

Consolidated Report

Prepared by Hemson for the City of Ottawa



2024 City-wide and Area-Specific Development Charges Background Study

July 19, 2024



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Foreword

The Development Charges Act requires that a background study be published at least 60 days prior to passage of a DC By-law. The study was made available on March 15, 2024, and was the basis for public consultation. Through the consultation process, revisions were made to the development charges calculations and rates.

This Consolidated DC Background Study reflects those changes and supports the rates in DC By-laws #2024-218, #2024-219, #2024-220, #2024-221, #2024-222, #2024-223, #2024-224, #2024-225, #2024-226, #2024-227, #2024-228 and #2024-229.

A. Changes Since the March 15, 2024, DC Background Study

The following provides a summary of the changes made to the development charges rates following the release of the Interim 2024 DC Background Study dated March 15, 2024.

i. Recreation Facilities

Benefit to Existing (BTE) shares for certain City-wide and Inside Greenbelt (IGB) Recreation Facilities capital projects were revised (increased) to align with assumptions used in the 2019 DC Background Study. The BTE share allocations will be reviewed as part of future DC Background Study updates.

ii. Parks Development

Post Period Benefit (PPB) shares for project 4.1.1, 4.1.4 and 4.1.11 were increased following the release of the DC Background Study dated March 15, 2024. The PPB shares for projects will be reviewed as part of future DC Background Study updates.

iii. Services Related to a Highway: Roads and Related

Removed costs for project 1.10.1 under subheading “City-Wide Transit Priority Measures” as these are captured in the Transit capital program. Updated benefitting area notes for projects 2.1.1 – 2.1.4 & 3.1.1-3.1.4 to reflect the split between OGB and Rural only and not including any cost allocation to IGB.

Denominator used in calculating the rates was also updated from census population to population in new units. Further details on the different population forecasts are contained in Appendix A.

iv. Sanitary (Wastewater) Services

Moved all debenture payments into in-period recovery with no post-period as the full amounts relate to growth to 2031.

The allocation of the DC reserves was updated to reflect the cost allocations for the remaining capital program.

v. Water Services

Moved all debenture payments into in-period recovery with no post-period as the full amounts relate to growth to 2031.

The allocation of the DC reserves was updated to reflect the cost allocations for the remaining capital program.

vi. Stormwater Services

Revision to the non-residential growth denominator used in calculating the rates.

vii. Trillium Line Extension Special Area Charge

Updated to reflect the full cost of the debenture payments related to development in the forecasted planning period.

viii. Manotick Water Supply and Sanitary Sewer Special Area Charge

The Manotick Water Supply and Sanitary Sewer Development Charge was updated in 2022. The development charge has been updated to its current indexed amounts for reflection in the proposed development charge by-law.

ix. Richmond Sanitary Sewer Special Area Charge

Updated the development forecast and capital works to reflect future growth.

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List of Acronyms

AMP Asset Management Plan

BTE Benefit to Existing

COG Cost of Growth

DCA Development Charges Act

DC Development Charges

GFA Gross Floor Area

LRT Light Rapid Transit

LRFP Long Range Financial Plan

IGB Inside the Greenbelt

IMP Infrastructure Master Plan

OGB Outside the Greenbelt

PPB Post-Period Benefit

PPU Persons Per Unit

SWM Stormwater Management

TMP Transportation Master Plan

Executive Summary

A. Purpose of 2024 Development Charges (DC) Background Study

i. Legislative Context

This City of Ottawa 2024 City-wide Development Charges (DC) Background Study (herein referred to as the “2024 DC Study”) is presented as part of the process to lead to the approval of new DC by-laws in compliance with the Development Charges Act, 1997 (DCA). The study is prepared in accordance with the current enforce DCA and associated regulations.

ii. The 2024 City-wide DC Background Study is an Interim Update

The analysis contained herein is generally consistent with the projects and calculation methodologies included in the 2014, 2017, and 2019 DC Background Studies. At the time of calculating the 2024 DC rates, the City had not completed a comprehensive update to the 2013 Transportation Master Plan (TMP) and Infrastructure Master Plan (IMP), and as such, the capital costs and development forecasts contained in the 2024 DC Study are generally consistent with the documents which were used as the basis for the City’s past DC Background Studies. During the development of the 2024 DC Study, the City’s urban boundary changed due to direction from Minister of the Municipal Affairs and Housing. As infrastructure needs have not yet been identified for these lands, the boundaries for IGB, OGB and Rural areas are consistent with the boundaries identified in the 2019 Interim DC Background Study.

It is anticipated that the City’s next DC Background Study update will incorporate findings from the new master servicing plans.

iii. Key Steps in Determining Future Development-Related Projects

In accordance with the DCA and associated regulation, several key steps are required to calculate development charges. This includes preparing a development forecast, establishing historical service levels, determining the increase needs for services arising from development and appropriate shares of costs, attribution to development types (i.e. residential and non-residential). For some services, the final adjustment to the calculated rate of a cash flow analysis.

iv. DC Eligible and Ineligible Costs

Development charges are intended to pay for the initial round of capital costs needed to service new development over an identified planning period. This is based on the principle that “growth pays for growth”. However, the DCA and associated regulation includes several statutory adjustments and deductions that prevent these costs from fully being recovered by growth. Such adjustments include, but are not limited to, ineligible costs, including operating and maintenance costs; ineligible services, including, tourism facilities, parkland acquisition, etc.; deductions for costs that exceed historical service level caps; and statutory exemptions for specific uses (i.e. industrial expansions).

v. The Development-Related Capital Forecast is Subject to Change

It is recommended that Council adopt the development-related capital forecast developed for the purposes of the 2024 DC Study. However, it is recognized that the 2024 DC Study is a point-in-time analysis and is subject to changes in project timing, scope, and costs through the City’s capital budgeting review process and in conjunction with the affordable funding envelopes.

B. City-wide and Area-Specific DCs have been Calculated

Consistent with the City’s historical practices, both City-wide and area-specific DCs have been calculated. The City has four primary benefiting areas: City-wide, Inside the Greenbelt (IGB), Outside the Greenbelt (OGB) and Rural as well as five special area charges. An overview of the services included in each of these areas is identified below.

i. City-wide Development Charges

- Roads and Related Services*
- Sanitary (Waste Water)
- Water
- Stormwater Drainage
- Protection (Police)
- Protection (Fire)
- Public Transit
- Parks Development
- Recreation Facilities
- Libraries
- Ambulance Services

* includes costs entirely related to the service category of “Services Related to a Highway”. This note applies throughout the 2024 DC Study.

ii. Area-Specific Development Charges: IGB, OGB and Rural

- Roads and Related Services
- Sanitary (Waste Water)
- Water
- Protection (Police)
- Protection (Fire)
- Parks Development
- Recreation Facilities
- Libraries

iii. Area-Specific Development Charges: Special Area Charge

- Millennium Park (District Parks)
- Village of Richmond (Sanitary Sewer)
- Provence Ave (Roads & Sanitary Sewer)
- Flag Station Road (Roads)
- Trillium Line Extension (Public Transit)

C. Development Forecast

i. City-wide Residential and Non-Residential

The table below provides a summary of the anticipated residential and non-residential growth over the 2024-2033 and 2024-2031 planning periods. The development forecast is further discussed in Appendix A. The forecast is expressed in mid-year estimates.

Development Forecast	2023 Estimate	10-Year 2024 to 2033	
		Growth	Total at 2033
Residential Development Forecast			
Total Occupied Dwelling Units	439,454	82,457	521,911
<i>Population In New Dwellings</i>		<i>205,888</i>	
Total Population	1,090,236	162,299	1,252,535
<i>Census Population</i>	<i>1,056,221</i>	<i>157,234</i>	<i>1,213,455</i>
Non-Residential Development Forecast			
Employment*	615,565	41,419	656,984
Non-Residential Building Space (sq.m.)		2,126,261	
Non-Residential Building Space (sq.ft)		22,886,883	

* Excludes work at home employment but includes no fixed place of work

Development Forecast	2023 Estimate	8-Year 2024 to 2031	
		Growth	Total at 2031
Residential Development Forecast			
Total Occupied Dwelling Units	439,454	57,546	497,000
<i>Population In New Dwellings</i>		<i>145,185</i>	
Total Population	1,090,236	45,604	1,135,840
<i>Census Population</i>	<i>1,056,221</i>	<i>44,181</i>	<i>1,100,402</i>
Non-Residential Development Forecast			
Employment*	615,565	29,038	644,603
Non-Residential Building Space (sq.m.)		<i>1,627,130</i>	
Non-Residential Building Space (sq.ft)		<i>17,514,265</i>	

* Excludes work at home employment but includes no fixed place of work

ii. Area-Specific: Inside Greenbelt, Outside Greenbelt and Rural

A summary of the area-specific forecasts for IGB, OGB and Rural areas is presented in Appendix A. Additional information on the Rural serviced and unserved areas are also included in Appendix A.

iii. Area-Specific: Special Area Charges

A summary of the area-specific forecasts for each of the City's identified special area charges is presented in Appendix D.

D. Public Transit Ridership Forecast

For the purposes of the Public Transit services development charges calculation, a ridership forecast for the 2011 to 2036 planning period was completed. The ridership forecast represents an increase in AM peak period person trips. The ridership forecast is further discussed in Appendix B.

E. Calculated Development Charges

The following tables summarize the fully calculated residential and non-residential DCs for IGB, OGB, and Rural serviced and unserved areas as well as the special area charges. The applicable city-wide charges are included in the DC rates for the IGB, OGB, Rural Services and Rural Unserved areas.

IGB, OGB, Rural Serviced and Rural Unserved Charges*

Area	Residential				
	Single and Semi-detached	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Rooms
Inside the Greenbelt	\$48,265	\$38,454	\$26,516	\$18,850	\$14,561
Outside the Greenbelt	\$57,596	\$45,192	\$30,976	\$22,019	\$17,011
Rural - Serviced	\$42,555	\$33,444	\$23,128	\$16,441	\$12,701
Rural - Unserved	\$40,597	\$31,908	\$22,063	\$15,683	\$12,116

Area	Non-Residential			
	Industrial (per square foot)	Non-Industrial (per square foot)	Industrial (per square metre)	Non-Industrial (per square metre)
Inside the Greenbelt	\$15.59	\$35.73	\$167.77	\$384.54
Outside the Greenbelt	\$15.59	\$35.73	\$167.77	\$384.54
Rural - Serviced	\$15.59	\$35.73	\$167.77	\$384.54
Rural - Unserved	\$13.20	\$30.66	\$142.06	\$329.97

* includes City-wide charges

Special Area Charges

	Residential				
	Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and	Apartment (less than 2 bedrooms)	Dwelling Room
Millennium Park	\$779	\$603	\$411	\$292	\$226
Richmond (Sanitary Sewer)	\$14,227	\$10,075	\$8,166	\$5,805	\$4,485
Provence Avenue (Roads and Related)	\$2,451	\$1,896	\$1,292	\$919	\$710
Roads & Related (Flag Station)	\$3,779	\$2,922	\$1,992	\$1,416	\$1,094
Transit (Riverside South)	\$4,199	\$3,248	\$2,214	\$1,574	\$1,216

	Non-Residential			
	Industrial (per square foot)	Industrial (per square metre)	Non-Industrial (per square foot)	Non-Industrial (per square metre)
Richmond (Sanitary Sewer)	\$4.41	\$47.42	\$11.22	\$120.78
Transit (Riverside South)	\$1.23	\$13.23	\$3.12	\$33.63

F. Cost of Growth Analysis

On overview of the long-term capital and operating costs as well as the asset management-related annual provisions for capital facilities and infrastructure to be included in the DC by-law is provided in the 2024 DC Study. This examination is required as one of the provisions of the DCA. Additional details on the cost of growth analysis, including asset management analysis, for Public Transit services is included in Appendix B. The analysis for all other services is included in Appendix G.

i. Public Transit Services

The City of Ottawa evaluates the fiscal impacts of capital works including an examination of the full range of costs – initial capital, operating and the long-term repair, maintenance and replacement of infrastructure. A detailed analysis of the asset management and financial strategies for the various transit asset groups is described in detail in Appendix B.

The analysis concludes that the City can afford to invest and operate transit infrastructure over the 10-year and long-term planning period. Importantly, the City’s ongoing asset management and Long Range Financial Plans will ensure that the projects included in the 2024 DC Study are financially sustainable over their full life cycle.

ii. All Other Services

The calculated annual provisions identified are also considered to be financially sustainable as it is expected that the increased capital asset management requirements can be absorbed by the tax and user base over the long-term.

Appendix G summarizes the relevant City documents and asset management requirements for these services.

G. Development Charges Administration & Policy Considerations

i. Consultation and Approval Process

Following the release of the 2024 DC Study, consultation continued with the public and development industry stakeholders prior to the passage of the new 2024 DC By-laws in May 2024. The 2024 DC Study was made publicly available 60 days prior to the passage of the DC By-laws and the draft DC By-laws were made available a minimum of two weeks prior to the statutory public meeting held on May 9, 2024.

ii. City-wide vs Area-Specific DCs

As required by the DCA, consideration was given to the use of area rating. Consistent with the City's historical practice, the infrastructure identified for the majority of general and engineered services has been calculated on both a City-wide and area-specific basis. However, categories relating to Public Transit, Ambulance Services, Protection (Police Services) and Stormwater Drainage are only calculated on a City-wide basis.

iii. Local Service Guidelines

The provision of local services is considered to be a direct developer responsibility under s.59 of the DCA and will (or may) be recovered under other agreement(s) with the landowner or developer. Local Service Guidelines for infrastructure identified in the 2024 DC Study are based on the City's prevailing practices.

iv. Approved 2024 DC By-laws Available Under Separate Cover

The approved 2024 DC By-laws are available on the City's website:

https://documents.ottawa.ca/sites/documents/files/2024_dev_charge_bylaw_en.pdf

v. Changes Since 2019 Interim DC Background Study

Although the assumptions contained in the 2024 DC Study are generally consistent with the 2019 Interim DC Background Study, some changes have been made:

- Protection Services (Fire and Police) were previously combined under the 2019 Interim DC Study and are now separate services.
- Work at home employment has been removed from the employment used to calculate non-residential development charges.
- The Manotick Water Supply and Sanitary Sewer Development Charge was updated in 2022. The development charge has been updated to its current indexed amounts for reflection in the proposed development charge by-law.
- Development charges for engineered services are now calculated using a cash flow analysis rather than an average cost methodology.
- Additional changes have been made to ensure that the calculations confirm with the requirements of the DCA (e.g. historical service levels extended from 10 to 15-years). Details are provided in Section 1.

vi. Tewin Area Will Be Reviewed in Subsequent DC Studies

No area-specific development charges have been calculated for the Tewin community as part of the 2024 DC Study. It is anticipated area-specific development charges will be calculated for Tewin as part of subsequent DC Background Studies once more information becomes available regarding the development potential, timing and infrastructure needs.

