lakeshore Road	Broadway	Seaway Haulage Road	Water	5	
P17-104	LAKESHORE / SEAWAY HAULAGE WATERMAIN REPLACEMENT	Seaway Haulage Road	Lakeshore Road	Keefer Road	Water	5	
P17-105	NANCY / ROSEMOUNT WATERMAIN REPLACEMENT	Nancy Drive	Vine Street	Strathcona Drive	Water	5	
P17-105	NANCY / ROSEMOUNT WATERMAIN REPLACEMENT	Rosemount Avenue	Vine Street	Gordon Place	Water	5	
P18-080	2018 RESURFACING PROGRAM	Broadway	Seaway Haulage Road	North Limit	Road - Annual	5	

**2018 CONSTRUCTION PROGRAM - WARD LISTING - NON FACILITIES**

PROJECT NUMBER	PROJECT TITLE	LOCATION	FROM	TO	BUDGET	WARD	
P18-080	2018 RESURFACING PROGRAM	Croydon Drive	Arthur Street	Arthur Street	Road - Annual	5	
P18-080	2018 RESURFACING PROGRAM	Duncan Drive	Linwell Road	Parnell Road	Road - Annual	5	
P18-100	CHAMPA DRIVE WATERMAIN	Champa Drive	Scott Street	Agar Drive	Gas Tax - Capital	5	
ST18-11	MAPLEWOOD AREA STORM SEWER STUDY	Maplewood Drive			Storm Sewer - Capital	5	
P17-068	TERRY LANE RECONSTRUCTION	Terry Lane	Shelley Avenue	Graham Avenue	Gas Tax - Capital	6	
P17-068	TERRY LANE RECONSTRUCTION	Terry Lane	Shelley Avenue	Graham Avenue	Road - Capital	6	
P17-068	TERRY LANE RECONSTRUCTION	Terry Lane	Shelley Avenue	Graham Avenue	Water	6	
P17-129	WATERCOURSE REHABILITATION 2017	Martindale Pond	Martindale Pond	Lakeport Road	Watercourses - Capital	6	
P18-122	2018 BRIDGE STRUCTURAL MAINTENANCE	Old Martindale Road	Green Ribbon Trail	@ Richardson Creek	Bridge & Culvert - Replacement - Capital	6	
P15-117	WATER METER REPLACEMENT PROGRAM	City Wide			Gas Tax - Capital	7	
P18-006	CATCH BASINS AND STORM SERVICE INSTALLATIONS	City Wide			Storm Sewer - Capital	7	
P18-011	2018 SPOT REPAIR PROGRAM	City Wide			Sanitary Sewer - Annual	7	
P18-012	2018 SANITARY SEWER FLUSHING & REAMING	City Wide			Sanitary Sewer - Annual	7	
P18-014	2018 CCTV SEWER INSPECTION	City Wide			Sanitary Sewer - Annual	7	
P18-015	DESIGN FOR 2019 PROJECTS	City Wide			Sanitary Sewer - Annual	7	
P18-040	2018 WALKWAY IMPROVEMENTS	City Wide			Sidewalk - New - Capital	7	
P18-040 *	2018 CONCRETE SIDEWALK REPAIR PROGRAM	City Wide			Sidewalk - Replacement - Annual	7	
P18-041	2018 NEW SIDEWALK CONSTRUCTION PROGRAM	City Wide			Sidewalk - New - Capital	7	
P18-080	2018 RESURFACING PROGRAM	Various			Road - Annual	7	
P18-080	2018 RESURFACING PROGRAM	Various			Road - Capital	7	
P18-081	2018 ASPHALT BASE REPAIR PROGRAM	City Wide			Road - Annual	7	
P18-082	2018 CONCRETE BASE REPAIR PROGRAM	Various City Wide			Road - Annual	7	
P18-083	2018 CRACK SEALING PROGRAM	Various City Wide			Road - Annual	7	
P18-085	2018 GUIDERAIL PROGRAM	Various City Wide			Road - Annual	7	
P18-086	DESIGN FOR 2018 PROJECTS	City Wide			Road - Annual	7	
P18-092	2018 BOULEVARD REINSTATEMENTS	City Wide			Road - Annual	7	
P18-118	VALVES, HYDRANTS & SERVICES	City Wide			Water	7	
P18-119	DESIGN FOR 2019 PROJECTS	City Wide			Water	7	
P18-120	2018 BRIDGE REHABILITATION PROGRAM	City Wide			Bridge & Culvert - Repair - Annual	7	
P18-121	2018 LARGE CULVERT REHABILITATION PROGRAM	City Wide			Bridge & Culvert - Repair - Annual	7	
ST18-05	DTIMS UPDATE				Road - Annual	7	
ST18-10	MASTER SERVICING STUDY	City Wide			Sanitary Sewer - Annual	7	

