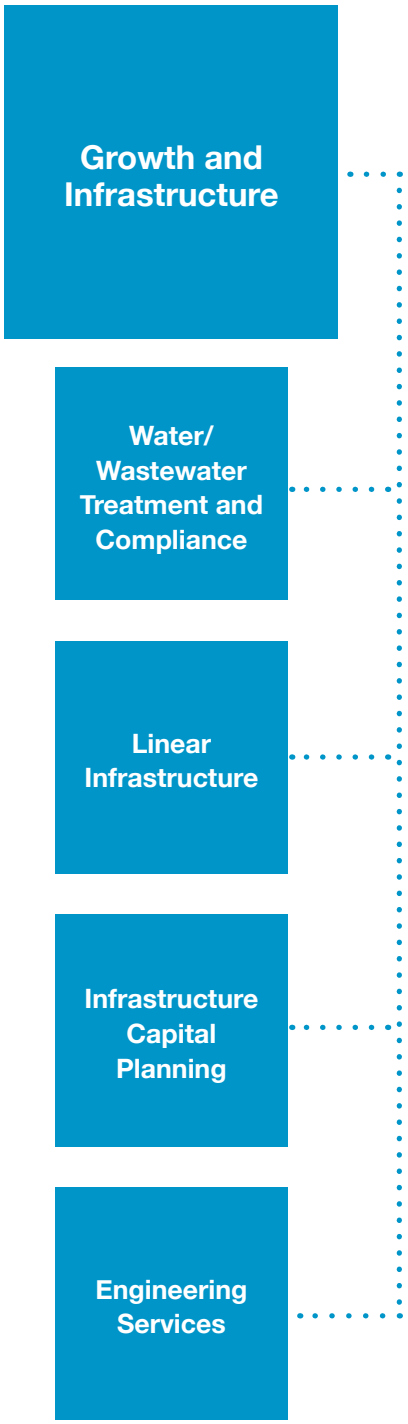
Overview

The City of Greater Sudbury is dedicated to the supply and delivery of high quality potable water and the effective collection and treatment of wastewater to meet current and future needs of our community. The City is committed to working with residents and partners to protect water – one of our most precious resources – in all its form.

The following are Divisions and the applicable areas of service within the Growth and Infrastructure Department:

- Water/Wastewater Treatment and Compliance
- Linear Infrastructure Services
- Infrastructure Capital Planning
- Engineering Services



Water/Wastewater Budget

Water/wastewater operates in a highly regulated framework of federal, provincial and municipal regulations, standards and policies. The operation is guided the Water/Wastewater Master Plan and Tactical Plan, and is supported by the Water/Wastewater 10-Year Financial Plan and Asset Management Plan.

A significant component of water and wastewater rates in any municipality is directed to long-term asset management considerations.

The City of Greater Sudbury is responsible for 1,800 kilometres of water and wastewater mains, known as linear infrastructure. That's more than the distance to Winnipeg.

Our 12 wastewater treatment facilities, 69 sewage lift stations, one biosolids facility, 23 wells, two water treatment facilities, eight metering stations, 12 pumping (booster) stations and nine water storage facilities were constructed to meet the needs of individual communities prior to amalgamation.

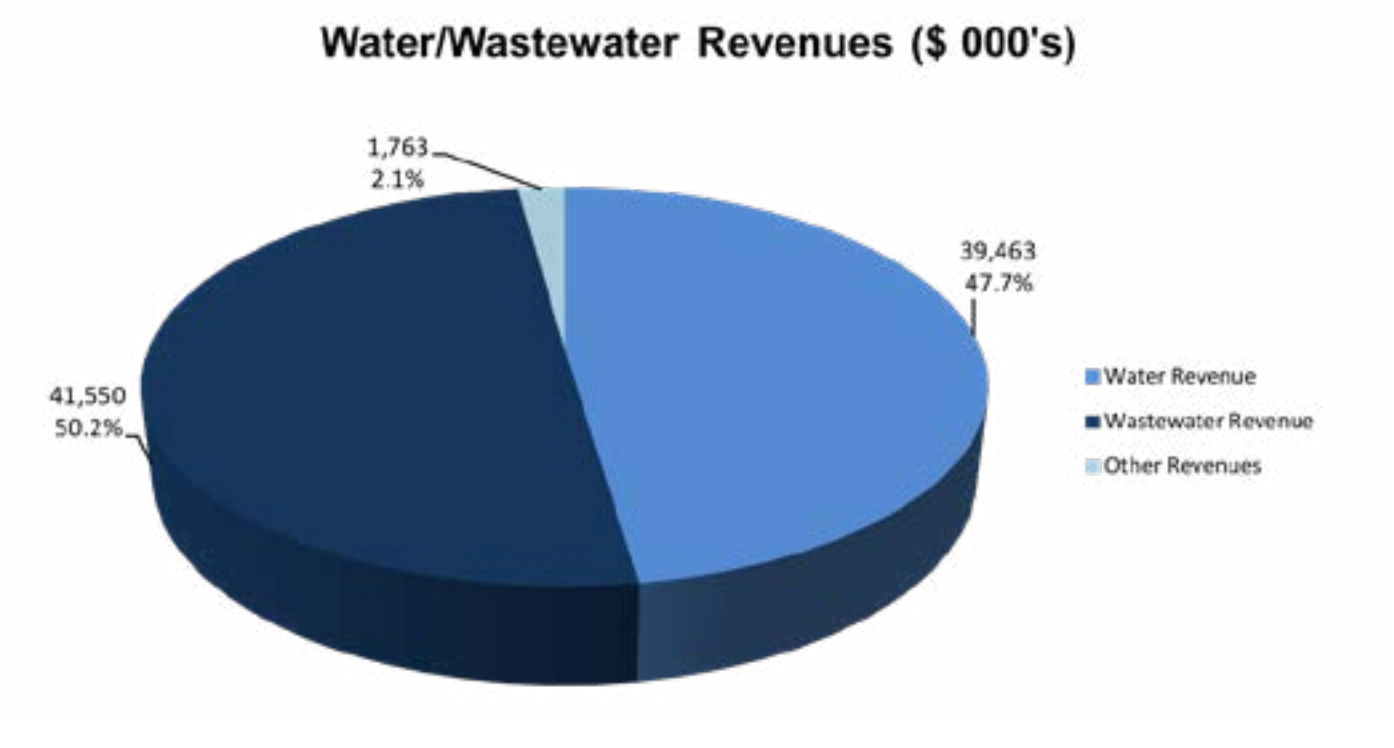
This level and scope of assets is several times the size of municipalities of our population and rate base and is significantly overbuilt when compared to the number of customers serviced.

Rates contribute to operations, as well as to core asset management objectives described in the Capital Budget section of this document.

In 2011, the Water/Wastewater 10-Year Financial Plan was approved by City Council, recommending an annual rate increase of 7.4 per cent to achieve financial sustainability. Council approved the 7.4 per cent rate increase in 2016, 2017, 2018 and 2019.

In accordance with legislation, the Plan was updated in June 2019. The City was obligated to update the Plan prior to applying for renewals to its drinking water licences. The revised plan includes updates to capital requirements, based on the recently completed water/wastewater master and asset management plans.