1. Purpose of 2024 Development Charges Background Study

A. Introduction and Background

The 2024 City-wide DC Background Study (herein referred to as the 2024 DC Study) for Ottawa is presented as part of the process to lead to the approval of new DC by-laws in compliance with the DCA. The DCA and O. Reg. 82/98 require that a DC Background Study be prepared with reference to:

- A forecast of the amount, type and location of housing units, population and non-residential development anticipated in the City;
- The average capital service levels provided in the City over the 15-year period immediately preceding the preparation of the background study;
- A review of capital works in progress and anticipated future capital projects, including an analysis of gross expenditures, funding sources, and net expenditures incurred or to be incurred by the City or its local boards to provide for the expected development, including the determination of the growth and non-development-related components of the capital projects; and
- An examination of the long-term capital and operating costs for the capital infrastructure required for each service to which the DC by-laws would relate.

The 2024 DC Study presents the results of the review which determines the development-related net capital costs attributable to development that is forecast to occur in the community. These development-related net capital costs are then apportioned among various types of development (residential

and non-residential) in a manner that reflects the increase in the need for each service attributable to each type of development. The 2024 DC Study ultimately arrives, therefore, at proposed DCs for various types of development.

The DCA provides for a period of public review and comment regarding the proposed DCs. The Study reflects the DC rates that will be used to inform the public consultation process.

B. Legislative Context

The study is prepared in accordance with the DCA and associated regulations, including the amendments that came into force most recently on as per Bill 185: Cutting Red Tape to Build More Homes Act, 2024 and Bill 23: More Homes Built Faster Act, 2022.

A summary of the key legislative changes include:

- Historical service level standards have been extended from a 10 to 15-year planning period;
- DC by-laws now expire every 10 years instead of 5 years;
- The amount of interest paid on DC deferrals and freeze is capped at prime plus 1%;
- DC freezing time is condensed from 2 years to 18 months;
- Costs associated with affordable housing services are now ineligible for recovery through DCs;
- Studies are again an eligible cost as per Bill 185 (however at the time of completing the March 15, 2024 Studies were ineligible and therefore no rate was calculated as part of the 2024 DC Study);

- Implementation of the affordable housing exemption as of June 1, 2024;
- Municipalities must spend or allocate 60% of available DC reserve funds per year for roads, water and wastewater services; and
- Discounts for purpose-built rentals based on the number of bedrooms.

The DCA was also amended to exempt attainable housing developments from the payment of DCs; however, the regulations which will define these types of units have not yet been released and therefore, these changes are not yet in force.

C. The 2024 DC Study is an Interim Update

The analysis contained herein is generally consistent with the projects and calculation methodologies included in the 2014 and 2017 DC Background Studies. The City has not completed a comprehensive update to the 2013 Transportation Master Plan (TMP) and Infrastructure Master Plan (IMP), as such the projects and development forecasts are generally consistent with these documents which were used as the basis for the City's past DC Background Studies. For example, the planning horizon once again ends in 2031. The active transportation projects from the 2013 TMP, however, were replaced with a new list of eligible items in 2023.

It is anticipated that the City's will update its DC Background Study once relevant master plans and capital planning documents have been completed. This may result in another DC Background Study update in advance of the anticipated expiry of the new 2024 DC By-laws.

D. Consultation and Approval Process

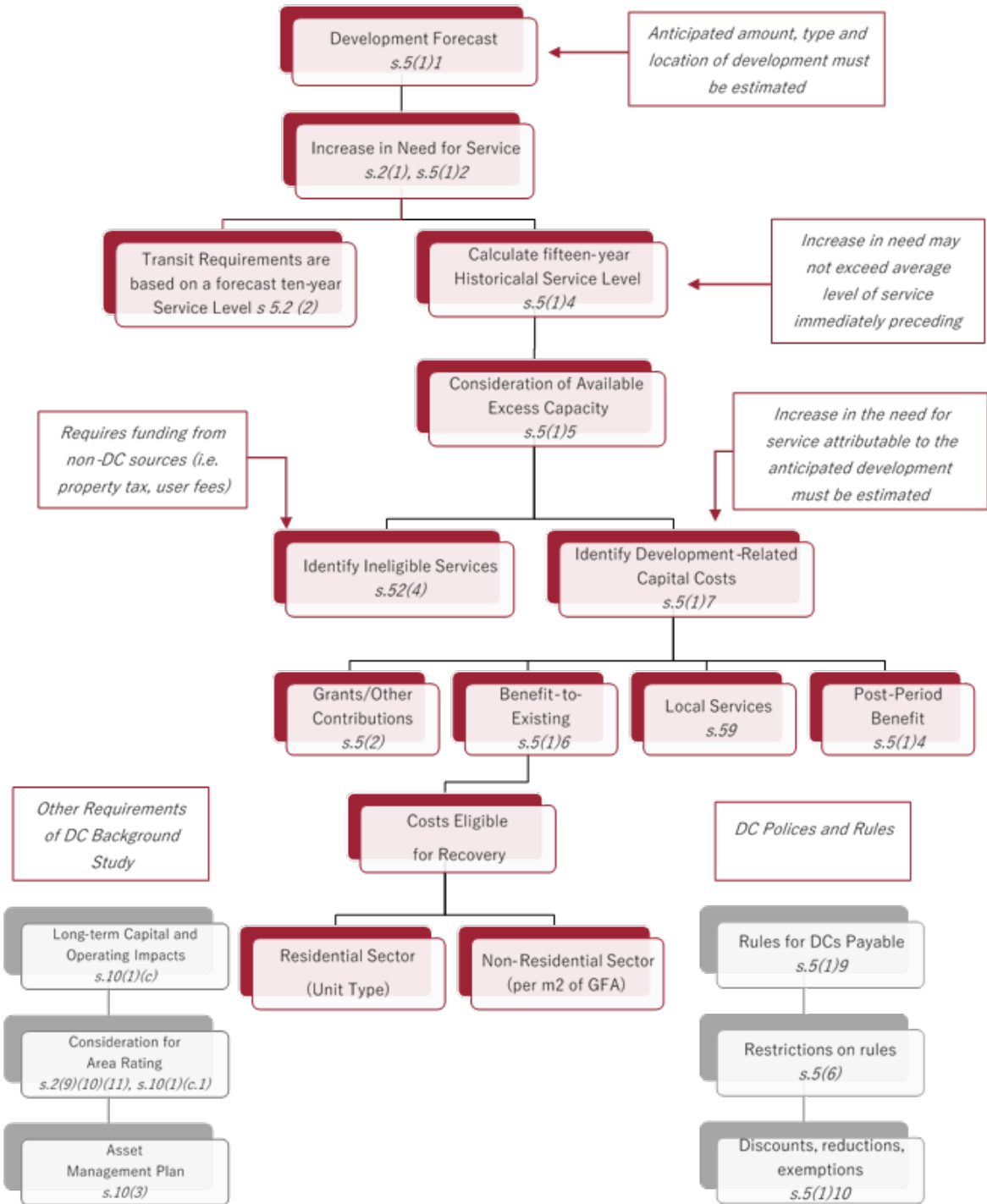
The following provides a summary of the consultation and approval process to complete the 2024 DC Study.

Activity	Timeline
Initiate 2024 DC Background Study Process	January 2023
Meetings with Staff, Stakeholders & Council Sponsors	February 2023 to May 2024
Public Release 2024 DC Background to Public	March 15, 2024
Statutory Public Meeting	May 9, 2024
Passage 2024 DC By-laws	May 15, 2024

E. Key Steps in Determining DCs for Future Development-Related Projects

Several key steps are required in calculating DCs for future development-related projects. These are summarized below and shown schematically in Figure 1.

Figure 1: Statutory Requirements of Development Charge Calculation and Study Process



i. Growth Forecast

The first step in the calculation process requires a development forecast to be prepared for the 10-year study period, 2024–2033, for General Services and Transit and the short-term study period, 2024-2031, for Engineered Services. It should be noted that all planning horizons are mid-year estimates consistent with the 2014, 2017 and 2019 DC Background Studies.

The forecast of the future residential and non-residential development by location is based on growth anticipated to occur within approved Official Plan designated urban areas. The residential forecast reflects Official Plan targets, 2021 Census data, and recent development activity. The non-residential forecast reflects Ottawa Employment Survey data, recent development activity and traffic zone forecasts.

For the residential portion of the forecast, the net population growth and population growth in new building permits are estimated. Net population growth equals the population in new housing units reduced by the decline in the population in the existing base anticipated over the 10-year period and to build-out due to reduce household sizes as the community ages. Net population is used in the calculation of the DC funding envelopes. In calculating the per capita DC, however, the population in new units is used.

The non-residential portion of the forecast estimates the gross floor area (GFA) of building space to be developed over the 10-year period, 2024–2033 and the short-term timeframe from 2024-2031 for engineering services. The forecast provides estimates for four categories: major office, population-related, employment land and rural. The forecast of GFA is based on the employment forecast for the City. Factors for floor space per worker by category are used to convert the employment forecast into GFA for the purposes of the 2024 DC study.

Consistent with the City's historical practices, area-specific development forecasts have been prepared for the: IGB, OGB and Rural areas and are

discussed in Appendix A. In particular, several smaller area-specific development forecasts are prepared for the “Special Area Charges” as discussed in Appendix D.

ii. Service Categories and Historical Service Levels

The DCA provides that the increase in the need for service attributable to anticipated development:

... must not include an increase that would result in the level of service exceeding the average level of that service provided in the municipality over the 15-year period immediately preceding the preparation of the background study...(s. 5. (1) 4.)

Historical 15-year average service levels thus form the basis for DCs. A review of the City’s capital service levels for buildings and vehicles has therefore been prepared as a basis for the calculation so that the portion of future capital projects that may be included in the DC can be determined. The historical service levels used in the 2024 DC Study have been calculated based on the previous 2009–2023 time period.

For certain Engineered Services, namely Water, Sanitary (Waste Water) and Stormwater Drainage, historical service levels are based on the City’s engineering standards as well as provincial health and environmental requirements. In the case of Public Transit services, a 10-year “planned” level of service is used and is not subject to historical average service levels.

iii. Development-related Capital Program and Analysis of Net Capital Costs to be Included in the DCs

A development-related capital forecast has been prepared based on input from previous DC Background Studies, existing master plans and City staff as part of the present study. The forecast identifies development-related projects and their gross and net costs, after allowing for capital grants, subsidies or other contributions as required by the DCA (s. 5. (2)). The City

has received, or is anticipated to receive, from other levels of government, funding for some projects, mainly related to Public Transit services. For these projects, grants and contributions have been netted off the gross project costs thus reducing the City's net capital costs. The capital program provides another cornerstone upon which DCs are based. The DCA requires that the increase in the need for service attributable to the anticipated development may include an increase:

... only if the council of the municipality has indicated that it intends to ensure that such an increase in need will be met. (s. 5. (1) 3.)

In conjunction with the DCA, s. 5. (1) 4. referenced above, these sections require that the DC be calculated on the lesser of the historical 15-year average service levels or the service levels embodied in future plans of the City. The development-related capital program prepared for the 2024 DC Study ensures that DCs are only imposed to help pay for projects that have been or are intended to be purchased or built in order to accommodate future anticipated development. It is not sufficient in the calculation of DCs merely to have had the service in the past. There must also be a demonstrated commitment to continue to emplace facilities or infrastructure in the future. In this regard, Ontario Regulation 82/98, s. 3 states that:

For the purposes of paragraph 3 of subsection 5 (1) of the Act, the council of a municipality has indicated that it intends to ensure that an increase in the need for service will be met if the increase in service forms part of an official plan, capital forecast or similar expression of the intention of the council and the plan, forecast or similar expression of the intention of the council has been approved by the council.

For some projects in the development-related capital program, a portion of the project may confer benefits to existing residents. As required by the DCA, s. 5. (1) 6., these portions of projects and their associated net costs

are the funding responsibility of the City from non-DC sources. The amount of City funding for such non-growth shares of projects is also identified as part of the preparation of the development-related capital forecast. A discussion on the methodology for each service is include in the detailed appendices, as identified in the “replacement and benefit to existing shares” section.

There is also a requirement in the DCA to reduce the applicable DC by the amount of any “uncommitted excess capacity” that is available for a service. Such capacity is available to partially meet the future servicing requirements. Adjustments are made in the analysis to meet this requirement of the DCA.

iv. Attribution to Different Benefitting Areas

Consistent with the City’s historical practices, the capital costs are allocated on a City-wide and area-specific basis. This includes IGB, OGB and Rural areas as well as the special area charges.

v. Attribution to Types of Development

The next step in the determination of DCs is the allocation of the development-related net capital costs between the residential and the non-residential sectors. This is done by using different apportionments for different services in accordance with the demands which the two sectors would be expected to place on the various services and the different benefits derived from those services.

Where reasonable data exist, the apportionment is based on the expected demand for, and use of, the service by each sector (e.g. shares of population and employment, water and sanitary (wastewater) demand etc.).

Finally, the residential component of the DC is applied to different housing types on the basis of average occupancy factors. The non-residential

component is differentiated and applied on the basis of gross building space for the industrial and non-industrial sectors.

vi. Final Adjustments: Prior Growth/ Available DC Reserves

The final determination of the DC results from adjustments made to development-related net capital costs for each service and sector resulting from the application of any unallocated development-related reserve fund balances for general and engineered services that are available to finance the development-related costs in the capital forecast. The application of the available reserves are further discussed in Appendix F.

