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The Regional Municipality of Durham Report

To: Finance and Administration Committee
From: Commissioner of Finance
Report: #2021-F-34
Date: December 14, 2021

Subject:

2022 Business Plans and Budget and Nine Year Capital Forecast for the Consolidated Water Supply and Sanitary Sewerage Systems

Recommendations:

That the Finance and Administration Committee recommends to Regional Council:

- A) That the 2022 Business Plans and Budgets for the Water Supply System, with a total gross expenditure of \$200.3 million (net user rate supported expenditure of \$118.2 million) and related financing as set out below, be approved:

	2021 Gross Budget (\$ 000's)	2022 Gross Budget (\$ 000's)	Variance Incr/(Decr) (\$ 000's)
EXPENDITURES			
Operations:			
Watermain Cleaning and Repairs	3,691	3,545	(146)
Valves and Hydrants	3,042	3,255	213
Water Connections	4,281	4,725	444
Water Meter Repair and Testing	562	594	32
Depot Operations	6,163	6,220	57
Water Supply Plants - Plants East	3,368	3,332	(36)
Water Supply Plants - Plants Central	14,226	14,601	375
Water Supply Plants - Plants North	2,882	3,011	129
Sun Valley Co-Operative Water System	29	30	1
Engineering and Staff Support	7,835	8,293	458
Facilities Management	7,514	8,184	670
Administration	335	342	7
Headquarters Shared Costs	1,125	1,153	28
Utility Finance	3,449	3,552	103
Share of Regional Corporate Costs	12,534	13,043	509
Subtotal Operations	71,036	73,880	2,844
Capital/Debt Charges:			
TCA Capital	4,905	6,812	1,907
Construction of Municipal Services	76,337	118,304	41,967
Debt Charges	1,311	1,312	1
Subtotal Capital/Debt Charges	82,553	126,428	43,875
TOTAL EXPENDITURES	153,589	200,308	46,719
FINANCING			
Contributions from Reserve Funds:			
Residential Development Charges - Growth Related Capital	26,536	63,793	37,257
Commercial Development Charges - Growth Related Capital	714	2,420	1,706
Industrial Development Charges - Growth Related Capital	1,460	1,607	147
Industrial Development Charges - Debt Charges	415	415	-
Institutional Development Charges - Debt Charges	22	22	-
Water Rate Stabilization Reserve Fund	-	4,265	4,265
Asset Management Reserve Fund	5,486	5,623	137
Servicing of Employment Lands	250	500	250
Equipment Replacement Reserve	-	63	63
Fees and Service Charges	3,185	3,240	55
Financing From Others:			
Federal Grant	-	67	67
Financing From Non-User Revenue Sources	38,068	82,015	43,947
User Revenues Financing (including frontage charges)	115,521	118,293	2,772
TOTAL FINANCING	153,589	200,308	46,719

B) That the Nine Year Capital Forecast for 2023 to 2031 inclusive, in the amount of \$1.4 billion as detailed in the Water Supply System Capital Budget, be received for information;

- C) That the 2022 Current and Capital Business Plans and Budgets for the Sanitary Sewerage System with a total gross expenditure of \$273.6 million (net user rate supported expenditure of \$117.5 million) and related financing as set out below, be approved:

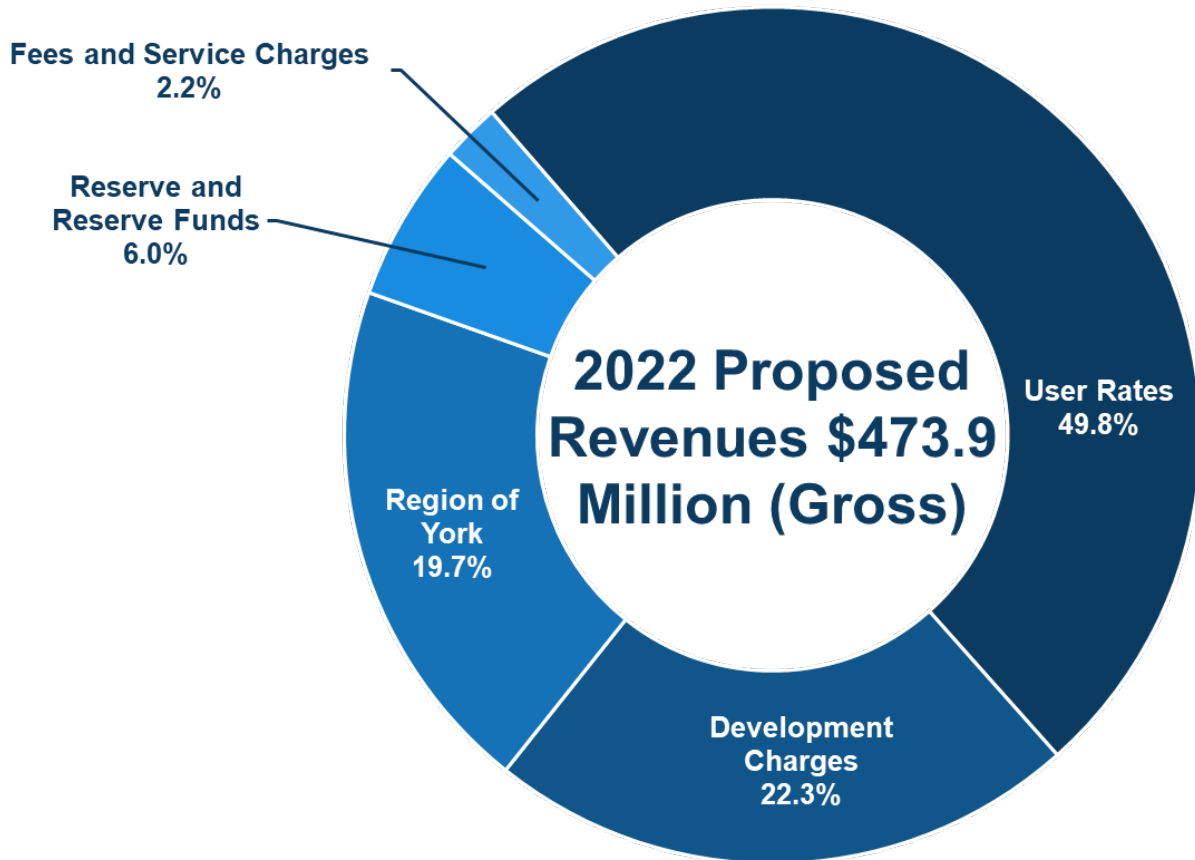
<u>EXPENDITURES</u>	2021 Gross Budget (\$ 000's)	2022 Gross Budget (\$ 000's)	Variance Incr/(Decr) (\$ 000's)
Operations:			
Cleaning, Repairs and Maintenance Holes	2,143	2,188	45
Sewer Connections	3,418	3,567	149
Depot Operations	3,407	3,492	85
WPCPs and Pumping Stations	25,496	25,240	(256)
Duffin Creek WPCP	38,043	38,399	356
Regional Environmental Laboratory	3,083	3,213	130
Engineering and Staff Support	7,461	8,076	615
Facilities Management	8,595	9,516	921
Administration	338	345	7
Headquarters Shared Costs	1,125	1,153	28
Utility Finance	3,450	3,552	102
Share of Regional Corporate Costs	15,783	16,436	653
Subtotal Operations	112,342	115,177	2,835
Capital/Debt Charges:			
Duffin Creek WPCP - TCA Capital	1,767	3,044	1,277
Regional Environmental Lab - TCA Capital	196	1,057	861
TCA Capital	2,536	4,804	2,268
Construction of Municipal Services	92,418	136,460	44,042
Debt Charges	14,482	13,028	(1,454)
Subtotal Capital/Debt Charges	111,399	158,393	46,994
TOTAL EXPENDITURES	223,741	273,570	49,829
FINANCING			
Contributions from Reserve Funds:			
Residential Development Charges - Growth Related Capital	22,581	25,703	3,122
Residential Development Charges - Debt Charges	8,103	7,836	(267)
Commercial Development Charges - Growth Related Capital	1,455	2,341	886
Commercial Development Charges - Debt Charges	873	820	(53)
Industrial Development Charges - Growth Related Capital	1,707	192	(1,515)
Industrial Development Charges - Debt Charges	532	532	-
Institutional Development Charges - Debt Charges	8	8	-
Sanitary Sewer Rate Stabilization Reserve Fund	-	7,632	7,632
Asset Management Reserve Fund	9,049	9,275	226
Servicing of Employment Lands	968	503	(465)
Equipment Replacement Reserve	-	44	44
Regional Environmental Lab Equipment Replacement Reserve	160	750	590
Fees and Service Charges	6,870	7,044	174
Financing From Others:			
Federal Grant	15	27	12
Region of York - TCA	1,387	2,505	1,118
Region of York - Construction of Municipal Services	14,285	60,883	46,598
Oversizing Costs Related to Seaton/Federal Lands	14,792	-	(14,792)
Region of York - Operating	29,142	29,488	346
Region of York Environmental Lab Operations	441	456	15
Financing From Non-User Revenue Sources	112,368	156,039	43,671
User Revenues Financing (including frontage charges)	111,373	117,531	6,158
TOTAL FINANCING	223,741	273,570	49,829

