Water and Wastewater Financial Plan

City of Richmond Hill

Watson & Associates Economists Ltd.
905-272-3600
info@watsonecon.ca

May 22, 2024

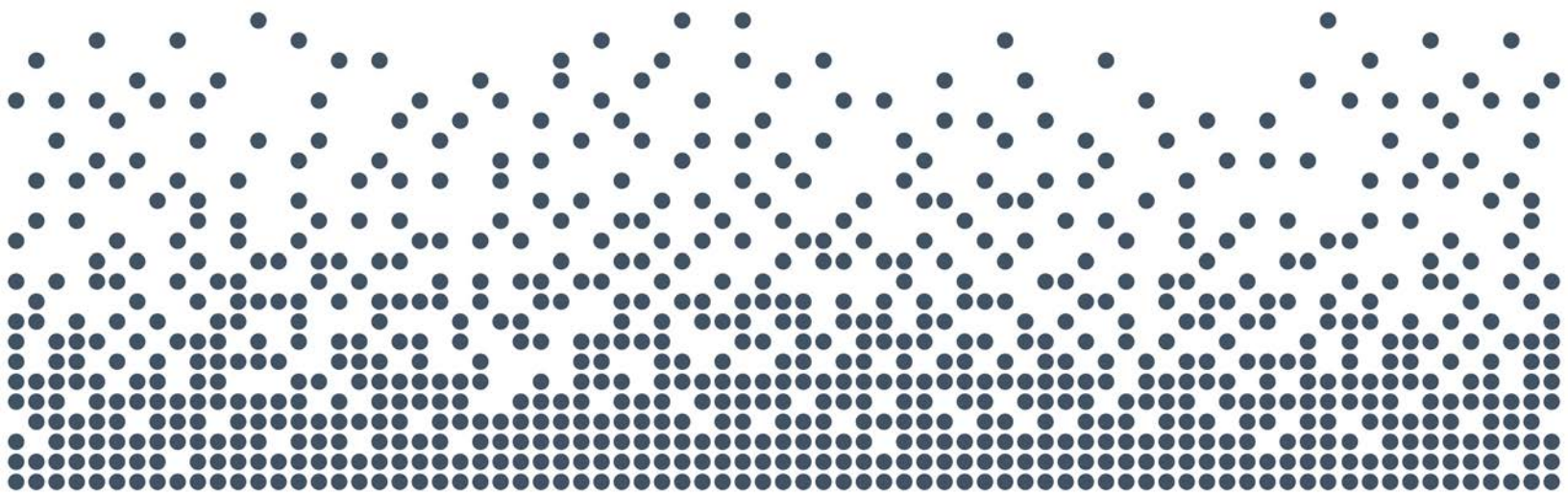
Table of Contents

Table of Contents (Cont'd)

Page

List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
A.M.O.	Association of Municipalities of Ontario
C.W.W.F.	Clean Water and Wastewater Fund
D.C.A.	Development Charges Act, 1997
F.I.R.	Financial Information Return
I.J.P.A.	Infrastructure for Jobs and Prosperity Act, 2015
I.O.	Infrastructure Ontario
LPAT	Local Planning Appeal Tribunal
M.O.E.	Ministry of Environment
O.C.I.F.	Ontario Community Infrastructure Fund
OLT	Ontario Land Tribunal
O.M.B.	Ontario Municipal Board
O. Reg.	Ontario Regulation
O.S.I.F.A.	Ontario Strategic Infrastructure Financing Authority
P.S.A.B.	Public Sector Accounting Board
P.T.I.F.	Public Transit Infrastructure Fund
S.W.S.S.A.	Sustainable Water and Sewage Systems Act, 2002



Executive Summary

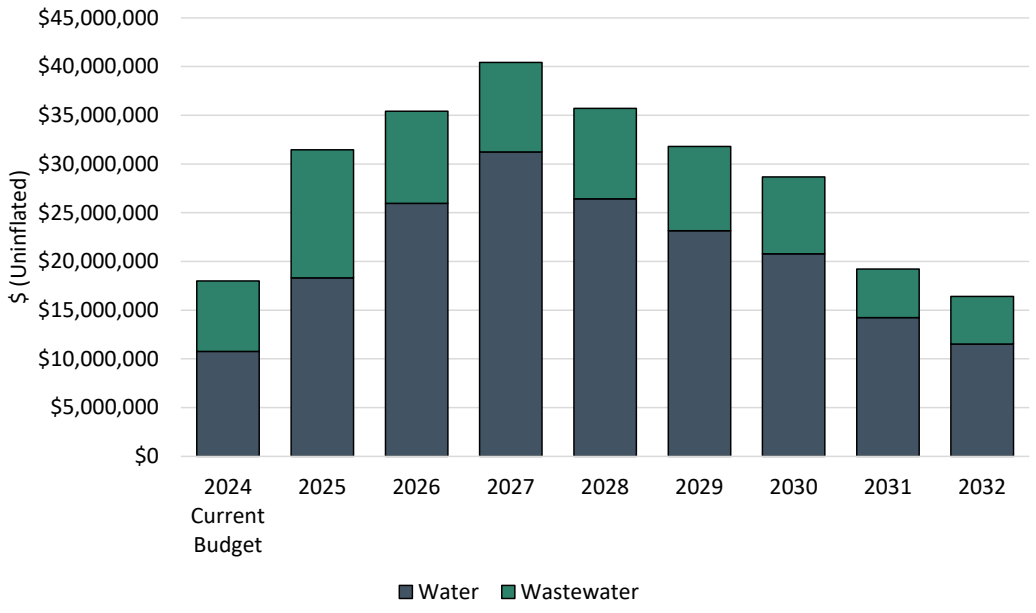
Executive Summary

The City of Richmond Hill retained Watson & Associates Economists Ltd. (Watson) to undertake a water and wastewater financial plan. This study undertakes an analysis of the City's water and wastewater rate forecast based on current capital and operating forecasts and projected volumes. The results of this analysis provide updated water and wastewater volume rates for customers within the City of Richmond Hill. The rate analysis contained herein continues to provide fiscally responsible practices that are in line with current provincial legislation.

Capital Forecast

The 2025 to 2032 capital spending program for water and wastewater is approximately $171 million and $67 million (uninflated - 2024 $), respectively, for a combined $238 million. The capital needs for water are significant, specifically in the first half of the forecast period, relative to wastewater. The following graph provides the forecast of capital needs to 2032 for both water and wastewater:

Figure ES-1
City of Richmond Hill
Water and Wastewater Capital Needs Forecast (2024 $)



It is noted that as part of this study process, the capital forecast developed through the 2024 budget was revisited and adjusted to assist in smoothing the required rate increases. The capital needs are based on the best information available today, however, additional works may be identified over the next few years based on further asset management planning and master plans to be undertaken.

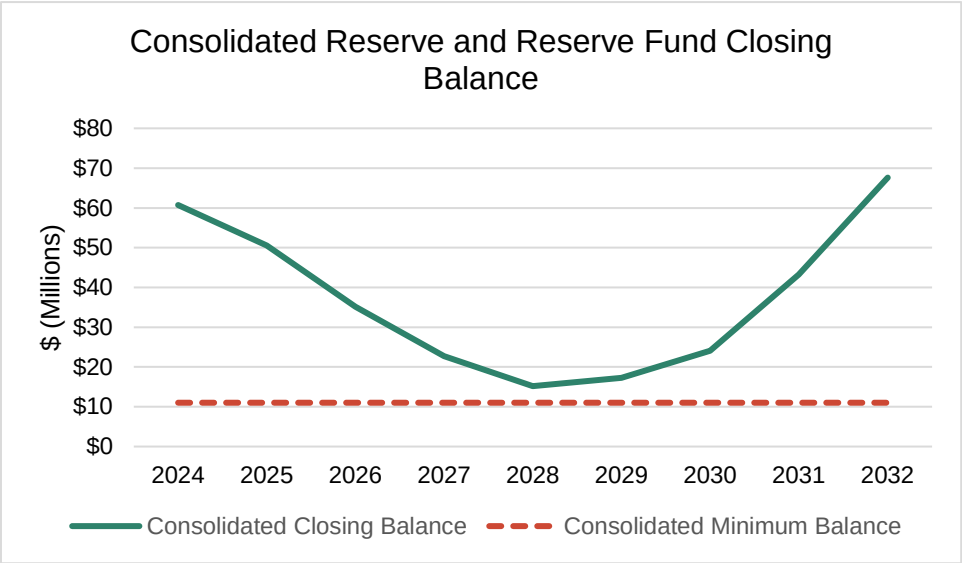
Capital Financing

Based on discussions with staff, debt financing was not utilized as part of the financing of the capital works. Funding from the reserve funds was utilized to fund the capital program. Annual contributions to the reserve funds are required throughout the forecast to fund the capital program and maintain the following minimum balances:

- Watermain repair and replacement reserve fund: minimum balance of $5 million;
- Sanitary Sewer repair and replacement reserve fund: minimum balance of $5 million; and
- Water and Sewer rate stabilization reserve: minimum balance of $1 million.

The Water and Sewer rate stabilization reserve was utilized in the first half of the forecast to minimize required rate increases for water. The capital funding requirements are leading to a decrease in the overall reserve and reserve funds over the forecast period, however, the consolidated balance is returned to current levels by 2032. The following graph provides for the consolidated reserve and reserve fund closing balance over the forecast period (note: the target minimum balance based on the three above noted targets is also provided in the graph):

Figure ES-2
City of Richmond Hill
Consolidated Reserve and Reserve Fund Closing Balance



Note: the reserve funds included in the above graph are as follows:

- Watermain repair and replacement reserve fund;
- Sanitary sewer repair and replacement reserve fund;
- Water and Sewer rate stabilization reserve; and
- Watermeter repair and replacement reserve fund.

Operating Budget

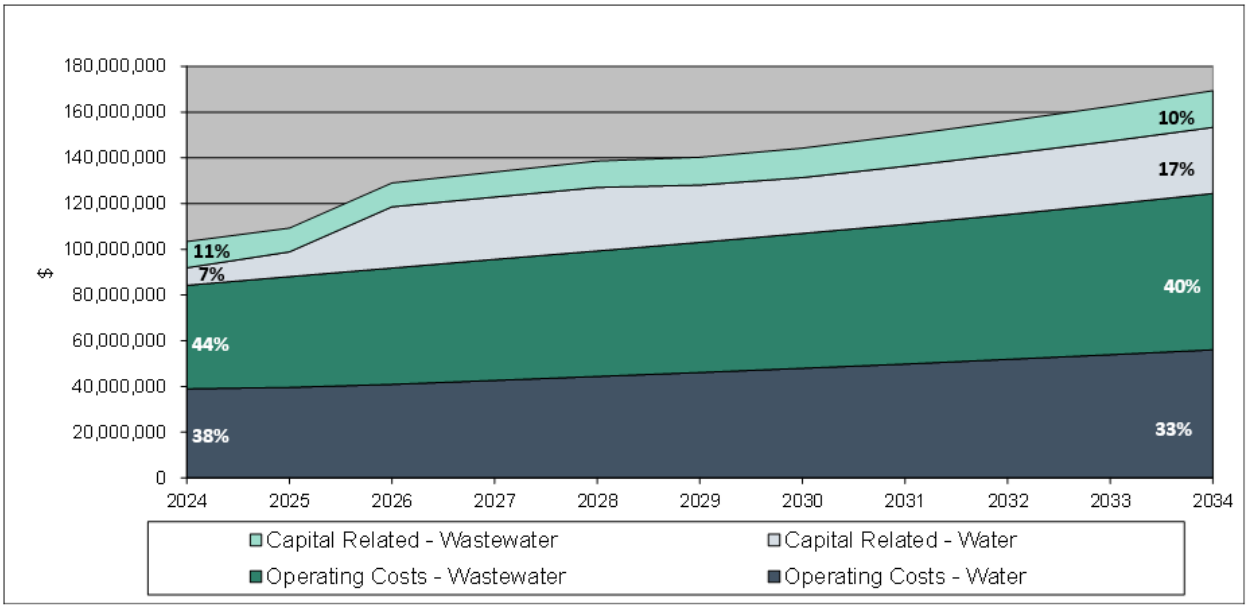
- Annual operating expenditures over the forecast are estimated based on the 2024 operating budget forecast along with a detailed analysis undertaken by City staff;
- Significant operating expenditures are related to the purchase of water and wastewater treatment from the Region of York;
- Other major expenditures related to the water and wastewater systems include:
    - Full-time staffing costs related to water and wastewaster operators and administrative personnel.
    - Minor equipment and contractor expenses to maintain and repair the water and wastewater systems, including: watermains, catch basins, and sanitary sewers.
    - Within the City's main Operating Fund (i.e. tax-supported budget), there are a number of personnel who allocate a portion of time towards working

on water and wastewater related activities. The personnel related costs account for the current staffing allocation in addition to anticipated new staffing requests over the forecast period. There are also many non-personnel costs in the tax-supported budget related to water and wastewater, such as IT applications and facility usage. As a result, the City calculates a cost recovery amount to be charged back to the water and wastewater fund. This is provided as a "Transfer to Operating Fund" in the rate calculations.

- As noted in the capital forecast section above, the water and wastewater systems are comprised of a network of assets including watermains, watermeters, specialty valves, hydrants, sanitary sewers, and pumping stations. Maintaining these assets in a state of good repair and the eventual replacement of these assets requires funding from water and wastewater rates through lifecycle contribution expenditures (i.e. transfers to reserves and reserve funds).

- The following graph provides the overall operating budget forecast for water and wastewater:

Figure ES-3
City of Richmond Hill
Operating Budget Forecast – Water and Wastewater



Rate Forecast

Based on the above information, rate increases have been balanced for the combined water/wastewater user to experience a 6% annual increase on the combined bill from 2025 to 2028, 7% in 2029, and a 3% increase 2030 to 2032. This is achieved by providing the following changes to water and wastewater:

- To meet the needs of the water forecast, an annual increase to the volume rate of 10.5% is required from 2025 to 2029, and a 3% increase from 2030 to 2032.
- To meet the needs of the wastewater forecast, it is recommended that the wastewater volume rates increase by 3% annually over the forecast period.
- The average annual residential increase ranges from a low of $36 in 2030 to a high of $76 in 2029.

The following tables summarize the recommended water and wastewater rates and average annual residential bill (assuming an annual volume of 170 cu.m) based on the analysis provided herein over the forecast period. Note, the rate calculations are based on a "weighted rate" given that new rates are implemented on April 1st of each year. The actual rate to be applied is included at the bottom of the tables for reference.

Table ES-4
City of Richmond Hill
Average Annual Residential Water Bill (Based on an Annual Usage of 170 cu.m.)