The revised Plan recommends an annual rate increase of 4.8% over the next 20 years to achieve financial sustainability. The plan will be updated again, prior to the application for licence renewals in the fall of 2024.



Water/Wastewater Rates

Unlike the municipal tax levy, which is applied to all properties in support of a variety of services provided broadly to the community, Water/Wastewater Services are paid for by roughly 48,000 residential and non-residential customers.

The Province of Ontario requires that all municipalities collect the full cost of water and wastewater services directly from end users. City Council adopted a user pay system in 2001, which resulted in charges being billed directly to customers rather than being rolled into municipal property taxes, as was previously done.

The City understands the effect of rate increases on households. Water/wastewater operations are under constant review to improve efficiencies.

Water/Wastewater | 2020 Budget Summary

	Actuals			Budget		Budget Change	
	2017 Actuals	2018 Actuals	2019 Projected Actuals	2019 Budget	2020 Budget	Dollar Change	Per cent Change
Revenues							
Levies	(59,489)	(42,346)	(41,647)	(41,647)	(41,647)	-	0.0%
User Fees	(67,033,070)	(72,913,225)	(77,753,200)	(78,579,002)	(81,753,449)	(3,174,447)	4.0%
Contribution from Reserve and Capital	(1,600,930)	(364,370)	(1,147,825)	(413,527)	(346,187)	67,340	-16.3%
Other Revenues	(956,781)	(908,678)	(625,000)	(625,000)	(635,000)	(10,000)	1.6%
Total Revenues	**(69,650,270)**	**(74,228,619)**	**(79,567,672)**	**(79,659,176)**	**(82,776,283)**	**(3,117,107)**	**3.9%**
Expenses							
Salaries and Benefits	13,116,722	3,278,199	3,217,000	3,163,820	3,587,890	424,070	13.4%
Materials - Operating Expenses	5,276,900	(3,279)	-	-	-	-	0.0%
Energy Costs	4,653,187	353,623	324,097	324,097	279,342	(44,755)	-13.8%
Rent and Financial Expenses	52,551	4	-	-	-	-	0.0%
Purchased/Contract Services	10,150,336	57,024	-	-	-	-	0.0%
Debt Repayment	4,177,465	299,717	413,527	413,527	346,187	(67,340)	-16.3%
Grants - Transfer Payments	950	100	5,000	5,000	5,000	-	0.0%
Contribution to Reserve and Capital	28,593,113	32,888,085	31,440,110	30,793,071	32,501,622	1,708,551	5.5%
Internal Recoveries	7,248,046	41,140,146	44,167,938	44,959,661	46,056,242	1,096,581	2.4%
Total Expenses	**73,269,270**	**78,013,619**	**79,567,672**	**79,659,176**	**82,776,283**	**3,117,107**	**3.9%**
Net Budget	**3,619,000**	**3,785,000**	**-**	**-**	**-**	**-**	**0.0%**

Note: Summary of the rollup of revenues and expenses for Water/Wastewater to accurately calculate rates. Staffing is reflected in Treatment and Compliance, and Linear Infrastructure Maintenance

The City has three main components to the water/wastewater billing structure to fund expenditures:

Variable Water Rate

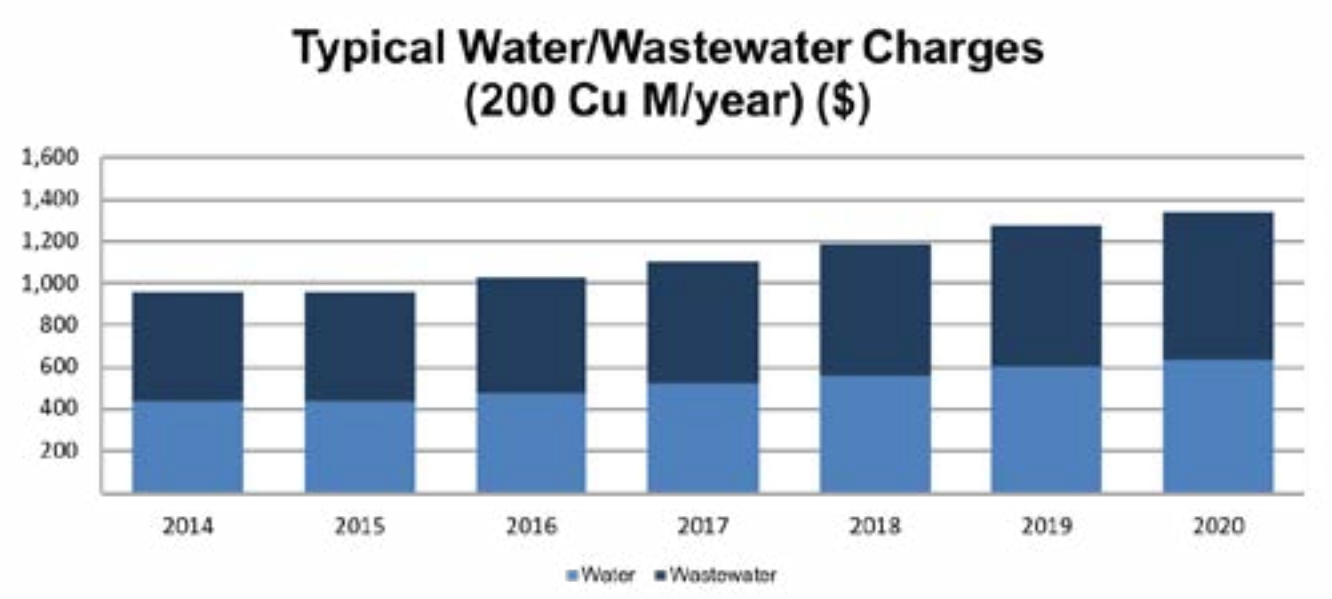
The City establishes a rate per cubic metre of water used. All water customers pay the same amount for every cubic metre (1,000 litres of water). Since a customer only pays for the volume of water they use, this portion of the rate is referred to as the variable water rate.

Fixed Water Charge

Water budgets contain fixed costs that do not change in direct proportion to water consumption. The cost to treat and distribute municipal water remains relatively constant, regardless of the volume consumed by residents. The fixed water charge provides the City with a stable source of annual funding to offset these fixed costs. The fixed water charge is set for a residential meter (5/8 and 3/4 inch meter) and is increased for each larger size meter in accordance with the ratios established by the American Water Works Association (AWWA).

Wastewater Surcharge

The wastewater surcharge is applied to offset the cost associated with the water discharged as it leaves your home or business. Costs include the operation and maintenance of wastewater infrastructure, such as the sewer system and treatment plants that handle wastewater outflow from properties. Wastewater outflow is directly related to the amount of water discharged into the sewer system and treatment plants, which is why the surcharge is calculated as a percentage of the total water rate charged. This rate structure is consistent with most Ontario municipalities.



Rate Structure

The rate structure for water includes a monthly service charge that is determined according to the size of the water meter. The variation in the service charge is based on ratios recommended by the AWWA. The rate structure for water also includes a uniform rate for each cubic metre of water consumed. For water, the uniform rate is applied to all consumption. The impact of the proposed rate increase on the monthly service charge and consumption water rate is shown in the following table.