Consistent with the City's historical practice, the majority of City's development charges are calculated using an average cost methodology. For example, the average cost method for residential development is calculated by dividing the in-period DC eligible residential costs by the anticipated residential population in new units over the applicable planning period. This arrives at a \$/capita amount. A similar approach is used for non-residential development; however, the non-residential costs are divided by the total industrial and non-residential gross floor area identified over the planning period.

For all engineering services including Roads and Related, Sanitary (Waste Water), Water and Stormwater Drainage and City-wide Public Transit costs, a cash flow analysis is undertaken to account for the timing of projects and receipt of DCs. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the DCA.

F. Long-term Capital and Operating Impacts and Asset Management Plan Legislative Requirements

Section 10 of the DCA identifies what must be included in a DC Background Study, namely:

- s.10 (2) The development charge background study shall include,
- (c) an examination, for each service to which the development charge by-law would relate, of the long term capital and operating costs for capital infrastructure required for the service;
 - (c.2) an asset management plan prepared in accordance with subsection (3);

Asset management plan

- (3) The asset management plan shall,
- a) deal with all assets whose capital costs are proposed to be funded under the development charge by-law;
 - demonstrate that all the assets mentioned in clause (a) are financially sustainable over their full life cycle;
 - (c) contain any other information that is prescribed; and
 - (d) be prepared in a prescribed manner.

The requirement to include an Asset Management Plan (AMP) was part of the DCA amendments that came into effect on January 1, 2016. A key function of the AMP is to demonstrate that all assets proposed to be funded under the development charges by-law are financially sustainable over their full life cycle. For simplicity, the section of the 2024 DC Study that deals with the operating and capital cost impacts and AMP is called the “cost of growth analysis”. Separate cost of growth analyses are prepared for Public Transit and all other services.

G. Specific Requirements for Public Transit Services

i. Planned Level of Service

As per the new requirements of the DCA and associated regulation that came into effect on January 1, 2016, Public Transit services must be treated as a “discrete” service. Generally, it is understood that this provision is

intended to preclude combining the Roads and Public Transit services into a broader "Transportation" category.

The DCA (s.5.2 (3)) requires that in estimating the increase in need for Public Transit services the increased need “shall not exceed the planned level of service over the 10-year period immediately following the preparation of the background study”.

The definition of planned level of service is not defined in the DCA. For the purposes of the development charge calculations, the “planned level of service” is considered the 10-year development-related capital forecast in the 2024 DC Study, as informed by various sources including the City’s Public Transit Long Range Financial Plan (LRFP) and Transit Affordability model. The transit projects are generally consistent with the infrastructure identified in the most recent studies, however, the list of eligible projects, anticipated grants, benefit to existing and post-period benefit calculations have been updated as part of the 2024 DC Study.

In addition, any DC Background Study that incorporates Transit services into the calculation must now include the following:

- An assessment of ridership forecast for all modes of transit and whether ridership is generated from existing or planned development (O.Reg. 82/98 s.8(2)4).
- An assessment of ridership capacity for all modes of transit over the 10-year forecast period (O. Reg. 82/98 s.8(2)4).

ii. Public Transit AMP Requirements

In addition to the AMP requirements set out in section 10 of the DCA, O. Reg. 82/98, identifies additional direction on the contents of the asset management strategy for Public Transit services to be addressed in a DC Background Study. This includes an AMP as well as an asset and financial strategy. However, it is noted that the regulations are silent with respect to the AMP requirements for the DC Background Study for any services other than Public Transit.

2. City-Wide and Area-Specific Development Charges Are Proposed

A. Proposed Methodology Aligns Development-Related Costs and Benefits

Several key steps are required in calculating a DC. However, unique circumstances arise in each municipality which must be reflected in the calculation. The approach to the calculated DCs is focused on providing a reasonable alignment of development-related costs with the growth that necessitates them. This is achieved through a process that identifies the portion of growth-related works within the planning horizon that is attributable to the development in the study period, and then further allocates the benefit between various servicing areas as well as residential and non-residential components of growth. The 2024 DC Study calculates charges on a City-wide and area-specific basis, consistent with the City's current DC by-laws and practices.

B. City-Wide and Area-Specific Development Charges are Calculated

The City provides a wide range of services to the community it serves and has an extensive inventory of facilities, land, infrastructure, vehicles and equipment. The DCA provides municipalities with flexibility to define services that will be included in DC by-laws, provided that the other provisions of the DCA and its associated regulations are met. The DCA also requires that the by-laws designate the areas within which the DC rates shall be imposed. The DCs may apply to all lands in the municipality or to other designated development areas as specified in the by-laws.

i. City-wide Development Charges

The following services are included in the City-wide DC calculation:

- Roads and Related Services
- Sanitary (Wastewater)
- Water
- Stormwater Drainage
- Protection (Police)
- Protection (Fire)
- Public Transit
- Parks Development
- Recreation Facilities
- Libraries
- Ambulance Services

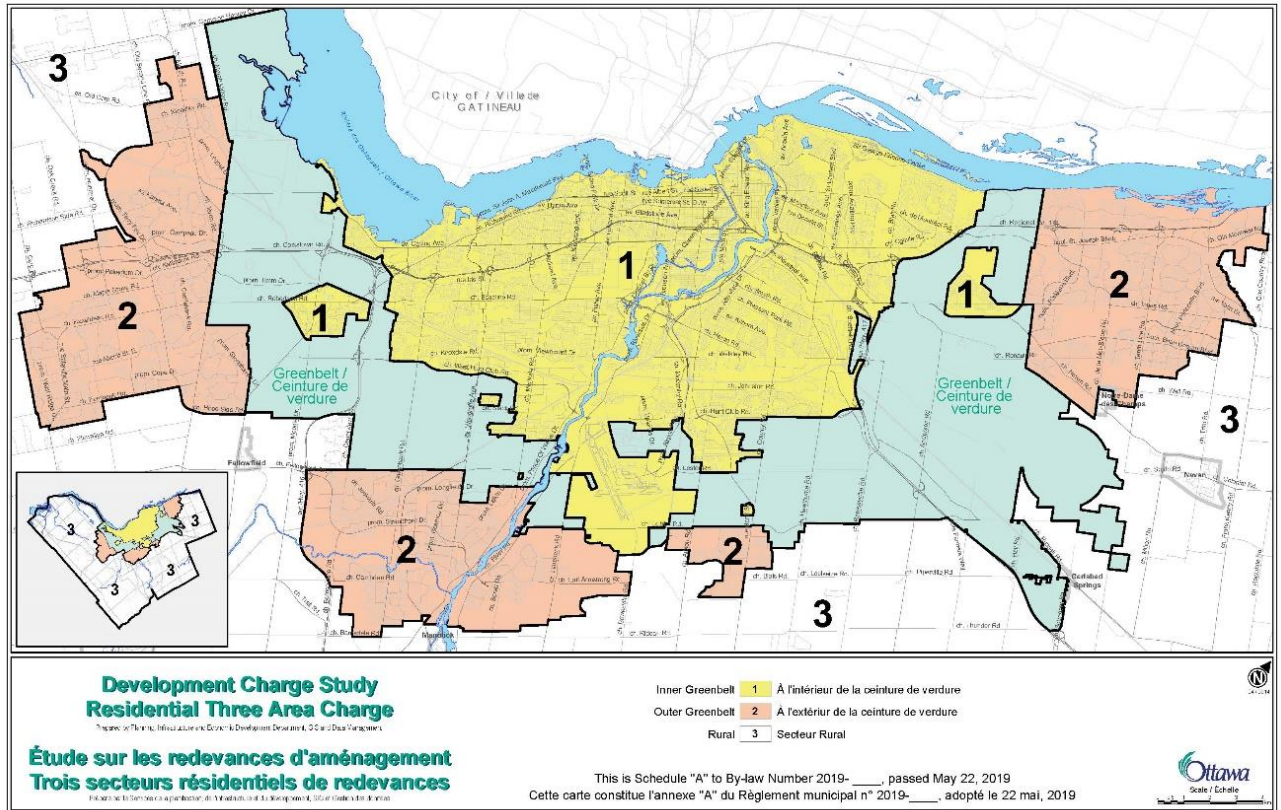
ii. Area-Specific Development Charges: Inside the Greenbelt, Outside the Greenbelt and Rural

The following services are included in the area-specific development charges calculation. It should be noted that Sanitary and Water do not apply in the Rural Unserviced area.

- Roads and Related
- Sanitary (Wastewater)
- Water
- Protection
- Parks Development
- Recreation Facilities
- Libraries

Details on how these services are allocated between the benefitting areas is described in Appendix C and E. Figure 2 below provides a map of the IGB, OGB and Rural servicing areas. This map is also included in the City-wide 2024 DC By-law.

Figure 2: Map of Three Servicing Areas: IGB, OGB and Rural



iii. Area-Specific Development Charges: Special Area Charges

The City also has several “special area charges” which are area-specific development charges within defined locations. In total, six special area charges are included in the 2024 DC Study. The development forecast, capital costs, DC calculations and map of the identified benefitting areas are discussed in Appendix D.

- Millennium Park (District Park)
- Village of Richmond (Sanitary Sewer)
- Provence Avenue (Roads & Sanitary Sewer)
- Flag Station Road (Roads)
- Trillium Line Extension (Public Transit)

3. Development Forecast & Public Transit Ridership Forecast

A. Applicable Planning Horizons and Benefitting Periods

The DCA requires the City to estimate “the anticipated amount, type and location of development” for which development charges may be imposed. The development forecast must cover both residential and non-residential development and be specific enough with regards to quantum, type, location and timing of development to allow the City to prepare a reasonable development-related capital forecast.

A 10-year development forecast, from 2024 to 2033, has been used for the purpose of the General Services development charges calculation. For Engineered Services, a portion of the capital forecast is deemed to benefit growth occurring over a planning horizon to 2031. It should be noted that the population and employment estimates discussed in the following sections represent mid-year estimates.

B. Key Assumptions

The City-wide and area-specific development forecasts are based on the forecasts prepared for the City as part of the 2024 DC Study and align with the City’s Official Plan. Additional details are provided in Appendix A.

C. Residential and Non-Residential Development Forecast

The following provides a summary of the City-wide residential and non-residential development forecast and the area-specific residential forecasts for IGB, OGB and Rural area for the 8-year and 10-year planning periods. Additional information on the City-wide and area-specific development

forecast, including estimated growth within the Rural serviced and unserved areas is included in Appendix A. Area-specific forecasts for the City’s special area charges are discussed in Appendix D.

i. City-wide Development Forecast

TABLE 1
CITY OF OTTAWA
SUMMARY OF RESIDENTIAL AND NON-RESIDENTIAL
DEVELOPMENT FORECAST
CITY-WIDE

Development Forecast	2023 Estimate	10-Year 2024 to 2033	
		Growth	Total at 2033
Residential Development Forecast			
Total Occupied Dwelling Units	439,454	82,457	521,911
<i>Population In New Dwellings</i>		<i>205,888</i>	
Total Population	1,090,236	162,299	1,252,535
<i>Census Population</i>	<i>1,056,221</i>	<i>157,234</i>	<i>1,213,455</i>
Non-Residential Development Forecast			
Employment*	615,565	41,419	656,984
Non-Residential Building Space (sq.m.)		2,126,261	
Non-Residential Building Space (sq.ft)		22,886,883	

Development Forecast	2023 Estimate	8-Year 2024 to 2031	
		Growth	Total at 2031
Residential Development Forecast			
Total Occupied Dwelling Units	439,454	57,546	497,000
<i>Population In New Dwellings</i>		<i>145,185</i>	
Total Population	1,090,236	45,604	1,135,840
<i>Census Population</i>	<i>1,056,221</i>	<i>44,181</i>	<i>1,100,402</i>
Non-Residential Development Forecast			
Employment*	615,565	29,038	644,603
Non-Residential Building Space (sq.m.)		<i>1,627,130</i>	
Non-Residential Building Space (sq.ft)		<i>17,514,265</i>	

* Excludes work at home employment but includes no fixed place of work

ii. Area-Specific Development Forecast: Inside the Greenbelt, Outside the Greenbelt and Rural

Table 2 provides a summary of the residential and non-residential development based on the IGB, OGB and Rural areas for the 10-year and short-term planning period to 2031. Additional details relating to the area-specific forecast for each of these areas is provided in Appendix A.

TABLE 2

CITY OF OTTAWA
 SUMMARY OF RESIDENTIAL & NON-RESIDENTIAL
 DEVELOPMENT FORECAST
 AREA-SPECIFIC DEVELOPMENT FORECAST

AREA-SPECIFIC	2023 Estimate	10-Year 2024 to 2033	
		Growth	Total at 2033
Inside the Greenbelt			
Residential Development Forecast			
Occupied Dwellings			
Total Occupied Dwelling Units	250,913	37,407	288,320
<i>% of City-wide Dwelling Units</i>		45%	
Population			
Census Population	529,365	49,297	578,662
<i>% of City-wide Population</i>		31%	
<i>Population In New Dwellings</i>		67,243	
Non-Residential Development Forecast			
Employment*	489,871	22,739	512,610
Outside the Greenbelt			
Residential Development Forecast			
Occupied Dwellings			
Total Occupied Dwelling Units	153,612	38,074	191,686
<i>% of City-wide Dwelling Units</i>		46%	
Population			
Census Population	431,321	89,879	521,200
<i>% of City-wide Population</i>		57%	
<i>Population In New Dwellings</i>		117,528	
Non-Residential Development Forecast			
Employment*	108,952	16,968	125,920
Rural			
Residential Development Forecast			
Occupied Dwellings			
Total Occupied Dwelling Units	34,929	6,976	41,905
<i>% of City-wide Dwelling Units</i>		8%	
Population			
Census Population	95,535	18,058	113,593
<i>% of City-wide Population</i>		11%	
<i>Population In New Dwellings</i>		21,166	
Non-Residential Development Forecast			
Employment*	16,742	1,712	18,454

AREA-SPECIFIC	2023 Estimate	8-Year 2024 to 2031	
		Growth	Total at 2031
Inside the Greenbelt			
Residential Development Forecast			
Occupied Dwellings			
Total Occupied Dwelling Units	250,913	24,282	275,195
<i>% of City-wide Dwelling Units</i>		29%	
Population			
Census Population	560,996	15,923	576,918
<i>% of City-wide Population</i>		10%	
<i>Population In New Dwellings</i>		44,832	
Non-Residential Development Forecast			
Employment*	489,871	11,494	501,365
Outside the Greenbelt			
Residential Development Forecast			
Occupied Dwellings			
Total Occupied Dwelling Units	153,612	28,325	181,937
<i>% of City-wide Dwelling Units</i>		34%	
Population			
Census Population	371,836	23,877	395,713
<i>% of City-wide Population</i>		15%	
<i>Population In New Dwellings</i>		84,625	
Non-Residential Development Forecast			
Employment*	108,952	16,092	125,044
Rural			
Residential Development Forecast			
Occupied Dwellings			
Total Occupied Dwelling Units	34,929	4,939	39,868
<i>% of City-wide Dwelling Units</i>		6%	
Population			
Census Population	115,505	4,382	119,887
<i>% of City-wide Population</i>		3%	
<i>Population In New Dwellings</i>		15,609	
Non-Residential Development Forecast			
Employment*	16,742	1,452	18,194

* Excludes work at home employment but includes no fixed place of work

D. Public Transit Ridership Forecast

The ridership forecast for Public Transit services is consistent with the approach used in the 2019 Interim DC. The analysis has been informed by the City’s 2013 TMP, ridership results prepared by AECOM to support the preliminary design of the Stage 2 LRT and further analysis completed by City staff. Additional details on the Public Transit ridership forecast is provided in Appendix A.2.