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# Schedule AG

## 2018 CONSTRUCTION PROGRAM - WARD LISTING - FACILITIES

PROJECT NUMBER	PROJECT TITLE	DESCRIPTION	BUDGET	WARD	
Maint 2018-2	FIREHALL #1 - GENEVA ST	Paint Bay doors	Fire Services - Annual	1	
Maint 2018-6	MERRITTON ARENA	Install electrical outlet at rear of facility for Baseball	Building - Capital	1	
Maint 2018-9	GARDEN CITY ARENA COMPLEX	Replace LED lights in scoreboard	Building - Annual	1	
P18-137	DOUGLAS PARK	Playground Equipment Upgrade	Building - Capital	1	
P18-148	MERRITTON PARK - SITE	Paint parking lot lines	Building - Capital	1	
P18-153	FIREHALL #1- GENEVA ST IMPROVEMENTS	Replace and level garage floor slab	Fire Services - Capital	1	
P18-160-1	MERRITTON ARENA	Replace head cooling pump / condenser pump	Building - Capital	1	
P18-160-1	MERRITTON ARENA	Replace dehumidifier	Building - Capital	1	
P18-160-2	MERRITTON ARENA	Resurface Zamboni access area and snow melt area	Building - Capital	1	
P18-161	GARDEN CITY ARENA COMPLEX	Replace damaged rubber flooring	Building - Capital	1	
P18-162	GARDEN CITY ARENA COMPLEX	Install CO sensors in public areas - Public Health	Building - Capital	1	
P18-167	VLC - ADMIN - OLD	Admin Building - Demolition	Building - Capital	1	
P18-168	VLC - ADMIN - NEW	New Administration Building - Additional Funds	Building - Capital	1	
P18-174-4	CLIFFORDS CREEK PARK	Basketball Court Rehabilitation	Building - Capital	1	
P18-175	ST. CATHARINES MUNICIPAL GOLF COURSE - OLD CLUBHOUSE	Old clubhouse replace roof	Building - Capital	1	
P18-181	ST. CATHARINES MUSEUM	Replace HVAC system - additional funds	Building - Capital	1	
Maint 2018-7	SEYMOUR HANNAH	Replace sprinkler valves	Building - Capital	2	
Maint 2018-8	SEYMOUR HANNAH	Replace all hand driers	Building - Annual	2	
P18-164-1	SEYMOUR HANNAH	Upgrade dehumidification system for pad 1/2 - Phase 1	Building - Capital	2	
P18-164-2	SEYMOUR HANNAH	Replace netting Rink 1	Building - Capital	2	
P18-164-3	SEYMOUR HANNAH	Install battery packs on Zamboni OH Doors - HS	Building - Capital	2	
P18-177	MORNINGSTAR MILL - GRIST MILL	Grist Mill - Repointing of mill - Phase 2	Building - Capital	2	
ST18-015	SEYMOUR HANNAH	Power quality investigation	Building - Annual	2	
P18-144	BUCHANAN HOUSE	Implement security	Building - Capital	3	
P18-145	BUCHANAN HOUSE	Repair floor drains in basement	Building - Capital	3	
P18-174-1	LESTER B. PEARSON PARK - KAC	RegROUT pool deck	Building - Capital	3	
P18-174-2	LESTER B. PEARSON PARK - KAC	Install VFD on HVAC unit	Building - Capital	3	
P18-174-3	LESTER B. PEARSON PARK - KAC	KAC - Additional lighting	Building - Capital	3	
P18-174-4	LESTER B. PEARSON PARK	Tennis Court Rehabilitation	Building - Capital	3	
Maint 2018-1	CITY HALL	General repairs and painting	Building - Annual	4	
P18-134	MONTEBELLO PARK - PAVILION	Pavilion - Replace roof	Building - Capital	4	
P18-140-1	CITY HALL	Remove asbestos and repair hallway 3rd floor	Building - Capital	4	
P18-140-2	CITY HALL	Council Chambers - Microphone Replacement	Building - Capital	4	
P18-141-1	MARKET SQUARE	Reseal and coating of concrete floor	Building - Capital	4	
P18-141-2	MARKET SQUARE	Lighting conversion to LED	Building - Capital	4	
P18-143	OLD COURT HOUSE	Roof maintenance and repairs	Building - Annual	4	
P18-151-1	CARLISLE STREET PARKING GARAGE	Waterproofing inspection and cleaning	Parking Services - Annual	4	
P18-151-2	CARLISLE STREET PARKING GARAGE	Membrane repairs	Parking Services - Capital	4	
P18-151-2	CARLISLE STREET PARKING GARAGE	Concrete structural drain repairs	Parking Services - Capital	4	
P18-151-2	CARLISLE STREET PARKING GARAGE	Crack repairs - stairwell	Parking Services - Capital	4	