2020 Water Rates

Monthly Service Charge	
Meter Size	**2020**
5/8"	$22.48
3/4"	$22.48
1"	$56.19
1.5"	$112.38
2"	$179.81
3"	$359.63
4"	$561.92
6"	$1,123.83
8"	$1,798.13
10"	$2,584.82
Volume Charge per Cubic Metre	**$1.809**
Wastewater Surcharge	**112%**

The wastewater surcharge is a percentage applied to total water charges (volume and fixed) as there are no meters to measure the outflows of wastewater. For 2020, the wastewater surcharge is 112 per cent of water charges.

Average Homeowner

The table below illustrates the impact of the 2020 rates on a homeowner who uses 200 cubic metres of water per year. The cost increase for 2020 is approximately $5.13 per month for the average homeowner.

2020 Water/Wastewater Rate Impact

	2019	2020	$ Change	% Change
Water				
Annual Usage Charge	345.60	361.80	16.20	
Annual Fixed Service Charge	257.52	269.76	12.24	
Total Annual Water	**$603.12**	**$631.56**	**$28.44**	**4.7%**
Wastewater				
Annual Usage Surcharge	386.38	405.22	18.84	
Annual Fixed Service Surcharge	287.91	302.13	14.22	
Total Annual Wastewater	**$674.29**	**$707.35**	**$33.06**	**4.9%**
Total Annual Water Wastewater Charges	**$1,277.41**	**$1,338.91**	**$61.50**	**4.8%**

The following table compares Greater Sudbury's 2019 rates to those of other northern Ontario municipalities. The table uses rates for 2019, as other cities have not yet determined their rates for 2020.

Sample Residential Customer - 2019 Rates

	Sudbury	North Bay	Timmins	Sault Ste. Marie	Thunder Bay
Water					
Annual Volume Charge	346	276	-	158	340
Annual Service Charge	258	317	426	347	284
Total Annual Water	**$604**	**$593**	**$426**	**$505**	**$624**
Wastewater					
Annual Volume Charge	386	228	-	98	306
Annual Service Charge	288	234	482	215	256
Total Annual Wastewater	**$674**	**$462**	**$482**	**$313**	**$562**
Total Water/Wastewater	**$1,278**	**$1,055**	**$908**	**$818**	**$1,186**

Source - Municipal Websites, 2019 Water Wastewater rates

2020 Water & Wastewater Capital Project List

R - Recommended, P - Previous Council Approvals (shaded) - in thousands

Page	Capital Project	Capital Project Cost							Total Recommended Funding				Index
		Total Project	2020	2021	2022	2023	2024	Beyond	Total Funding	User Fees	Capital Reserves	Federal Grant	
	WATER												
	WATER DISTRIBUTION												
	Watermain Priority Projects												
471	Lively Sewers - Phase 2 - Water	2,200	1,200	-	1,000	-	-	-	2,200	2,200	-	-	*R*
471	Preliminary Design for Future Projects	200	200	-	-	-	-	-	200	200	-	-	*R*
472	Watermain Priority Replacement & Rehabilitation	9,835	9,835	-	-	-	-	-	9,835	9,835	-	-	*R*
	TOTAL - Watermain Priority Projects	12,235	11,235	-	1,000	-	-	-	12,235	12,235	-	-	
	Watermain Replacement & Rehabilitation												
473	Water Service Replacement	100	100	-	-	-	-	-	100	100	-	-	*R*
473	Watermain Rehabilitation	1,600	1,600	-	-	-	-	-	1,600	1,600	-	-	*R*
474	Watermain Valve Replacement & Installation	200	200	-	-	-	-	-	200	200	-	-	*R*
	TOTAL - Watermain Replacement & Rehabilitation	1,900	1,900	-	-	-	-	-	1,900	1,900	**-**	**-**	
	Distribution Support												
474	Distribution Health & Safety Equipment	65	65	-	-	-	-	-	65	65	-	-	*R*
475	Distribution Support	100	100	-	-	-	-	-	100	100	-	-	*R*
475	Large Water Meter Replacement	600	600	-	-	-	-	-	600	600	-	-	*R*
	TOTAL - Distribution Support	765	765	-	-	-	-	-	765	765	**-**	**-**	
	TOTAL - WATER DISTRIBUTION	**14,900**	**13,900**	**-**	**1,000**	**-**	**-**	**-**	**14,900**	**14,900**	**-**	**-**	
	WATER PLANTS												
	Water Treatment Plants												
476	Asset Renewal	150	150	-	-	-	-	-	150	150	-	-	*R*
	TOTAL - Water Treatment Plants	150	150	-	-	-	-	-	150	150	**-**	**-**	
	Wells												
	Well Building Repair & Upgrades	500	500	-	-	-	-	-	500	500	-	-	*R*
477	Well Inspection & Rehabilitation	500	500	-	-	-	-	-	500	500	-	-	*R*
	TOTAL - Wells	1,000	1,000	-	-	-	-	-	1,000	1,000	**-**	**-**	
	Reservoirs, Tanks & Booster Stations												
477	Storage Tank Inspection & Rehabilitation	500	500	-	-	-	-	-	500	500	-	-	*R*
	TOTAL - Reservoirs, Tanks & Booster Stations	500	500	-	-	-	-	-	500	500	**-**	**-**	
	System Wide												
478	Water Facilities Condition Assessments	75	75	-	-	-	-	-	75	0	75	-	*R*
478	Water Facilities Health & Safety Upgrades	50	50	-	-	-	-	-	50	50	-	-	*R*
	TOTAL - System Wide	125	125	-	-	-	-	-	125	50	**75**	**-**	
	TOTAL - WATER PLANTS	**1,775**	**1,775**	**-**	**-**	**-**	**-**	**-**	**1,775**	**1,700**	**75**	**-**	
	WATER WORKS GENERAL												
	Strategic Initiatives												
479	Automatic Meter Reading Water Meters - Water	8,525	3,550	3,550	1,425	-	-	-	8,525	600	7,925	-	*R*
479	Depot & Public Works Upgrades - Water	13	13	-	-	-	-	-	13	13	-	-	*R*
	TOTAL - WATER WORKS GENERAL	**8,538**	**3,563**	**3,550**	**1,425**	**-**	**-**	**-**	**8,538**	**613**	**7,925**	**-**	
	TOTAL - WATER	**25,213**	**19,238**	**3,550**	**2,425**	**-**	**-**	**-**	**25,213**	**17,213**	**8,000**	**-**	