Table 3 provides a summary of the ridership allocations used to inform the Public Transit services DC calculation for the purposes of the 2019 Interim DC Study as well as the 2024 DC Study.

Table 3-1

Allocation of Ridership Forecast: Public Transit Projects

Allocation	AM Peak Period Ridership	% of Allocation
Benefit to Existing	16,100	33.13%
In-Period	16,300	33.54%
Post-Period Benefit	16,200	33.33%
Total	48,600	100.00%

For projects with outstanding debenture payments, the post-period benefit shares were calculated based on shares of transit ridership growth beyond the planning horizon consistent with the 2019 Interim DC Study. Recognizing that only the development charge eligible costs are included in the outstanding debenture payments, no benefit to existing deductions were made. As such, the post-period benefit calculation for these projects is as follows:

Table 3-2

Allocation of Ridership Forecast: Public Transit Debentures

Allocation	AM Peak Period Ridership	% of Allocation
In-Period	16,300	50.15%
Post-Period Benefit	16,200	49.85%
Total	32,500	100.00%

4. Summary of Historical Service Levels for Applicable Services

The DCA and O.Reg. 82/98 require that the DCs be set at a level no higher than the average service level provided in the municipality over the 15-year period immediately preceding the preparation of the background study, on a service-by-service basis. As a result, development charges only maintain, not exceed, existing service levels as the City develops.

For general services (Protection (Police), Protection (Fire), Libraries, Parks Development, Recreation Facilities etc.), the legislative requirement is met by documenting historical service levels for the preceding 15 years, in this case, for the period from 2009-2023. Typically, service levels for general services are measured as a ratio of inputs per capita (or per population plus employment). With engineered services such as Water, Sanitary (Waste Water), and Stormwater Drainage engineering and legislated environmental and health standards are used in lieu of inputs per capita.

O. Reg. 82/98 requires when determining historical service levels both quantity and quality of service be taken into consideration. In most cases, the service levels are initially established in quantitative terms. For example, service levels for buildings are presented in terms of square feet per capita. The qualitative aspect is introduced by the consideration of the monetary value of the facility or service. In the case of buildings, for example, the cost would be shown in terms of \$/square foot to replace or construct a facility of the same quality. This approach helps to ensure that the development-related capital facilities that are to be charged to new growth reflect not only the quantity (number and size) but also the quality (value or replacement cost) of service provided historically by the City. Both the quantitative and qualitative aspects of service levels used in the present analysis are based on information provided by staff based on historical records and their

experience with costs to acquire or construct similar facilities, equipment and infrastructure.

Table 4 summarizes service levels for all general City-wide services included in the DC calculation (excluding Public Transit, Roads and Related Services, Water, Sanitary (Waste Water) and Stormwater Drainage engineering services). Appendix C provides detailed historical inventory data upon which the calculation of service levels is based for general services and Appendix E.1 provides details on historical service level data for Roads and Related services.

TABLE 4
CITY OF OTTAWA
SUMMARY OF 15-YEAR HISTORICAL SERVICE LEVELS
2009-2023

Service	Average Service Level
1 Protection (Police)	\$266.38 / pop & emp.
2 Protection (Fire)	\$420.52 / pop & emp.
3 Parks Development	\$2,838.53 / capita
4 Recreation Facilities	\$3,577.86 / capita
5 Libraries	\$401.67 / capita
6 Ambulance Service	\$66.20 / pop. & emp.

Note: Roads and Related historical average service level is described in Appendix E.1

5. The Development-Related Capital Forecast and Planned Level of Service for Public Transit Services

The DCA requires the Council of a municipality to express its intent to provide future capital facilities at the level incorporated in the DC calculation. As noted above in Section II, O.Reg. 82/98, s. 3 states that:

For the purposes of paragraph 3 of subsection 5 (1) of the Act, the council of a municipality has indicated that it intends to ensure that an increase in the need for service will be met if the increase in service forms part of an official plan, capital forecast or similar expression of the intention of the council and the plan, forecast or similar expression of the intention of the council has been approved by the council.

A. A Development-Related Capital Forecast is Provided for Council's Approval

As part of the 2024 DC Study Council will adopt the development-related capital forecast developed for the purposes of the DC calculation. It is assumed that future capital budgets and forecasts will continue to bring forward the development-related projects contained herein that are consistent with the growth occurring in the City. It is acknowledged that changes to the forecast presented herein may occur based on various factors that are reviewed annually during the City's capital budgeting process and in conjunction with the affordable funding envelopes.

B. Planned Level of Service for Public Transit

For Public Transit, the DCA requires that the estimate in the increase in need for service shall not exceed the planned level of service over the 10-year period immediately following the DC Background Study. For the purposes of the study, the 10-year period for the planned level of service is 2024-2033.

For Public Transit services, the “planned level of service” is considered the development-related capital forecast contained in the 2024 DC Study, which has been informed by various sources as discussed in Appendix B.

C. The Development-Related Capital Forecast for All City Services

i. Eligible Capital Costs

Eligible capital costs as per s. 5(3) of the DCA include:

- Costs to acquire land or an interest in land, including a leasehold interest
- Costs to improve land
- Costs to acquire, lease, construct or improve buildings and structures
- Costs to acquire, lease, construct or improve facilities including
 - Rolling stock with an estimated useful life of seven years or more;
 - Furniture and equipment, other than computer equipment; and
 - Materials acquired for circulation, reference or information purposes by a library board as defined in the Public Libraries Act.
- Interest on money borrowed to pay for costs described in paragraphs 1 to 4. 1997, c. 27, s. 5(3)

ii. Ineligible Costs

It is not implied that all these costs are to be recovered from new development by way of DCs. Portions of the capital forecast not recoverable from DCs in the Study generally include:

- Operating, capital maintenance and lifecycle costs;
- Capital infrastructure needed to service the existing community that has no benefit to future development;
- Costs addressing existing service deficiencies;
- Costs benefiting growth anticipated to occur beyond the 2024-2033 and 2024-2031 planning periods;
- Capital infrastructure that increase the City's service levels; and
- Ineligible capital costs (e.g. tourism facilities, parkland acquisition, etc.) as determined by the regulations.

A summary of the net development-related capital forecast for all services is presented in Table 5. As shown, the total gross 10-year capital program cost amounts to \$12.1 billion, and the capital expenditures for the engineered services based on the planning period to 2031 amounts to \$3.3 billion. Of particular importance, \$7.9 billion is identified in grants, subsidies and other recoveries which relates to upper levels of funding for Public Transit infrastructure.

Additional adjustments are required to be made to the DC eligible capital expenditures in accordance with the requirements of the DCA. Such adjustments include a reduction for replacement and benefit to existing shares and post-period benefit. Available DC reserve funds or prior growth have also been applied to the DC capital costs. A discussion of these adjustments is provided in Appendix B for Public Transit services, Appendix C for General Services, Appendix D for special area charges and Appendix E for Engineered Services.

TABLE 5

**CITY OF OTTAWA
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM
CAPITAL PROGRAM BY SERVICE
(in \$000s)**

Service	Development-Related Capital Program 2024-2033			
	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Costs	Share of Net Costs
1 Protection (Police)	\$110,800.0	\$0.0	\$110,800.0	2.7%
2 Protection (Fire)	\$80,279.3	\$0.0	\$80,279.3	1.9%
3 Parks Development	\$158,547.7	\$30,038.3	\$128,509.4	3.1%
4 Recreation Facilities	\$673,691.1	\$51,795.1	\$621,895.9	15.0%
5 Libraries	\$87,213.6	\$0.0	\$87,213.6	2.1%
6 Ambulance Service	\$14,048.0	\$0.0	\$14,048.0	0.3%
7 Public Transit	\$11,021,542.8	\$7,926,833.1	\$3,094,709.7	74.8%
TOTAL	\$12,146,122.5	\$8,008,666.6	\$4,137,456.0	100.0%

Service	Development-Related Capital Program 2024-2031			
	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Costs	Share of Net Costs
1 Roads & Related Services	\$1,510,419.2	\$0.0	\$1,510,419.2	46.0%
1 Sanitary (Waste Water)	\$1,396,365.1	\$0.0	\$1,396,365.1	42.5%
2 Water	\$371,541.5	\$0.0	\$371,541.5	11.3%
3 Stormwater Drainage	\$6,723.5	\$0.0	\$6,723.5	0.2%
TOTAL	\$3,285,049.2	\$0.0	\$3,285,049.2	100.0%

TOTAL ALL TIME PERIODS	\$15,431,171.7	\$8,008,666.6	\$7,422,505.2	
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6. Calculated Development Charges

A. Overview of Development Charges Calculations

This section summarizes the calculation of DCs for each service category and the resulting total DC by type of development. For residential development, the total per capita amount is then converted to a variable charge by housing unit type using various unit occupancy factors. For non-residential development, the rate per employee is divided by the related floor space per worker (FSW) assumption to arrive at a \$/square metre. The non-residential charge is proposed to be differentiated between industrial and non-industrial building space.

B. Total DC Recoverable Share of the Net Capital Forecast

Table 6 provides a summary of the residential and non-residential in-period DC eligible capital costs for general and engineered services for the following areas: City-wide, IGB, OGB and Rural. Consistent with the City's historical practice, the non-residential cost allocations arising from the area-specific residential calculations are recovered on a City-wide basis.

In total, \$2.0 billion in DC eligible costs are included in the DC calculation for general services and \$1.7 billion is included for engineered services.

The total DC recoverable share of net capital costs for the area-specific special area charges is summarized and discussed in Appendix D.

TABLE 6
CITY OF OTTAWA
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM
CAPITAL PROGRAM BY SERVICE

(in \$000s)

10-Year General Services	Residential				Non-Residential (1)			Total DC Eligible Costs		
	City-wide	Inside the Greenbelt	Outside the Greenbelt	Rural	Industrial	Non-Industrial	Uniform (2)	Residential	Non-Residential	Total
1 Protection (Police)	\$39,522.8	\$0.0	\$0.0	\$0.0	\$1,216.8	\$9,194.3	\$0.0	\$39,522.8	\$10,411.2	\$49,934.0
2 Protection (Fire)	\$18,622.1	\$0.0	\$28,984.2	\$459.4	\$1,479.9	\$11,181.7	\$0.0	\$48,065.7	\$12,661.6	\$60,727.3
3 Parks Development	\$32,469.7	\$56,627.8	\$0.0	\$0.0	\$0.0	\$0.0	\$4,689.3	\$89,097.5	\$4,689.3	\$93,786.9
4 Recreation Facilities	\$202,871.5	\$40,478.4	\$54,257.5	\$572.5	\$0.0	\$0.0	\$15,693.7	\$298,179.9	\$15,693.7	\$313,873.5
5 Libraries	\$17,753.9	\$0.0	\$38,739.4	\$1,627.1	\$0.0	\$0.0	\$3,059.0	\$58,120.3	\$3,059.0	\$61,179.3
6 Ambulance Service	\$9,227.1	\$0.0	\$0.0	\$0.0	\$284.1	\$2,146.5	\$0.0	\$9,227.1	\$2,430.6	\$11,657.7
7 Public Transit	\$1,128,367.1	\$0.0	\$0.0	\$0.0	\$34,740.7	\$262,496.7	\$0.0	\$1,128,367.1	\$297,237.5	\$1,425,604.6
TOTAL	\$1,448,834.1	\$97,106.3	\$121,981.1	\$2,659.0	\$37,721.5	\$285,019.3	\$23,442.0	\$1,670,580.4	\$346,182.9	\$2,016,763.3

7-Year Engineered Services	Residential				Non-Residential (1)			Total DC Eligible Costs		
	City-wide	Inside the Greenbelt	Outside the Greenbelt	Rural	Industrial	Non-Industrial	Uniform	Residential	Non-Residential	Total
1 Roads & Related Services	\$847,800.4	\$9,664.9	\$71,605.9	\$5,530.5	\$26,969.7	\$204,466.0	\$0.0	\$934,601.6	\$231,435.7	\$1,166,037.3
2 Sanitary (Waste Water)	\$86,473.5	\$48,928.8	\$141,685.8	\$0.0	\$7,494.2	\$56,815.9	\$0.0	\$277,088.2	\$64,310.1	\$341,398.3
3 Water	\$9,045.1	\$3,050.0	\$132,049.9	\$315.5	\$1,823.6	\$13,474.8	\$0.0	\$144,460.5	\$15,298.4	\$159,758.9
4 Stormwater Drainage	\$3,852.1	\$0.0	\$0.0	\$0.0	\$113.2	\$858.0	\$0.0	\$3,852.1	\$971.2	\$4,823.3
TOTAL	\$99,370.8	\$51,978.8	\$273,735.7	\$315.5	\$9,430.9	\$71,148.8	\$0.0	\$1,360,002.4	\$312,015.4	\$1,672,017.8

TOTAL 2024-2033 and 2024-2031								\$3,030,582.8	\$658,198.3	\$3,688,781.1
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(1) Non-Residential costs are calculated on a City-wide basis

(2) Uniform non-residential charges are only calculated for Parks Development, Recreation Facilities and Libraries, consistent with the 2014 DC Background Study and interim 2019 DC Study

C. City-Wide Residential (\$/capita) and Non-Residential (\$/square metre) DCs

The calculated residential \$/capita and non-residential industrial and non-industrial charges \$/square metre are shown in Appendix B for Public Transit services, Appendix C for General Services, Appendix D for special area charges and Appendix E for Engineered Services.