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- D) That the Nine Year Capital Forecast for 2023 to 2031 inclusive, in the amount of \$1.8 billion as detailed in the Sanitary Sewerage System Capital Budget, be received for information;
 - E) That capital project approval be granted for expenditures and financing for the 2022 capital projects detailed in the 2022 Capital Project Appendices within the 2022 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget, where contract awards are compliant with the Regional Budget Management Policy; and
 - F) That the necessary By-laws with respect to the 2022 Current and Capital Business Plans and Budgets for the Consolidated Water Supply and Sanitary Sewerage Systems be presented to Regional Council.
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Report:**1. Overview of Recommended 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets**

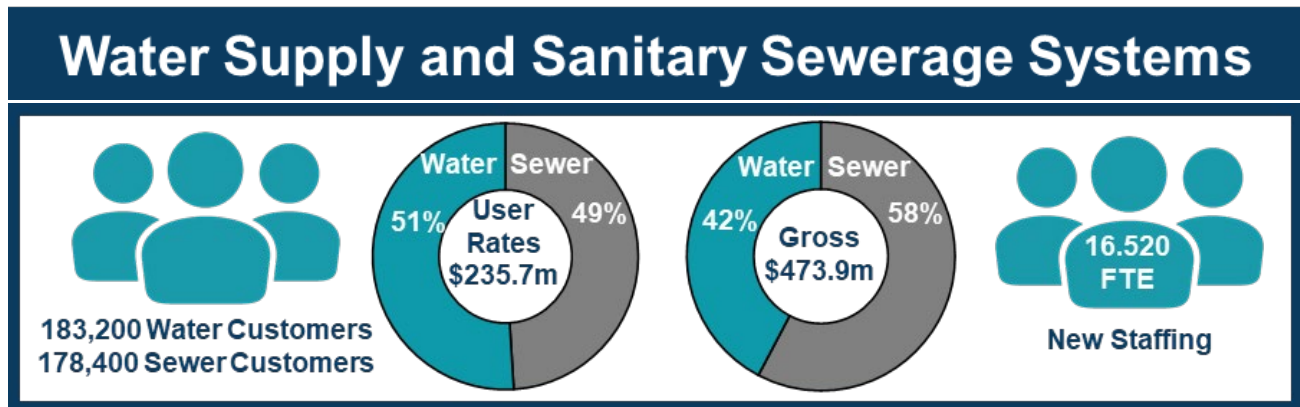
- 1.1 The consolidated gross 2022 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget at \$473.9 million (\$200.3 million water and \$273.6 million sewer) are included for approval and for recommendation to Regional Council on December 22, 2021. The recommended budgets require a total of \$235.7 million in user rate revenue (\$118.2 million water and \$117.5 million sewer), consistent with the proposed water and sewer user rate increase of 1.8 per cent overall (0.5 per cent for water and 3.1 per cent for sewer).
- 1.2 The 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets, with a proposed overall user rate increase of 1.8 per cent, provides for a number of base budget pressures and non-discretionary items. These investments are required for the continued operations of the water supply and sanitary sewerage systems in compliance with regulatory performance requirements. Strategic investments are proposed to advance new infrastructure and operations in response to growth pressures; address critical renewal and replacement of capital infrastructure maintaining water and sewer assets in a state of good repair in alignment with asset management best practices; and realize the achievement of the Region's climate change mitigation and adaptation targets.