2020 Water & Wastewater Capital Project List

R - Recommended, P - Previous Council Approvals (shaded) - in thousands

Page	Capital Project	Capital Project Cost							Total Recommended Funding				Index
		Total Project	2020	2021	2022	2023	2024	Beyond	Total Funding	User Fees	Capital Reserves	Federal Grant	
	WASTEWATER												
	WASTEWATER COLLECTION												
	Sewer Priority Projects												
480	Lively Sewers - Phase 2 - Wastewater	7,500	2,500	2,500	2,500	-	-	-	7,500	7,500	-	-	*R*
480	Gatchell Outfall Sewer	3,350	1,000	1,350	1,000	-	-	-	3,350	3,350	-	-	*P*
481	Preliminary Design - Future Projects	200	200	-	-	-	-	-	200	200	-	-	*R*
482	Sewer Priority Replacement & Rehabilitation	3,375	3,375	-	-	-	-	-	3,375	2,415	-	960	*R*
483	Sewer with Watermain & Roads	43	43	-	-	-	-	-	43	43	-	-	*R*
	TOTAL - Sewer Priority Projects	14,468	7,118	3,850	3,500	-	-	-	14,468	13,508	-	960	
	Sewer System Rehabilitation												
483	Sanitary Sewer Laterals Rehabilitation	100	100	-	-	-	-	-	100	100	-	-	*R*
484	Sanitary Sewer System Rehabilitation & Repair	1,225	1,225	-	-	-	-	-	1,225	1,225	-	-	*R*
	TOTAL - Sewer System Rehabilitation	1,325	1,325	-	-	-	-	-	1,325	1,325	-	-	
	Collection System												
484	Health & Safety Equipment	50	50	-	-	-	-	-	50	50	-	-	*R*
	TOTAL - Collection System	50	50	-	-	-	-	-	50	50	-	-	
	Condition Assessment - Sewer System												
485	Sewer Inspection & Maintenance Program	600	600	-	-	-	-	-	600	600	-	-	*R*
	TOTAL - Condition Assessment - Sewer System	600	600	-	-	-	-	-	600	600	-	-	
	TOTAL - WASTEWATER COLLECTION	**16,443**	**9,093**	**3,850**	**3,500**	**-**	**-**	**-**	**16,443**	**15,483**	**-**	**960**	
	WASTEWATER PLANTS												
	Lift Stations												
485	Lift Station Upgrades	2,000	2,000	-	-	-	-	-	2,000	2,000	-	-	*R*
486	St. Charles Lift Station Upgrades	5,778	963	963	963	963	963	963	5,778	5,778	-	-	*P*
	TOTAL - Lift Stations	7,778	2,963	963	963	963	963	963	7,778	7,778	-	-	
	System Wide												
486	Annual SCADA/Communication Upgrades	250	250	-	-	-	-	-	250	250	-	-	*R*
487	Lagoon Upgrades	1,000	1,000	-	-	-	-	-	1,000	1,000	-	-	*R*
487	Facility Building Upgrades	250	250	-	-	-	-	-	250	250	-	-	*R*
	TOTAL - System Wide	1,500	1,500	-	-	-	-	-	1,500	1,500	-	-	
	Wastewater Treatment Plants												
488	Copper Cliff Wastewater System Upgrades	4,671	1,168	1,168	1,168	1,168	-	-	4,671	4,671	-	-	*P*
488	Sudbury WWTP Headhouse	1,850	463	463	463	463	-	-	1,850	1,850	-	-	*P*
489	Condition Assessment & Recommendations Implementation	600	600	-	-	-	-	-	600	600	-	-	*R*
489	Plant & Equipment Upgrades	500	500	-	-	-	-	-	500	500	-	-	*R*
	TOTAL - Wastewater Treatment Plants	7,621	2,730	1,630	1,630	1,630	-	-	7,621	7,621	-	-	
	TOTAL - WASTEWATER PLANTS	**16,899**	**7,193**	**2,593**	**2,593**	**2,593**	**963**	**963**	**16,899**	**16,899**	**-**	**-**	
	WASTEWATER GENERAL												
	Strategic Initiatives												
490	Automatic Meter Reading Water Meters - Wastewater	8,525	3,550	3,550	1,425	-	-	-	8,525	950	7,575	-	*R*
490	Depot & Public Works Upgrades - Wastewater	13	13	-	-	-	-	-	13	13	-	-	*R*
	TOTAL - WASTEWATER GENERAL	**8,538**	**3,563**	**3,550**	**1,425**	**-**	**-**	**-**	**8,538**	**963**	**7,575**	**-**	
	TOTAL - WASTEWATER	**41,880**	**19,849**	**9,993**	**7,518**	**2,593**	**963**	**963**	**41,880**	**33,345**	**7,575**	**960**	

2020 Capital Project Details

Project Title: Lively Sewers - Phase 2 - Water
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: The Lively Sewer Upgrades project will upsize sanitary sewers to facilitate the eventual decommissioning of the Lively Wastewater Treatment Plant and convey flows to the Walden Wastewater Treatment Plant, as recommended by the Lively/Walden Wastewater Class Environmental Assessment Study. This project will upsize sanitary sewers in the following areas:
- Anderson Drive, from MR24 to Third
- Third Avenue, North along the creek
- Coronation Boulevard
- Parkside Drive
- 9th Avenue to MR24
- 10th Avenue from MR24 to the North East end
- 9th Avenue from 10th Avenue to 11th Avenue

Where appropriate, the watermain that will be undermined during the sewer work, along Anderson Drive will be replaced, due to expected service life. The watermain servicing one block of houses on Tenth Avenue is currently a small diameter, poor condition pipe, and services the homes from the back. The watermain has an extremely high break frequency and has been identified as a priority from operations staff. The watermain will be upsized and brought to the right-of-way in front of the homes, which will be reserviced to the new watermain in front.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 1,200,000	$ -	$ 1,000,000	$ -	$ -	$ -	$ 2,200,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 1,200,000	$ -	$ 1,000,000	$ -	$ -	$ -	$ 2,200,000
Total	$ 1,200,000	$ -	$ 1,000,000	$ -	$ -	$ -	$ 2,200,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Preliminary Design for Future Projects
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: Consulting fees for preliminary design for future projects, including engineering (preliminary and detailed design), geotechnical investigations, surveys, etc. Geotechnical investigations and surveys are often required prior to the design commencing, this funding allows the designer to obtain critical information well enough in advance to not negatively impact the project schedule. When the capital outlook is developed, it is unknown if the design will be completed by CGS staff or an external consultant. Once the workplan is developed, some of the designs may be more appropriately completed by external consultants. This project allows the flexibility to retain consultants to complete some or all of the design work, as required.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 200,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 200,000
Total	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 200,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Watermain Priority Replacement and Rehabilitation
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: Detailed design and construction of various watermain replacement or rehabilitation (lining) projects based on recommendations and framework contained in the Water/Wastewater Infrastructure Master Plan and Asset Management Plan, both recently received by Council. The Master Plan provides recommendations for the long term infrastructure needs, based on four primary principles: Safety; Efficiency; Regulatory Requirements; and Development. The priorities are then allocated within the constraints of the City's Water/Wastewater Financial Plan and Capital Budget.