An average cost calculation methodology has been used for all services with the exception of Roads and Related, Sanitary (Waste Water), Water, Stormwater Drainage and Public Transit. For those services, a cash flow analysis is undertaken to account for the timing of projects and receipt of DCs. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the DCA. This is consistent with the City's historical DC calculation practices.

D. Proposed Development Charges: City-Wide and Area-Specific Residential and Non-Residential DCs (IGB, OGB and Rural)

Residential DCs are proposed to vary by dwelling unit type to reflect different occupancy factors and resulting demand for services. The proposed residential DCs are shown in Table 7. These rates are applied to all development occurring in the City. Table 8 includes the non-residential industrial and non-industrial City-wide rates. Table 9 shows the applicable non-residential City-wide rate for development occurring in the Rural unserved area.

Consistent with the City's current practices, the non-residential rate is calculated on a City-wide basis, as such only residential development charges are proposed to vary by benefitting area (e.g. IGB, OGB and Rural). The remainder of the rate tables include the following:

Table 10: IGB calculated residential rates

Table 11: OGB calculated residential rates

Table 12: Rural (Serviced) calculated residential rates

Table 13: Rural (Unserviced) calculated residential rates

The calculated rates vary by unit type and benefitting area based on the development and services occurring within in each area.

TABLE 7

CITY OF OTTAWA
CITY-WIDE DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE

Service	Charge Per Capita	Residential Charge By Unit Type (1)				
		Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Rooms
Protection (Police)	\$191.96	\$645	\$509	\$350	\$248	\$192
Protection (Fire)	\$90.45	\$304	\$240	\$165	\$117	\$90
Parks Development	\$157.71	\$530	\$418	\$287	\$204	\$158
Recreation Facilities	\$985.35	\$3,309	\$2,612	\$1,794	\$1,275	\$985
Libraries	\$86.23	\$290	\$229	\$157	\$112	\$86
Ambulance Service	\$44.82	\$151	\$119	\$82	\$58	\$45
Public Transit	\$5,103.50	\$17,141	\$13,529	\$9,293	\$6,606	\$5,103
SUB-TOTAL GENERAL SERVICES	\$6,660.01	\$22,370	\$17,656	\$12,128	\$8,620	\$6,659
Roads & Related Services	\$4,908.12	\$16,484	\$13,011	\$8,937	\$6,353	\$4,908
Sanitary (Waste Water)	\$495.75	\$1,665	\$1,314	\$903	\$642	\$496
Water	\$54.48	\$183	\$144	\$99	\$71	\$54
Stormwater Drainage	\$23.81	\$80	\$63	\$43	\$31	\$24
SUB-TOTAL ENGINEERING SERVICES	\$5,482.15	\$18,412	\$14,532	\$9,982	\$7,097	\$5,482
TOTAL CITY-WIDE CHARGE	\$12,142.16	\$40,782	\$32,188	\$22,110	\$15,717	\$12,141
(1) Based on Persons Per Unit Of:		3.36	2.65	1.82	1.29	1.00

TABLE 8

CITY OF OTTAWA
CITY-WIDE DEVELOPMENT CHARGES
NON-RESIDENTIAL DEVELOPMENT CHARGES

Service	Industrial		Non-Industrial	
	Per Square Metre of GFA	Per Square Foot of GFA	Per Square Metre of GFA	Per Square Foot of GFA
Protection (Police)	\$2.29	\$0.21	\$5.77	\$0.54
Protection (Fire)	\$2.78	\$0.26	\$7.02	\$0.65
Parks Development	\$2.21	\$0.20	\$2.21	\$0.20
Recreation Facilities	\$7.38	\$0.69	\$7.38	\$0.69
Libraries	\$1.44	\$0.13	\$1.44	\$0.13
Ambulance Service	\$0.53	\$0.05	\$1.35	\$0.13
Public Transit	\$60.60	\$5.63	\$140.80	\$13.08
SUB-TOTAL GENERAL SERVICES	\$77.22	\$7.17	\$165.96	\$15.42
Roads & Related Services	\$64.56	\$6.00	\$163.29	\$15.17
Sanitary (Waste Water)	\$20.67	\$1.92	\$43.90	\$4.08
Water	\$5.04	\$0.47	\$10.67	\$0.99
Stormwater Drainage	\$0.29	\$0.03	\$0.73	\$0.07
SUB-TOTAL ENGINEERING SERVICES	\$90.55	\$8.42	\$218.58	\$20.31
TOTAL CITY-WIDE CHARGE	\$167.77	\$15.59	\$384.54	\$35.73

TABLE 9

CITY OF OTTAWA
 UNSERVICED DEVELOPMENT CHARGES
 NON-RESIDENTIAL DEVELOPMENT CHARGES PER SQUARE METRE

Service	Industrial		Non-Industrial	
	Per Square Metre of GFA	Per Square Foot of GFA	Per Square Metre of GFA	Per Square Foot of GFA
Protection (Police)	\$2.29	\$0.21	\$5.77	\$0.54
Protection (Fire)	\$2.78	\$0.26	\$7.02	\$0.65
Parks Development	\$2.21	\$0.20	\$2.21	\$0.20
Recreation Facilities	\$7.38	\$0.69	\$7.38	\$0.69
Libraries	\$1.44	\$0.13	\$1.44	\$0.13
Ambulance Service	\$0.53	\$0.05	\$1.35	\$0.13
Public Transit	\$60.60	\$5.63	\$140.80	\$13.08
SUB-TOTAL GENERAL SERVICES	\$77.22	\$7.17	\$165.96	\$15.42
Roads & Related Services	\$64.56	\$6.00	\$163.29	\$15.17
Sanitary (Waste Water)	\$0.00	\$0.00	\$0.00	\$0.00
Water	\$0.00	\$0.00	\$0.00	\$0.00
Stormwater Drainage	\$0.29	\$0.03	\$0.73	\$0.07
SUB-TOTAL ENGINEERING SERVICES	\$64.84	\$6.03	\$164.02	\$15.24
TOTAL CITY-WIDE CHARGE	\$142.06	\$13.20	\$329.97	\$30.66

TABLE 10

CITY OF OTTAWA
INSIDE THE GREENBELT DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE

Service	Charge Per Capita	Residential Charge By Unit Type (1)				
		Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Rooms
Protection (Police)	\$0.00	\$0	\$0	\$0	\$0	\$0
Protection (Fire)	\$0.00	\$0	\$0	\$0	\$0	\$0
Parks Development	\$842.14	\$2,604	\$2,180	\$1,533	\$1,090	\$842
Recreation Facilities	\$601.97	\$1,861	\$1,559	\$1,096	\$779	\$602
Libraries	\$0.00	\$0	\$0	\$0	\$0	\$0
Ambulance Service	\$0.00	\$0	\$0	\$0	\$0	\$0
Public Transit	\$0.00	\$0	\$0	\$0	\$0	\$0
SUB-TOTAL GENERAL SERVICES	\$1,444.11	\$4,465	\$3,739	\$2,629	\$1,869	\$1,444
Roads & Related Services	\$166.93	\$516	\$432	\$304	\$216	\$167
Sanitary (Waste Water)	\$763.96	\$2,362	\$1,978	\$1,391	\$989	\$764
Water	\$45.27	\$140	\$117	\$82	\$59	\$45
Stormwater Drainage	\$0.00	\$0	\$0	\$0	\$0	\$0
SUB-TOTAL ENGINEERING SERVICES	\$976.16	\$3,018	\$2,527	\$1,777	\$1,264	\$976
TOTAL IGB CHARGE	\$2,420.27	\$7,483	\$6,266	\$4,406	\$3,133	\$2,420
(1) Based on Persons Per Unit Of:		3.09	2.59	1.82	1.29	1.00

TABLE 11

CITY OF OTTAWA
 OUTSIDE THE GREENBELT DEVELOPMENT CHARGES
 RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE

Service	Charge Per Capita	Residential Charge By Unit Type (1)				
		Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Rooms
Protection (Police)	\$0.00	\$0	\$0	\$0	\$0	\$0
Protection (Fire)	\$246.62	\$852	\$659	\$449	\$319	\$247
Parks Development	\$0.00	\$0	\$0	\$0	\$0	\$0
Recreation Facilities	\$461.66	\$1,594	\$1,233	\$841	\$598	\$462
Libraries	\$329.62	\$1,138	\$880	\$600	\$427	\$330
Ambulance Service	\$0.00	\$0	\$0	\$0	\$0	\$0
Public Transit	\$0.00	\$0	\$0	\$0	\$0	\$0
SUB-TOTAL GENERAL SERVICES	\$1,037.89	\$3,584	\$2,772	\$1,890	\$1,344	\$1,039
Roads & Related Services	\$853.32	\$2,947	\$2,279	\$1,554	\$1,104	\$853
Sanitary (Waste Water)	\$1,503.18	\$5,191	\$4,015	\$2,737	\$1,946	\$1,503
Water	\$1,474.51	\$5,092	\$3,938	\$2,685	\$1,908	\$1,475
Stormwater Drainage	\$0.00	\$0	\$0	\$0	\$0	\$0
SUB-TOTAL ENGINEERING SERVICES	\$3,831.02	\$13,230	\$10,232	\$6,976	\$4,958	\$3,831
TOTAL OGB CHARGE	\$4,868.91	\$16,814	\$13,004	\$8,866	\$6,302	\$4,870
(1) Based on Persons Per Unit Of:		3.45	2.67	1.82	1.29	1.00

TABLE 12

CITY OF OTTAWA
RURAL (SERVICED) DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE

Service	Charge Per Capita	Residential Charge By Unit Type (1)				
		Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Rooms
Protection (Police)	\$0.00	\$0	\$0	\$0	\$0	\$0
Protection (Fire)	\$21.70	\$69	\$49	\$40	\$28	\$22
Parks Development	\$0.00	\$0	\$0	\$0	\$0	\$0
Recreation Facilities	\$27.05	\$86	\$61	\$49	\$35	\$27
Libraries	\$76.87	\$244	\$173	\$140	\$100	\$77
Ambulance Service	\$0.00	\$0	\$0	\$0	\$0	\$0
Public Transit	\$0.00	\$0	\$0	\$0	\$0	\$0
SUB-TOTAL GENERAL SERVICES	\$125.62	\$399	\$283	\$229	\$163	\$126
Roads & Related Services	\$398.53	\$1,264	\$895	\$726	\$516	\$399
Sanitary (Waste Water)	\$0.00	\$0	\$0	\$0	\$0	\$0
Water	\$34.55	\$110	\$78	\$63	\$45	\$35
Stormwater Drainage	\$0.00	\$0	\$0	\$0	\$0	\$0
SUB-TOTAL ENGINEERING SERVICES	\$433.08	\$1,374	\$973	\$789	\$561	\$434
TOTAL RURAL SERVICED CHARGE	\$558.70	\$1,773	\$1,256	\$1,018	\$724	\$560
(1) Based on Persons Per Unit Of:		3.17	2.25	1.82	1.29	1.00

TABLE 13

**CITY OF OTTAWA
RURAL (UNSERVICED) DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE**

Service	Charge Per Capita	Residential Charge By Unit Type (1)				
		Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Rooms
Protection (Police)	\$0.00	\$0	\$0	\$0	\$0	\$0
Protection (Fire)	\$21.70	\$69	\$49	\$40	\$28	\$22
Parks Development	\$0.00	\$0	\$0	\$0	\$0	\$0
Recreation Facilities	\$27.05	\$86	\$61	\$49	\$35	\$27
Libraries	\$76.87	\$244	\$173	\$140	\$100	\$77
Ambulance Service	\$0.00	\$0	\$0	\$0	\$0	\$0
Public Transit	\$0.00	\$0	\$0	\$0	\$0	\$0
SUB-TOTAL GENERAL SERVICES	\$125.62	\$399	\$283	\$229	\$163	\$126
Roads & Related Services	\$398.53	\$1,264	\$895	\$726	\$516	\$399
Sanitary (Waste Water)	\$0.00	\$0	\$0	\$0	\$0	\$0
Water	\$0.00	\$0	\$0	\$0	\$0	\$0
Stormwater Drainage	\$0.00	\$0	\$0	\$0	\$0	\$0
SUB-TOTAL ENGINEERING SERVICES	\$398.53	\$1,264	\$895	\$726	\$516	\$399
TOTAL RURAL UNSERVICED CHARGE	\$524.15	\$1,663	\$1,178	\$955	\$679	\$525
(1) Based on Persons Per Unit Of:		3.17	2.25	1.82	1.29	1.00

E. Comparison of Calculated and Existing DCs for City-wide and Area-Specific DCs (IGB, OGB and Rural)

Tables 14 to 19 below provide a comparison of the current or existing and calculated DCs by area.

F. Calculated Area-Specific DCs: Special Area Charges

A summary of the calculated special area development charges as well as a comparison of the current rates are provided in Appendix D.