1.3 The following pie chart provides greater detail on the financing of the \$473.9 million 2022 Consolidated Water Supply and Sanitary Sewerage Systems Budget.



1.4 The 2022 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget, as recommended in this report, reflect the financial parameters of the proposed user rate increase (Report #2021-F-35).

2. Highlights of the 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets



Services:

Water Supply System

- Maintain and operate the Region's linear water distribution system in an efficient and cost effective manner for the Region's approximately 183,200 customers.
- Maintain all systems to meet regulations to ensure safe drinking water supply is delivered to customers.
- Plan, design, construct and operate water supply infrastructure.

Sanitary Sewerage System

- Maintain and operate the Region's Sewage Collection Systems to ensure safe and efficient treatment of effluent for the Region's approximately 178,400 customers.
- Maintain all systems to meet regulations to ensure the protection of the water environment.
- Plan, design, construct and operate sanitary sewerage infrastructure.

Utility Finance

- Set-up, maintain and issue over 750,000 billings for customer accounts related to water and sanitary sewerage. Receive, deposit and record approximately 790,000 water and sanitary sewer payments.
- Provide customer services to water and sanitary sewer customers, including responding to over 90,000 annual telephone inquiries and 46,000 annual emails.
- Obtain water meter readings associated with residential and non-residential customer accounts, as well as investigating and assisting customers to identify water consumption problems.

2021 Accomplishments:

Regional water supply and sanitary sewerage systems continue to provide safe drinking water and protect the water environment. Quality and environmental management systems support and integrate operations to meet regulatory performance requirements.

- 0 Boil Water Advisory days.
- 99.9 per cent compliance of drinking water test results.
- No sanitary sewage by-pass events.
- 100 per cent compliance of wastewater effluent results to protect the water environment.
- Cochrane Street Sanitary Sewage Pumping Station Odour Control Upgrades Whitby – construction commenced with completion target of January 2023.
- Courtice Sanitary Trunk Sewer on Townline Road from Coldstream Drive to Beatrice Street, Oshawa/Clarington – construction commenced with completion target of July 2022.
- Mulberry Lane Sanitary Sewage Pumping Station and Forcemain, Pickering – construction commenced with completion target of March 2023.
- Liverpool Road Sanitary Sewage Pumping Station Generator Replacement, Pickering – detailed design complete, construction commence work order January 2022 with completion target of August 2024.
- Cannington Water Supply System New Well and Pumphouse with Standby Power, Brock – detailed design complete, tender in progress and construction commencement in 2022.
- Launched monthly billing for the largest industrial, commercial and institutional water supply and sanitary sewerage customers to better understand customer requirements and support long-term planning.
- Expanded customer enrollments in MyDurhamWater to 28,000 (approximately 15 per cent of total customers), with 11,000 customers choosing the paperless e-billing option.

Operating and Staffing:

- The proposed 2022 Operating Business Plans and Budgets for Water Supply and Sanitary Sewerage is \$189.1 million (Water \$73.9 million, Sewer \$115.2 million).
- The following is a summary of the operating priorities and pressures:
 - Annualization of 7.956 FTE positions approved in 2021.
 - Additional snow removal and salting to respond to changing weather patterns.

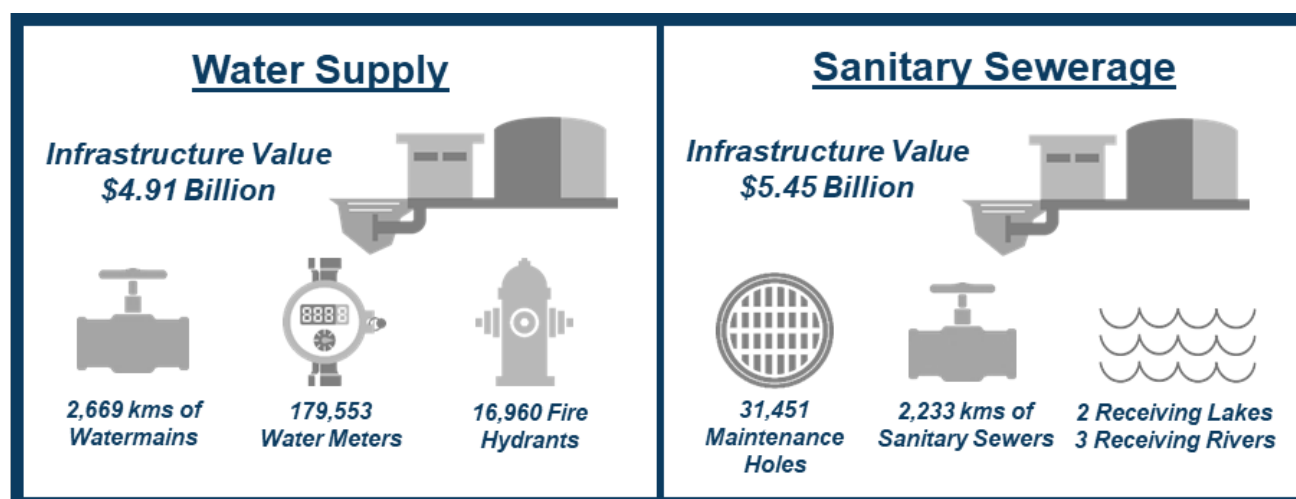
- Professional services to support environmental and sustainability services, technical depot administration, asset management and cyber security activities.
- Additional training to maintain legislative requirements and use new technology.
- Implementation of the integrated water SCADA system from which all the water systems throughout the Region are monitored and controlled 24/7/365.
- Data management modernization continues at Duffin Creek Water Pollution Control Plant with a focus on solids management operations in 2022. A similar data management modernization continues to be phased in the Plant Operations division for water supply and sanitary sewerage service areas.
- Implementation of the Enterprise Maintenance Management System is ongoing. Plant operations and infrastructure maintenance groups will be going live on the new system, Maximo, in the spring of 2022. Investment from the 2022 Water Supply and Sanitary sewerage budget includes staffing support, project implementation costs, licensing and cloud hosting fees.
- Ongoing investment in the modernization of the Region's Business Planning and Budget process, including system modernization.
- Continued enhancements to water billing software to support meter reading activities.
- A total of 16,520 new full time equivalent positions are proposed at a 2022 cost of \$1.15 million, or \$2.10 million annualized, for the Water Supply and Sanitary Sewerage Systems share. A portion of these costs are allocated at varying levels to capital projects. The details on these proposed positions are located in the Detailed Consolidated 2022 Business Plans and Budget for Water Supply and Sanitary Sewerage Systems available on-line through the link provided on the December 22, 2021 Finance and Administration Committee agenda. The following provides a high level summary of these proposed positions:
 - Service Improvements (0.634 FTEs) – supporting modernization of depot operations by introducing technology and process improvements;
 - State of Good Repair/Growth (13.586 FTEs) – addressing increased project volumes to advance asset management objectives, reducing GHG emissions and addressing Regional infrastructure growth; and
 - Strategic Priorities (2.300 FTEs) – implementing system improvements to enhance service excellence and establishing in-house expertise for water quality planning and analysis.