The following locations are recommended for completion in 2020:
- Barry Downe Road from Kingsway to Westmount Avenue (construction)
- Brady Street from Underpass to Keziah Court (construction)
- Dell Street from Notre Dame Avenue to Snowden Avenue (constrcution)
- Godfrey Drive from Creighton Road to Park Street (construction)
- Hyland Drive from Regent Street to Winchester Street (construction)
- Larch Street from Elgin Street to Lisgar Street (design)
- MR24 from Anderson Drive to 2nd Avenue (design)
- MR24 Trunk Watermain from Old Creighton Road to 12th Avenue (construction)
- Regent Street from Paris Street to Caswell Drive(design)
- Rheal Street from Leveque Street to Estelle Street (design)
- Rita Street from Wilfred Street to East End (construction)
- Roy Avenue from Lamothe Street to Woodbine Avenue (construction)
- Roy Avenue from Woodbine Avenue to Rinfret Street (construction)
- Sparks Street from Barry Downe Road to Roy Avenue (construction)
- Struthers Street from Regent Street to Charlotte Street (design)
- Wellington Heights from Hyland Drive to North East End (construction)
- Will Street from Falconbridge Road to Josephine Street (construction)

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 9,835,000	$ -	$ -	$ -	$ -	$ -	$ 9,835,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 9,835,000	$ -	$ -	$ -	$ -	$ -	$ 9,835,000
Total	$ 9,835,000	$ -	$ -	$ -	$ -	$ -	$ 9,835,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Water Service Replacement
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: Insulating and lowering water pipes that are on the annual list to run water to prevent freezing on City side. This reduces water consumption and associated operating costs.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000
Total	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Watermain Rehabilitation
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: This project is for the rehabilitation (lining) of existing watermains using trenchless technologies to extend the service life (by approximately 50 years) and reduce the risk of watermain breaks. It is also used to pay for the contract administration and inspection of the work, by external consultants. The locations are prioritized by operational concerns (ie. high break frequency) and this technique is typically used to minimize traffic disruption on arterial roadways or when the watermain needs to be rehabilitated, but no funding is available to rehabilitate the roadway.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 1,600,000	$ -	$ -	$ -	$ -	$ -	$ 1,600,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 1,600,000	$ -	$ -	$ -	$ -	$ -	$ 1,600,000
Total	$ 1,600,000	$ -	$ -	$ -	$ -	$ -	$ 1,600,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Watermain Valve Replacement and Installation
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: The City's Municipal Water Systems consist of approximately 900km of watermain and approximately 9,000 system valves. The valves allow for appropriate operations and maintenance of the systems as well as isolation of sections of main during connections or repairs. The Water/ Wastewater Asset Management Plan and American Water Works Association (AWWA) Standards provide recommendations for valve exercising (turning) programs which are completed by the City's operations staff. This account is used for the repair or replacement of various inoperable large diameter valves throughout the City, which are detected by the valve turning program or by other means.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 200,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 200,000
Total	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 200,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Distribution Health and Safety Equipment
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: The operations of the Municipal water distribution and sanitary collection systems are regulated by the Ontario Health and Safety Act, and require that high risk / potentially dangerous work is undertaken. The regulations are constantly being improved/updated, and CGS staff are required to update their equipment accordingly. This project is for the purchase of various health and safety equipment required by operations..

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 65,000	$ -	$ -	$ -	$ -	$ -	$ 65,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 65,000	$ -	$ -	$ -	$ -	$ -	$ 65,000
Total	$ 65,000	$ -	$ -	$ -	$ -	$ -	$ 65,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Distribution Support
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: This project provides funding for unforeseen, emergency operational requirements, such as equipment purchase or emergency/urgent system components that exceed the operational budgetary capabilities.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000
Total	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Large Water Meter Replacement
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: A water meter maintenance and replacement program is recommended by the American Water Works Association (AWWA) standards and the City completes its maintenance and replacement accordingly. This project will be used for the maintenance and replacement of aging large diameter water meters. It will also be used to install large diameter water meters to facilitate district metered areas, associated with the leak detection initiative. As well, a new valve will be installed on the trunk watermain associated with the abandonment of the Kingsway Booster Station.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000
Total	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Asset Renewal
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: Our water facilities along with their installed equipment are decades old and will require regular asset renewal in order to keep them operating at a safe level. The project objectives is to replace some of the equipment as needed based on their operating condition and in many cases as a result of failure in order to keep these water facilities operating for their intended use, producing drinking water to the population.

Expenses	2020	2021	2022	2023	2024	Beyond 2024	Total
	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ 150,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ 150,000
Total	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ 150,000

Operating Impact of Capital	2020	2021	2022	2023	2024	Beyond 2024	Total
	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Well Building Repair and Upgrades
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: Greater Sudbury communities outside Sudbury and Coniston have ground water as their drinking water, which is their water source supplied through a series of ground water wells. The project consists of providing upgrades to the buildings and process equipment as recommended in condition assessment reports to keep these wells in good working condition to continue supply potable drinking water to the population and businesses.

Expenses	2020	2021	2022	2023	2024	Beyond 2024	Total
	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000
Total	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000

Operating Impact of Capital	2020	2021	2022	2023	2024	Beyond 2024	Total
	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Well Inspection and Rehabilitation
Project Type: Recommended
Asset Class: Water Infrastructure
Department: Water

Summary: Greater Sudbury communities outside Sudbury and Coniston have ground water as their water source for potable drinking water supplied through a series of ground water wells. The project consist of maintaining the service level of these wells by regularly inspecting and rehabilitating underground infrastructure to keep them producing and pumping water flow at their designed capacity to supply respective population and businesses.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000
Total	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Storage Tank Inspection and Rehabilitation
Project Type: Recommended
Asset Class: Water Infrastructure
Department: Water

Summary: Water storage tanks play a very important role in supplying water demand, fireflows and in maintaining pressure within the water distribution system. These storage tanks and related equipment need be inspected at least once every 3 years to make sure they are still in good working condition and have no impact on water quality. The project consist of structural inspection and implementation of inspections findings.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000
Total	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Water Facilities Condition Assessments
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: The project objective is condition assessment as part of the asset management for city facilities including structural, process, equipment etc. to keep the same or better level of service expected from the City's water facilities to provide safe and potable drinking water to the population and businesses.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ 75,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 345	$ -	$ -	$ -	$ -	$ -	$ 345
Capital Reserves Water	$ 74,655	$ -	$ -	$ -	$ -	$ -	$ 74,655
Total	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ 75,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Water Facilities Health and Safety Upgrades
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: The project objective is to implement health and safety measures as identified in drinking water quality management system, pre-start health and safety, operating equipment manuals and audit safety findings by internal teams or by a third party such as Ministry of Labour, the Ministry of Environment, Technical Standards and Safety Authority, Elelctrical Ssafety Authority etc. to comply with existing health and safety regulations.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ 50,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ 50,000
Total	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ 50,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Automatic Meter Reading Water Meters - Water
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: This specific project line represents the Water contribution for the following:
- the implementation of Advanced Metering Infrastructure (AMI) system that includes the installation of water meters and the supply and installation of sufficient radio frequency transmitters on all residential and commercial accounts
- Software and hardware to facilitate analytical review of both production and consumption data by both customers and water operators
- Asset renewal that will improve water meter accuracy, reduce inefficiencies related to the process of reading water meters enhance service to the City's customer base across the entire water system

This implementation will enhance customer service, create operational efficiencies, and strengthen distribution management.