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water Volume Rate - Weighted*	$2.16	$2.39	$2.64	$2.92	$3.23	$3.56	$3.67	$3.78	$3.89
Annual Volume	170	170	170	170	170	170	170	170	170
Total Annual Bill	**$368**	**$406**	**$449**	**$496**	**$548**	**$606**	**$624**	**$643**	**$662**
Annual % Increase		**10.5%**	**10.5%**	**10.5%**	**10.5%**	**10.5%**	**3%**	**3%**	**3%**
Annual $ Increase		**$38**	**$43**	**$47**	**$52**	**$58**	**$18**	**$19**	**$19**
*Constant Rate - Unweighted (January 1st to March 31st)***	*$2.10*	*$2.18*	*$2.46*	*$2.72*	*$3.00*	*$3.32*	*$3.67*	*$3.70*	*$3.81*
*Constant Rate - Unweighted (April 1st to December 31st)***	*$2.18*	*$2.46*	*$2.72*	*$3.00*	*$3.32*	*$3.67*	*$3.70*	*$3.81*	*$3.93*

*Weighted rate based on new rates implemented on April 1st of each year
**Actual rate to be applied to volumes

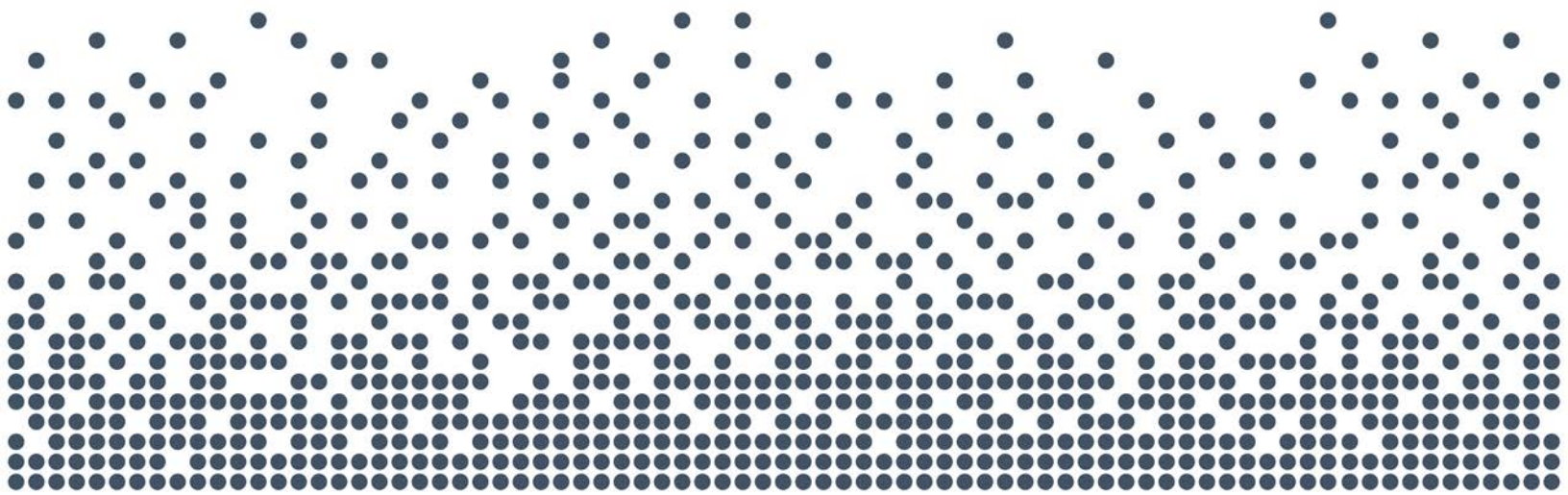
Table ES-5
City of Richmond Hill
Average Annual Residential Wastewater Bill (Based on an Annual Usage of 170 cu.m.)

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Wastewater Volume Rate - Weighted*	$3.05	$3.14	$3.24	$3.34	$3.44	$3.54	$3.65	$3.75	$3.87
Annual Volume	170	170	170	170	170	170	170	170	170
Total Annual Bill	**$519**	**$535**	**$551**	**$567**	**$584**	**$602**	**$620**	**$638**	**$657**
Annual % Increase		**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**
Annual $ Increase		**$16**	**$16**	**$16**	**$17**	**$18**	**$18**	**$18**	**$19**
*Constant Rate - Unweighted (January 1st to March 31st)***	*$2.96*	*$3.08*	*$3.17*	*$3.27*	*$3.37*	*$3.47*	*$3.57*	*$3.68*	*$3.79*
*Constant Rate - Unweighted (April 1st to December 31st)***	*$3.08*	*$3.17*	*$3.27*	*$3.37*	*$3.47*	*$3.57*	*$3.68*	*$3.79*	*$3.90*

*Weighted rate based on new rates implemented on April 1st of each year
**Actual rate to be applied to volumes

Table ES-6
City of Richmond Hill
Annual Average Water and Wastewater Bill Based on 170 cu.m.

Average Annual Residential Bill	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water Bill	$368	$406	$449	$496	$548	$606	$624	$643	$662
Wastewater Bill	$519	$535	$551	$567	$584	$602	$620	$638	$657
Water & Wastewater Total Bill	**$887**	**$941**	**$1,000**	**$1,063**	**$1,132**	**$1,208**	**$1,244**	**$1,281**	**$1,319**
Annual % Change		**6%**	**6%**	**6%**	**6%**	**7%**	**3%**	**3%**	**3%**
Annual $ Change		**$54**	**$59**	**$63**	**$69**	**$76**	**$36**	**$37**	**$38**
Monthly $ Change		**$5**	**$5**	**$5**	**$6**	**$6**	**$3**	**$3**	**$3**



Report

Chapter 1
Introduction

1. Introduction

1.1 Background

The City of Richmond Hill (the "City") is located in York Region (the "Region"), with a population of approximately 210,000 people. The City operates and maintains a Class 2 Drinking Water Distribution System while the Region of York provides water supply via agreements with the City of Toronto and Peel Region. The water in this system comes from Lake Ontario and is tested and treated by the City of Toronto and the Peel Region. The City of Richmond Hill then receives the water from York Region and distributes it to consumers.

The water distribution system in the City is metered and utilizes a rate structure comprised of a volume rate imposed on a per cubic metre basis. For wastewater, users are also charged a volume rate on a per cubic metre basis based on their water consumption. The current 2024 volume rates are $2.18 per cubic metre (cu.m) for water, and $3.08 per cu.m for wastewater for a combined rate of $5.26 per cu.m. Residential customers are billed quarterly, and commercial customers are billed bi-monthly. Table 1-1 below provides a summary of the 2024 rates:

Table 1-1
City of Richmond Hill
Water and Wastewater Rates – 2024

2024 Water & Wastewater Billing Rates	
Water (per cu.m)	$2.18
Wastewater (per cu.m)	$3.08
Combined Water & Wastewater (per cu.m.)	**$5.26**

Since the Walkerton crisis, the Province has continued to make legislative changes for municipal water and wastewater systems. Noted below are the historical changes along with pending legislation anticipated to be implemented in the future. Watson & Associates Economists Ltd. (Watson) was retained by the City of Richmond Hill to assist in addressing these changes in a proactive manner as they relate to the water and wastewater systems. The assessment provided herein addresses changes recommended to the water and wastewater rates based on the most current information and forecasts the implications over the next 8-year period.

1.2 Study Process

The objectives of the study and the steps involved in carrying out this assignment are summarized below:

- Identify all current and future water and wastewater system capital needs to assess the immediate and longer-term implications;
- Identify potential methods of cost recovery for the capital projects identified. These recovery methods may include other statutory authorities (e.g. *Development Charges Act, 1997* (D.C.A.), *Municipal Act*, etc.) as an offset to recovery through the water and wastewater rates;
- Identify existing operating costs by component and estimate future operating costs over the next 8 years. This assessment identifies fixed and variable costs in order to project those costs sensitive to changes to the existing infrastructure inventory, as well as costs which may increase commensurate with growth; and
- Provide staff and Committee/Council the findings to assist in gaining approval of the rates for 2025 and future years.

1.3 Legislative Framework

Resulting from the water crisis in Walkerton, significant regulatory changes have been made in Ontario. These changes arise as a result of the Walkerton Commission and the 93 recommendations made by the Walkerton Inquiry Part II report. Areas of recommendation include:

- watershed management and source protection;
- quality management;
- preventative maintenance;
- research and development;
- new performance standards;
- sustainable asset management; and
- lifecycle costing.

The legislation which would have most impacted municipal water and wastewater rates was the *Sustainable Water and Sewage Systems Act* (S.W.S.S.A.) which would have required municipalities to implement full cost pricing. The legislation was enacted in

2002, however, it had not been implemented pending the approval of its regulations. The Act was repealed as of January 1, 2013. It is expected that the provisions of the *Water Opportunities Act* will implement the fundamental requirements of S.W.S.S.A. Furthermore, on December 27, 2017, O. Reg. 588/17 was released under the *Infrastructure for Jobs and Prosperity Act, 2015* (I.J.P.A.), which outlines the requirements for asset management for municipalities. The results of the asset management review under this Act will need to be considered in light of the recent investments undertaken by the City and the capital spending plan provided herein. The following sections describe these various resulting changes.

1.3.1 Sustainable Water and Sewage Systems Act

As noted earlier, the S.W.S.S.A. was passed on December 13, 2002. The intent of the Act was to introduce the requirement for municipalities to undertake an assessment of the "full cost" of providing their water and wastewater services. It is noted, however, that this Act has been repealed. To provide broader context and understanding to other legislation discussed herein, a description of the Act is provided below.

Full costs for water service was defined in subsection 3(7) of the Act and included "…source protection costs, operating costs, financing costs, renewal and replacement costs and improvement costs associated with extracting, treating or distributing water to the public and such other costs which may be specified by regulation." Similar provisions were made for wastewater services in subsection 4(7) with respect to "…collecting, treating or discharging waste water."

The Act would have required the preparation of two reports for submission to the Ministry of the Environment (or such other member of the Executive Council as may be assigned the administration of this Act under the *Executive Council Act*). The first report was on the "full cost of services" and the second was the "cost recovery plan." Once these reports were reviewed and approved by the Ministry, the municipality would have been required to implement the plans within a specified time period.

In regard to the **full cost of services** report, the municipality (deemed a regulated entity under the Act) would prepare and approve a report concerning the provision of water and sewage services. This report was to include an inventory of the infrastructure, a management plan providing for the long-term integrity of the systems, and would address the full cost of providing the services (other matters may be specified by the

regulations) along with the revenue obtained to provide them. A professional engineer would certify the inventory and management plan portion of the report. The municipality's auditor would be required to provide a written opinion on the report. The report was to be approved by the municipality and then be forwarded to the Ministry along with the engineer's certification and the auditor's opinion. The regulations would stipulate the timing for this report.

The second report was referred to as a **cost recovery plan** and would address how the municipality intended to pay for the full costs of providing the service. The regulations were to specify limitations on what sources of revenue the municipality may use. The regulations may have also provided limits as to the level of increases any customer or class of customer may experience over any period of time. Provision was made for the municipality to implement increases above these limits; however, ministerial approval would be required first. Similar to the first report, the municipal auditor would provide a written opinion on the report prior to Council's adoption, and this opinion must accompany the report when submitted to the Province.

The Act provided the Minister the power to approve or not approve the plans. If the Minister was not satisfied with the report or if a municipality did not submit a plan, the Minister may have a plan prepared. The cost to the Crown for preparing the plan would be recovered from the municipality. As well, the Minister may direct two or more regulated municipalities to prepare a joint plan. This joint plan may be directed at the onset or be directed by the Minister after receiving the individual plans from the municipalities.

The Minister also had the power to order a municipality to generate revenue from a specific revenue source or in a specified manner. The Minister may have also ordered a regulated entity to do or refrain from doing such things as the Minister considered advisable to ensure that the entity pays the full cost of providing the services to the public.

Once the plans were approved and in place, the municipality would be required to submit progress reports. The timing of these reports and the information to be contained therein would be established by the regulations. A municipal auditor's opinion must be provided with the progress report. Municipalities would also revise the plans if they deem the estimate does not reflect the full cost of providing the services, as a result of a change in circumstances, regulatory or other changes that affect their plan,

etc. The municipality would then revise its prior plan, provide an auditor's opinion, and submit the plan to the Minister.

1.3.2 Financial Plans Regulation

On August 16, 2007, the M.O.E. passed O. Reg 453/07 which requires the preparation of financial plans for water (and wastewater) systems. The M.O.E. has also provided a Financial Plan Guidance Document to assist in preparing the plans. A brief summary of the key elements of the regulation is provided below:

- The financial plan will represent one of the key elements for the municipality to obtain its Drinking Water Licence;
- The financial plans shall be for a period of at least six years, but longer planning horizons are encouraged;
- As the regulation is under the *Safe Drinking Water Act, 2002*, the preparation of the plan is mandatory for water and encouraged for wastewater;
- The plan is considered a living document (i.e. will be updated as annual budgets are prepared) but will need to be undertaken, at a minimum, every five years;
- The plans generally require the forecasting of capital, operating and reserve fund positions, providing detailed inventories, forecasting future users and volume usage and corresponding calculation of rates. In addition, P.S.A.B. information on the system must be provided for each year of the forecast (i.e. total non-financial assets, tangible capital asset acquisitions, tangible capital asset construction, betterments, write-downs, disposals, total liabilities and net debt);
- The financial plans must be made available to the public (at no charge) upon request and be available on the municipality's website. The availability of this information must also be advertised; and
- The financial plans are to be approved by Resolution of the Council or governing body indicating that the drinking water system is financially viable.

In general, the financial principles of the draft regulations follow the intent of S.W.S.S.A. to move municipalities towards financial sustainability. Many of the prescriptive requirements, however, have been removed (e.g. preparation of two separate documents for provincial approval, auditor opinions, engineer certifications, etc.).

A Guideline ("Towards Financially Sustainable Drinking Shores – Water and Wastewater Systems") had been developed to assist municipalities in understanding the

Province's direction and provided a detailed discussion on possible approaches to sustainability. The Province's Principles of Financially Sustainable Water and Wastewater Services are provided below:

Principle #1: Ongoing public engagement and transparency can build support for, and confidence in, financial plans and the system(s) to which they relate.

Principle #2: An integrated approach to planning among water, wastewater, and stormwater systems is desirable given the inherent relationship among these services.

Principle #3: Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.

Principle #4: Lifecycle planning with mid-course corrections is preferable to planning over the short term, or not planning at all.

Principle #5: An asset management plan is a key input to the development of a financial plan.

Principle #6: A sustainable level of revenue allows for reliable service that meets or exceeds environmental protection standards, while providing sufficient resources for future rehabilitation and replacement needs.

Principle #7: Ensuring users pay for the services they are provided leads to equitable outcomes and can improve conservation. In general, metering and the use of rates can help ensure users pay for services received.

Principle #8: Financial plans are "living" documents that require continuous improvement. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future.

Principle #9: Financial plans benefit from the close collaboration of various groups, including engineers, accountants, auditors, utility staff, and municipal Council.

1.3.3 Water Opportunities Act, 2010

As noted earlier, since the passage of the *Safe Drinking Water Act, 2002*, continuing changes and refinements to the legislation have been introduced. Some of these Bills have found their way into law, while others have not been approved. Bill 72, the *Water Opportunities Act, 2010*, was introduced into legislation on May 18, 2010 and received Royal Assent on November 29, 2010.

The Act provides for the following elements:

- The fostering of innovative water, wastewater and stormwater technologies, services and practices in the private and public sectors;
- Preparation of water conservation plans to achieve water conservation targets established by the regulations; and
- Preparation of sustainability plans for municipal water services, municipal wastewater services and municipal stormwater services.

With regard to the sustainability plans:

- The Act extends from the water financial plans and requires a more detailed review of the water financial plan and requires a full plan for wastewater and stormwater services; and
- Regulations will provide performance targets for each service – these targets may vary based on the jurisdiction of the regulated entity or the class of entity.

The financial plan shall include:

- An asset management plan for the physical infrastructure;
- A financial plan;
- For water, a water conservation plan;
- An assessment of risks that may interfere with the future delivery of the municipal service, including, if required by the regulations, the risks posed by climate change and a plan to deal with those risks; and
- Strategies for maintaining and improving the municipal service, including strategies to ensure the municipal service can satisfy future demand, consider technologies, services and practices that promote the efficient use of water and reduce negative impacts on Ontario's water resources, and increase co-operation with other municipal service providers.

Performance indicators will be established by service, with the following considerations:

- May relate to the financing, operation or maintenance of a municipal service or to any other matter in respect of what information may be required to be included in a plan;
- May be different for different municipal service providers or for municipal services in different areas of the Province.

Regulations will prescribe:

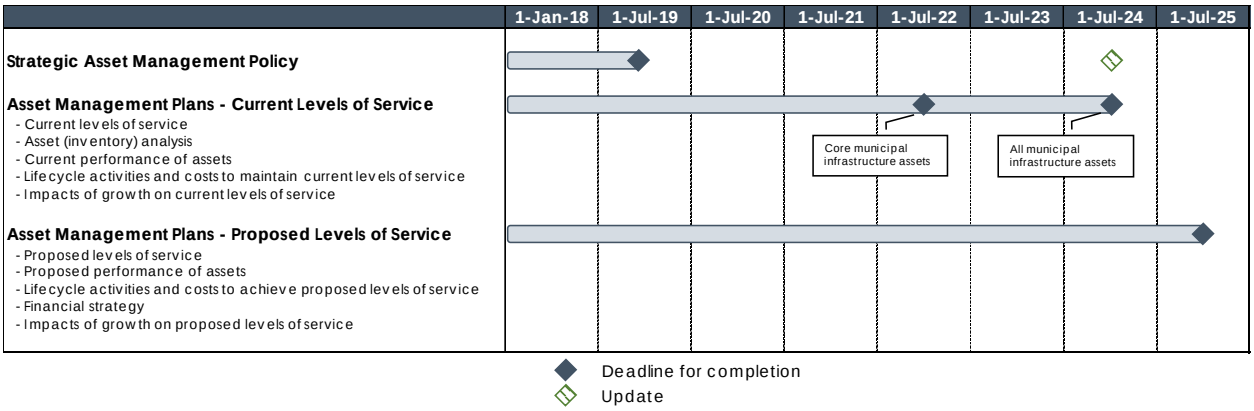
- Timing;
- Contents of the plans;
- Which identified portions of the plan will require certification;
- Public consultation process; and
- Limitations, updates, refinements, etc.