TABLE 14

**CITY OF OTTAWA
CITY-WIDE DEVELOPMENT CHARGES
INDUSTRIAL DEVELOPMENT CHARGES COMPARISON**

Service	Industrial \$/square metre		Industrial \$/square foot		Difference \$	Difference %
	Current as of Oct 1, 2023	Calculated Total	Current as of Oct 1, 2023	Calculated Total		
Protection (Combined) 1	\$4.95	\$5.06	\$0.46	\$0.47	\$0.01	2%
Protection (Police)		\$2.29		\$0.21		
Protection (Fire)		\$2.78		\$0.26		
Parks Development	\$0.97	\$2.21	\$0.09	\$0.20	\$0.11	122%
Recreation Facilities	\$1.94	\$7.38	\$0.18	\$0.69	\$0.51	283%
Libraries	\$0.32	\$1.44	\$0.03	\$0.13	\$0.10	333%
Ambulance Service	\$0.54	\$0.53	\$0.05	\$0.05	\$0.00	0%
Public Transit	\$63.51	\$60.60	\$5.90	\$5.63	(\$0.27)	-5%
Corporate Studies	\$0.54	\$0.00	\$0.05	\$0.00	(\$0.05)	-100%
SUB-TOTAL GENERAL SERVICES	\$72.77	\$77.22	\$6.76	\$7.17	\$0.41	6%
Roads & Related Services	\$69.43	\$64.56	\$6.45	\$6.00	(\$0.45)	-7%
Sanitary (Waste Water)	\$13.02	\$20.67	\$1.21	\$1.92	\$0.71	59%
Water	\$2.05	\$5.04	\$0.19	\$0.47	\$0.28	147%
Stormwater Drainage	\$0.22	\$0.29	\$0.02	\$0.03	\$0.01	50%
SUB-TOTAL ENGINEERING SERVICES	\$84.72	\$90.55	\$7.87	\$8.42	\$0.55	7%
TOTAL CITY-WIDE CHARGE	\$157.49	\$167.77	\$14.63	\$15.59	\$0.96	7%

Note: Sanitary (Waste Water) and Water rates do not apply in the Rural unserved area

1 Protection has been split for the purposes of the 2024 DC Study

TABLE 15

**CITY OF OTTAWA
CITY-WIDE DEVELOPMENT CHARGES
NON-INDUSTRIAL DEVELOPMENT CHARGES COMPARISON**

Service	Non-Industrial \$/square metre		Non-Industrial \$/square foot		Difference \$	Difference %
	Current as of Oct 1, 2023	Calculated Total	Current as of Oct 1, 2023	Calculated Total		
Protection (Combined) 1	\$12.27	\$12.78	\$1.14	\$1.19	\$0.05	4%
Protection (Police)		\$5.77		\$0.54		
Protection (Fire)		\$7.02		\$0.65		
Parks Development	\$0.97	\$2.21	\$0.09	\$0.20	\$0.11	122%
Recreation Facilities	\$1.94	\$7.38	\$0.18	\$0.69	\$0.51	283%
Libraries	\$0.32	\$1.44	\$0.03	\$0.13	\$0.10	333%
Ambulance Service	\$1.61	\$1.35	\$0.15	\$0.13	(\$0.02)	-13%
Public Transit	\$161.57	\$140.80	\$15.01	\$13.08	(\$1.93)	-13%
Corporate Studies	\$1.61	\$0.00	\$0.15	\$0.00	(\$0.15)	-100%
SUB-TOTAL GENERAL SERVICES	\$180.29	\$165.96	\$16.75	\$15.42	(\$1.33)	-8%
Roads & Related Services	\$177.28	\$163.29	\$16.47	\$15.17	(\$1.30)	-8%
Sanitary (Waste Water)	\$32.18	\$43.90	\$2.99	\$4.08	\$1.09	36%
Water	\$5.27	\$10.67	\$0.49	\$0.99	\$0.50	102%
Stormwater Drainage	\$0.97	\$0.73	\$0.09	\$0.07	(\$0.02)	-22%
SUB-TOTAL ENGINEERING SERVICES	\$215.70	\$218.58	\$20.04	\$20.31	\$0.27	1%
TOTAL CITY-WIDE CHARGE	\$395.99	\$384.54	\$36.79	\$35.73	(\$1.06)	-3%

Note: Sanitary (Waste Water) and Water rates do not apply in the Rural unserved area

1 Protection has been split for the purposes of the 2024 DC Study

TABLE 16

CITY OF OTTAWA
INSIDE THE GREENBELT DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES COMPARISON

Service	\$/Single & Semi-Detached						Difference (\$) Difference (%)	
	Current City-wide	Current IGB	Current as of Oct 1, 2023	Calculated City-Wide	Calculated IGB	Calculated IGB Total	Current vs. Calc. Total	
Protection (Combined) 1	\$637	\$0	\$637	\$949	\$0	\$949	\$312	49%
Protection (Police)				\$645	\$0	\$645		
Protection (Fire)				\$304	\$0	\$304		
Parks Development	\$841	\$1,631	\$2,472	\$530	\$2,604	\$3,134	\$662	27%
Recreation Facilities	\$310	\$1,657	\$1,967	\$3,309	\$1,861	\$5,170	\$3,203	163%
Libraries	\$308	\$148	\$456	\$290	\$0	\$290	(\$166)	-36%
Ambulance Service	\$154	\$0	\$154	\$151	\$0	\$151	(\$3)	-2%
Public Transit	\$15,096	\$0	\$15,096	\$17,141	\$0	\$17,141	\$2,045	14%
Corporate Studies	\$117	\$0	\$117	\$0	\$0	\$0	(\$117)	-100%
SUB-TOTAL GENERAL SERVICES	\$17,463	\$3,436	\$20,899	\$22,370	\$4,465	\$26,835	\$5,936	28%
Roads & Related Services	\$14,251	\$857	\$15,108	\$16,484	\$516	\$17,000	\$1,892	13%
Sanitary (Waste Water)	\$3,100	\$3,662	\$6,762	\$1,665	\$2,362	\$4,027	(\$2,735)	-40%
Water	\$286	\$354	\$640	\$183	\$140	\$323	(\$317)	-50%
Stormwater Drainage	\$87	\$0	\$87	\$80	\$0	\$80	(\$7)	-8%
SUB-TOTAL ENGINEERING SERVICES	\$17,724	\$4,873	\$22,597	\$18,412	\$3,018	\$21,430	(\$1,167)	-5%
TOTAL IGB CHARGE	\$35,187	\$8,309	\$43,496	\$40,782	\$7,483	\$48,265	\$4,769	11%

(1) Protection has been split for the purposes of the 2024 DC Study.

TABLE 17

CITY OF OTTAWA
OUTSIDE THE GREENBELT DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES COMPARISON

Service	\$/Single & Semi-Detached						Difference (\$) Difference (%)	
	Current City-wide	Current OGB	Current as of Oct 1, 2023	Calculated City-Wide	Calculated OGB	Calculated OGB Total	Current vs. Calc. Total	
Protection (Combined) 1	\$638	\$923	\$1,561	\$949	\$852	\$1,801	\$240	15%
Protection (Police)				\$645	\$0	\$645		
Protection (Fire)				\$304	\$852	\$1,156		
Parks Development	\$841	\$0	\$841	\$530	\$0	\$530	(\$311)	-37%
Recreation Facilities	\$309	\$3,047	\$3,356	\$3,309	\$1,594	\$4,903	\$1,547	46%
Libraries	\$309	\$427	\$736	\$290	\$1,138	\$1,428	\$692	94%
Ambulance Service	\$154	\$0	\$154	\$151	\$0	\$151	(\$3)	-2%
Public Transit	\$15,096	\$0	\$15,096	\$17,141	\$0	\$17,141	\$2,045	14%
Corporate Studies	\$116	\$64	\$180	\$0	\$0	\$0	(\$180)	-100%
SUB-TOTAL GENERAL SERVICES	\$17,463	\$4,461	\$21,924	\$22,370	\$3,584	\$25,954	\$4,030	18%
Roads & Related Services	\$14,251	\$3,173	\$17,424	\$16,484	\$2,947	\$19,431	\$2,007	12%
Sanitary (Waste Water)	\$3,099	\$4,941	\$8,040	\$1,665	\$5,191	\$6,856	(\$1,184)	-15%
Water	\$286	\$3,614	\$3,900	\$183	\$5,092	\$5,275	\$1,375	35%
Stormwater Drainage	\$87	\$0	\$87	\$80	\$0	\$80	(\$7)	-8%
SUB-TOTAL ENGINEERING SERVICES	\$17,723	\$11,728	\$29,451	\$18,412	\$13,230	\$31,642	\$2,191	7%
TOTAL OGB CHARGE	\$35,186	\$16,189	\$51,375	\$40,782	\$16,814	\$57,596	\$6,221	12%

(1) Protection has been split for the purposes of the 2024 DC Study.

TABLE 18

CITY OF OTTAWA
RURAL (SERVICED) DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES COMPARISON

Service	\$/Single & Semi-Detached						Difference (\$) Difference (%)	
	Current City-wide	Current Rural Serviced	Current as of Oct 1, 2023	Calculated City-Wide	Calculated Rural	Calculated Rural Total	Current vs. Calc. Total	
Protection (Combined) 1	\$638	\$0	\$638	\$949	\$69	\$1,018	\$380	60%
Parks Development	\$841	\$0	\$841	\$530	\$0	\$530	(\$311)	-37%
Recreation Facilities	\$309	\$388	\$697	\$3,309	\$86	\$3,395	\$2,698	387%
Libraries	\$309	\$189	\$498	\$290	\$244	\$534	\$36	7%
Ambulance Service	\$154	\$0	\$154	\$151	\$0	\$151	(\$3)	-2%
Public Transit	\$15,096	\$0	\$15,096	\$17,141	\$0	\$17,141	\$2,045	14%
Corporate Studies	\$116	\$93	\$209	\$0	\$0	\$0	(\$209)	-100%
SUB-TOTAL GENERAL SERVICES	\$17,463	\$670	\$18,133	\$22,370	\$399	\$22,769	\$4,636	26%
Roads & Related Services	\$14,251	\$1,546	\$15,797	\$16,484	\$1,264	\$17,748	\$1,951	12%
Sanitary (Waste Water)	\$3,099	\$0	\$3,099	\$1,665	\$0	\$1,665	(\$1,434)	-46%
Water	\$286	\$0	\$286	\$183	\$110	\$293	\$7	2%
Stormwater Drainage	\$87	\$0	\$87	\$80	\$0	\$80	(\$7)	-8%
SUB-TOTAL ENGINEERING SERVICES	\$17,723	\$1,546	\$19,269	\$18,412	\$1,374	\$19,786	\$517	3%
TOTAL RURAL (SERVICED)	\$35,186	\$2,216	\$37,402	\$40,782	\$1,773	\$42,555	\$5,153	14%

TABLE 19

CITY OF OTTAWA
RURAL (UNSERVICED) DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES COMPARISON

Service	\$/Single & Semi-Detached						Difference (\$)	Difference (%)
	Current City-wide	Current Rural Unserviced	Current as of Oct 1, 2023	Calculated City-Wide	Calculated Rural	Calculated Rural Total	Current vs. Calc. Total	
Protection (Combined) 1	\$638	\$0	\$638	\$949	\$69	\$1,018	\$380	60%
<i>Protection (Police)</i>				\$645	\$0	\$645		
<i>Protection (Fire)</i>				\$304	\$69	\$373		
Parks Development	\$841	\$0	\$841	\$530	\$0	\$530	(\$311)	-37%
Recreation Facilities	\$309	\$388	\$697	\$3,309	\$86	\$3,395	\$2,698	387%
Libraries	\$309	\$189	\$498	\$290	\$244	\$534	\$36	7%
Ambulance Service	\$154	\$0	\$154	\$151	\$0	\$151	(\$3)	-2%
Public Transit	\$15,096	\$0	\$15,096	\$17,141	\$0	\$17,141	\$2,045	14%
Corporate Studies	\$116	\$93	\$209	\$0	\$0	\$0	(\$209)	-100%
SUB-TOTAL GENERAL SERVICES	\$17,463	\$670	\$18,133	\$22,370	\$399	\$22,769	\$4,636	26%
Roads & Related Services	\$14,251	\$1,546	\$15,797	\$16,484	\$1,264	\$17,748	\$1,951	12%
Sanitary (Waste Water)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0%
Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0%
Stormwater Drainage	\$87	\$0	\$87	\$80	\$0	\$80	(\$7)	-8%
SUB-TOTAL ENGINEERING SERVICES	\$14,338	\$1,546	\$15,884	\$16,564	\$1,264	\$17,828	\$1,944	12%
TOTAL RURAL (UNSERVICED)	\$31,801	\$2,216	\$34,017	\$38,934	\$1,663	\$40,597	\$6,580	19%

(1) Protection has been split for the purposes of the 2024 DC Study.

7. Cost of Growth Analysis

This section provides a brief examination of the long-term capital and operating costs as well as the asset management related annual provisions for the capital facilities and infrastructure to be included in the 2024 DC By-laws. This examination is required as one of the provisions of the DCA. Additional details on the cost of growth analysis, including asset management analysis, for transit services is included in Appendix B. The analysis for all other services is included in Appendix G.

A. Public Transit

Appendix B provides details on the Public Transit Cost of Growth (COG) analysis. Long-term capital and operating impacts have been examined for all Public Transit services included in the 2024 DC Background Study.

The Public Transit AMP is generally informed based on the following documents:

- City of Ottawa Financial Reports and Statements
- City of Ottawa 2017 Long Range Financial Plan (LRFP) V Transit (with 2023 updates)
- Comprehensive Asset Management (CAM) Policy
- 2017 State of Assets Report (SOAR)
- 2017 Strategic Asset Management Plan (SAMP)

The analysis contained in Appendix B provides identifies the relevant sections of these documents that relates to the requirements of the DCA. Importantly, a detailed “checklist” is included, which identifies how each section of the legislation, as it relates to Public Transit services, is being addressed.

B. All Other Services (Excluding Public Transit)

Appendix G details on the COG analysis for all other services excluding Public Transit.