For the remaining project cost and funding, please see the Wastewater section of the Capital Budget.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 3,550,000	$ 3,550,000	$ 1,425,000	$ -	$ -	$ -	$ 8,525,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000
Capital Reserves Water	$ 2,950,000	$ 3,550,000	$ 1,425,000	$ -	$ -	$ -	$ 7,925,000
Total	$ 3,550,000	$ 3,550,000	$ 1,425,000	$ -	$ -	$ -	$ 8,525,000

Operating Impact of Capital	2020	2021	2022	2023	2024	Beyond 2024	Total
Incremental Operating Costs	$ -	$ -	$ -	$ (684,000)	$ -	$ -	$ (684,000)

2020 Capital Project Details

Project Title: Depot and Public Works Upgrades - Water
Asset Class: Water Infrastructure
Project Type: Recommended
Department: Water

Summary: These funds will be used to complete minor repairs to the Frobisher Depot basement to accommodate Infrastructure Capital Planning staff.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 12,500	$ -	$ -	$ -	$ -	$ -	$ 12,500

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 12,500	$ -	$ -	$ -	$ -	$ -	$ 12,500
Total	$ 12,500	$ -	$ -	$ -	$ -	$ -	$ 12,500

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Lively Sewers - Phase 2 - Wastewater
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: The Lively Sewer Upgrades project will upsize sanitary sewers to facilitate the eventual decommissioning of the Lively Wastewater Treatment Plant and convey flows to the Walden Wastewater Treatment Plant, as recommended by the Lively/Walden Wastewater Class Environmental Assessment Study. This project includes funding to upsize the following sanitary sewers:
- Anderson Drive, from MR24 to Third Avenue
- Third Avenue, North along the creek
- Coronation Boulevard
- Parkside Drive
- 9th Avenue to MR24
- 10th from MR24 to the North East End

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 3,550,000	$ 3,550,000	$ 1,425,000	$ -	$ -	$ -	$ 8,525,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000
Capital Reserves Water	$ 2,950,000	$ 3,550,000	$ 1,425,000	$ -	$ -	$ -	$ 7,925,000
Total	$ 3,550,000	$ 3,550,000	$ 1,425,000	$ -	$ -	$ -	$ 8,525,000

Operating Impact of Capital	2020	2021	2022	2023	2024	Beyond 2024	Total
Incremental Operating Costs	$ -	$ -	$ -	$ (684,000)	$ -	$ -	$ (684,000)

2020 Capital Project Details

Project Title: Gatchell Outfall Sewer
Asset Class: Sewer Infrastructure
Project Type: Previously Approved
Department: Wastewater

Summary: Represents funds previously approved by Council for the Gatchell Outfall Sewer project which is in progress. The environmental assessment study is complete, and detailed design is underway (2019/2020) with construction anticipated in 2020 through 2022.

This project was previously approved in the 2019 Capital Budget, with work in 2020 and 2021. An adjusted cashflow is shown below.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 1,000,000	$ 1,350,000	$ 1,000,000	$ -	$ -	$ -	$ 3,350,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 1,000,000	$ 1,350,000	$ 1,000,000	$ -	$ -	$ -	$ 3,350,000
Total	$ 1,000,000	$ 1,350,000	$ 1,000,000	$ -	$ -	$ -	$ 3,350,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Preliminary Design - Future Projects
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: Consulting fees for preliminary design for future projects, including engineering (preliminary and detailed design), CCTV inspections, geotechnical investigations, surveys, etc. Geotechnical investigations, CCTV inspections and surveys are often required prior to the design commencing, so this request allows the designer to obtain critical information well enough in advance to not negatively impact the project schedule. When the capital outlook is developed, it is unknown if the design will be completed by CGS staff or an external consultant. Once the workplan is developed, some of the designs may be more appropriately completed by external consultants. This project allows the flexibility to retain consultants to complete some or all of the design work, as required.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 200,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 200,000
Total	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ 200,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Sewer Priority Replacement and Rehabilitation
Project Type: Recommended
Asset Class: Sewer Infrastructure
Department: Wastewater

Summary: Detailed design and construction of various watermain replacement or rehabilitation (lining) projects based on recommendations and framework contained in the Water/Wastewater Infrastructure Master Plan and Asset Management Plan, both recently received by Council. The Master Plan provides recommendations for the long term infrastructure needs, based on four primary principles: Safety; Efficiency; Regulatory Requirements; and Development. The priorities are then allocated within the constraints of the City's Water/Wastewater Long-Term Financial Plan and Capital Budget.

The following locations will be completed in 2020:
- Barry Downe Road from Kingsway to Westmount Avenue (construction)
- Dell Street from Notre Dame Avenue to Snowdon Avenue (construction)
- Hyland Drive from Regent Street to Winchester Street (construction)
- Larch Street from Elgin Street to Lisgar Street (design)
- Notre Dame Avenue (Hanmer) from Dominion Drive to Oscar Street (construction)
- Regent Street from Paris Street to Caswell Drive (design)
- Rheal Street from Levesque Street to Estelle Street (design)
- Rita from Wilfred Street to East End (construction)
- Sparks Street from Barry Downe to Roy Avenue (construction)
- Struthers Street from Regent Street to Charlotte Streer (design)
- Will Street from Falconbridge Road to Josephine Street (construction)

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 3,375,000	$ -	$ -	$ -	$ -	$ -	$ 3,375,000

Funding		2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees		$ 2,415,000	$ -	$ -	$ -	$ -	$ -	$ 2,415,000
Federal Grant	Gas Tax	$ 960,000						$ 960,000
	Total	$ 3,375,000	$ -	$ -	$ -	$ -	$ -	$ 3,375,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Sewer with Watermain and Roads
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: This project funding will be used to complete sewermain replacement under bridges and culverts or to accommodate roads or watermain projects in various priority locations in 2020, which are unknown at this time and may develop as new condition assessment information becomes available. Also for the design of such projects.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 42,962	$ -	$ -	$ -	$ -	$ -	$ 42,962

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 42,962	$ -	$ -	$ -	$ -	$ -	$ 42,962
Total	$ 42,962	$ -	$ -	$ -	$ -	$ -	$ 42,962

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Sanitary Sewer Laterals Rehabilitation
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: Council has recently received/endorsed the first iteration of the City's Water/Wastewater Master Plan and Asset Management Plan. The recommendations of these Plans provide guidance for both operational programs and capital projects that will reduce operating and possibly defer capital costs associated with the City's water and wastewater systems. They will also facilitate the City's alignment with the proposed Asset Management Planning Regulation, by the Ministry of Infrastructure. The recommendations include reducing leakage from the water distribution systems and reducing inflow and infiltration from the wastewater systems.