As noted earlier, it is expected that this Act will implement the principles of the S.W.S.S.A. once all regulations are put in place.

1.3.4 Infrastructure for Jobs and Prosperity Act, 2015

On June 4, 2015, the Province of Ontario passed the I.J.P.A. which, over time, will require municipalities to undertake and implement asset management plans for all infrastructure they own. On December 27, 2017, the Province released Ontario Regulation 588/17 under the I.J.P.A. which has three phases that municipalities must meet:

Figure 1-1
Legislative Timelines set out by the Jobs and Prosperity Act
Legislation related to Asset Management Plans



Note: on March 15, 2021, the Province filed Regulation 193/21 to extend all of the timelines of Regulation 588/17 by one year (reflected in the table above).

Every municipality in Ontario was to prepare a strategic asset management policy by July 1, 2019. Municipalities will be required to review their strategic asset management policies at least every five years and make updates as necessary. The subsequent phases are as follows:

- Phase 1 – Asset Management Plan (by July 1, 2022):
    - For core assets, municipalities must have the following:
        - Inventory of assets;
        - Current levels of service measured by standard metrics; and
        - Costs to maintain levels of service.
- Phase 2 – Asset Management Plan (by July 1, 2024):
    - Same steps as Phase 1 but for all assets.
- Phase 3 – Asset Management Plan (by July 1, 2025):
    - Builds on Phase 1 and 2 by adding:
        - Proposed levels of service; and
        - Lifecycle management and financial strategy.

In relation to water and wastewater (which is considered a core asset), municipalities needed to have an asset management plan that addresses the related infrastructure by July 1, 2022 (Phase 1). O. Reg. 588/17 specifies that the municipality's asset management plan must include the following for each asset category:

- The current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan;
- The current performance of each asset category, including:
    - a summary of the assets in the category;
    - the replacement cost of the assets in the category;
    - the average age of the assets in the category, determined by assessing the average age of the components of the assets;
    - the information available on the condition of the assets in the category;
    - a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate; and
- The lifecycle activities that would need to be undertaken to maintain the current levels of service.

1.4 Forecast Growth and Servicing Requirements

For forecasting future water volumes, flow data from the Region of York was utilized. An assumption has also been made on water loss throughout the system. Water loss can be a result of leaks throughout the system or theft of water from unauthorized connections. Based on recent historical trends, it is assumed that 12% of the inflows from the Region will be unaccounted for (i.e. non-revenue water). This is reflective of the average water loss observed by many municipalities in the Province. This results in the total billable volumes that are presented in Table 1-2 below. This billable volume forecast has been utilized to determine the required rates from 2025 to 2032 (note: as previously mentioned, wastewater charges are calculated based on water consumption given wastewater volumes are not metered).

Table 1-2
City of Richmond Hill
2024 to 2032 Water Volume Forecast

Volumes (cu.m)	2024	2025	2026	2027	2028	2029	2030	2031	2032
Inflow from Region	20,982,300	21,237,700	21,473,300	21,696,200	21,913,700	22,130,200	22,350,500	22,570,600	22,803,800
Less: Non-Revenue Water - 12% of Total Inflows	2,406,670	2,548,524	2,576,796	2,603,544	2,629,644	2,655,624	2,682,060	2,708,472	2,736,456
Billable Volumes	**18,575,630**	**18,689,176**	**18,896,504**	**19,092,656**	**19,284,056**	**19,474,576**	**19,668,440**	**19,862,128**	**20,067,344**

Chapter 2
Capital Infrastructure Needs

2. Capital Infrastructure Needs

2.1 Capital Forecast – Water

Capital forecasts have been provided for the water system and are presented in Table 2-1 (note: the costs have been provided in uninflated dollars). The basis for this forecast is the City's capital forecast, however, it is noted that the capital forecast was revisited as part of this analysis to assist in smoothing the program over the 2025 to 2032 period. The capital plan addresses both growth and replacement projects.

A summary of the capital works related to the water services is provided in the following table:

Table 2-1
City of Richmond Hill
2025 to 2032 Water Capital Forecast Summary (Uninflated $)

Description	Total 2025 to 2032	Years Undertaken
Capital Expenditures		
Bathurst Street Recon (York Region)	5,517,551	2026
Bayview Avenue Recon (York Region)	3,787,000	2025 and 2027
Yonge Street WM (York Region)	1,082,000	2029
Aubrey Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	1,251,063	2026
Olde Bayview Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	1,318,688	2026
Highland Lane Road Reconstruction (Road, Watermain, Sanitary, Storm)	710,063	2025
Coons Road Reconstruction (Road, Watermain, Sanitary, Storm)	4,158,938	2026 and 2030
Elm Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	2,366,875	2028
Maple Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	3,550,313	2025
Ohio Road Reconstruction (Road, Watermain, Sanitary, Storm)	507,188	2026
Schomberg Road Reconstruction (Road, Watermain, Sanitary, Storm)	1,284,875	2026
Bayview Watermain Replacement Expenditures	4,977,200	2025 and 2027
Watermain Replacement Forecast	50,394,150	2025 to 2032
Cynthia Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	2,604,915	2028 and 2030
Rockport Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	3,161,469	2027 and 2029
Shelley Road Reconstruction (Road, Watermain, Sanitary, Storm)	371,938	2028 and 2030
Westwood Lane Reconstruction (Road, Watermain, Sanitary, Storm)	892,650	2026 and 2028
Road Rehabilitation and Reconstruction (Road, Watermain, Sanitary, Storm)	16,044,031	2025 to 2031
Centre Street Watermain Replacement	3,246,000	2025
Enford Road Rehabilitation - (Road, Watermain, Sanitary, Storm)	676,250	2026
Industrial Road Rehabilitation (Road, Watermain, Sanitary, Storm)	793,466	2026
AMI Collectors - Replacement	1,793,505	2029 to 2030
Water Meters - Replacements	1,235,052	2025 to 2032
Road Rehabilitation and Reconstruction - Urbanized (Road, Watermain, Sanitary, Storm)	27,756,531	2025 to 2032
Arnold Crescent Road Reconstruction (Road, Watermain, Sanitary, Storm)	2,411,508	2025
Elizabeth Street Road Reconstruction (Road, Watermain, Sanitary, Storm)	772,857	2025
Capelle Street Reconstruction (Road, Watermain, Sanitary, Storm)	304,313	2026
Wendy Way Reconstruction (Road, Watermain, Sanitary, Storm)	287,406	2025
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm) (Non-Growth Related Component)	2,164,000	2026
Sanitary and Water Improvements - Various Locations - City Contribution (Non-Growth Related Component)	1,227,744	2025 to 2032
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution (Non-Growth Related Component)	33,975	2025
Other		
Water, Wastewater and Stormwater Model Review	272,000	2025 to 2032
Financial Planning and Management Reporting Software	37,048	2025
Fleet and Operational Equipment	793,308	2025 to 2027, 2029, and 2031 to 2032
Licensed Equipment Replacement	20,365	2029 and 2031 to 2032
Vehicle Replacements	1,566,251	2025 to 2028 and 2030 to 2032
Water Master Plan	400,000	2025
Road Reconstruction Works - Watermains	9,952,000	2025 to 2032
Growth Related:		
Elgin Mills Road W Recon (York Region)	4,328,000	2027
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution	1,311,591	2025
Sanitary and Water Improvements - Various Locations - City Contribution	6,276,760	2025 to 2032
Total Capital Expenditures	**171,640,831**	

Note: only the portion of the project costs which pertain to water are provided in the table above.

2.2 Capital Forecast – Wastewater

Capital forecasts have been provided for the wastewater system and are presented in Table 2-2 (note: the costs have been provided in uninflated dollars). The basis for this forecast is the City's capital forecast, however, similar to water, the forecast was revisited by staff to assist in smoothing the annual capital spending. The capital plan addresses both growth and replacement projects.

A summary of the capital works related to the wastewater services is provided in the following table:

Table 2-2
City of Richmond Hill
2025 to 2032 Wastewater Capital Forecast Summary (Uninflated $)

Description	Total 2025 to 2032	Years Undertaken
Capital Expenditures		
Bayview Avenue Recon (York Region)	2,164,000	2025 and 2027
Aubrey Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	500,425	2026
Olde Bayview Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	527,475	2026
Highland Lane Road Reconstruction (Road, Watermain, Sanitary, Storm)	284,025	2025
Coons Road Reconstruction (Road, Watermain, Sanitary, Storm)	1,663,575	2026 and 2030
Elm Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	946,750	2028
Maple Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	1,420,125	2025
Ohio Road Reconstruction (Road, Watermain, Sanitary, Storm)	202,875	2026
Schomberg Road Reconstruction (Road, Watermain, Sanitary, Storm)	513,950	2026
Cynthia Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	1,041,966	2028 and 2030
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm)	865,600	2026
Rockport Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	1,264,588	2027 and 2029
Shelley Road Reconstruction (Road, Watermain, Sanitary, Storm)	148,775	2028 and 2030
Westwood Lane Reconstruction (Road, Watermain, Sanitary, Storm)	357,060	2026 and 2028
Road Rehabilitation and Reconstruction (Road, Watermain, Sanitary, Storm)	6,417,613	2025 to 2031
Enford Road Rehabilitation - (Road, Watermain, Sanitary, Storm)	676,250	2026
Industrial Road Rehabilitation (Road, Watermain, Sanitary, Storm)	317,386	2026
Centre Street Sanitary Sewer Replacement (Road and Sanitary)	2,921,400	2025
Inflow and Infiltration Reduction Prog.	121,800	2026
Wastewater Collection System Repairs	852,600	2025 and 2027
Road Rehabilitation and Reconstruction - Urbanized (Road, Watermain, Sanitary, Storm)	11,173,559	2025 to 2032
Arnold Crescent Road Reconstruction (Road, Watermain, Sanitary, Storm)	743,875	2025
Elizabeth Street Road Reconstruction (Road, Watermain, Sanitary, Storm)	309,143	2025
Capelle Street Reconstruction (Road, Watermain, Sanitary, Storm)	121,725	2026
Wendy Way Reconstruction (Road, Watermain, Sanitary, Storm)	114,963	2025
Sanitary and Water Improvements - Various Locations - City Contribution (Non-Growth Component)	3,002,776	2025 to 2032
South Richvale Valleyland Sewer Protection	616,800	2026
Other		
Water, Wastewater and Stormwater Model Review	264,000	2025 to 2032
Financial Planning and Management Reporting Software	37,048	2025
Fleet and Operational Equipment	149,717	2025 to 2027, 2029, and 2031 to 2032
Licensed Equipment Replacement	5,359	2029 and 2031 to 2032
Vehicle Replacements	412,171	2025 to 2028 and 2030 to 2032
Wastewater Master Plan	650,000	2025 and 20230
Road Reconstruction Works Provision - Sanitary Sewers	20,600,000	2025 to 2032
Growth Related:		
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution	2,644,596	2025
Sanitary and Water Improvements - Various Locations - City Contribution	3,412,024	2025 to 2032
Total Capital Expenditures	**67,465,992**	

Note: only the portion of the project costs which pertain to wastewater are provided in the table above.

Chapter 3
Capital Cost Financing Options

3. Capital Cost Financing Options

3.1 Summary of Capital Cost Financing Alternatives

Historically, the powers that municipalities had to raise alternative revenues to taxation to fund capital services have been restrictive. Over the past decade, legislative reforms have been introduced. Some of these have expanded municipal powers (e.g. Bill 26 introduced in 1996 to provide for expanded powers for imposing fees and charges), while others appear to restrict them (e.g. Bill 98 in 1997 and Bill 23 in 2022 providing amendments to the D.C.A.).

The Province passed a new *Municipal Act* which came into force on January 1, 2003. Part XII of the Act and O. Reg. 584/06 govern a municipality's ability to impose fees and charges. In contrast to the previous *Municipal Act*, this Act provides municipalities with broadly defined powers and does not differentiate between fees for operating and capital purposes. It is anticipated that the powers to recover capital costs under the previous *Municipal Act* will continue within the new Statutes and Regulations, as indicated by s.9(2) and s.452 of the new *Municipal Act*.

Under s.484 of *Municipal Act, 2001*, the *Local Improvement Act* was repealed with the in-force date of the *Municipal Act* (January 1, 2003). The municipal powers granted under the *Local Improvement Act* now fall under the jurisdiction of the *Municipal Act*. To this end, on December 20, 2002, O. Reg. 390/02 was filed, which allowed for the *Local Improvement Act* to be deemed to remain in force until April 1, 2003. O. Reg. 119/03 was enacted on April 19, 2003, which restored many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

The methods of capital cost recovery available to municipalities are provided as follows:

Recovery Methods	Section Reference
• *Development Charges Act, 1997*	3.2
• *Municipal Act*	3.3
o Fees and Charges	
o Sewer and Water Area Charges	
o Connection Fees	
o Local Improvements	

Recovery Methods	Section Reference
• Historical Grant Funding Availability	3.4
• Existing Reserves/Reserve Funds	3.5
• Debenture Financing	3.6
• Infrastructure Ontario	3.7

3.2 Development Charges Act, 1997

In November, 1996, the Ontario Government introduced Bill 98, a new *Development Charges Act* (D.C.A.). The Province's stated intentions were to "create new construction jobs and make home ownership more affordable" by reducing the charges and to "make municipal Council decisions more accountable and more cost effective." The basis for this Act is to allow municipalities to recover the growth-related capital cost of infrastructure necessary to accommodate new growth within the municipality. Generally, the Act provided the following changes to the former Act:

- Replace those sections of the 1989 Act that govern municipal development charges;
- Limit services which can be financed from development charges (D.C.s), specifically excluding parkland acquisition, administration buildings, and cultural, entertainment, tourism, solid waste management and hospital facilities;
- Ensure that the level of service used in the calculation of capital costs will not exceed the average level of service over the previous decade. Level of service is to be measured from both a quality and quantity perspective;
- Provide that uncommitted excess capacity available in existing municipal facilities and benefits to existing residents are removed from the calculation of the charge;
- Ensure that the D.C. revenues collected by municipalities are spent only on those capital costs identified in the calculation of the D.C.;
- Require municipalities to contribute funds (e.g. taxes, user charges or other non-development charge revenues) to the financing of certain projects primarily funded from development charges. The municipal contribution is 10 percent for services such as recreation, parkland development, libraries, etc.;
- Permit (but apparently not require) municipalities to grant developers credits for the direct provision of services identified in the D.C. calculation and, when credits are granted, require the municipality to reimburse the developer for the costs the

municipality would have incurred if the project had been financed from the D.C. reserve fund;
- Set out provisions for front-end financing capital projects (limited to essential services) required to service new development; and
- Set out provisions for appeals and complaints.

In late 2015, the Province approved further amendments to the D.C.A. With respect to water and wastewater, the only changes are for the municipality to provide an asset management calculation for the growth-related works and for the Council to consider (but not necessarily approve) area-specific rates.

As of 2019, a number of amendments to the D.C.A. were made through the Bill 108 the *More Homes, More Choice Act, 2019*, Bill 138 the *Plan to Build Ontario Together Act*, *2019*, Bill 197 the *COVID-19 Economic Recovery Act, 2020*, and Bill 213 the *Better for People, Smarter for Business Act, 2020*. With respect to water and wastewater, a few changes may impact D.C. revenue collections:

1. Timing of Collection:

    a. D.C. Rate Freeze - For developments proceeding through site plan or zoning by-law amendment, the D.C. rate is frozen at the time the application is submitted. The D.C. remains frozen for two years after the application is approved. Should the D.C. study be updated to increase water and wastewater D.C. rates during this period, the Municipality would not be able to collect for this increase. Note: The Province introduced Bill 185 on April 10, 2024 which if passed would amend the rate freeze from two years to 18 months.

    b. D.C. Installment Payments - For rental housing and institutional development, D.C.s are paid over 5 years. This provides a delay in receipt of D.C. revenues which will need to be cash-flowed by the City.