Risks, Uncertainties and Future Pressures:

- Potential for reduction in water usage with more individuals returning to work and school with the continued recovery from the COVID-19 pandemic. Lower residential water usage will result in lower revenue, without an equal corresponding cost reduction.
- Impacts of price volatility for input commodities including energy and chemicals.
- Changes in local market demands for engineering and construction services can impact industry capacity for infrastructure projects.
- Growth across the Region, including development of several new communities in Seaton, West Whitby, North Oshawa, Bowmanville and Newcastle Village, that will increase the demand for services to support residents and businesses as well as the operational and maintenance requirements for Regional infrastructure.
- Asset management program investment requirements to replace aging and failing infrastructure which has reached or passed the end of its useful life.
- Impact of climate change on water and sanitary sewer systems infrastructure investment levels. Changing and unpredictable weather patterns impacting treatment operations as well as preventative and reactive maintenance activities for the regional water supply and sanitary sewerage linear infrastructure network.
- Annualization of new positions proposed in 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets will result in a \$942k pressure (\$529k Water Supply and \$413k Sanitary Sewerage) in the 2023 Business Plans and Budgets.
- Financial impact of works needed to comply with Provincial and Federal Regulatory requirements associated with the Region's water supply and water pollution control plants (i.e. the *Clean Water Act*, and the *Lake Simcoe Protection Act*). The following are legislative and regulatory changes and reviews that staff continue to monitor closely due to their potential impacts on water supply and sanitary sewerage services:
 - The Ministry of the Environment, Conservation and Parks (MECP) is planning a review of the Lake Simcoe Protection Plan which may require future capital or operational changes to water pollution control plants in the Lake Simcoe watershed.
 - Changes in Industry Canada regulations related to radio communications which are anticipated to impact the Region's SCADA system.
 - Innovation, Science and Economic Development Canada (ISED) is reviewing potential adjustments to the radio frequencies that the Region currently uses for SCADA communications. If the proposed adjustments are made, modifications to the Region's Wide Area Network base to a new frequency will be required, resulting in significant changes to equipment at Regional facilities.

- Perfluoroalkyl (PFAS) substances are an emerging regulatory concern in Canada and the United States of America. The sources of PFAS substances can originate from fire-fighting foams, consumer products, packaging, landfills and industrial processes. The regulatory requirements for drinking water are developing. There is currently considerable variation in the magnitude of guidelines between regulatory agencies due in part to the limited data available on the substances.
- The MECP has undertaken a modernization of the Environmental Compliance Approval process which may impact capital and operating costs for Regional facilities.

3. 2022 Capital Budget and 2023 – 2031 Capital Forecast and Financing Plan



3.1 The 2022 and Nine Year Water Supply and Sanitary Sewerage Capital Forecast (2023 – 2031) is approximately \$3.47 billion (approximately \$1.56 billion for water supply and \$1.91 billion for sanitary sewerage) as outlined in Table One.

Table One
Water Supply and Sanitary Sewerage Total Capital Forecast and Preliminary Financing Plan

Water Supply (\$,000's)	Proposed			Forecast			Total
	2022	2023	2024	2025	2026	2027-2031	2023-2031
Capital Expenditures							
Linear Infrastructure	43,668	118,859	80,027	49,998	93,920	186,180	528,984
Building & Structures	64,013	123,070	72,604	264,402	29,851	294,465	784,392
Machinery & Equipment	11,496	13,354	15,605	14,615	5,686	13,436	62,696
Information Technology Infrastructure	1,293	6,710	34	2,534	5,045	142	14,465
Vehicles	334	198	55	55	25	195	528
Furniture and Fixtures	88	29	20	13	13	42	117
Allowances & Other Provisions	4,225	5,116	3,425	4,025	4,425	24,875	41,866
Capital Expenditures Subtotal	125,117	267,336	171,770	335,642	138,965	519,335	1,433,048

Capital Financing							
Development Charges	67,820	154,907	50,954	51,657	36,175	78,689	372,382
Reserve Fund - Asset Management	5,623	13,458	5,907	6,455	6,716	33,276	65,812
Reserve Fund - Water Rate Stabilization	4,265	27,349	9,734	75,883	-	-	112,966
Reserve - Equipment Replacement	63	30	30	30	-	120	210
Reserve Fund - Servicing of Employment Lands	500	2,384	-	1,600	-	-	3,984
Developer Contributions	-	-	7,000	209	-	73,973	81,182
Subsidy/Grant	67	-	-	-	-	-	-
Debentures - DC Funded	-	10,000	38,068	129,097	20,000	64,505	261,670
User Rate	46,779	59,208	60,077	70,711	76,074	268,772	534,842
Capital Financing Subtotal	125,117	267,336	171,770	335,642	138,965	519,335	1,433,048

Sanitary Sewerage (\$,000's)	Proposed			Forecast			Total
	2022	2023	2024	2025	2026	2027-2031	2023-2031
Capital Expenditures							
Linear Infrastructure	26,299	167,565	54,124	87,338	35,252	390,095	734,374
Building & Structures	20,715	49,804	123,404	39,730	201,400	280,450	694,788
Machinery & Equipment	91,956	115,634	12,917	113,709	3,231	42,886	288,377
Information Technology Infrastructure	3,022	971	1,803	2,177	464	2,095	7,510
Vehicles	409	655	55	55	25	195	985
Furniture and Fixtures	88	32	16	16	16	59	139
Allowances & Other Provisions	2,875	5,595	3,625	4,425	4,325	21,375	39,345
Capital Expenditures Subtotal	145,364	340,256	195,944	247,450	244,713	737,155	1,765,518