This project is for sanitary sewer lateral repair and/or lining to align with operational priorities or in conjunction with inflow and infiltration reduction efforts.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000
Total	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Sanitary Sewer System Rehabilitation and Repair **Project Type:** Recommended

Asset Class: Sewer Infrastructure **Department:** Wastewater

Summary: This project is for the repair and/or rehabilitation (lining) of existing sanitary sewers using trenchless technologies (where appropriate) to extend the service life, repair deficiencies, and reduce inflow and infiltration. It is also used to pay for the contract administration and inspection of the work, by external consultants. The locations are prioritized based on the City's sanitary sewer condition assessment program and operational concerns. Sanitary sewer lining is a cost effective way to rehabilitate sanitary sewer mains with little impact to traffic when the watermain has previously been lined on the street and/or no other infrastructure work is planned in the area.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 1,225,000	$ -	$ -	$ -	$ -	$ -	$ 1,225,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 1,225,000	$ -	$ -	$ -	$ -	$ -	$ 1,225,000
Total	$ 1,225,000	$ -	$ -	$ -	$ -	$ -	$ 1,225,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Health and Safety Equipment **Project Type:** Recommended

Asset Class: Sewer Infrastructure **Department:** Wastewater

Summary: The operations of the municipal water distribution and sanitary collection systems are regulated by the Ontario Health and Safety Act, and require that high risk/potentially dangerous work is undertaken. The regulations are constantly being improved/updated, and CGS staff are required to update their equipment accordingly. This project is for the purchase of various health and safety equipment required by operations.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ 50,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ 50,000
Total	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ 50,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Sewer Inspection and Maintenance Program
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: The Water/Wastewater Master Plan and Asset Management Plan provide guidance for both operational programs and capital projects that will reduce operating and possibly defer capital costs associated with the City's water and wastewater systems. They also facilitate the City's alignment with the Asset Management Planning Regulation, by the Ministry of Infrastructure. The recommendations include reducing leakage (non-revenue water) from the water distribution systems and reducing inflow and infiltration from the wastewater systems. The specific programs related to these recommendations require funding (approximately $8.5 million over 5 years for the Master Plan and $5.5 million for the Asset Management Plan) as well as resources to accommodate the work.

This project provides funding for the City's on-going sanitary sewer condition assessment program which includes flushing and CCTV of mains and camera inspections of manholes throughout the city to align with the City's W/WW Asset Management Plan.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000
Total	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Lift Station Upgrades
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: The objective of this project is to upgrade lift stations that were identified in the Water Wastewater Master Plan and recommended by operation needs such as Edward, Laundry, and Charette Lift Stations. This will be used for condition assessment, design and equipment upgrades of other lift stations as well as required to keep them operating safely.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 2,000,000	$ -	$ -	$ -	$ -	$ -	$ 2,000,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 2,000,000	$ -	$ -	$ -	$ -	$ -	$ 2,000,000
Total	$ 2,000,000	$ -	$ -	$ -	$ -	$ -	$ 2,000,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: St Charles Lift Station Upgrades
Asset Class: Wastewater Plants and Facilities
Project Type: Previously Approved
Department: Wastewater

Summary: Represents funds previously approved by Council toward the upgrades at the St. Charles Lift Station. The term of the funding commitment is from years 2019 to 2025.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 963,038	$ 963,038	$ 963,038	$ 963,038	$ 963,038	$ 963,038	$ 5,778,228

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 963,038	$ 963,038	$ 963,038	$ 963,038	$ 963,038	$ 963,038	$ 5,778,228
Total	$ 963,038	$ 963,038	$ 963,038	$ 963,038	$ 963,038	$ 963,038	$ 5,778,228

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Annual SCADA/Communication Upgrades
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: The project objective is SCADA asset renewal, hardware and software upgrades to keep existing wastewater facilities operating safely by providing real time operation data. It also involves implementing SCADA systems for facilities that does not have one. This ranges from installation of fiber optic, to instrument sensors such as pressure and level monitors, to operating alarms and PLCs.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000
Total	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Lagoon Upgrades
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: The Ministry of the Environment, Conservation and Parks has raised concerns about effluent phosphorous concentration limits at the Capreol lagoon, as it failed to comply with existing Environmental Compliance Approval effluent limits. In order to comply with regulation, the City has engaged an outside consultant and completed effluent assessment with various options for treatment and/ or remediation. This project includes detailed design, contract administration and construction of the preferred solution as identified in the study. The project objectives are to comply with existing regulations.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ 1,000,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ 1,000,000
Total	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ 1,000,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Facility Building Upgrades
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: Many wastewater facilities buildings are old and their condition requires maintenance to keep them running safely and extend their life cycle as part of the Asset Management Plan. The project objective is to implement upgrades to the building structures and envelopes such as roofs, doors and HVAC systems. Additionally, health and safety measures such as security systems to protect the facilities and employees will be implemented.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000
Total	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Copper Cliff Wastewater System Upgrades
Asset Class: Sewer Infrastructure
Project Type: Previously Approved
Department: Wastewater

Summary: Represents funds previously approved by Council toward the upgrades for the Copper Cliff Wastewater System. The term of the funding commitment is from years 2017 to 2023.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 1,167,684	$ 1,167,684	$ 1,167,684	$ 1,167,684	$ -	$ -	$ 4,670,736

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 1,167,684	$ 1,167,684	$ 1,167,684	$ 1,167,684	$ -	$ -	$ 4,670,736
Total	$ 1,167,684	$ 1,167,684	$ 1,167,684	$ 1,167,684	$ -	$ -	$ 4,670,736

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Sudbury WWTP Headhouse
Asset Class: Wastewater Plants and Facilities
Project Type: Previously Approved
Department: Wastewater

Summary: Represents funds previously approved by Council toward the construction of the headhouse at the Sudbury Wastewater Treatment Plant. The term of the funding commitment is from years 2015 through to 2023.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 462,563	$ 462,563	$ 462,563	$ 462,563	$ -	$ -	$ 1,850,252

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 462,563	$ 462,563	$ 462,563	$ 462,563	$ -	$ -	$ 1,850,252
Total	$ 462,563	$ 462,563	$ 462,563	$ 462,563	$ -	$ -	$ 1,850,252

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Condition Assessment and Recommendations Implementation
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: This project will provide detailed design for the mobile pumping units garage at the Sudbury Wastewater Treatment Plant, and complete condition assessment for Coniston, Levack, and Dowling Wastewater Treatment Plants as part of the asset management implementation strategy.

Expenses	2020	2021	2022	2023	2024	Beyond 2024	Total
	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000
Total	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ 600,000

Operating Impact of Capital	2020	2021	2022	2023	2024	Beyond 2024	Total
Incremental Operating Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Plant and Equipment Upgrades
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: The project will achieve asset renewal of process equipment for wastewater facilities. The mechanical or electrical systems are in need of upgrades to comply with unit operations requirement to keep these wastewater facilities operating safely without impacting public health and safety or the environment. This is in line with asset management implementation strategy.

Expenses	2020	2021	2022	2023	2024	Beyond 2024	Total
	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000
Total	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000

Operating Impact of Capital	2020	2021	2022	2023	2024	Beyond 2024	Total
	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Automatic Meter Reading Water Meters - Wastewater
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: This specific project line represents the Wastewater contribution for the following:
- the implementation of Advanced Metering Infrastructure (AMI) system that includes the installation of water meters and the supply and installation of sufficient radio frequency transmitters on all residential and commercial accounts
- Software and hardware to facilitate analytical review of both production and consumption data by both customers and water operators
- Asset renewal that will improve water meter accuracy, reduce inefficiencies related to the process of reading water meters enhance service to the City's customer base across the entire water system

This implementation will enhance customer service, create operational efficiencies, and strengthen distribution management.