2. Mandatory Exemption (additional units) – For existing dwellings, one additional dwelling unit could be constructed within the existing dwelling. This additional dwelling unit is exempt from D.C.s. With the changes to the Act, one additional dwelling unit may be constructed within a new residential dwelling, which would be exempt from D.C.s. Further, one ancillary dwelling unit may be constructed on the same property as a new unit. This ancillary dwelling would be exempt

from D.C.s. As these new additional units are exempt from D.C.s, no D.C. revenue may be collected for these units, however, each additional unit provides additional population which requires capacity in the water and wastewater treatment plants. As a result, consideration for these additional units should be made during the D.C. study process to ensure all capacity available to growth is allocated appropriately.

3. Mandatory Exemption (universities) – A new mandatory exemption has been introduced which exempts the payment of D.C.s for developments of land intended for use by a university that receives operating funds from the Government.

The Province introduced Bill 23: *More Homes Built Faster Act*, on October 25, 2022, which subsequently received Royal Assent on November 28, 2022. The Bill amended several items within the D.C.A. and other legislation. The following provides some of the key changes which impact the City's ability to recover D.C.s for growth-related water and wastewater capital:

1. Additional residential unit exemption: allowance of a third unit as-of-right;

2. New statutory exemptions for Affordable Units, Attainable Units, Affordable Inclusionary Zoning Units, and Non-Profit Housing;

3. Capital cost definition revised to remove studies (note: at the time of writing, this is proposed to be reintroduced through Bill 185);

4. D.C. discount for rental housing based on number of bedrooms (15-25% discount)

5. Mandatory phase-in of a D.C. for by-laws passed after January 1, 2022, as follows (note: at the time of writing this is proposed to be removed through Bill 185):
    - Year 1 – 80% of the maximum charge;
    - Year 2 – 85% of the maximum charge;
    - Year 3 – 90% of the maximum charge;
    - Year 4 – 95% of the maximum charge; and
    - Year 5 to expiry – 100% of the maximum charge.

On April 10, 2024, the Province introduced Bill 185: *Cutting Red Tape to Build More Homes Act*. If implemented, this Bill would reverse many of the changes that were recently introduced through Bill 23: More Homes, Built Faster Act, 2022. The following provides some of the key proposed changes that would impact water and wastewater:

1. The definition of capital costs is proposed to be amended to reinstate studies as an eligible capital cost

2. The five-year mandatory phase-in introduced by Bill 23 has been proposed to be removed. Note: the loss in D.C. funding due to the phase-in has not been incorporated into this analysis given this proposed change.

3. The time frame for the D.C. rate freeze related to site plan and zoning by-law amendment applications would be reduced from two (2) years to 18 months.

3.3 Municipal Act

Part XII of the *Municipal Act* provides municipalities with broad powers to impose fees and charges via passage of a by-law. These powers, as presented in s.391(1), include imposing fees or charges:

- "for services or activities provided or done by or on behalf of it;
- for costs payable by it for services or activities provided or done by or on behalf of any other municipality or local board; and
- for the use of its property including property under its control."

Restrictions are provided to ensure that the form of the charge is not akin to a poll tax. Any charges not paid under this authority may be added to the tax roll and collected in a like manner. The fees and charges imposed under this part are not appealable to the Ontario Land Tribunal ((OLT) formerly Local Planning Appeal Tribunal (LPAT), formerly O.M.B.).

Section 221 of the previous *Municipal Act* permitted municipalities to impose charges, by by-law, on owners or occupants of land who would or might derive benefit from the construction of sewage (storm and sanitary) or water works being authorized (in a specific benefit area). For a by-law imposed under this section of the previous Act:

- A variety of different means could be used to establish the rate and recovery of the costs and could be imposed by a number of methods at the discretion of Council (i.e. lot size, frontage, number of benefiting properties, etc.);
- Rates could be imposed with respect to costs of major capital works, even though an immediate benefit was not enjoyed;
- Non-abutting owners could be charged;
- Recovery was authorized against existing works, where a new water or sewer main was added to such works, "notwithstanding that the capital costs of existing works has in whole or in part been paid;"
- Charges on individual parcels could be deferred;
- Exemptions could be established;
- Repayment was secured; and
- OLT approval was not required.

While under the new *Municipal Act* no provisions are provided specific to the previous s.221, the intent to allow capital cost recovery through fees and charges is embraced within s.391. The new *Municipal Act* also maintains the ability of municipalities to impose capital charges for water and sewer services on landowners not receiving an immediate benefit from the works. Under s.391(2) of the Act, "a fee or charge imposed under subsection (1) for capital costs related to sewage or water services or activities may be imposed on persons not receiving an immediate benefit from the services or activities but who will receive a benefit at some later point in time." Also, capital charges imposed under s.391 are not appealable to the OLT on the grounds that the charges are "unfair or unjust."

Section 222 of the previous *Municipal Act* permitted municipalities to pass a by-law requiring buildings to connect to the municipality's sewer and water systems, charging the owner for the cost of constructing services from the mains to the property line. Under the new *Municipal Act*, this power still exists under Part II, General Municipal Powers (s.9 (3) b of the *Municipal Act*). Enforcement and penalties for this use of power are contained in s.427 (1) of the *Municipal Act*.

Under the previous *Local Improvement Act*:

- A variety of different types of works could be undertaken, such as watermain, storm and sanitary sewer projects, supply of electrical light or power, bridge construction, sidewalks, road widening and paving;

- Council could pass a by-law for undertaking such work on petition of a majority of benefiting taxpayers, on a 2/3 vote of Council and on sanitary grounds, based on the recommendation of the Minister of Health. The by-law was required to go to the OLT, which might hold hearings and alter the by-law, particularly if there were objections;
- The entire cost of a work was assessed only upon the lots abutting directly on the work, according to the extent of their respective frontages, using an equal special rate per metre of frontage; and
- As noted, this Act was repealed as of April 1, 2003; however, O. Reg. 119/03 was enacted on April 19, 2003 which restores many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

3.4 Historical Grant Funding Availability

Federal Infrastructure Funding

Phase 1 (April 1, 2016 to March 31, 2018)

Funding was provided by the Government of Canada to expressly help municipalities with repair and rehabilitation projects. Funding was mainly provided through the Clean Water and Wastewater Fund (C.W.W.F.) and Public Transit Infrastructure Fund (P.T.I.F.) in Federal Phase 1 projects. The C.W.W.F. was announced in Ontario on September 15, 2016. The Fund was $1.1 billion for water, wastewater, and storm water systems in Ontario. The federal government provided $569 million and Ontario and municipal governments provided $275 million each.

Over 1,300 water, wastewater, and storm water projects have been approved in Ontario through the C.W.W.F. In Ontario, P.T.I.F. accounted for nearly $1.5 billion of the national total of $3.4 billion. The program was allocated by ridership numbers from the Canadian Urban Transit Association. The Association of Municipalities of Ontario (A.M.O.) understands that $1 billion of Ontario's share has been approved.

Phase 2: Next Steps

The federal government announced Phase 2 of its infrastructure funding plan with a total of $180 billion spent over 11 years. In addition to the balance of funding for

previous green, social, and public transit infrastructure funds ($20 billion each, including Phase 1), the government added $10.1 billion for trade and transportation infrastructure and $2 billion for rural and northern communities.

In Phase 2, Ontario was eligible for $11.8 billion including $8.3 billion for transit, $2.8 billion for green infrastructure, $407 million for community, culture and recreation and $250 million for rural and northern communities.

Canada Community-Building Fund

The Canada Community-Building Fund is a permanent source of funding provided up front, twice-a-year, to Provinces and Territories, who in turn flow this funding to their municipalities to support local infrastructure priorities. Municipalities can pool, bank and borrow against this funding, providing significant financial flexibility. Every year, the Canada Community-Building Fund provides over $2 billion and supports approximately 2,500 projects in communities across Canada. Each municipality selects how best to direct the funds with the flexibility provided to make strategic investments across 18 different project categories, which include other water and wastewater servicing.

Ontario Government

The Province has taken steps to increase municipal infrastructure funding. The Ontario Community Infrastructure Fund (O.C.I.F.) was increased in 2016 with formula-based support growing to $200 million, and application funding growing to $100 million annually by 2018/2019. As well, $15 million annually will go to the new Connecting Links program to help pay for the construction and repair costs of municipal roads that connect communities to provincial highways. This is on top of the Building Ontario Up investment of $130 billion in public infrastructure over 10 years starting in 2015.

Recently the Province announced funding through a new Ontario Infrastructure Bank. This new, arms-length, board-governed agency will assist investors and institutions to further participate in large-scale infrastructure projects.

3.5 Existing Reserves/Reserve Funds

The City has established reserves and reserve funds for water and wastewater costs. The following table summarizes the water and wastewater reserve and reserve funds utilized in this analysis and their respective balances at December 31, 2023:

Table 3-1
Water and Wastewater Reserves and Reserve Funds
As of December 31, 2023

Reserve	Dec. 31 2023
Water	
Watermain Repair & Replacement Reserve Fund	14,201,907
Wastewater	
Sanitary Repair & Replacement Reserve Fund	37,134,783
Water and Wastewater	
City-wide Engineering D.C. Reserve Fund	44,571,664
Watermeter Repair & Replacement Reserve Fund	388,489
Water and Sewer Rate Stabilization Reserve	10,639,827

Based on discussions with staff, the following minimum balances have been targeted for the reserve funds over the forecast period:

- Watermain repair and replacement reserve fund: minimum balance of $5 million;
- Sanitary Sewer repair and replacement reserve fund: minimum balance of $5 million; and
- Water and Sewer Rate stabilization reserve: minimum balance of $1 million.

3.6 Debenture Financing

Although it is not a direct method of minimizing the overall cost to the ratepayer, debentures are used by municipalities to assist in cash flowing large capital expenditures.

The Ministry of Municipal Affairs regulates the level of debt incurred by Ontario municipalities, through its powers established under the *Municipal Act*. Ontario Regulation 403/02 provides the current rules respecting municipal debt and financial obligations. Through the rules established under these regulations, a municipality's debt capacity is capped at a level where no more than 25% of the municipality's own purpose revenue may be allotted for servicing the debt (i.e. debt charges). The City of Richmond Hill's 2022 calculation on Debt Capacity is shown on Schedule 81 of the City's most recent Financial Information Return (F.I.R.). This calculation provides the City's estimated annual repayment limit of approximately $67.11 million. Based upon 20-year financing at an assumed rate of 5.0%, the available debt for the City is

approximately $836.31 million. It is noted that the City does not currently have any debt payments outstanding for any of the services provided.

3.7 Infrastructure Ontario

Infrastructure Ontario (I.O.) is an arms-length crown corporation, which has been set up as a tool to offer low-cost and longer-term financing to assist municipalities in renewing their infrastructure (this corporation has merged the former O.S.I.F.A. into its operations). I.O. combines the infrastructure renewal needs of municipalities into an infrastructure investment "pool." I.O. will raise investment capital to finance loans to the public sector by selling a new investment product called Infrastructure Renewal Bonds to individual and institutional investors.

I.O. provides access to infrastructure capital that would not otherwise be available to smaller borrowers. Larger borrowers receive a longer term on their loans than they could obtain in the financial markets, and can also benefit from significant savings on transaction costs such as legal costs and underwriting commissions. Under the I.O. approach, all borrowers receive the same low interest rate. I.O. will enter into a financial agreement with each municipality subject to technical and credit reviews, for a loan up to the maximum amount of the loan request.

The first round of the former O.S.I.F.A.'s 2004/2005 infrastructure renewal program was focused on municipal priorities of clean water infrastructure, sewage treatment facilities, municipal roads and bridges, public transit and waste management infrastructure. The focus of the program was expanded in 2005/2006 to include:

- clean water infrastructure;
- sewage infrastructure;
- waste management infrastructure;
- municipal roads and bridges;
- public transit;
- municipal long-term care homes;
- renewal of municipal social housing and culture; and
- tourism and recreation infrastructure.

With the merging of O.S.I.F.A. and I.O., the program was broadened in late 2006 to also include municipal administrative buildings, local police and fire stations, emergency vehicles and equipment, ferries, docks and municipal airports.

To be eligible to receive these loans, municipalities must submit a formal application along with pertinent financial information. Allotments are prioritized and distributed based upon the Province's assessment of need.

The analysis provided herein assumes that the City will not require debt financing for the capital projects identified.

3.8 Recommended Capital Financing Approach

Of the various financing alternatives provided in this section, the following are recommended for further consideration by the City of Richmond Hill for the capital expenditures (inflated) provided in Chapter 2. Based on discussions with staff, it is assumed that all capital expenditures will be funded through the City's reserve and reserve funds, and debt will not be issued for any of the planned works.

Table 3-2
City of Richmond Hill
Capital Forecasting Financing Sources (2025-2032)
Inflated $

Description	Water	Wastewater
Capital Financing		
Provincial/Federal Grants	-	-
Development Charges Reserve Fund	12,799,000	6,432,000
Non-Growth Related Debenture Requirements	-	-
Growth Related Debenture Requirements	-	-
Operating Contributions	-	-
Watermeter Repair & Replacement Reserve Fund	3,372,000	-
Watermain Repair & Replacement Reserve Fund	170,105,000	-
Operating Contributions	-	-
Sanitary Repair & Replacement Reserve Fund	-	66,486,000
Total Capital Financing	**186,276,000**	**72,918,000**

Tables 3-3 and 3-4 provide for the full capital expenditure and funding program by year for water and wastewater, respectively.

Table 3-3
City of Richmond Hill
Capital Budget Forecast – Water (inflated $)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Capital Expenditures										
Bathurst Street Recon (York Region)	-	5,740,000	-	5,740,000	-	-	-	-	-	-
Bayview Avenue Recon (York Region)	-	4,003,000	386,000	-	3,617,000	-	-	-	-	-
Yonge Street WM (York Region)	-	1,195,000	-	-	-	-	1,195,000	-	-	-
Aubrey Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	125,106	1,302,000	-	1,302,000	-	-	-	-	-	-
Olde Bayview Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	131,869	1,372,000	-	1,372,000	-	-	-	-	-	-
Highland Lane Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	724,000	724,000	-	-	-	-	-	-	-
Blackforest Drive and Acorn Road Reconstruction (Road, Watermain, Sanitary, Storm)	2,468,313	-	-	-	-	-	-	-	-	-
Coons Road Reconstruction (Road, Watermain, Sanitary, Storm)	250,213	4,445,000	-	2,899,000	-	-	-	1,546,000	-	-
Elm Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	-	2,562,000	-	-	-	2,562,000	-	-	-	-
Maple Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	-	3,621,000	3,621,000	-	-	-	-	-	-	-
Ohio Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	528,000	-	528,000	-	-	-	-	-	-
Schomberg Road Reconstruction (Road, Watermain, Sanitary, Storm)	128,488	1,337,000	-	1,337,000	-	-	-	-	-	-
Bayview Watermain Replacement Expenditures	-	5,255,000	662,000	-	4,593,000	-	-	-	-	-
Carville Watermain Replacement	5,734,600	-	-	-	-	-	-	-	-	-
Watermain Replacement Forecast	-	55,441,000	1,405,000	6,059,000	9,002,000	9,885,000	6,803,000	7,049,000	8,849,000	6,389,000
Cynthia Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	-	2,926,000	-	-	-	184,000	-	2,742,000	-	-
Rockport Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	-	3,478,000	-	-	305,000	-	3,173,000	-	-	-
Shelley Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	418,000	-	-	-	37,000	-	381,000	-	-
Westwood Lane Reconstruction (Road, Watermain, Sanitary, Storm)	-	962,000	-	84,000	-	878,000	-	-	-	-
Road Rehabilitation and Reconstruction (Road, Watermain, Sanitary, Storm)	-	17,370,000	521,000	566,000	5,605,000	5,980,000	2,188,000	941,000	1,569,000	-
Centre Street Watermain Replacement	-	3,311,000	3,311,000	-	-	-	-	-	-	-
Enford Road Rehabilitation - (Road, Watermain, Sanitary, Storm)	-	704,000	-	704,000	-	-	-	-	-	-
Industrial Road Rehabilitation (Road, Watermain, Sanitary, Storm)	-	826,000	-	826,000	-	-	-	-	-	-
AMI Collectors - Replacement	358,701	2,014,000	-	-	-	-	283,000	1,731,000	-	-
Water Meters - Replacements	173,667	1,358,000	111,000	121,000	163,000	171,000	258,000	202,000	142,000	190,000
Road Rehabilitation and Reconstruction - Urbanized (Road, Watermain, Sanitary, Storm)	-	30,844,000	177,000	501,000	2,654,000	5,750,000	8,803,000	6,040,000	2,699,000	4,220,000