The long-term capital and operating impacts associated with the infrastructure for all services (except Public Transit) included in the 2024 DC Study. Relevant documents relied upon to complete this analysis include:

1. City of Ottawa 2023 and 2024 Budgets
2. Long Range Financial Plan V- Tax Supported Capital
3. 2013 Transportation Master Plan
4. Long Range Financial Plan V - Water, Wastewater and Stormwater Supported Programs

Similar to Public Transit services, the analysis provides the calculated annual asset management contribution for both the gross capital expenditures and the share related to the DC recoverable portion. The calculated annual provisions for the different types of assets are as follows:

Similar to Public Transit services, the analysis provides the calculated annual asset management contribution for both the gross capital expenditures and the share related to the DC recoverable portion. The calculated annual provisions for the different types of assets are as follows:

- **General Services (City-wide and ASDC):** \$26.2 million per annum (2034)
- **Engineered Services (City-wide and ASDC):** \$101.1 million per annum (2032)
- **Engineered Services (Special Area Charges):** \$198,000 per annum

C. Projects are Deemed to be Financially Sustainable

The calculated annual provisions identified in Appendix B and G have already been or will be fully integrated in the City's AMP and the LRFPs discussed in these appendices.

The annual provisions are considered to be financially sustainable, as it is expected that the increased capital asset management requirements can be absorbed by the LRFP forecasted tax and user rate increases over the planning periods. Importantly, the City's annual budget analysis will allow staff to continue to monitor and implement mitigating measures should the program become less sustainable.

8. Development Charges Administration & Policy Considerations

A. Development Charges Consultation and Approval Process

The 2024 DC Study is intended to be used for the purposes of public consultation and fully satisfies all requirements of the DCA and associated regulation.

Following the public release of the 2024 DC Study, consultation will continue with various stakeholders, staff, councillors and the Council sponsors leading up to the passage of the new 2024 DC By-laws. Adjustments to the development charge rates and policies were incorporated into the finalized DC By-laws and provided to Council for their formal approval.

B. City-Wide vs. Area-Specific Charges

i. Consideration for Area Rating

As required by the Development Charges Act (DCA), consideration was given to the use of area rating. Consistent with the City's historical practice, the infrastructure identified for the majority of general and engineered services has been calculated on an area-specific basis. Categories relating to Public Transit, Ambulance Services, Protection (Police) and Stormwater Drainage are calculated on a City-wide basis.

C. Other Policy Considerations

i. Statutory and Non-Statutory Policies

Statutory policies as required by the DCA will be included in the new 2024 DC By-laws. Non-statutory policies, which are provided at the discretion of the municipality, will also be identified in the 2024 DC By-laws.

ii. Local Service Guidelines

The City also has Local Service Guidelines. The purpose of establishing these definitions is to determine the eligible capital costs for inclusion in the development charges (DC) calculation for the City of Ottawa. Functions or services deemed to be local in nature are not to be included in the determination of the development charge rates. The provision of local services is considered to be a direct developer responsibility under s.59 of the DCA and will (or may) be recovered under other agreement(s) with the landowner or developer. Local Service Guidelines for infrastructure identified in the 2024 DC Study is based on the City's prevailing practices.

iii. 2024 DC By-laws

In accordance with the DCA, the draft DC By-laws were made available at least two weeks in advance of the statutory public meeting in accordance with the requirements of the DCA. The final 2024 DC By-laws as approved by Council have been made available under separate cover on the City's website.

iv. City's Growth-Related Funding Principles

The following principles shall be considered when the City funds growth-related capital projects using development charges:

- Capital projects not listed within the current background study and approved by-law cannot be funded from development charges to ensure the integrity of the growth-related funding program.
- Inflationary project cost increases will be funded from development charges based on the growth-related allocations referenced with in the current background study and approved by-law.
- Development charge revenues are only transferred to fund capital projects when growth-related expenditures have been incurred, not when the capital budget has been approved.
- Sanitary Sewer (Wastewater), Water, Stormwater (city-wide) and Public Transit reserve fund accounts are permitted to be in a cash deficit.
Roads and Related Services reserve fund accounts are permitted to be in a deficit on a commitment basis only.
- All other growth-related reserve fund accounts are not permitted to go into a deficit on either a cash or commitment basis without prior approval.

D. Summary of Preliminary Recommendations

The following provides a summary of recommendations relating to the implementation of the new DC By-laws.

- That present practices regarding collection of DCs and by-law administration continue to the extent possible, having regard to any requirements of the DCA;
- That under the DCA, the City should codify any rules regarding application of the by-laws and exemptions within the DC by-laws proposed for adoption;
- That the City continue to use front-ending agreements or developer agreements (or services-in-lieu arrangements), whichever are practical and desirable by the development industry and the City;

- That the by-law permit the payment of DCs in cash or through services-in-lieu agreements. The City is not obligated to enter into services-in-lieu agreements;
- That Council adopt the development-related capital forecasts, and the increase in the need for services attributable to the anticipated development, as included in the 2024 DC Study, subject to annual review during the City’s capital budgeting process and in conjunction with the affordable funding envelopes;
- That Council intends to undertake the adopted capital forecast to ensure that the increase in need for service will be met;
- That Council determine that the future excess capacity identified in the 2024 DC Study shall be paid for by the development charges contemplated in the said 2024 DC Study, or other similar charges;
- That Council give consideration of the use of more than one development charge by-law to reflect different needs for services in different areas, also known as area rating or area-specific DCs, and determined that for the services, and associated infrastructure proposed to be funded by DCs under the DC by-law, that the charges be calculated on either a city-wide or area-specific basis;
- That Council adopt the Public Transit development-related capital program, as included in the 2024 DC Study, as the “planned level of service”, and in doing so, indicate that it intends to ensure that the increase in need for Public Transit will be met; and
- That Council approve the Cost of Growth analysis, including the Asset Management Plan, that deals with all assets whose capital costs are intended to be funded under the development charge by-law and that such assets are considered to be financially sustainable over their full life cycle.

Appendix A

Development Forecast

Appendix A – Development Forecast

This appendix provides details of the development forecasts used to prepare the development charges calculations as part of the City's 2024 DC Background Study update.

A. Introduction

Two planning horizons are used in this study. The different planning horizons align with the projects included in the DC capital programs and the increase in need for servicing arising from anticipated development.

- **2033 Planning Horizon – General Services & Public Transit:** is based on the City's current Official Plan and readily available Census data as well as assumptions provided by City staff. The planning horizon of 2024-2033 is used for all general services: Protection (Police), Protection (Fire), Parks Development, Recreation Facilities, Libraries, Ambulance (Paramedic) Services and Public Transit.
- **2031 Planning Horizon – Engineered Services:** is based on a 2031 planning horizon, which aligns with the City's 2013 Official Plan and 2013 TMP and IMP. The City is currently in the process of updating its TMP and IMP but the analysis is not yet complete, as such, the 2024 DC Study will rely upon the projects identified in the 2013 TMP and 2013 IMP, based on a 2031 planning horizon. The 2031 population and employment estimates used in the 2024 DC Study forecast are based on the City's current adopted Official Plan, which extends to 2046. The 2031 target in the City's recently adopted Official Plan is higher than the population and employment estimates established in the previous 2013 Official Plan.

The forecast method and key assumptions are discussed and the results of the forecasts are presented in the following tables. The population, housing and employment forecasts, include both city-wide and area-specific boundaries (e.g. Inside the Greenbelt, Outside the Greenbelt and the Rural areas) within Ottawa. The development forecasts for the special area charges are discussed in Appendix D of this report.

Historical Development

Table 1	Historical Population, Occupied Households and Employment Summary (City-wide)
Table 2	Historical Building Permit Data
Table 3	Historical Households by Period of Construction Showing Household Size (City-wide)
Table 4	Historical Households by Period of Construction Showing Household Size (Inside the Greenbelt)
Table 5	Historical Households by Period of Construction Showing Household Size (Outside the Greenbelt)
Table 6	Historical Households by Period of Construction Showing Household Size (Rural)

Forecast Development: City-wide

Table 7	Population, Household and Employment Forecast Summary
Table 8	Forecast of Occupied Households by Unit Type
Table 9	Forecast of Annual Growth in Occupied Households by Unit Type
Table 10	Forecast Population in New Households by Unit Type
Table 11	Forecast Employment by Type
Table 12	Non-Residential Space Forecast

Forecast Development: Area-Specific Development

Table 13	Area-Specific Population Forecast Summary
Table 14	Area-Specific Household Summary
Table 15	Area-Specific Residential Unit Type and Population in New Units Forecast
Table 16	Area-Specific Employment Forecast Summary
Table 17	Area-Specific Rural Serviced and Unserviced Population and Dwellings Forecast
Table 18	Area-Specific Rural Serviced and Unserviced Non-Residential Employment and Space Forecast

B. Forecast Approach, Key Assumptions and Definitions

i. Identified Forecast Targets

The DCA requires the City to estimate “the anticipated amount, type and location of development” for which development charges may be imposed. The development forecast must cover both residential and non-residential development and be specific enough with regards to quantum, type, location and timing of development to allow the City to prepare a reasonable development-related capital program. A 10-year development forecast, from 2024-2033, has been used for the purposes of calculating development charges for the City’s General Services and Public Transit. Engineered Services including Roads, Water, Wastewater and Storm are based on a 2031 planning horizon.

The development forecast includes growth occurring within the City’s approved development areas, specifically within the Inside the Greenbelt (IGB), Outside the Greenbelt (OGB) and the Rural serviced and unserviced areas. The boundaries for the IGB, OGB and Rural areas are consistent with the 2019 Interim DC Background Study. It is expected that these boundaries will be adjusted as part of subsequent DC Background Study updates once

the City’s engineering master plans are updated to reflect the latest urban boundary expansions.

The forecasts are premised on the City achieving population, housing and employment targets established in the current approved Official Plan. This is consistent with Provincial regulations that require development charges forecasts be based on areas approved for development in a municipality’s Official Plan.

Figure 1: City of Ottawa 2046 Official Plan Projections

	2046
Population	1,410,000
Households	599,500
Employment	827,000

ii. Total Population and Employment vs. Census Population and Employment

Population figures used in the forecasts represent the population recorded in the Census (“Census population”). This definition excludes the Census net under-coverage, which represents those who were missed or double-counted by the Census and which is included in the definition of population used in the Official Plan. Population figures shown in the development forecast represent mid-year estimates. Household figures represent occupied dwellings, and are associated with the year in which the dwellings are anticipated to be occupied.

“DC Study Employment” figures presented represent City estimates relating to place of work data. Place of work data record where people work rather than their place of residence. It includes all employment with a regular or no fixed place of work. However, work-at-home employment is excluded from the figures as, for development charge purposes, this type of employment is considered not to require building floorspace for its activities.

Employment is categorized as major office, employment land, population-related and rural:

- **Major Office** refers to office type employment contained within free standing buildings more than 20,000 net square feet (1,858 m²).
- **Employment Land** refers to industrial employment accommodated primarily in low-rise industrial-type buildings located within business parks and industrial areas.
- **Population Related** is employment that primarily serves the City's resident population. This category captures most retail and other commercial activities.
- **Rural** refers to jobs scattered throughout rural areas and includes agricultural and primary industries plus uses typically found in urban employment areas, but not located on urban land designated for industrial or population-related uses.

C. Historical Development in the City

The City has experienced steady and sustained population, household and employment growth for many years. With respect to employment, Ottawa has a unique economy owing to the presence of federal employment and as such, employment has changed somewhat differently than other municipalities in Ontario.

i. Historical Residential Development

Historical population and housing figures presented in Tables 1-6 and are derived from Statistics Canada Census data and data provided by the City of Ottawa.

Table 1 demonstrates that Census population growth across the City has averaged 1.5% per annum over the historical period from 2009-2023. Over

the same period, the number of housing units in the City has grown at roughly the same rate as population (1.5% per annum).

The City's Census population has increased from approximately 839,920 people in 2008 to 1.06 million in 2023, representing an increase of 26%. The number of occupied dwelling units in the City also experienced an increase during the 15-year historical period, increasing from roughly 352,230 in 2008 to 439,450 occupied households in 2023, a 25% increase.

Table 2 provide details on historical residential building permit activity in Ottawa. Building permit data represents permits issued for different residential unit types within the City area over the historical period. For the purposes of the development forecast, this analysis was completed for the 2009-2023 period. Since 2008, the City has issued an average of approximately 7,600 permits annually. This number is slightly higher over the last 5-years (2019-2023) averaging roughly 9,800 units per year.

Table 3 provides details on historical occupancy patterns on a city-wide basis. At the time of completing the development forecast for the 2024 DC Study, 2021 Census data on historical household occupancy by period of construction was not available for the City's IGB, OGB and Rural areas. As such, the 2016 Census data has been relied upon. This is consistent with the data used in the City's 2019 Interim DC Background Study.

The overall average occupancy level in Ottawa for a single detached and semi-detached units is 3.36 persons per housing unit (PPU). In keeping with the City's historical practice, occupancy levels for recently constructed units over the historical 15-year planning period between 2001 and 2016 have generally been used in the development charges calculation. Tables 6 to 8 provide the historical PPU data for the City's three area-specific benefiting areas: IGB, OGB and Rural areas. The table below provides an overview of these assumptions.

PPU Assumptions

Unit Type	City-wide	Inside the Greenbelt	Outside the Greenbelt	Rural
Singles	3.43	3.29	3.52	3.20
Semis	2.76	2.51	2.87	2.65
Singles & Semis	3.36	3.09	3.45	3.17
Rows & Other Multiples	2.65	2.59	2.67	2.25
Apartment - Large	1.82	1.82	1.82	1.82
Apartment - Small	1.29	1.29	1.29	1.29
Apartments (Overall)	1.62	1.62	1.62	1.62

Consistent with the approach employed in the 2019 Interim DC Background Study, the city-wide PPU for apartments is applied to all areas in the City. Similarly, due to the smaller sample size of units in the Rural area, the PPUs for semi-detached units have been estimated. This is consistent with the approach used in the 2014 and 2019 Interim DC Background Studies. As such, the PPU estimates shown above may not match Tables 5 through 8.

ii. Historical Non-Residential Development

As with most communities in Ontario, the COVID-19 pandemic resulted in a severe shock to the local economy. At the time of the 2021 Census business closures and stay-at-home orders were still in effect. As such, a large portion of the labour force was unemployed and many others were working from home on a full-time basis, and often outside the City. Since that time, employees have continued to gradually return to their usual place of work, either full-time or under hybrid arrangements. For that reason, the impacts of the COVID-19 pandemic have been normalized for the purposes of the historical employment in the City, although it is evident that some shifts in work-at-home patterns will be long-lasting which has been accounted for in over the planning horizon.