## 2018 CONSTRUCTION PROGRAM - WARD LISTING - FACILITIES

PROJECT NUMBER	PROJECT TITLE	DESCRIPTION	BUDGET	WARD	
P18-151-3	CARLISLE STREET PARKING GARAGE	Install 2' high flow water line for cleaning	Parking Services - Capital	4	
ST18-013	ONTARIO STREET PARKING GARAGE	Annual Strand Monitoring Program	Parking Services - Annual	4	
P18-131	HAPPY ROLPHS BIRD SANCTUARY- ANIMAL SHELTERS	Screening for animal pens and sun protection	Building - Capital	5	
P18-178-1	PORT WELLER COMMUNITY CENTRE - SITE	Update and add parking lot lighting	Building - Capital	5	
P18-178-2	PORT WELLER COMMUNITY CENTRE	Renovate washrooms & make accessible from exterior - including implementation of accessibility	Building - Capital	5	
P18-178-3	PORT WELLER COMMUNITY CENTRE - SITE	Splash Pad- Additional Funds	Building - Capital	5	
Maint 2018-3	BILL BURGOYNE ARENA	Replace rubber flooring in benches	Building - Annual	6	
Maint 2018-4	BILL BURGOYNE ARENA	Replace lights in score clock	Building - Annual	6	
Maint 2018-5	BILL BURGOYNE ARENA	Install puck netting	Building - Capital	6	
P18-165	BILL BURGOYNE ARENA	Install door to isolate bowl from changerooms	Building - Capital	6	
P18-166	BILL BURGOYNE ARENA	Replace Compressor 1	Building - Capital	6	
P18-166	BILL BURGOYNE ARENA	Replace Compressor 2 / motor	Building - Capital	6	
P18-166	BILL BURGOYNE ARENA	Modify electrical panel controls	Building - Capital	6	
ST18-006	REAR INNER RANGE LIGHTHOUSE	Condition assessment - Flood damage	Building - Annual	6	
ST18-016	BILL BURGOYNE ARENA	Preliminary design for accessible upgrades	Building - Capital	6	
ST18-001	GENERAL CONSULTING	Roof Reviews	Building - Annual	7	
ST18-002	GENERAL CONSULTING	Fall Arrest Inspections	Building - Annual	7	
ST18-003	GENERAL CONSULTING	Asbestos annual update inspections	Building - Annual	7	
ST18-004	GENERAL CONSULTING	Energy audits	Building - Annual	7	
ST18-014	GENERAL CONSULTING	Refrigeration Contract Review	Building - Annual	7	

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