Table 3-3 (Cont'd)
Capital Budget Forecast – Water (inflated $)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Arnold Crescent Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	2,460,000	2,460,000	-	-	-	-	-	-	-
Elizabeth Street Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	788,000	788,000	-	-	-	-	-	-	-
Watermain Leak Detection	50,750	-	-	-	-	-	-	-	-	-
Capelle Street Reconstruction (Road, Watermain, Sanitary, Storm)	30,431	317,000	-	317,000	-	-	-	-	-	-
Wendy Way Reconstruction (Road, Watermain, Sanitary, Storm)	43,111	293,000	293,000	-	-	-	-	-	-	-
Watermain Replacement Cedar Avenue	865,600	-	-	-	-	-	-	-	-	-
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm) (Non-Growth Related Component)	216,400	2,251,000	-	2,251,000	-	-	-	-	-	-
Sanitary and Water Improvements - Various Locations - City Contribution (Non-Growth Related Component)	-	1,344,000	157,000	160,000	163,000	166,000	169,000	173,000	176,000	180,000
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution (Non-Growth Related Component)	-	35,000	35,000	-	-	-	-	-	-	-
Other		-								
Water, Wastewater and Stormwater Model Review	-	298,000	35,000	35,000	36,000	37,000	38,000	38,000	39,000	40,000
Financial Planning and Management Reporting Software	39,585	38,000	38,000	-	-	-	-	-	-	-
Fleet and Operational Equipment	-	887,000	22,000	5,000	79,000	-	410,000	-	322,000	49,000
Licensed Equipment Replacement	-	24,000	-	-	-	-	6,000	-	11,000	7,000
Vehicle Replacements	137,001	1,686,000	339,000	87,000	188,000	750,000	-	49,000	222,000	51,000
Water Master Plan	-	429,000	204,000	-	-	-	-	225,000	-	-
Road Reconstruction Works - Watermains	-	10,891,000	1,269,000	1,294,000	1,320,000	1,347,000	1,373,000	1,401,000	1,429,000	1,458,000
Growth Related:		-	-	-	-	-	-	-	-	-
Elgin Mills Road W Recon (York Region)	-	4,593,000	-	-	4,593,000	-	-	-	-	-
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm)	25,968	-	-	-	-	-	-	-	-	-
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution	-	1,338,000	1,338,000	-	-	-	-	-	-	-
Sanitary and Water Improvements - Various Locations - City Contribution	-	6,868,000	800,000	816,000	833,000	849,000	866,000	884,000	901,000	919,000
Total Capital Expenditures	**10,779,801**	**186,276,000**	**18,696,000**	**27,004,000**	**33,151,000**	**28,596,000**	**25,565,000**	**23,402,000**	**16,359,000**	**13,503,000**
Capital Financing										
Provincial/Federal Grants		-								
Development Charges Reserve Fund	25,968	12,799,000	2,138,000	816,000	5,426,000	849,000	866,000	884,000	901,000	919,000
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-
Watermeter Repair & Replacement Reserve Fund	1,025,049	3,372,000	111,000	121,000	163,000	171,000	541,000	1,933,000	142,000	190,000
Watermain Repair & Replacement Reserve Fund	9,728,785	170,105,000	16,447,000	26,067,000	27,562,000	27,576,000	24,158,000	20,585,000	15,316,000	12,394,000
Total Capital Financing	**10,779,801**	**186,276,000**	**18,696,000**	**27,004,000**	**33,151,000**	**28,596,000**	**25,565,000**	**23,402,000**	**16,359,000**	**13,503,000**

Note: only the portion of the project costs which pertain to water are provided in the table above.

Table 3-4
City of Richmond Hill
Capital Budget Forecast – Wastewater (inflated $)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Capital Expenditures										
Bayview Avenue Recon (York Region)	-	2,288,000	221,000	-	2,067,000	-	-	-	-	-
Aubrey Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	50,043	521,000	-	521,000	-	-	-	-	-	-
Olde Bayview Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	52,748	549,000	-	549,000	-	-	-	-	-	-
Highland Lane Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	290,000	290,000	-	-	-	-	-	-	-
Blackforest Drive and Acorn Road Reconstruction (Road, Watermain, Sanitary, Storm)	987,325	-	-	-	-	-	-	-	-	-
Coons Road Reconstruction (Road, Watermain, Sanitary, Storm)	100,085	1,778,000	-	1,160,000	-	-	-	618,000	-	-
Elm Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	-	1,025,000	-	-	-	1,025,000	-	-	-	-
Maple Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	140,660	1,449,000	1,449,000	-	-	-	-	-	-	-
Ohio Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	211,000	-	211,000	-	-	-	-	-	-
Schomberg Road Reconstruction (Road, Watermain, Sanitary, Storm)	51,395	535,000	-	535,000	-	-	-	-	-	-
Cynthia Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	-	1,171,000	-	-	-	74,000	-	1,097,000	-	-
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm)	86,560	901,000	-	901,000	-	-	-	-	-	-
Rockport Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	-	1,391,000	-	-	122,000	-	1,269,000	-	-	-
Shelley Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	167,000	-	-	-	15,000	-	152,000	-	-
Westwood Lane Reconstruction (Road, Watermain, Sanitary, Storm)	-	385,000	-	34,000	-	351,000	-	-	-	-
Road Rehabilitation and Reconstruction (Road, Watermain, Sanitary, Storm)	-	6,948,000	208,000	227,000	2,242,000	2,392,000	875,000	376,000	628,000	-
Sanitary Sewer Improvements (WW13) May Ave, Weldrick Rd West - City Contribution (Non-Growth Component)	1,653,247	-	-	-	-	-	-	-	-	-
Enford Road Rehabilitation - (Road, Watermain, Sanitary, Storm)	-	704,000	-	704,000	-	-	-	-	-	-

Table 3-4 (Cont'd)
Capital Budget Forecast – Wastewater (inflated $)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Industrial Road Rehabilitation (Road, Watermain, Sanitary, Storm)	-	330,000	-	330,000	-	-	-	-	-	-
Centre Street Sanitary Sewer Replacement (Road and Sanitary)	-	2,980,000	2,980,000	-	-	-	-	-	-	-
Inflow and Infiltration Reduction Prog.	121,800	127,000	-	127,000	-	-	-	-	-	-
Wastewater Collection System Repairs	375,550	891,000	331,000	-	560,000	-	-	-	-	-
Road Rehabilitation and Reconstruction - Urbanized (Road, Watermain, Sanitary, Storm)	-	12,418,000	71,000	201,000	1,062,000	2,303,000	3,525,000	2,453,000	1,098,000	1,705,000
Arnold Crescent Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	759,000	759,000	-	-	-	-	-	-	-
Elizabeth Street Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	315,000	315,000	-	-	-	-	-	-	-
Capelle Street Reconstruction (Road, Watermain, Sanitary, Storm)	12,173	127,000	-	127,000	-	-	-	-	-	-
Rosegarden Crescent Reconstruction (Sanitary)	2,272,200	-	-	-	-	-	-	-	-	-
Wendy Way Reconstruction (Road, Watermain, Sanitary, Storm)	17,245	117,000	117,000	-	-	-	-	-	-	-
Sanitary and Water Improvements - Various Locations - City Contribution (Non-Growth Component)	-	3,286,000	383,000	391,000	398,000	406,000	414,000	423,000	431,000	440,000
South Richvale Valleyland Sewer Protection	162,300	642,000	-	642,000	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
Water, Wastewater and Stormwater Model Review	-	289,000	34,000	34,000	35,000	36,000	36,000	37,000	38,000	39,000
Financial Planning and Management Reporting Software	39,585	38,000	38,000	-	-	-	-	-	-	-
Fleet and Operational Equipment	-	166,000	6,000	1,000	21,000	-	108,000	-	17,000	13,000
Licensed Equipment Replacement	-	7,000	-	-	-	-	2,000	-	3,000	2,000
Vehicle Replacements	36,053	442,000	89,000	23,000	49,000	197,000	-	13,000	58,000	13,000
Wastewater Master Plan	-	695,000	357,000	-	-	-	-	338,000	-	-
Road Reconstruction Works Provision - Sanitary Sewers	-	22,544,000	2,627,000	2,679,000	2,733,000	2,787,000	2,843,000	2,900,000	2,958,000	3,017,000
Growth Related:		-	-	-	-	-	-	-	-	-
Sanitary Sewer Improvements (WW13) May Ave, Weldrick Rd West - City Contribution	1,058,944	-	-	-	-	-	-	-	-	-
Sanitary Sewer Improvements (WW2) - Yonge Street from Muirhead Cr to Jefferson - City Contribution	-	2,697,000	2,697,000	-	-	-	-	-	-	-
Sanitary and Water Improvements - Various Locations - City Contribution	-	3,735,000	435,000	444,000	453,000	462,000	471,000	480,000	490,000	500,000
Total Capital Expenditures	**7,217,911**	**72,918,000**	**13,407,000**	**9,841,000**	**9,742,000**	**10,048,000**	**9,543,000**	**8,887,000**	**5,721,000**	**5,729,000**

Table 3-4 (Cont'd)
Capital Budget Forecast – Wastewater (inflated $)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Total Capital Expenditures	**7,217,911**	**72,918,000**	**13,407,000**	**9,841,000**	**9,742,000**	**10,048,000**	**9,543,000**	**8,887,000**	**5,721,000**	**5,729,000**
Capital Financing										
Provincial/Federal Grants		-								
Development Charges Reserve Fund	1,058,944	6,432,000	3,132,000	444,000	453,000	462,000	471,000	480,000	490,000	500,000
Non-Growth Related Debenture Requirements	162,300	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-
Sanitary Sewer Repair & Replacement Reserve Fund	5,996,668	66,486,000	10,275,000	9,397,000	9,289,000	9,586,000	9,072,000	8,407,000	5,231,000	5,229,000
Total Capital Financing	**7,217,911**	**72,918,000**	**13,407,000**	**9,841,000**	**9,742,000**	**10,048,000**	**9,543,000**	**8,887,000**	**5,721,000**	**5,729,000**

Note: only the portion of the project costs which pertain to wastewater are provided in the table above.

Chapter 4
Overview of Operating Expenditures and Revenues

4. Overview of Operating Expenditures and Revenues

4.1 Water

4.1.1 Operating Expenditures

In this report, the forecast water budget figures (2025 to 2032) are based on the 2024 operating budget along with a detailed analysis undertaken by staff on future operating costs.

The cost related to purchasing water represents the largest operating expenditure. This cost is calculated based on projections provided by the Region which assume an annual increase in volumes of 1%. The wholesale rate to purchase water from the Region is based on the following:

- 2025 to 2027: 3.3% annual increases based on the Region's 2021 Rate Study; and
- 2028 to 2032: 2.9% annual increase based on best estimates known at this time.

Water operating expenditures also include all costs related to existing and projected administrative personnel/operators that are responsible for operating the network. In addition, operating expenditures shared between water and wastewater operations include the following:

- Contracts for repairing watermain breaks, emergency repairs, preventative maintenance; and
- Purchase of minor equipment, materials, vehicle rentals, and uniforms.

A chargeback approach is utilized by the City to ensure that all costs related to an activity are recovered from the appropriate budget. As part of the tax supported budget, there are City staff/resources that allocate a portion of time to water operations, either directly or indirectly. The City estimates a percentage of staff time and resources related to water activities to calculate an amount to allocate to the water budget. This is identified as a "Transfer to Operating Fund" expenditure within the water budget to provide for a chargeback to reimburse the tax-supported budget for costs related to water.

Annual contributions have been provided to the capital reserve funds over the forecast period in order to eliminate the need to debt finance the capital program. Also included are any contributions to reserve funds. It is noted that capital needs are significant in the first half of the forecast period for water. Given this, contributions from the rate stabilization reserve to the operating budget have been made to minimize the required rate increase.

4.1.2 Operating Revenues

The City has a minor component of operating revenues related to investment income. This income helps contribute towards operating expenditures.

Due to the significant water capital projects in the first half of the forecast period, contributions from the Water and Sewer Rate Stabilization Reserve are required to minimize rate increases from 2025 to 2029.

Table 4-1 provides for the operating budget for the water system.

Table 4-1
City of Richmond Hill
Operating Budget Forecast – Water (inflated $)

Description	Budget 2024	Forecast 2025	2026	2027	2028	2029	2030	2031	2032
Expenditures									
Operating Costs									
Water Supply Costs	29,946,100	31,042,000	32,143,800	33,645,100	35,093,600	36,526,800	38,063,050	39,653,300	41,308,150
Water Meter Services	151,700	132,731	139,133	145,729	152,325	159,215	166,155	173,336	180,764
Administration	840,100	769,592	792,815	816,841	841,671	867,223	893,551	920,785	948,845
Operations	4,119,100	3,468,881	3,613,694	3,729,369	3,815,920	3,935,175	4,087,935	4,215,185	4,377,285
Transfer to Operating Fund	3,832,600	4,125,374	4,242,317	4,327,475	4,441,346	4,609,242	4,686,197	4,818,289	4,954,526
Sub Total Operating	**38,889,600**	**39,538,577**	**40,931,759**	**42,664,515**	**44,344,862**	**46,097,655**	**47,896,888**	**49,780,894**	**51,769,570**
Capital-Related									
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)		-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)		-	-	-	-	-	-	-	-
Transfer to Capital		-	-	-	-	-	-	-	-
Transfer to Water and Sewer Rate Stabilization Reserve	719,900	-	-	-	-	-	1,160,738	6,518,680	8,312,180
Transfer to Watermeter Repair & Replacement Reserve Fund	854,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Transfer to Watermain Repair & Replacement Reserve Fund	6,129,500	10,500,000	26,433,223	27,000,000	27,500,000	24,748,474	23,000,000	18,657,223	17,927,994
Sub Total Capital Related	**7,703,400**	**10,800,000**	**26,733,223**	**27,300,000**	**27,800,000**	**25,048,474**	**24,460,738**	**25,475,903**	**26,540,174**
Total Expenditures	**46,593,000**	**50,338,577**	**67,664,982**	**69,964,515**	**72,144,862**	**71,146,129**	**72,357,626**	**75,256,797**	**78,309,744**
Revenues									
Investment Income	30,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000
Contributions from Watermeter Repair & Replacement Reserve Fund	30,000	31,200	32,450	33,750	35,000	36,300	37,650	39,050	40,500
Contribution from Water and Sewer Rate Stabilization Reserve	6,351,152	5,509,640	17,596,196	14,081,939	9,791,853	1,583,283	-	-	-
Contributions from City-Wide Engineering D.C. Reserve Fund	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**6,411,152**	**5,665,840**	**17,753,646**	**14,240,689**	**9,951,853**	**1,744,583**	**162,650**	**164,050**	**165,500**
Water Billing Recovery - Total	**40,181,848**	**44,672,737**	**49,911,336**	**55,723,826**	**62,193,009**	**69,401,546**	**72,194,976**	**75,092,747**	**78,144,244**

4.2 Wastewater

4.2.1 Operating Expenditures

In this report, the forecast wastewater budget figures (2025 to 2032) are based on the 2024 operating budgets along with a detailed analysis undertaken by staff on future operating costs.

Similar to water, the cost related to treatment of wastewater by the Region represents the largest operating expenditure. This cost is calculated based on projections provided by the Region which assume an annual increase in volumes of 1%. The wholesale rate to treat wastewater is based on the following:

- 2025 to 2027: 3.3% annual increases based on the Region's 2021 Rate Study; and
- 2028 to 2032: 2.9% annual increase based on best estimates known at this time.

Wastewater operating expenditures also include all costs related to existing and projected administrative personnel/operators that are responsible for operating the network. In addition, operating expenditures shared between water and wastewater operations include the following:

- Contracts for repairing sewer breaks, emergency repairs, preventative maintenance; and
- Purchase of minor equipment, materials, vehicle rentals, and uniforms.

A chargeback approach is utilized by the City to ensure that all costs related to an activity are recovered from the appropriate budget. As part of the tax supported budget, there are City staff/resources that allocate a portion of time to wastewater operations, either directly or indirectly. The City estimates a percentage of staff time and resources related to wastewater activities to calculate an amount to allocate to the wastewater budget. This is identified as a "Transfer to Operating Fund" expenditure within the wastewater budget to provide for a chargeback to reimburse the tax-supported budget for costs related to wastewater.