Capital Financing							
Development Charges	28,236	74,465	39,914	31,501	29,437	63,747	239,064
Reserve Fund - Asset Management	9,275	13,832	19,377	14,988	10,500	55,160	113,857
Reserve Fund - Environmental Lab	750	-	-	-	-	-	-
Reserve Fund - Sewer Rate Stabilization	7,632	83,495	21,288	28,360	60,771	-	193,914
Reserve Fund - Servicing of Employment Lands	502	843	3	571	3	1,777	3,197
Reserve - Equipment Replacement	44	30	30	30	-	120	210
Recovery from York	63,388	90,889	2,070	97,306	1,740	260,965	452,970
Subsidy/Grant	26	-	-	-	-	-	-
Debentures - DC Funded	-	35,203	71,439	12,118	83,185	-	201,945
User Rate	35,511	41,499	41,823	62,576	59,077	355,386	560,361
Capital Financing Subtotal	145,364	340,256	195,944	247,450	244,713	737,155	1,765,518

4. Proposed 2022 Water Supply and Sanitary Sewerage Capital Budget and Financing

2022 Water Supply and Sanitary Sewerage Capital Budgets

- 4.1 The proposed 2022 Water Supply (\$125.1 million) and Sanitary Sewerage (\$145.4 million) Capital Budgets:
- a) Invest in new infrastructure to address anticipated growth;
 - b) Reflect advancement of Council's strategic investments in water supply and sanitary sewer infrastructure to pre-service designated employment areas (see [Report 2021-W-51](#) for a detailed update on the projects related to employment lands servicing);
 - c) Address infrastructure rehabilitation, renewal and replacement requirements based on an asset management approach;
 - d) Ensure regulatory compliance;
 - e) Invest in infrastructure addressing climate change mitigation and adaptation; and,
 - f) Allow all capital projects ready for construction to proceed.
- 4.2 More specifically the proposed 2022 Water Supply and Sanitary Sewerage Capital Budgets provide for:
- a) Planning, detailed design and construction of 11.1 kilometres of linear pipe and six vertical facilities as identified within the Asset Management Plan;
 - b) Planning, detailed design and construction of 9.2 kilometres of linear pipe in co-ordination with Regional and Municipal road programs;
 - c) Phased regulator works to continue related Technical Standards and Safety Authority (TSSA) fuel tank replacement/upgrades in 2022/2023; and
 - d) Initiating a three-year project starting in 2022 to retrofit existing water meters with radio frequency remote reading devices (RF) to minimize manual meter readings. The total estimated cost of this initiative over the three-year period is \$10.0 million and is proposed to be funded from the Water Rate Stabilization Reserve Fund. This is a significant enhancement from a customer service perspective and has been much anticipated as it builds on the improvements achieved through the implementation of the MyDurhamWater project.
- 4.3 A full listing of the proposed 2022 capital projects and associated financing are included in the proposed 2022 Consolidated Water Supply and Sanitary Sewerage Business Plans and Budgets.

Addressing Asset Management Renewal Needs and Climate Considerations

- 4.4 Based on the most recent asset management data, there are approximately \$17.5 million of water linear assets in very poor condition, and \$29.6 million in poor condition. The proposed 2021 Water Supply Capital Budget includes \$18.5 million in linear betterments and replacements (watermains, valves, connections), to address those assets in various conditions with differing risk profiles, and based on the ability to achieve access as part of Regional Road, Municipal Road, and Ministry of Transportation Ontario (MTO) projects. In addition, there is also \$5.5 million included for other linear replacements such as water meters and hydrants.
- 4.5 For Water Supply buildings and plant equipment (vertical assets), there is approximately \$9.8 million included in the proposed 2022 Water Supply Capital Budget to address asset management needs.
- 4.6 Based on the most recent asset management data, there is approximately \$21.6 million in sanitary sewerage linear assets that are in very poor condition and \$59.8 million in poor condition. The proposed 2022 Sanitary Sewerage Capital Budget includes \$8.2 million to address the priority sewer linear assets.
- 4.7 For Sanitary Sewerage buildings and plant equipment (vertical assets), there is approximately \$89.3 million included in the proposed 2022 Sanitary Sewerage Capital Budget to address asset management needs.

Proposed 2022 Water Supply and Sanitary Sewerage Capital Financing

- 4.8 The proposed 2022 water supply and sanitary sewerage capital financing is achievable and relies on:
- a) The proposed overall user rate increase of 1.8 per cent;
 - b) The use of \$96.1 million in upfront Residential, Commercial and Industrial Development Charges required to support the 2022 Water and Sanitary Sewerage Capital Programs, this is an increase of \$41.6 million (76.4%) from the approved 2021 budget;
 - c) The use of \$5.6 million in water asset management reserve fund financing and \$9.3 million in sanitary sewerage asset management reserve fund financing which represents an increase of \$0.4 million from the approved 2021 budget;
 - d) The use of \$4.3 million in water rate stabilization reserve funds and \$7.6 million in sewer rate stabilization reserve funds. There were no contributions from the water rate stabilization reserve fund or the sewer rate stabilization reserve fund approved in the 2021 budget;
 - e) The use of \$0.5 million in water servicing of employment lands reserve funds and \$0.5 million in sewer servicing of employment lands reserve funds; and,
 - f) No proposed debenture financing.