For the remaining project cost and funding, please see the Water section of the Capital Budget.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 3,550,000	$ 3,550,000	$ 1,425,000	$ -	$ -	$ -	$ 8,525,000

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 950,000	$ -	$ -	$ -	$ -	$ -	$ 950,000
Capital Reserves Wastewater	$ 2,600,000	$ 3,550,000	$ 1,425,000	$ -	$ -	$ -	$ 7,575,000
Total	$ 3,550,000	$ 3,550,000	$ 1,425,000	$ -	$ -	$ -	$ 8,525,000

Operating Impact of Capital	2020	2021	2022	2023	2024	Beyond 2024	Total
Incremental Operating Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2020 Capital Project Details

Project Title: Depot and Public Works Upgrades - Wastewater
Asset Class: Sewer Infrastructure
Project Type: Recommended
Department: Wastewater

Summary: These funds will be used to complete minor repairs to the Frobisher Depot basement to accommodate Infrastructure Capital Planning staff.

	2020	2021	2022	2023	2024	Beyond 2024	Total
Expenses	$ 12,500	$ -	$ -	$ -	$ -	$ -	$ 12,500

Funding	2020	2021	2022	2023	2024	Beyond 2024	Total
User Fees	$ 12,500	$ -	$ -	$ -	$ -	$ -	$ 12,500
Total	$ 12,500	$ -	$ -	$ -	$ -	$ -	$ 12,500

	2020	2021	2022	2023	2024	Beyond 2024	Total
Operating Impact of Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2021-2024 Capital Outlook - Water & Wastewater *in thousands*

Capital Project	Capital Outlook 2021	2022	2023	2024
WATER				
WATER DISTRIBUTION				
Watermain Priority Projects				
Lorne Street **Note 1**	600	1,000	2,000	1,900
Preliminary Design for Future Projects - Water	100	200	100	200
Replacement / Relocation of Backyard Watermains	-	-	200	200
Small Diameter Watermain Replacement	-	300	300	300
Watermain Priority Replacement & Rehabilitation	6,750	5,750	4,100	-
Watermain with Sewer & Roads	395	130	1,938	4,967
TOTAL - Watermain Priority Projects	7,845	7,380	8,638	7,567
Watermain Replacement & Rehabilitation				
Water Service Replacement	100	100	100	100
Watermain Air Release Valve Installation & Replacement	100	100	100	100
Watermain Rehabilitation	1,600	1,750	1,750	1,750
Watermain Valve Replacement and Installation	100	100	100	100
TOTAL - Watermain Replacement & Rehabilitation	1,900	2,050	2,050	2,050
Distribution Support				
Distribution Health & Safety Equipment	40	40	40	-
Distribution Support	100	100	100	100
Large Water Meter Replacement	300	300	300	300
Leak Detection Program	75	75	75	75
Valve Inspection & Maintenance	200	200	200	200
TOTAL - Distribution Support	715	715	715	675
Condition Assessment - Watermains				
Watermain Condition Assessment	100	100	100	100
TOTAL - Condition Assessment - Watermains	100	100	100	100
Network Looping				
Burton Avenue Loop	-	-	500	500
Valley Water System Looping	-	-	1,000	1,500
Water System Looping	100	100	100	100
TOTAL - Network Looping	100	100	1,600	2,100
TOTAL - WATER DISTRIBUTION	10,660	10,345	13,103	12,492
WATER PLANTS				
Water Treatment Plants				
Wanapitei Water Treatment Plant Upgrades	175	175	175	175
Water Treatment Plants - Asset Renewal	150	150	150	150
TOTAL - Water Treatment Plants	325	325	325	325
Wells				
Groundwater Monitoring Program - Annual	175	175	175	175
Well Building Repairs & Upgrades	4,750	4,250	4,550	5,435
Well Inspection & Rehabilitation	310	310	310	310
TOTAL - Wells	310	310	310	310
Reservoirs, Tanks & Booster Stations				
Storage Tank Inspection & Rehabilitation	80	500	80	500
TOTAL - Reservoirs, Tanks & Booster Stations	80	500	80	500
System Wide				
Annual SCADA / Communications Upgrades	200	200	200	200
Operating Manuals & As-Builts to Operating	50	50	50	50
Water Facilities Condition Assessments	75	75	75	75
Water Facilities Health & Safety Upgrades	50	50	50	50
TOTAL - System Wide	375	375	375	375
TOTAL - WATER PLANTS	1,090	1,510	1,090	1,510
WATER WORKS GENERAL				
Strategic Initiatives				
Break / Corrosion Protection Study	-	25	-	-
Depot & Public Work Upgrades - Water	13	13	13	13
Master Plan & Asset Management Plan Program	500	500	500	500
Source Protection Plan	50	-	50	-
Strategic Planning	-	-	25	25
Valve Criticality Study	-	50	-	-
TOTAL - WATER WORKS GENERAL	563	588	588	538
TOTAL - WATER	12,312	12,443	14,780	14,540

2021-2024 Capital Outlook - Water & Wastewater *in thousands*

Capital Project	Capital Outlook 2021	2022	2023	2024
WASTEWATER				
WASTEWATER COLLECTION				
Sewer Priority Projects				
Preliminary Design for Future Projects	25	200	25	200
Sewer Priority Replacement & Rehabilitation	3,750	1,200	1,250	-
Lorne Street **Note 1**	550	400	1,200	1,200
Sewer with Watermain & Roads	-	3,821	6,760	9,586
TOTAL - Sewer Priority Projects	4,325	5,621	9,235	10,986
Sewer System Rehabilitation				
Sanitary Sewer System Rehabilitation & Repair	1,325	1,350	1,375	1,600
Sanitary Sewer Laterals Rehabilitation	100	100	100	100
TOTAL - Sewer System Rehabilitation	1,425	1,450	1,475	1,700
Collection System				
Collection Health & Safety Equipment	25	25	25	25
TOTAL - Collection System	25	25	25	25
Condition Assessment - Sewer System				
Sewer Inspection and Maintenance Program	600	600	600	600
TOTAL - Condition Assessment - Sewer System	600	600	600	600
TOTAL - WASTEWATER COLLECTION	6,375	7,696	11,335	13,311
WASTEWATER PLANTS				
Lift Stations				
Lift Station Upgrades	2,900	4,000	4,000	4,000
TOTAL - Lift Stations	2,900	4,000	4,000	4,000
System Wide				
Annual SCADA/Communication Upgrades	250	250	250	250
Lagoon Upgrades	100	100	100	100
Operating Manuals & Facility As-Built Updates	50	50	50	50
Roofing and Fencing Facilities Building Upgrades	30	30	30	30
Wastewater Facilities Condition Assessment	125	125	125	125
Wastewater Facilities Health & Safety Upgrades	50	50	50	50
Wastewater Facilities Security Improvements	50	50	50	50
TOTAL - System Wide	655	655	655	655
Wastewater Treatment Plants				
Plant and Equipment Upgrades	700	750	750	750
Plant Effluent Compliance with Regulation	100	100	100	100
TOTAL - Wastewater Treatment Plants	800	850	850	850
TOTAL - WASTEWATER PLANTS	4,355	5,505	5,505	5,505
WASTEWATER WORKS GENERAL				
Strategic Initiatives				
Depot & Public Work Upgrades - Wastewater	13	13	13	13
TOTAL - WASTEWATER WORKS GENERAL	13	13	13	13
TOTAL - WASTEWATER	10,743	13,214	16,852	18,828

Note 1 - These projects can also be found in the Business Case section for Council consideration.