Annual contributions have been provided to the capital reserve fund over the forecast period in order to remove the need to issue debt to finance the capital program. These contributions include transfers to the Watermeter Repair & Replacement Reserve Fund to support the replacement of watermeters and contributions to the Sanitary Repair & Replacement Reserve Fund to fund the replacement of existing wastewater assets. In addition, transfers to the Water & Sewer Rate Stabilization Reserve have been made throughout the forecast period to assist in minimizing the required rate increases for water, given that this is a shared reserve fund.

4.2.2 Operating Revenues

The City has a minor component of operating revenues related to investment income. This income helps contribute towards operating expenditures.

Table 4-2 provides for the operating budget for the wastewater system.

Table 4-2
Operating Budget Forecast – Wastewater (inflated $)

Description	Budget 2024	Forecast 2025	2026	2027	2028	2029	2030	2031	2032
Expenditures									
Operating Costs									
Regional Wastewater Treatment Costs	40,973,100	42,603,400	44,776,000	46,637,500	48,418,200	50,256,700	52,126,450	54,065,500	56,126,050
Water Meter Services	131,200	132,731	139,133	145,729	152,325	159,215	166,155	173,336	180,764
Administration	437,900	509,819	524,901	540,495	556,599	573,199	590,331	608,045	626,325
Operations	1,032,100	2,324,970	2,401,870	2,474,980	2,544,170	2,621,360	2,702,595	2,780,190	2,866,310
Transfer to Operating Fund	2,773,100	2,941,852	3,042,217	3,113,776	3,200,376	3,337,973	3,384,636	3,483,093	3,584,693
Sub Total Operating	**45,347,400**	**48,512,772**	**50,884,121**	**52,912,480**	**54,871,670**	**56,948,448**	**58,970,167**	**61,110,164**	**63,384,142**
Capital-Related									
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)		-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)		-	-	-	-	-	-	-	-
Transfer to Water & Sewer Rate Stabilization Reserve	7,619,634	10,113,411	10,177,215	10,641,280	3,252,203	1,839,219	4,487,291	4,016,164	2,447,514
Transfer to Capital	-	-	-	-	-	-	-	-	-
Transfer to Watermeter Repair and Replacement Reserve Fund	854,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Transfer to Sanitary Repair and Replacement Reserve Fund	2,950,400				8,000,000	10,000,000	8,106,490	9,318,027	11,644,298
Sub Total Capital Related	**11,424,034**	**10,413,411**	**10,477,215**	**10,941,280**	**11,552,203**	**12,139,219**	**12,893,781**	**13,634,191**	**14,391,811**
Total Expenditures	**56,771,434**	**58,926,183**	**61,361,337**	**63,853,760**	**66,423,873**	**69,087,667**	**71,863,948**	**74,744,354**	**77,775,953**
Revenues									
Investment Income	30,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000
Contributions from Watermeter Repair & Replacement Reserve Fund	30,000	31,200	32,450	33,750	35,000	36,300	37,650	39,050	40,500
Contributions from Water & Sewer Rate Stabilization Reserve	-	-	-	-	-	-	-	-	-
Contributions from City-Wide Engineering D.C. Reserve Fund	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**60,000**	**156,200**	**157,450**	**158,750**	**160,000**	**161,300**	**162,650**	**164,050**	**165,500**
Wastewater Billing Recovery - Total	**56,711,434**	**58,769,983**	**61,203,887**	**63,695,010**	**66,263,873**	**68,926,367**	**71,701,298**	**74,580,304**	**77,610,453**

Chapter 5
Analysis of Water and Wastewater Rates

5. Analysis of Water and Wastewater Rates

5.1 Introduction

To summarize the analysis undertaken thus far, Chapter 2 reviewed capital-related issues and responds to the provincial directives to maintain and upgrade infrastructure to required levels. Chapter 3 provided a review of capital financing options to which water and wastewater reserve and reserve fund contributions will be the predominant basis for financing future capital replacement. Chapter 4 established the 8-year operating forecast of expenditures including capital and rate stabilization annual reserve and reserve fund contributions. This chapter will provide for the calculation of the volume rates over the forecast period. These calculations will be based on the net operating expenditures provided in Chapter 4, divided by the water consumption forecast and wastewater volumes provided in section 1.4.

5.2 Water Rates

The rates are calculated by taking the net recoverable amounts from Table 4-1 (the product of total expenditures less non-rate revenues) and divide them by the volumes resulting in the forecasted rates. Given the significant capital needs in the first half of the forecast period, the volume rate is anticipated to increase by 10.5% from 2025 to 2029, and 3% from 2030 to 2032. These percentage increases equate to an increase on the average annual residential bill between $39 and $58 per year from 2025 to 2029. The average annual dollar increase is $18 to $19 from 2030 to 2032. The volume rates are presented in Table 5-1. Detailed calculations of the volume rates are provided in Appendix A.

A summary of the recommended volume rates along with the total annual bill for an average residential user who consumes 170 cu.m. per year are provided in Table 5-1. Note, the “weighted” rates represent the average rate to be applied in each calendar year based on the implementation of new rates on April 1st. The “unweighted” rate represents the actual rate that would be applied.

Table 5-1
City of Richmond Hill
Average Annual Residential Water Bill (Based on an Annual Usage of 170 cu.m.)

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water Volume Rate - Weighted*	$2.16	$2.39	$2.64	$2.92	$3.23	$3.56	$3.67	$3.78	$3.89
Annual Volume	170	170	170	170	170	170	170	170	170
Total Annual Bill	**$368**	**$406**	**$449**	**$496**	**$548**	**$606**	**$624**	**$643**	**$662**
Annual % Increase		**10.5%**	**10.5%**	**10.5%**	**10.5%**	**10.5%**	**3%**	**3%**	**3%**
Annual $ Increase		**$38**	**$43**	**$47**	**$52**	**$58**	**$18**	**$19**	**$19**
*Constant Rate - Unweighted (January 1st to March 31st)***	*$2.10*	*$2.18*	*$2.46*	*$2.72*	*$3.00*	*$3.32*	*$3.67*	*$3.70*	*$3.81*
*Constant Rate - Unweighted (April 1st to December 31st)***	*$2.18*	*$2.46*	*$2.72*	*$3.00*	*$3.32*	*$3.67*	*$3.70*	*$3.81*	*$3.93*

*Weighted rate based on new rates implemented on April 1st of each year
**Actual rate to be applied to volumes

5.3 Wastewater Rates

Similar to water, the calculation of the wastewater rates takes the net recoverable amounts from Table 4-2 and completes the calculation by dividing them by the volumes, resulting in the forecast rates. Detailed calculations are provided in Appendix B.

The wastewater volume rates are anticipated to increase by 3% annually over the forecast period. This equates to an average annual dollar increase on the average residential wastewater bill of $16 to $19.

The following summarizes the recommended rates for wastewater and provides the average annual bill for a residential customer who uses 170 cu.m. per year. Note, the "weighted" rates represent the average rate to be applied in each calendar year based on the implementation of new rates on April 1st. The "unweighted" rate represents the actual rate that would be applied.

Table 5-2
City of Richmond Hill
Average Annual Residential Wastewater Bill (Based on an Annual Usage of 170 cu.m.)

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Wastewater Volume Rate - Weighted*	$3.05	$3.14	$3.24	$3.34	$3.44	$3.54	$3.65	$3.75	$3.87
Annual Volume	170	170	170	170	170	170	170	170	170
Total Annual Bill	**$519**	**$535**	**$551**	**$567**	**$584**	**$602**	**$620**	**$638**	**$657**
Annual % Increase		**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**
Annual $ Increase		**$16**	**$16**	**$16**	**$17**	**$18**	**$18**	**$18**	**$19**
*Constant Rate - Unweighted (January 1st to March 31st)***	*$2.96*	*$3.08*	*$3.17*	*$3.27*	*$3.37*	*$3.47*	*$3.57*	*$3.68*	*$3.79*
*Constant Rate - Unweighted (April 1st to December 31st)***	*$3.08*	*$3.17*	*$3.27*	*$3.37*	*$3.47*	*$3.57*	*$3.68*	*$3.79*	*$3.90*

*Weighted rate based on new rates implemented on April 1st of each year
**Actual rate to be applied to volumes

5.4 Forecast of Water and Wastewater Rate Impact for the Average Residential Customer

Based on the foregoing information, the combined impact of the water and wastewater volume rate charges equal to annual increases to the total bill for residential customers of 6% from 2025 to 2027, 7% from 2028 to 2029, and 3% from 2030 to 2032. Table 5-3 presents the forecast combined annual bill for customers based on an annual usage of 170 cu.m. Based on the table below the combined increase results in a monthly increase on the average residential bill of $3 to $6.

Table 5-3
City of Richmond Hill
Annual Average Water and Wastewater Bill Based on 170 cu.m.

Average Annual Residential Bill	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water Bill	$368	$406	$449	$496	$548	$606	$624	$643	$662
Wastewater Bill	$519	$535	$551	$567	$584	$602	$620	$638	$657
Water & Wastewater Total Bill	**$887**	**$941**	**$1,000**	**$1,063**	**$1,132**	**$1,208**	**$1,244**	**$1,281**	**$1,319**
Annual % Change		**6%**	**6%**	**6%**	**6%**	**7%**	**3%**	**3%**	**3%**
Annual $ Change		**$54**	**$59**	**$63**	**$69**	**$76**	**$36**	**$37**	**$38**
Monthly $ Change		**$5**	**$5**	**$5**	**$6**	**$6**	**$3**	**$3**	**$3**

Chapter 6
Recommendations

6. Recommendations

As presented within this report, capital and operating expenditures have been identified and forecast over an 8-year period for water and wastewater services.

Based upon the foregoing, the following recommendations are identified for consideration by City Council:

1. That Council provide for the recovery of all water and wastewater costs through full cost recovery rates.

2. That Council consider the Capital Plan for water and wastewater as provided in Tables 2-1 and 2-2 and the associated Capital Financing Plan as set out in Tables 3-3 and 3-4.

3. That Council consider the operating costs for water and wastewater as provided in Tables 4-1 and 4-2.

4. That Council consider the volume rates for water and wastewater as provided in Tables 5-1 through 5-3 respectively.

Appendices

Appendix A
Detailed Water Rate Calculations

Appendix A: Detailed Water Rate Calculations

Table A-1
City of Richmond Hill
Water Capital Budget Forecast (Uninflated $)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Capital Expenditures										
Bathurst Street Recon (York Region)		5,517,551		5,517,551						
Bayview Avenue Recon (York Region)		3,787,000	378,700		3,408,300					
Yonge Street WM (York Region)		1,082,000					1,082,000			
Aubrey Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	125,106	1,251,063		1,251,063						
Olde Bayview Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	131,869	1,318,688		1,318,688						
Highland Lane Road Reconstruction (Road, Watermain, Sanitary, Storm)		710,063	710,063							
Blackforest Drive and Acorn Road Reconstruction (Road, Watermain, Sanitary, Storm)	2,468,313	-								
Coons Road Reconstruction (Road, Watermain, Sanitary, Storm)	250,213	4,158,938		2,786,488				1,372,449		
Elm Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)		2,366,875				2,366,875				
Maple Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)		3,550,313	3,550,313							
Ohio Road Reconstruction (Road, Watermain, Sanitary, Storm)		507,188		507,188						
Schomberg Road Reconstruction (Road, Watermain, Sanitary, Storm)	128,488	1,284,875		1,284,875						
Bayview Watermain Replacement Expenditures		4,977,200	649,200		4,328,000					
Carville Watermain Replacement	5,734,600	-								
Watermain Replacement Forecast		50,394,150	1,377,386	5,823,324	8,482,880	9,132,080	6,161,990	6,259,370	7,703,840	5,453,280
Cynthia Crescent Reconstruction (Road, Watermain, Sanitary, Storm)		2,604,915				170,415		2,434,500		
Rockport Crescent Reconstruction (Road, Watermain, Sanitary, Storm)		3,161,469			287,406		2,874,063			
Shelley Road Reconstruction (Road, Watermain, Sanitary, Storm)		371,938				33,813		338,125		
Westwood Lane Reconstruction (Road, Watermain, Sanitary, Storm)		892,650		81,150		811,500				
Road Rehabilitation and Reconstruction (Road, Watermain, Sanitary, Storm)		16,044,031	510,569	544,381	5,281,513	5,524,963	1,981,413	835,169	1,366,025	
Centre Street Watermain Replacement		3,246,000	3,246,000							
Enford Road Rehabilitation - (Road, Watermain, Sanitary, Storm)		676,250		676,250						
Industrial Road Rehabilitation (Road, Watermain, Sanitary, Storm)		793,466		793,466						
AMI Collectors - Replacement	358,701	1,793,505					256,186	1,537,319		
Water Meters - Replacements	173,667	1,235,052	109,113	116,218	153,164	157,630	233,755	179,554	123,627	161,994

Table A-1 (Cont'd)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Road Rehabilitation and Reconstruction - Urbanized (Road, Watermain, Sanitary, Storm)		27,756,531	173,872	481,723	2,500,815	5,311,862	7,973,194	5,363,496	2,350,032	3,601,539
Arnold Crescent Road Reconstruction (Road, Watermain, Sanitary, Storm)		2,411,508	2,411,508							
Elizabeth Street Road Reconstruction (Road, Watermain, Sanitary, Storm)		772,857	772,857							
Watermain Leak Detection	50,750	-								
Capelle Street Reconstruction (Road, Watermain, Sanitary, Storm)	30,431	304,313		304,313						
Wendy Way Reconstruction (Road, Watermain, Sanitary, Storm)	43,111	287,406	287,406							
Watermain Replacement Cedar Avenue	865,600	-								
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm) (Non-Growth Related Component)	216,400	2,164,000		2,164,000						
Sanitary and Water Improvements - Various Locations - City Contribution (Non-Growth Related Component)		1,227,744	153,468	153,468	153,468	153,468	153,468	153,468	153,468	153,468
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution (Non-Growth Related Component)		33,975	33,975							
Other		-								
Water, Wastewater and Stormwater Model Review		272,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000
Financial Planning and Management Reporting Software	39,585	37,048	37,048							
Fleet and Operational Equipment		793,308	21,291	4,628	74,054		371,198		280,481	41,656
Licensed Equipment Replacement		20,365					5,554		9,257	5,554
Vehicle Replacements	137,001	1,566,251	332,319	83,311	176,805	693,334		43,507	193,467	43,507
Water Master Plan		400,000	200,000					200,000		
Road Reconstruction Works - Watermains		9,952,000	1,244,000	1,244,000	1,244,000	1,244,000	1,244,000	1,244,000	1,244,000	1,244,000
Growth Related:		-								
Elgin Mills Road W Recon (York Region)		4,328,000			4,328,000					
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm)	25,968	-								
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution		1,311,591	1,311,591							
Sanitary and Water Improvements - Various Locations - City Contribution		6,276,760	784,595	784,595	784,595	784,595	784,595	784,595	784,595	784,595
Total Capital Expenditures	**10,779,801**	**171,640,831**	**18,329,271**	**25,954,678**	**31,236,999**	**26,418,533**	**23,155,414**	**20,779,551**	**14,242,791**	**11,523,592**

Note: only the portion of the project costs which pertain to water are provided in the table above.