5. Capital Forecast and Preliminary Financing Plan

- 5.1 The Water Supply and Sanitary Sewerage Capital Forecast program (2023-2031) is based on servicing forecasted growth, addressing ongoing renewal, replacement and repair needs of existing infrastructure based on an asset management approach, and ensuring continued compliance with regulatory requirements.
- 5.2 There are a number of development areas being planned and implemented within each municipality. The proposed Water Supply and Sanitary Sewerage Capital Budget and Forecast identifies the required servicing infrastructure for the designated urban areas. Regional staff continue to monitor the use of major water supply and sanitary sewage infrastructure to plan major infrastructure expansions, system capacity and reliability to service growth.
- 5.3 The 2023-2031 capital program also includes major building expansions for both the water supply system and the sanitary sewage system including:

Water

- a) Zone 1 feedermain on Lambs Road from Highway 2 (King Street) to Zone 1 Liberty Street Reservoir, Bowmanville
- b) Zone 4 feedermain from Proposed Zone 4 Water Pumping Station at Harmony Reservoir to Proposed Oshawa Zone 4 Reservoir, Oshawa
- c) Zone 4 feedermain from Thickson Road Zone 4 Water Pumping Station to Zone 4 Reservoir, Whitby
- d) Alternative Water Supply Source, Scugog
- e) Beaverton Water Supply Plant Expansion, Brock
- f) Bowmanville Water Supply Plant Expansion
- g) Ajax Water Supply Plan Expansion
- h) Whitby Water Supply plant Expansion
- i) Proposed Oshawa zone 4 Water Storage Facility
- j) Proposed Whitby Zone 4 Storage Facility
- k) Proposed Zone 2 1 Reservoir, Clarington

Sewer

- a) Courtice Trunk Sanitary Sewer (Phases 4 through 6)
- b) Expansion of the Corbett Creek Water Pollution Control Plant
- c) Expansion of the Courtice Water Pollution Control Plant
- d) Expansion of the Conlin Road Sanitary Sewage Pumping Station
- e) Expansion of the Harmony Creek Sanitary Sewage Pumping Station

- 5.4 The Region's ongoing and continuous asset management process analyzes asset data that informs the annual business plans and budgets of infrastructure requirements, which is critical to ensure sound and timely investments are made to maintain the Region's existing assets at a level to meet service delivery expectations and minimize the cost of assets over their lifecycles.
- 5.5 A robust long-term preliminary financing plan was developed for the nine year water supply and sanitary sewerage capital forecast that uses:
- a) Growth projections to forecast future DC receipts and revenues available to finance the growth-related capital projects in the forecast program;
 - b) Reserve funds (e.g. water and sewer rate stabilization, asset management, and servicing of employment lands reserve funds) to finance the major capital projects and those projects required for asset management reasons without unduly placing pressure on user rate payers and potentially reducing the need for debt and saving the Region debt interest financing costs;
 - c) Debt where feasible for large plant expansions which are projected to have development charge shortfalls;
 - d) Gradual and smooth annual increases in user rate revenues that are financially sustainable and affordable; and
 - e) Financial planning policies as approved in the Region's Long-Term Financing Planning Framework.
- 5.6 The resultant long-term preliminary financing plan (sources and timing of funding) is summarized in Table One above.

Opportunities to Use Reserve Funds

- 5.7 As shown in Table One, there are years where expenditures are significant due to large plant expansion projects and rehabilitation projects. In accordance with the Long-Term Financial Planning Framework, the preliminary financing plan incorporates the sustainable use of the water rate stabilization reserve fund, sewer rate stabilization reserve fund and asset management reserve funds for these large projects. Application of funding from these reserves and consideration of future debenture financing will allow these projects to proceed when required.
- 5.8 The following provides a summary of the proposed use of reserve fund financing and Development Charges for 2022 and the 2023 to 2031 forecast period based on the 2022 to 2031 capital forecast and financing strategy.
- a) Development Charges - Water
 - Proposed 2022 – Capital Program - \$67.8 million
 - Proposed 2022 – Debt Servicing Costs - \$0.4 million
 - 2023 to 2031 Capital Forecast – Capital Program - \$372.4 million
 - 2023 to 2031 Capital Forecast – Debt Servicing Costs - \$146.4 million

- b) Development Charges - Sewer
 - Proposed 2022 – Capital Program - \$28.2 million
 - Proposed 2022 – Debt Servicing Costs - \$9.2 million
 - 2023 to 2031 Capital Forecast – Capital Program - \$239.1 million
 - 2023 to 2031 Capital Forecast – Debt Servicing Costs - \$176.6 million
- c) Water Asset Management Reserve Fund
 - Proposed 2022 – Capital Program - \$5.6 million
 - 2023 to 2031 Capital Forecast – Capital Program - \$65.8 million
- d) Sewer Asset Management Reserve Fund
 - Proposed 2022 – Capital Program - \$9.3 million
 - 2023 to 2031 Capital Forecast – Capital Program - \$113.9 million
- e) Water Servicing of Employment Lands
 - Proposed 2022 - \$0.5 million
 - 2023 to 2031 Capital Forecast – Capital Program - \$4.0 million
- f) Sewer Servicing of Employment Lands
 - Proposed 2022 - \$0.5 million
 - 2023 to 2031 Capital Forecast – Capital Program - \$3.2 million
- g) Water Rate Stabilization Reserve Fund
 - Proposed 2022 - \$4.3 million
 - 2023 to 2031 Capital Forecast – Capital Program - \$113.0 million
- h) Sewer Rate Stabilization Reserve Fund
 - Proposed 2020 - \$7.6 million
 - 2023 to 2031 Capital Forecast – Capital Program - \$193.9 million

5.9 The use of these reserve funds will be considered on an annual basis as part of the Region's long-term financial planning process with recommended draws presented to Regional Council through the annual Water Supply and Sanitary Sewerage Capital Budgets. This capital forecast projects significant usage of reserve funds over the ten year window. Of particular note, current balances of the Water Rate Stabilization Reserve Fund and the Sewer Rate Stabilization Reserve fund will be essentially fully utilized and significant Development Charges utilization will occur to accommodate the forecasted growth as discussed further below.

Potential Debt Financing Requirements and Considerations

5.10 Achieving the forecasted capital program and smoothing out the pressures on the user rate revenues as best as possible will also require the issuance of debt financing for large capital projects where there is an anticipated shortfall in the Residential and Commercial DC receipts.

5.11 The 2023 to 2031 capital forecast, outlined in Table One, identifies the potential to issue approximately \$463.6 million in debenture financing (\$261.7 million for Water Supply and \$201.9 million for Sanitary Sewerage). Table Two details the debt servicing costs and associated financing based on the current outstanding debt and the projected new debt contemplated in the 2023 to 2031 capital forecast.