Table A-2
City of Richmond Hill
Water Capital Budget Forecast (Inflated $)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Capital Expenditures										
Bathurst Street Recon (York Region)	-	5,740,000	-	5,740,000	-	-	-	-	-	-
Bayview Avenue Recon (York Region)	-	4,003,000	386,000	-	3,617,000	-	-	-	-	-
Yonge Street WM (York Region)	-	1,195,000	-	-	-	-	1,195,000	-	-	-
Aubrey Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	125,106	1,302,000	-	1,302,000	-	-	-	-	-	-
Olde Bayview Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	131,869	1,372,000	-	1,372,000	-	-	-	-	-	-
Highland Lane Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	724,000	724,000	-	-	-	-	-	-	-
Blackforest Drive and Acorn Road Reconstruction (Road, Watermain, Sanitary, Storm)	2,468,313	-	-	-	-	-	-	-	-	-
Coons Road Reconstruction (Road, Watermain, Sanitary, Storm)	250,213	4,445,000	-	2,899,000	-	-	-	1,546,000	-	-
Elm Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	-	2,562,000	-	-	-	2,562,000	-	-	-	-
Maple Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	-	3,621,000	3,621,000	-	-	-	-	-	-	-
Ohio Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	528,000	-	528,000	-	-	-	-	-	-
Schomberg Road Reconstruction (Road, Watermain, Sanitary, Storm)	128,488	1,337,000	-	1,337,000	-	-	-	-	-	-
Bayview Watermain Replacement Expenditures	-	5,255,000	662,000	-	4,593,000	-	-	-	-	-
Carville Watermain Replacement	5,734,600	-	-	-	-	-	-	-	-	-
Watermain Replacement Forecast	-	55,441,000	1,405,000	6,059,000	9,002,000	9,885,000	6,803,000	7,049,000	8,849,000	6,389,000
Cynthia Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	-	2,926,000	-	-	-	184,000	-	2,742,000	-	-
Rockport Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	-	3,478,000	-	-	305,000	-	3,173,000	-	-	-
Shelley Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	418,000	-	-	-	37,000	-	381,000	-	-
Westwood Lane Reconstruction (Road, Watermain, Sanitary, Storm)	-	962,000	-	84,000	-	878,000	-	-	-	-
Road Rehabilitation and Reconstruction (Road, Watermain, Sanitary, Storm)	-	17,370,000	521,000	566,000	5,605,000	5,980,000	2,188,000	941,000	1,569,000	-
Centre Street Watermain Replacement	-	3,311,000	3,311,000	-	-	-	-	-	-	-
Enford Road Rehabilitation - (Road, Watermain, Sanitary, Storm)	-	704,000	-	704,000	-	-	-	-	-	-
Industrial Road Rehabilitation (Road, Watermain, Sanitary, Storm)	-	826,000	-	826,000	-	-	-	-	-	-
AMI Collectors - Replacement	358,701	2,014,000	-	-	-	-	283,000	1,731,000	-	-
Water Meters - Replacements	173,667	1,358,000	111,000	121,000	163,000	171,000	258,000	202,000	142,000	190,000

Table A-2 (Cont'd)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Road Rehabilitation and Reconstruction - Urbanized (Road, Watermain, Sanitary, Storm)	-	30,844,000	177,000	501,000	2,654,000	5,750,000	8,803,000	6,040,000	2,699,000	4,220,000
Arnold Crescent Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	2,460,000	2,460,000	-	-	-	-	-	-	-
Elizabeth Street Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	788,000	788,000	-	-	-	-	-	-	-
Watermain Leak Detection	50,750	-	-	-	-	-	-	-	-	-
Capelle Street Reconstruction (Road, Watermain, Sanitary, Storm)	30,431	317,000	-	317,000	-	-	-	-	-	-
Wendy Way Reconstruction (Road, Watermain, Sanitary, Storm)	43,111	293,000	293,000	-	-	-	-	-	-	-
Watermain Replacement Cedar Avenue	865,600	-	-	-	-	-	-	-	-	-
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm) (Non-Growth Related Component)	216,400	2,251,000	-	2,251,000	-	-	-	-	-	-
Sanitary and Water Improvements - Various Locations - City Contribution (Non-Growth Related Component)	-	1,344,000	157,000	160,000	163,000	166,000	169,000	173,000	176,000	180,000
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution (Non-Growth Related Component)	-	35,000	35,000	-	-	-	-	-	-	-
Other		-								
Water, Wastewater and Stormwater Model Review	-	298,000	35,000	35,000	36,000	37,000	38,000	38,000	39,000	40,000
Financial Planning and Management Reporting Software	39,585	38,000	38,000	-	-	-	-	-	-	-
Fleet and Operational Equipment	-	887,000	22,000	5,000	79,000	-	410,000	-	322,000	49,000
Licensed Equipment Replacement	-	24,000	-	-	-	-	6,000	-	11,000	7,000
Vehicle Replacements	137,001	1,686,000	339,000	87,000	188,000	750,000	-	49,000	222,000	51,000
Water Master Plan	-	429,000	204,000	-	-	-	-	225,000	-	-
Road Reconstruction Works - Watermains	-	10,891,000	1,269,000	1,294,000	1,320,000	1,347,000	1,373,000	1,401,000	1,429,000	1,458,000
Growth Related:		-	-	-	-	-	-	-	-	-
Elgin Mills Road W Recon (York Region)	-	4,593,000	-	-	4,593,000	-	-	-	-	-
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm)	25,968	-	-	-	-	-	-	-	-	-
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution	-	1,338,000	1,338,000	-	-	-	-	-	-	-
Sanitary and Water Improvements - Various Locations - City Contribution	-	6,868,000	800,000	816,000	833,000	849,000	866,000	884,000	901,000	919,000
Total Capital Expenditures	**10,779,801**	**186,276,000**	**18,696,000**	**27,004,000**	**33,151,000**	**28,596,000**	**25,565,000**	**23,402,000**	**16,359,000**	**13,503,000**
Capital Financing										
Provincial/Federal Grants		-								
Development Charges Reserve Fund	25,968	12,799,000	2,138,000	816,000	5,426,000	849,000	866,000	884,000	901,000	919,000
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-
Watermeter Repair & Replacement Reserve Fund	1,025,049	3,372,000	111,000	121,000	163,000	171,000	541,000	1,933,000	142,000	190,000
Watermain Repair & Replacement Reserve Fund	9,728,785	170,105,000	16,447,000	26,067,000	27,562,000	27,576,000	24,158,000	20,585,000	15,316,000	12,394,000
Total Capital Financing	**10,779,801**	**186,276,000**	**18,696,000**	**27,004,000**	**33,151,000**	**28,596,000**	**25,565,000**	**23,402,000**	**16,359,000**	**13,503,000**

Note: only the portion of the project costs which pertain to water are provided in the table above.

Table A-3
City of Richmond Hill
Watermain Repair & Replacement Reserve Fund Continuity
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	14,201,907	11,075,538	5,231,109	5,709,279	5,250,224	5,277,709	5,985,547	8,568,557	12,147,976
Transfer from Operating	6,129,500	10,500,000	26,433,223	27,000,000	27,500,000	24,748,474	23,000,000	18,657,223	17,927,994
Transfer to Capital	9,728,785	16,447,000	26,067,000	27,562,000	27,576,000	24,158,000	20,585,000	15,316,000	12,394,000
Transfer to Operating	-	-	-	-	-	-	-	-	-
Closing Balance	**10,602,623**	**5,128,538**	**5,597,332**	**5,147,279**	**5,174,224**	**5,868,183**	**8,400,547**	**11,909,780**	**17,681,970**
Interest	472,915	102,571	111,947	102,946	103,484	117,364	168,011	238,196	353,639

Table A-4
City of Richmond Hill
City-wide Engineering D.C. Reserve Fund Continuity
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	44,571,664	45,702,194	32,884,384	18,387,507	21,270,815	(546,103)	(4,743,046)	7,874,162	1,900,615
Development Charge Proceeds	5,642,883	12,319,769	12,998,554	14,040,521	15,082,488	15,082,488	15,082,488	15,082,488	15,082,488
Transfer to Capital - Water	25,968	2,138,000	816,000	5,426,000	849,000	866,000	884,000	901,000	919,000
Transfer to Capital - Wastewater	1,058,944	3,132,000	444,000	453,000	462,000	471,000	480,000	490,000	500,000
Transfer to Capital - Stormwater	435,403	847,000	1,504,000	710,000	1,156,000	13,690,000	673,000	188,000	-
Transfer to Capital - Roads	4,788,136	19,665,371	25,091,971	4,985,288	34,421,698	4,159,430	582,674	19,514,302	2,153,422
Transfer to Operating	-	-	-	-	-	-	-	-	-
Closing Balance	**43,906,096**	**32,239,592**	**18,026,967**	**20,853,740**	**(535,395)**	**(4,650,045)**	**7,719,767**	**1,863,348**	**13,410,680**
Interest	1,796,098	644,792	360,539	417,075	(10,708)	(93,001)	154,395	37,267	268,214

Table A-5
City of Richmond Hill
Watermeter Repair and Replacement Reserve Fund Continuity
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	388,489	1,051,180	1,507,336	1,959,865	2,375,952	2,789,651	2,831,572	1,451,737	1,868,270
Transfer from Operating - Water	854,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Transfer from Operating - Wastewater	854,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Transfer to Capital	1,025,049	111,000	121,000	163,000	171,000	541,000	1,933,000	142,000	190,000
Transfer to Operating - Water	30,000	31,200	32,450	33,750	35,000	36,300	37,650	39,050	40,500
Transfer to Operating - Wastewater	30,000	31,200	32,450	33,750	35,000	36,300	37,650	39,050	40,500
Closing Balance	**1,011,440**	**1,477,780**	**1,921,436**	**2,329,365**	**2,734,952**	**2,776,051**	**1,423,272**	**1,831,637**	**2,197,270**
Interest	39,740	29,556	38,429	46,587	54,699	55,521	28,465	36,633	43,945

Table A-6
City of Richmond Hill
Water and Sewer Rate Stabilization Reserve Continuity
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	10,639,827	13,117,818	18,076,020	10,870,181	7,578,112	1,059,232	1,341,471	7,129,291	18,017,418
Transfer from Operating - Water	719,900	-	-	-	-	-	1,160,738	6,518,680	8,312,180
Transfer from Operating - Wastewater	7,619,634	10,113,411	10,177,215	10,641,280	3,252,203	1,839,219	4,487,291	4,016,164	2,447,514
Transfer to Capital									
Transfer to Operating - Wastewater									
Transfer to Operating - Water	6,351,152	5,509,640	17,596,196	14,081,939	9,791,853	1,583,283			
Closing Balance	**12,628,209**	**17,721,589**	**10,657,040**	**7,429,522**	**1,038,463**	**1,315,168**	**6,989,501**	**17,664,135**	**28,777,111**
Interest	489,609	354,432	213,141	148,590	20,769	26,303	139,790	353,283	575,542

Table A-7
City of Richmond Hill
Water Operating Budget Forecast
Inflated $

Description	Budget	Forecast							
	2024	2025	2026	2027	2028	2029	2030	2031	2032
Expenditures									
Operating Costs									
Water Supply Costs	29,946,100	31,042,000	32,143,800	33,645,100	35,093,600	36,526,800	38,063,050	39,653,300	41,308,150
Water Meter Services	151,700	132,731	139,133	145,729	152,325	159,215	166,155	173,336	180,764
Administration	840,100	769,592	792,815	816,841	841,671	867,223	893,551	920,785	948,845
Operations	4,119,100	3,468,881	3,613,694	3,729,369	3,815,920	3,935,175	4,087,935	4,215,185	4,377,285
Transfer to Operating Fund	3,832,600	4,125,374	4,242,317	4,327,475	4,441,346	4,609,242	4,686,197	4,818,289	4,954,526
Sub Total Operating	**38,889,600**	**39,538,577**	**40,931,759**	**42,664,515**	**44,344,862**	**46,097,655**	**47,896,888**	**49,780,894**	**51,769,570**
Capital-Related									
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)		-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)		-	-	-	-	-	-	-	-
Transfer to Capital		-	-	-	-	-	-	-	-
Transfer to Water and Sewer Rate Stabilization Reserve	719,900	-	-	-	-	-	1,160,738	6,518,680	8,312,180
Transfer to Watermeter Repair & Replacement Reserve Fund	854,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Transfer to Watermain Repair & Replacement Reserve Fund	6,129,500	10,500,000	26,433,223	27,000,000	27,500,000	24,748,474	23,000,000	18,657,223	17,927,994
Sub Total Capital Related	**7,703,400**	**10,800,000**	**26,733,223**	**27,300,000**	**27,800,000**	**25,048,474**	**24,460,738**	**25,475,903**	**26,540,174**
Total Expenditures	**46,593,000**	**50,338,577**	**67,664,982**	**69,964,515**	**72,144,862**	**71,146,129**	**72,357,626**	**75,256,797**	**78,309,744**
Revenues									
Investment Income	30,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000
Contributions from Watermeter Repair & Replacement Reserve Fund	30,000	31,200	32,450	33,750	35,000	36,300	37,650	39,050	40,500
Contribution from Water and Sewer Rate Stabilization Reserve	6,351,152	5,509,640	17,596,196	14,081,939	9,791,853	1,583,283	-	-	-
Contributions from City-Wide Engineering D.C. Reserve Fund	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**6,411,152**	**5,665,840**	**17,753,646**	**14,240,689**	**9,951,853**	**1,744,583**	**162,650**	**164,050**	**165,500**
Water Billing Recovery - Total	**40,181,848**	**44,672,737**	**49,911,336**	**55,723,826**	**62,193,009**	**69,401,546**	**72,194,976**	**75,092,747**	**78,144,244**

Table A-8
City of Richmond Hill
Water Rate Forecast
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total Water Billing Recovery	40,181,848	44,672,737	49,911,336	55,723,826	62,193,009	69,401,546	72,194,976	75,092,747	78,144,244
Total Volume (cu.m)	18,575,630	18,689,176	18,896,504	19,092,656	19,284,056	19,474,576	19,668,440	19,862,128	20,067,344
Constant Rate - Weighted*	**2.16**	**2.39**	**2.64**	**2.92**	**3.23**	**3.56**	**3.67**	**3.78**	**3.89**
Percentage Increase		**10.5%**	**10.5%**	**10.5%**	**10.5%**	**10.5%**	**3%**	**3%**	**3%**
*Constant Rate - Unweighted (January 1st to March 31st)***	*2.10*	*2.18*	*2.46*	*2.72*	*3.00*	*3.32*	*3.67*	*3.70*	*3.81*
*Constant Rate - Unweighted (April 1st to December 31st)***	*2.18*	*2.46*	*2.72*	*3.00*	*3.32*	*3.67*	*3.70*	*3.81*	*3.93*

*Weighted rate based on new rates implemented on April 1st of each year
**Actual rate to be applied to volumes

Appendix B
Detailed Wastewater Rate Calculations

Appendix B: Detailed Wastewater Rate Calculations

Table B-1
City of Richmond Hill
Wastewater Capital Budget Forecast (Uninflated $)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Capital Expenditures										
Bayview Avenue Recon (York Region)		2,164,000	216,400		1,947,600					
Aubrey Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	50,043	500,425		500,425						
Olde Bayview Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	52,748	527,475		527,475						
Highland Lane Road Reconstruction (Road, Watermain, Sanitary, Storm)		284,025	284,025							
Blackforest Drive and Acorn Road Reconstruction (Road, Watermain, Sanitary, Storm)	987,325	-								
Coons Road Reconstruction (Road, Watermain, Sanitary, Storm)	100,085	1,663,575		1,114,595				548,980		
Elm Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)		946,750				946,750				
Maple Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	140,660	1,420,125	1,420,125							
Ohio Road Reconstruction (Road, Watermain, Sanitary, Storm)		202,875		202,875						
Schomberg Road Reconstruction (Road, Watermain, Sanitary, Storm)	51,395	513,950		513,950						
Cynthia Crescent Reconstruction (Road, Watermain, Sanitary, Storm)		1,041,966				68,166		973,800		
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm)	86,560	865,600		865,600						
Rockport Crescent Reconstruction (Road, Watermain, Sanitary, Storm)		1,264,588			114,963		1,149,625			
Shelley Road Reconstruction (Road, Watermain, Sanitary, Storm)		148,775				13,525		135,250		
Westwood Lane Reconstruction (Road, Watermain, Sanitary, Storm)		357,060		32,460		324,600				
Road Rehabilitation and Reconstruction (Road, Watermain, Sanitary, Storm)		6,417,613	204,228	217,753	2,112,605	2,209,985	792,565	334,068	546,410	
Sanitary Sewer Improvements (WW13) May Ave, Weldrick Rd West - City Contribution (Non-Growth Component)	1,653,247	-								
Enford Road Rehabilitation - (Road, Watermain, Sanitary, Storm)		676,250		676,250						

Table B-1 (Cont'd)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Industrial Road Rehabilitation (Road, Watermain, Sanitary, Storm)		317,386		317,386						
Centre Street Sanitary Sewer Replacement (Road and Sanitary)		2,921,400	2,921,400							
Inflow and Infiltration Reduction Prog.	121,800	121,800		121,800						
Wastewater Collection System Repairs	375,550	852,600	324,800		527,800					
Road Rehabilitation and Reconstruction - Urbanized (Road, Watermain, Sanitary, Storm)		11,173,559	69,578	193,445	1,000,537	2,127,970	3,193,046	2,178,044	955,478	1,455,459
Arnold Crescent Road Reconstruction (Road, Watermain, Sanitary, Storm)		743,875	743,875							
Elizabeth Street Road Reconstruction (Road, Watermain, Sanitary, Storm)		309,143	309,143							
Capelle Street Reconstruction (Road, Watermain, Sanitary, Storm)	12,173	121,725		121,725						
Rosegarden Crescent Reconstruction (Sanitary)	2,272,200	-								
Wendy Way Reconstruction (Road, Watermain, Sanitary, Storm)	17,245	114,963	114,963							
Sanitary and Water Improvements - Various Locations - City Contribution (Non-Growth Component)		3,002,776	375,347	375,347	375,347	375,347	375,347	375,347	375,347	375,347
South Richvale Valleyland Sewer Protection	162,300	616,800		616,800						
Other		-								
Water, Wastewater and Stormwater Model Review		264,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000
Financial Planning and Management Reporting Software	39,585	37,048	37,048							
Fleet and Operational Equipment		149,717	5,603	1,218	19,488		97,684		14,762	10,962
Licensed Equipment Replacement		5,359					1,462		2,436	1,462
Vehicle Replacements	36,053	412,171	87,452	21,924	46,528	182,456		11,449	50,912	11,449
Wastewater Master Plan		650,000	350,000					300,000		
Road Reconstruction Works Provision - Sanitary Sewers		20,600,000	2,575,000	2,575,000	2,575,000	2,575,000	2,575,000	2,575,000	2,575,000	2,575,000
Growth Related:		-								
Sanitary Sewer Improvements (WW13) May Ave, Weldrick Rd West - City Contribution	1,058,944	-								
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution		2,644,596	2,644,596							
Sanitary and Water Improvements - Various Locations - City Contribution		3,412,024	426,503	426,503	426,503	426,503	426,503	426,503	426,503	426,503
Total Capital Expenditures	**7,217,911**	**67,465,992**	**13,143,085**	**9,455,531**	**9,179,370**	**9,283,303**	**8,644,231**	**7,891,441**	**4,979,849**	**4,889,182**

Note: only the portion of the project costs which pertain to wastewater are provided in the table above.

Table B-2
City of Richmond Hill
Wastewater Capital Budget Forecast (Inflated $)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Capital Expenditures										
Bayview Avenue Recon (York Region)	-	2,288,000	221,000	-	2,067,000	-	-	-	-	-
Aubrey Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	50,043	521,000	-	521,000	-	-	-	-	-	-
Olde Bayview Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	52,748	549,000	-	549,000	-	-	-	-	-	-
Highland Lane Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	290,000	290,000	-	-	-	-	-	-	-
Blackforest Drive and Acorn Road Reconstruction (Road, Watermain, Sanitary, Storm)	987,325	-	-	-	-	-	-	-	-	-
Coons Road Reconstruction (Road, Watermain, Sanitary, Storm)	100,085	1,778,000	-	1,160,000	-	-	-	618,000	-	-
Elm Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	-	1,025,000	-	-	-	1,025,000	-	-	-	-
Maple Grove Avenue Reconstruction (Road, Watermain, Sanitary, Storm)	140,660	1,449,000	1,449,000	-	-	-	-	-	-	-
Ohio Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	211,000	-	211,000	-	-	-	-	-	-
Schomberg Road Reconstruction (Road, Watermain, Sanitary, Storm)	51,395	535,000	-	535,000	-	-	-	-	-	-
Cynthia Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	-	1,171,000	-	-	-	74,000	-	1,097,000	-	-
Fergus Ave Moray Ave Reconstruction (Road, Watermain, Sanitary, Storm)	86,560	901,000	-	901,000	-	-	-	-	-	-
Rockport Crescent Reconstruction (Road, Watermain, Sanitary, Storm)	-	1,391,000	-	-	122,000	-	1,269,000	-	-	-
Shelley Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	167,000	-	-	-	15,000	-	152,000	-	-
Westwood Lane Reconstruction (Road, Watermain, Sanitary, Storm)	-	385,000	-	34,000	-	351,000	-	-	-	-
Road Rehabilitation and Reconstruction (Road, Watermain, Sanitary, Storm)	-	6,948,000	208,000	227,000	2,242,000	2,392,000	875,000	376,000	628,000	-
Sanitary Sewer Improvements (WW13) May Ave, Weldrick Rd West - City Contribution (Non-Growth Component)	1,653,247	-	-	-	-	-	-	-	-	-
Enford Road Rehabilitation - (Road, Watermain, Sanitary, Storm)	-	704,000	-	704,000	-	-	-	-	-	-
Industrial Road Rehabilitation (Road, Watermain, Sanitary, Storm)	-	330,000	-	330,000	-	-	-	-	-	-
Centre Street Sanitary Sewer Replacement (Road and Sanitary)	-	2,980,000	2,980,000	-	-	-	-	-	-	-
Inflow and Infiltration Reduction Prog.	121,800	127,000	-	127,000	-	-	-	-	-	-
Wastewater Collection System Repairs	375,550	891,000	331,000	-	560,000	-	-	-	-	-
Road Rehabilitation and Reconstruction - Urbanized (Road, Watermain, Sanitary, Storm)	-	12,418,000	71,000	201,000	1,062,000	2,303,000	3,525,000	2,453,000	1,098,000	1,705,000

Table B-2 (Cont'd)

Description	Budget 2024	Total	Forecast							
			2025	2026	2027	2028	2029	2030	2031	2032
Arnold Crescent Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	759,000	759,000	-	-	-	-	-	-	-
Elizabeth Street Road Reconstruction (Road, Watermain, Sanitary, Storm)	-	315,000	315,000	-	-	-	-	-	-	-
Capelle Street Reconstruction (Road, Watermain, Sanitary, Storm)	12,173	127,000	-	127,000	-	-	-	-	-	-
Rosegarden Crescent Reconstruction (Sanitary)	2,272,200	-	-	-	-	-	-	-	-	-
Wendy Way Reconstruction (Road, Watermain, Sanitary, Storm)	17,245	117,000	117,000	-	-	-	-	-	-	-
Sanitary and Water Improvements - Various Locations - City Contribution (Non-Growth Component)	-	3,286,000	383,000	391,000	398,000	406,000	414,000	423,000	431,000	440,000
South Richvale Valleyland Sewer Protection	162,300	642,000	-	642,000	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
Water, Wastewater and Stormwater Model Review	-	289,000	34,000	34,000	35,000	36,000	36,000	37,000	38,000	39,000
Financial Planning and Management Reporting Software	39,585	38,000	38,000	-	-	-	-	-	-	-
Fleet and Operational Equipment	-	166,000	6,000	1,000	21,000	-	108,000	-	17,000	13,000
Licensed Equipment Replacement	-	7,000	-	-	-	-	2,000	-	3,000	2,000
Vehicle Replacements	36,053	442,000	89,000	23,000	49,000	197,000	-	13,000	58,000	13,000
Wastewater Master Plan	-	695,000	357,000	-	-	-	-	338,000	-	-
Road Reconstruction Works Provision - Sanitary Sewers	-	22,544,000	2,627,000	2,679,000	2,733,000	2,787,000	2,843,000	2,900,000	2,958,000	3,017,000
Provision for Capital - 2034	-	-	-	-	-	-	-	-	-	-
Growth Related:		-	-	-	-	-	-	-	-	-
Sanitary Sewer Improvements (WW13) May Ave, Weldrick Rd West - City Contribution	1,058,944	-	-	-	-	-	-	-	-	-
Sanitary Sewer Improvements (WW2) -Yonge Street from Muirhead Cr to Jefferson - City Contribution	-	2,697,000	2,697,000	-	-	-	-	-	-	-
Sanitary and Water Improvements - Various Locations - City Contribution	-	3,735,000	435,000	444,000	453,000	462,000	471,000	480,000	490,000	500,000
Total Capital Expenditures	**7,217,911**	**72,918,000**	**13,407,000**	**9,841,000**	**9,742,000**	**10,048,000**	**9,543,000**	**8,887,000**	**5,721,000**	**5,729,000**
Capital Financing										
Provincial/Federal Grants		-								
Development Charges Reserve Fund	1,058,944	6,432,000	3,132,000	444,000	453,000	462,000	471,000	480,000	490,000	500,000
Non-Growth Related Debenture Requirements	162,300	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-
Sanitary Sewer Repair & Replacement Reserve Fund	5,996,668	66,486,000	10,275,000	9,397,000	9,289,000	9,586,000	9,072,000	8,407,000	5,231,000	5,229,000
Total Capital Financing	**7,217,911**	**72,918,000**	**13,407,000**	**9,841,000**	**9,742,000**	**10,048,000**	**9,543,000**	**8,887,000**	**5,721,000**	**5,729,000**

Note: only the portion of the project costs which pertain to wastewater are provided in the table above.

Table B-3
City of Richmond Hill
Sanitary Sewer Repair & Replacement Reserve Fund Continuity
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	37,134,783	35,472,921	25,701,879	16,630,977	7,488,816	6,020,873	7,087,850	6,923,087	11,230,316
Transfer from Operating	2,893,424	-	-	-	8,000,000	10,000,000	8,106,490	9,318,027	11,644,298
Transfer to Capital	5,996,668	10,275,000	9,397,000	9,289,000	9,586,000	9,072,000	8,407,000	5,231,000	5,229,000
Transfer to Operating	-	-	-	-	-	-	-	-	-
Closing Balance	**34,031,539**	**25,197,921**	**16,304,879**	**7,341,977**	**5,902,816**	**6,948,873**	**6,787,340**	**11,010,113**	**17,645,613**
Interest	1,441,382	503,958	326,098	146,840	118,056	138,977	135,747	220,202	352,912

Table B-4
City of Richmond Hill
City-wide Engineering D.C. Reserve Fund Continuity
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	44,571,664	45,702,194	32,884,384	18,387,507	21,270,815	(546,103)	(4,743,046)	7,874,162	1,900,615
Development Charge Proceeds	5,642,883	12,319,769	12,998,554	14,040,521	15,082,488	15,082,488	15,082,488	15,082,488	15,082,488
Transfer to Capital - Water	25,968	2,138,000	816,000	5,426,000	849,000	866,000	884,000	901,000	919,000
Transfer to Capital - Wastewater	1,058,944	3,132,000	444,000	453,000	462,000	471,000	480,000	490,000	500,000
Transfer to Capital - Stormwater	435,403	847,000	1,504,000	710,000	1,156,000	13,690,000	673,000	188,000	-
Transfer to Capital - Roads	4,788,136	19,665,371	25,091,971	4,985,288	34,421,698	4,159,430	582,674	19,514,302	2,153,422
Transfer to Operating	-	-	-	-	-	-	-	-	-
Closing Balance	**43,906,096**	**32,239,592**	**18,026,967**	**20,853,740**	**(535,395)**	**(4,650,045)**	**7,719,767**	**1,863,348**	**13,410,680**
Interest	1,796,098	644,792	360,539	417,075	(10,708)	(93,001)	154,395	37,267	268,214

Table B-5
City of Richmond Hill
Watermeter Repair & Replacement Reserve Fund Continuity
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	388,489	1,051,180	1,507,336	1,959,865	2,375,952	2,789,651	2,831,572	1,451,737	1,868,270
Transfer from Operating - Water	854,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Transfer from Operating - Wastewater	854,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Transfer to Capital	1,025,049	111,000	121,000	163,000	171,000	541,000	1,933,000	142,000	190,000
Transfer to Operating - Water	30,000	31,200	32,450	33,750	35,000	36,300	37,650	39,050	40,500
Transfer to Operating - Wastewater	30,000	31,200	32,450	33,750	35,000	36,300	37,650	39,050	40,500
Closing Balance	**1,011,440**	**1,477,780**	**1,921,436**	**2,329,365**	**2,734,952**	**2,776,051**	**1,423,272**	**1,831,637**	**2,197,270**
Interest	39,740	29,556	38,429	46,587	54,699	55,521	28,465	36,633	43,945

Table B-6
City of Richmond Hill
Water and Sewer Rate Stabilization Reserve Continuity
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	10,639,827	13,117,818	18,076,020	10,870,181	7,578,112	1,059,232	1,341,471	7,129,291	18,017,418
Transfer from Operating - Water	719,900	-	-	-	-	-	1,160,738	6,518,680	8,312,180
Transfer from Operating - Wastewater	7,619,634	10,113,411	10,177,215	10,641,280	3,252,203	1,839,219	4,487,291	4,016,164	2,447,514
Transfer to Capital									
Transfer to Operating - Water	6,351,152	5,509,640	17,596,196	14,081,939	9,791,853	1,583,283	-	-	-
Transfer to Operating - Wastewater									
Closing Balance	**12,628,209**	**17,721,589**	**10,657,040**	**7,429,522**	**1,038,463**	**1,315,168**	**6,989,501**	**17,664,135**	**28,777,111**
Interest	489,609	354,432	213,141	148,590	20,769	26,303	139,790	353,283	575,542

Table B-7
City of Richmond Hill
Wastewater Operating Budget Forecast
Inflated $

Description	Budget 2024	Forecast 2025	2026	2027	2028	2029	2030	2031	2032
Expenditures									
Operating Costs									
Regional Wastewater Treatment Costs	40,973,100	42,603,400	44,776,000	46,637,500	48,418,200	50,256,700	52,126,450	54,065,500	56,126,050
Water Meter Services	131,200	132,731	139,133	145,729	152,325	159,215	166,155	173,336	180,764
Administration	437,900	509,819	524,901	540,495	556,599	573,199	590,331	608,045	626,325
Operations	1,032,100	2,324,970	2,401,870	2,474,980	2,544,170	2,621,360	2,702,595	2,780,190	2,866,310
Transfer to Operating Fund	2,773,100	2,941,852	3,042,217	3,113,776	3,200,376	3,337,973	3,384,636	3,483,093	3,584,693
Sub Total Operating	**45,347,400**	**48,512,772**	**50,884,121**	**52,912,480**	**54,871,670**	**56,948,448**	**58,970,167**	**61,110,164**	**63,384,142**
Capital-Related									
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)		-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)		-	-	-	-	-	-	-	-
Transfer to Water & Sewer Rate Stabilization Reserve	7,619,634	10,113,411	10,177,215	10,641,280	3,252,203	1,839,219	4,487,291	4,016,164	2,447,514
Transfer to Capital	-	-	-	-	-	-	-	-	-
Transfer to Watermeter Repair and Replacement Reserve Fund	854,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Transfer to Sanitary Repair and Replacement Reserve Fund	2,950,400				8,000,000	10,000,000	8,106,490	9,318,027	11,644,298
Sub Total Capital Related	**11,424,034**	**10,413,411**	**10,477,215**	**10,941,280**	**11,552,203**	**12,139,219**	**12,893,781**	**13,634,191**	**14,391,811**
Total Expenditures	**56,771,434**	**58,926,183**	**61,361,337**	**63,853,760**	**66,423,873**	**69,087,667**	**71,863,948**	**74,744,354**	**77,775,953**
Revenues									
Investment Income	30,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000
Contributions from Watermeter Repair & Replacement Reserve Fund	30,000	31,200	32,450	33,750	35,000	36,300	37,650	39,050	40,500
Contributions from Water & Sewer Rate Stabilization Reserve	-	-	-	-	-	-	-	-	-
Contributions from City-Wide Engineering D.C. Reserve Fund	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**60,000**	**156,200**	**157,450**	**158,750**	**160,000**	**161,300**	**162,650**	**164,050**	**165,500**
Wastewater Billing Recovery - Total	**56,711,434**	**58,769,983**	**61,203,887**	**63,695,010**	**66,263,873**	**68,926,367**	**71,701,298**	**74,580,304**	**77,610,453**

Table B-8
City of Richmond Hill
Wastewater Rate Forecast
Inflated $

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total Wastewater Billing Recovery	56,711,434	58,769,983	61,203,887	63,695,010	66,263,873	68,926,367	71,701,298	74,580,304	77,610,453
Total Volume (m^3)	18,575,630	18,689,176	18,896,504	19,092,656	19,284,056	19,474,576	19,668,440	19,862,128	20,067,344
Constant Rate - Weighted*	**3.05**	**3.14**	**3.24**	**3.34**	**3.44**	**3.54**	**3.65**	**3.75**	**3.87**
Annual Percentage Change		**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**
*Constant Rate - Unweighted (January 1st to March 31st)***	*2.96*	*3.08*	*3.17*	*3.27*	*3.37*	*3.47*	*3.57*	*3.68*	*3.79*
*Constant Rate - Unweighted (April 1st to December 31st)***	*3.08*	*3.17*	*3.27*	*3.37*	*3.47*	*3.57*	*3.68*	*3.79*	*3.90*

*Weighted rate based on new rates implemented on April 1st of each year
**Actual rate to be applied to volumes