Table Two
Consolidated Water Supply and Sanitary Sewerage – Debt Servicing Costs

Water Supply (\$,000's)	Proposed		Forecast				Total
	2022	2023	2024	2025	2026	2027-2031	2023-2031
Capital Expenditures							
Existing Debenture Payments	1,312	1,312	1,313	1,312	1,313	6,561	11,810
Future Debenture Payments			963	4,631	17,068	119,835	142,498
Capital Expenditures Subtotal	1,312	1,312	2,276	5,943	18,381	126,396	154,308

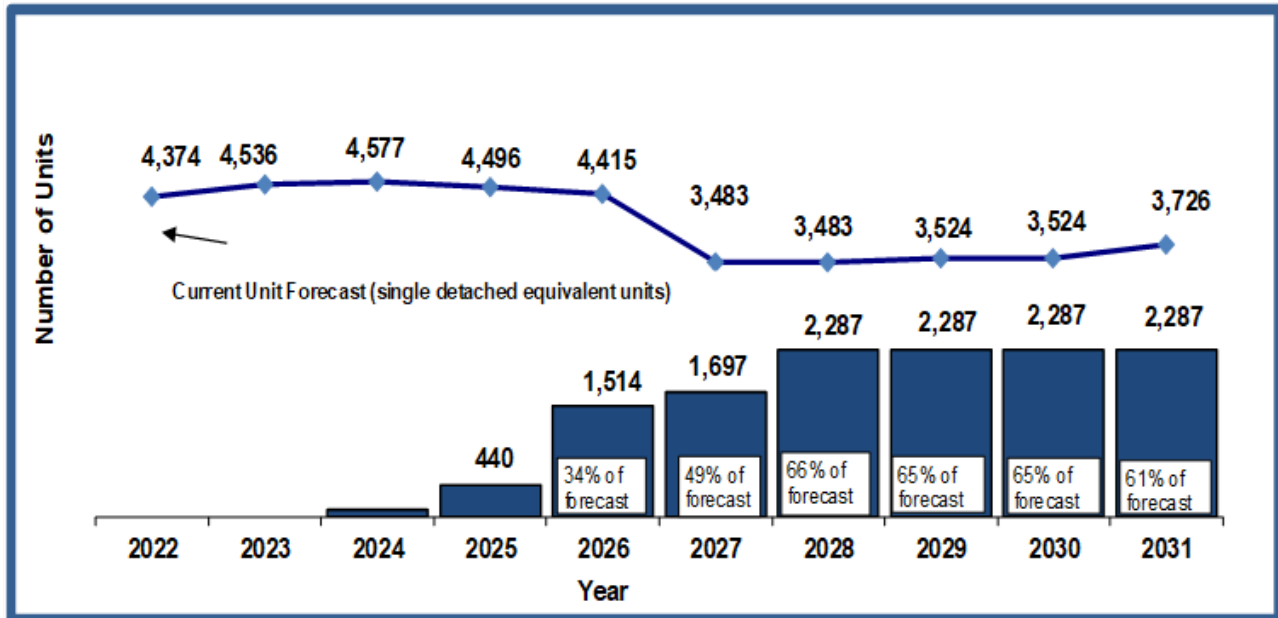
Capital Financing							
Development Charges	437	437	1,401	5,068	17,506	122,021	146,433
User Revenue	875	875	875	875	875	4,375	7,875
Capital Financing Subtotal	1,312	1,312	2,276	5,943	18,381	126,396	154,308

Sanitary Sewerage (\$,000's)	Proposed		Forecast				Total
	2022	2023	2024	2025	2026	2027-2031	2023-2031
Capital Expenditures							
Existing Debenture Payments	13,028	12,201	11,548	11,362	11,359	23,318	69,788
Future Debenture Payments			3,391	10,274	11,442	97,279	122,386
Capital Expenditures Subtotal	13,028	12,201	14,939	21,636	22,800	120,597	192,174

Capital Financing							
Development Charges	9,196	9,196	12,459	19,339	20,504	115,120	176,618
User Revenue	3,832	3,005	2,481	2,297	2,297	5,478	15,557
Capital Financing Subtotal	13,028	12,201	14,939	21,636	22,800	120,597	192,174

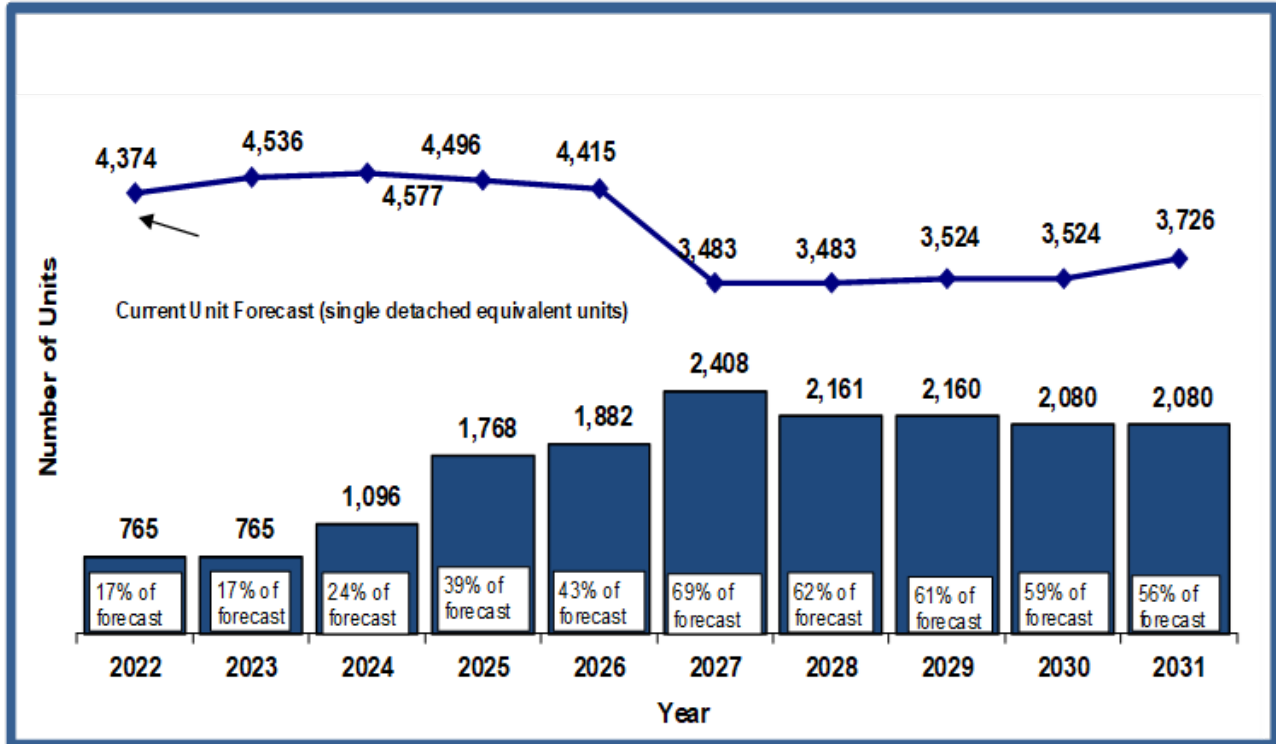
5.12 With the proposed issuance of debenture financing for the residential and commercial DC shares of the major projects over the forecast, the future debt servicing commitments will be funded from future residential and commercial DC's. The following graphs provide the number of residential units required to fund future debt servicing costs as compared to the ten-year residential units planning forecast. It is estimated that the future residential DC debt requirements could require up to 66 per cent of future water residential DC receipts and up to 69 per cent of future sanitary sewerage residential DC receipts.

Table Three – Water Supply



1 Forecast

Table Four – Sanitary Sewerage



5.13 The risk to the Region with proceeding with large expansion projects that require debenture financing is that future development charge receipts are committed to pay future ongoing debt servicing costs. For example, if the Region experiences a significant housing market downturn, and receives less development charge receipts and revenues than forecasted, then there could be reduced DC funding available for future expansion projects as a significant share of DC receipts will be required to fund ongoing debt servicing costs.

User Rate Pressures

5.14 The pressures on future user rates over the forecast period as highlighted in the preliminary financing plan are the result of:

- a) Future replacement / rehabilitation needs as identified in the annual asset management report; and,
- b) Significant growth-related capital projects that are required (i.e. plant expansions) where there is a potential development charge revenue shortfall that is projected to be funded by user rates.

5.15 Ongoing review of the capital forecast program, the timing of projects and use of financing strategies, including the use of reserve funds, debenture financing and pressures on user rate revenues, will be conducted as part of Region's annual business planning and budget process. Refinements will be based on rate of growth and new developments (impacting both growth related capital requirements and available DC receipts and revenues), evolving asset management needs to balance capital needs with availability of reserve funds, other financing strategies and affordable user rate increases.

6. Climate Change

6.1 The Region's water supply and sanitary sewerage programs are significant components of the Region's corporate climate change initiatives. The Region's water supply and sanitary sewerage capital and operating programs provide mitigation and adaptation measures and strategies to address the Region's climate change initiatives. Climate change initiatives are underway within both water supply and sanitary sewer programs.

6.2 The ongoing capital projects being completed to address the asset management needs of the Region also serve to address climate change initiatives (i.e. reduce greenhouse gas emissions and increase the Region's adaptive capacity and resiliency to changes in climate). The following provides a list of capital works that will address climate change initiatives:

- a) Replacement of deficient sanitary sewers to reduce infiltration of groundwater into the sanitary sewer collection system to mitigate flooding, inflow and infiltration;
- b) Upgrades to plants and pumping stations which include electrical upgrades and standby power to operate systems during communications and electrical power failures;

- c) Enhanced erosion protection at creek crossings to protect watermains and sanitary sewer systems;
- d) Continue to advance sustainability as a core element in the design and construction of Regional infrastructure using best practices and innovations developed through in-house research and partnerships with academia;
- e) Installation of EV charging stations at various Regional facilities, pending receipt of federal funding under round three of the Zero Emission Vehicle Infrastructure Program (ZEVIP) and the procurement of low/zero emission vehicles where operationally feasible;
- f) Energy conservation measures are incorporated into asset management and financial planning processes; and,
- g) Investigation on recapturing of gases / steam generated from processing activities at the Region's WPCPs to heat plants which reduces greenhouse gas emissions (e.g. Biogas utilization at the Courtice, Corbett Creek and Duffin Creek WPCPs).

7. Line-by-line Review

- 7.1 As part of the development of the proposed consolidated 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budget, departments completed a line-by-line review of historical actuals to identify 2022 base budget reductions that do not impact service levels.
- 7.2 The following base budget savings have been identified and are reflected in the proposed 2022 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget:
 - Works Water Supply System - \$71,000
 - Works Sanitary Sewerage System - \$674,000
 - Utility Finance - \$115,000
 - Corporate Non-Departmental Water - \$23,000
 - Corporate Non-Departmental Sewer - \$8,000
 - Total - \$891,000

8. Relationship to Strategic Plan

- 8.1 This report aligns with/addresses the following strategic goal and priorities in the Durham Region Strategic Plan.
 - a) Goal 5 Service Excellence – to provide exceptional value to Durham taxpayers through responsive, effective and fiscally sustainable services delivery. By responsibly managing the Region's financial assets, the proposed 2022 Consolidated Water Supply and Sanitary Sewerage Business Plans and Budget looks to optimize resources to deliver critical infrastructure and servicing for current and future generations.

9. Conclusion

- 9.1 The 2022 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget totaling \$473.9 million, require a total of \$235.7 million in user rate revenue (\$118.2 million water and \$117.5 million sewer) and can be provided within the overall water supply and sanitary sewerage user rate increase of 1.8 per cent (0.5 per cent water and 3.1 per cent sewer) recommended in Report 2021-F-35. It is critical to note that these two reports are intrinsically linked as any material changes to projects or activities requiring user rate financing will have an impact on the user rates proposed in Report 2021-F-35.
- 9.2 Accordingly, the 2022 Business Plans and Budgets for Water Supply and Sanitary Sewerage Systems are recommended for approval.

10. Attachments

- 10.1 Detailed Consolidated 2022 Business Plans & Budgets for Water Supply and Sanitary Sewerage Systems are available on-line through the link provided on the December 22, 2021 Finance and Administration Committee agenda or in hard copy by contacting the Finance Department at (905) 668-7711 ext. 2305.

Respectfully submitted,

Original Signed By

Nancy Taylor, BBA, CPA, CA
Commissioner of Finance

Recommended for Presentation to Committee

Original Signed By

Elaine Baxter-Trahair
Chief Administrative Officer