Historical employment figures are shown in Table 1 and are informed by the City's historical employment survey information and traffic zone forecasts. The employment figures used for development charges calculations include

employees with no fixed place of work but exclude work at home employment.

Overall, the City's employment has increased over the last 15 years from approximately 504,360 in 2008 to 615,560 in 2023, this represents an increase of 22%.

D. Forecast Method and Results

This section describes the method used to establish the 10-year development charges forecast for the period 2024-2033 and the shorter term forecast from 2024-2031.

Development charges are levied on residential development as a charge per new unit. Therefore, for the residential forecast, a projection of both the population growth as well as the population in new housing units is required.

- The population growth determines the need for additional facilities and provides the foundation for the development-related capital program.
- When calculating the development charge, however, the development-related net capital costs are spread over the total additional population that occupy new housing units. This population in new units represents the population from which development charges will be collected.

Development charges are levied on non-residential development as a charge per unit of gross floor area (GFA). As with the residential forecast, the non-residential forecast requires both a projection of employment growth as well as a projection of the employment growth associated with new floorspace in the City.

i. City-wide Residential Development Forecast

The residential development forecast incorporates forecasts of population, households, and housing units by type.

As detailed in Table 7, the City's Census population is forecast to grow from approximately 1.06 million in 2023 to 1.19 million in 2031 and 1.21 million in 2033. The 10-year population growth of 157,230 persons represents a 15% increase over the existing base. Over the short-term planning period to 2031, the City anticipates adding a total of approximately 130,560 persons.

Over the 10-year planning period from 2024-2033, the number of occupied housing units is forecast to increase from approximately 439,450 in 2023 to 521,910 in 2033. The overall 10-year growth represents a 19% (82,460 units) increase in occupied dwelling units. Over the short-term planning period to 2031, the City will add approximately 69,210 units.

A breakdown of anticipated housing in the City by unit type is shown in Table 9. The housing forecast shows that the City's housing market will continue to be characterized by ground-related unit types (including singles, semi and row units), with an increase share of the market being represented by non-ground related units such as apartments. This pattern of housing unit growth represents somewhat higher density housing than the pattern experienced in the City over the last 10 years. The forecast reflects anticipated changes in unit mix such as aging population and City planning policies.

As shown in Table 10, the City-wide population growth in the new units is estimated by applying the following PPUs to the housing unit growth: 3.43 for single-detached units; 2.76 for semi-detached units; 2.65 for rows; and 1.62 for apartments. The PPUs were based on 15-year historical Census data from 2001 to 2016. The forecast of population expected to reside in new housing units over the 2024 to 2033 period is 205,890 additional persons. Over the short-term planning period to 2031, the population growth in new housing units is approximately 172,920 persons.

ii. City-wide Non-Residential Development Forecast

Table 11 illustrates the forecast total employment growth in Ottawa by employment category to 2031. Non-residential development charges are calculated on a per unit of gross floor area (GFA) basis. Therefore, as required by the DCA, a forecast of future non-residential building space has also been developed. As with the residential forecast, the employment and GFA forecasts cover the 10-year period from 2024-2033 and short-term period from to 2031.

As detailed in Table 12, four categories of employment are distinguished for the purposes of determining non-residential employment and floorspace growth: major office, employment land, population-related, and rural.

An assumed floorspace per worker (FSW) for each category is applied to the employment forecast in order to estimate the amount of associated GFA. No net new non-residential floor space is anticipated for the rural employment category, therefore a FSW of 0m² per employee has been applied. The following FSW assumptions are used:

Major Office	23.0 m ² per employee
Employment Land	110.0 m ² per employee
Population-Related	50.0 m ² per employee
Rural	0.0 m ² per employee

The non-residential floorspace forecast for the City is summarized in Table 12. The total floorspace growth is forecast at 2.13 million square metres over the 10-year period of which the largest component relates to population-related employment (67%), followed by employment land employment (25%) and finally major office (8%). Over the short-term planning period to 2031, the City will grow by 1.69 million square metres. The allocation of growth between the non-residential sectors is anticipated to remain consistent with the 10 year planning period (e.g. 67% population-related, 25% employment land and 8% major office) over the planning period to 2031.

iii. Area-Specific Forecasts: Inside the Greenbelt, Outside the Greenbelt and Rural

Tables 13 to 18 describe the area-specific residential and non-residential forecasts for the IGB, OGB and Rural areas. The total growth occurring within these three areas matches the city-wide growth shown in Tables 7 to 12.

A summary of the growth distribution between each area is shown in the Table below. This distribution is applied to the 10-year and short-term planning periods.

Summary of Area-Specific Growth Distribution 2024-2033

	Inside the Greenbelt	Outside the Greenbelt	Rural	Total
Population	31%	57%	11%	100%
Dwelling Units	45%	46%	8%	100%
Employment	55%	41%	4%	100%

iv. Area-Specific Forecasts: Rural Serviced and Unserviced

Tables 17 to 18 describe the area-specific residential and non-residential forecasts for the Rural serviced and unserviced areas. The distribution of growth between the areas is generally consistent with the growth distribution identified in the 2019 Interim DC Study over the 10-year planning period.

The tables provide a forecast of growth occurring within the following areas:

- Rural Serviced Water Area
- Rural Serviced Sewer (Wastewater) Area
- Rural Serviced Water and Sewer (Wastewater) Area
- Rural Unserviced

The “Total Rural Serviced” areas include the serviced “Water Area”, “Sewer (Wastewater) Area”, “Water and Sewer (Wastewater) Area”. These areas are consistent with the defined boundaries identified in the 2019 Interim DC Study.

APPENDIX A - TABLE 1
CITY OF OTTAWA
HISTORICAL POPULATION, OCCUPIED DWELLINGS & EMPLOYMENT SUMMARY
CITY-WIDE

Mid-Year	Census Population	Annual Growth	Occupied Dwellings	Annual Growth	Av. Household Size (PPU)	DC Study Employment ¹	Annual Growth	Activity Rate
2006	812,129		340,732		2.38	487,224		60.0%
2007	825,906	13,777	346,435	5,703	2.38	495,720	8,496	60.0%
2008	839,917	14,011	352,233	5,798	2.38	504,363	8,643	60.0%
2009	854,165	14,248	358,128	5,895	2.39	513,157	8,794	60.1%
2010	868,655	14,490	364,122	5,994	2.39	522,104	8,947	60.1%
2011	883,391	14,736	370,217	6,095	2.39	531,208	9,104	60.1%
2012	893,335	9,944	375,233	5,016	2.38	538,394	7,186	60.3%
2013	903,391	10,056	380,317	5,084	2.38	545,677	7,283	60.4%
2014	913,560	10,169	385,470	5,153	2.37	553,058	7,381	60.5%
2015	923,844	10,284	390,692	5,222	2.36	560,539	7,481	60.7%
2016	934,243	10,399	395,985	5,293	2.36	568,121	7,582	60.8%
2017	951,102	16,859	400,632	4,647	2.37	575,806	7,685	60.5%
2018	968,265	17,163	405,334	4,702	2.39	583,595	7,789	60.3%
2019	985,738	17,473	410,091	4,757	2.40	591,489	7,894	60.0%
2020	1,003,526	17,788	414,904	4,813	2.42	599,490	8,001	59.7%
2021	1,021,635	18,109	419,773	4,869	2.43	607,601	8,111	59.5%
2022	1,038,426	16,791	429,501	9,728	2.42	611,570	3,969	58.9%
2023	1,056,221	17,795	439,454	9,953	2.40	615,565	3,995	58.3%
Growth 2009-2023		216,304		87,221			111,202	

Source: Statistics Canada, City of Ottawa, Hemson Consulting

¹ DC Study Employment includes No Fixed Place of Work but excludes Work at Home Employment

**APPENDIX A - TABLE 2
CITY OF OTTAWA
HISTORICAL BUILDING PERMIT DATA
CITY-WIDE**

Year	Building Permits					Shares By Unit Type				
	Singles	Semis	Rows	Apartments	Total	Singles	Semis	Rows	Apartments	Total
2006	2,206	321	1,707	688	4,922	45%	7%	35%	14%	100%
2007	2,884	287	2,371	1,153	6,695	43%	4%	35%	17%	100%
2008	2,725	201	2,573	1,239	6,738	40%	3%	38%	18%	100%
2009	2,179	276	2,353	1,600	6,408	34%	4%	37%	25%	100%
2010	1,999	327	2,185	2,188	6,699	30%	5%	33%	33%	100%
2011	1,380	343	2,166	2,480	6,369	22%	5%	34%	39%	100%
2012	2,009	338	2,288	1,548	6,183	32%	5%	37%	25%	100%
2013	1,467	304	1,432	1,988	5,191	28%	6%	28%	38%	100%
2014	1,954	236	2,408	2,412	7,010	28%	3%	34%	34%	100%
2015	1,558	157	1,113	1,557	4,385	36%	4%	25%	36%	100%
2016	1,942	192	1,936	2,918	6,988	28%	3%	28%	42%	100%
2017	1,956	245	2,033	2,474	6,708	29%	4%	30%	37%	100%
2018	2,283	257	2,243	3,939	8,722	26%	3%	26%	45%	100%
2019	2,421	176	2,920	3,996	9,513	25%	2%	31%	42%	100%
2020	2,504	236	3,092	5,617	11,449	22%	2%	27%	49%	100%
2021	2,760	134	3,065	3,601	9,560	29%	1%	32%	38%	100%
2022	1,976	109	2,541	4,549	9,175	22%	1%	28%	50%	100%
2023	1,062	55	1,727	6,602	9,446	11%	1%	18%	70%	100%
Growth 2009-2023	29,450	3,385	33,502	47,469	113,806	26%	3%	29%	42%	100%

Source: Statistics Canada

**APPENDIX A - TABLE 3
CITY OF OTTAWA
HISTORICAL HOUSEHOLDS BY PERIOD OF CONSTRUCTION SHOWING HOUSEHOLD SIZE
CITY-WIDE**

Dwelling Unit Type	Period of Construction										Period of Construction Summaries		
	Pre 1945	1946-1960	1961-1970	1971-1980	1981-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2016	2001-2016	2006-2016	Total
Singles & Semis													
Household Population	39,370	56,920	62,745	60,695	91,345	28,620	37,690	53,270	50,320	35,725	139,315	86,045	516,700
Households	14,945	23,005	24,455	22,685	31,760	9,165	11,935	15,955	14,790	10,735	41,480	25,525	179,430
Household Size	2.63	2.47	2.57	2.68	2.88	3.12	3.16	3.34	3.40	3.33	3.36	3.37	2.88
Rows													
Household Population	4,680	6,800	15,710	39,295	34,830	18,980	18,385	23,340	26,205	22,415	71,960	48,620	210,640
Households	1,735	2,215	5,465	15,055	13,565	7,070	7,185	8,840	9,590	8,715	27,145	18,305	79,435
Household Size	2.70	3.07	2.87	2.61	2.57	2.68	2.56	2.64	2.73	2.57	2.65	2.66	2.65
Apartments (incl. Duplexes)													
Household Population	19,185	21,015	31,745	43,240	27,935	9,040	6,630	7,310	9,605	12,950	29,865	22,555	188,655
Households	10,970	12,870	19,765	26,960	16,755	5,330	3,810	4,370	5,870	8,225	18,465	14,095	114,925
Household Size	1.75	1.63	1.61	1.60	1.67	1.70	1.74	1.67	1.64	1.57	1.62	1.60	1.64
All Units													
Household Population	63,235	84,735	110,200	143,230	154,110	56,640	62,705	83,920	86,130	71,090	241,140	157,220	915,995
Households	27,650	38,090	49,685	64,700	62,080	21,565	22,930	29,165	30,250	27,675	87,090	57,925	373,790
Household Size	2.29	2.22	2.22	2.21	2.48	2.63	2.73	2.88	2.85	2.57	2.77	2.71	2.45

*Note: Population and household values in this table are based on response rates and may differ from Census values
Source: Statistics Canada "Period of Construction Data" from 2016 Census*

**APPENDIX A - TABLE 4
CITY OF OTTAWA
HISTORICAL HOUSEHOLDS BY PERIOD OF CONSTRUCTION SHOWING HOUSEHOLD SIZE
INSIDE THE GREENBELT**

Dwelling Unit Type	Period of Construction											Period of Construction Summaries		
	1920 or before	1921 to 1945	1946-1960	1961-1970	1971-1980	1981-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2016	2001-2016	2006-2016	Total
Singles & Semis														
Household Population	15,070	16,805	51,005	47,510	25,230	22,770	5,510	6,555	6,330	5,225	4,260	15,815	9,485	206,270
Households	5,715	6,350	20,505	18,310	9,390	7,845	1,750	2,145	1,995	1,745	1,375	5,115	3,120	77,125
Household Size	2.64	2.65	2.49	2.59	2.69	2.90	3.15	3.06	3.17	2.99	3.10	3.09	3.04	2.67
Rows														
Household Population	2,775	1,805	6,540	14,755	31,350	21,400	7,450	8,470	7,625	4,020	1,805	13,450	5,825	107,995
Households	1,085	560	2,105	5,085	11,830	8,070	2,665	3,270	2,925	1,585	685	5,195	2,270	39,865
Household Size	2.56	3.22	3.11	2.90	2.65	2.65	2.80	2.59	2.61	2.54	2.64	2.59	2.57	2.71
Apartments (incl. Duplexes)														
Household Population	10,325	8,515	20,405	30,910	41,895	25,580	8,365	5,970	5,840	6,950	8,400	21,190	15,350	173,155
Households	5,585	5,125	12,550	19,295	26,135	15,235	4,890	3,370	3,460	4,275	5,475	13,210	9,750	105,395
Household Size	1.85	1.66	1.63	1.60	1.60	1.68	1.71	1.77	1.69	1.63	1.53	1.60	1.57	1.64
All Units														
Household Population	28,170	27,125	77,950	93,175	98,475	69,750	21,325	20,995	19,795	16,195	14,465	50,455	30,660	487,420
Households	12,385	12,035	35,160	42,690	47,355	31,150	9,305	8,785	8,380	7,605	7,535	23,520	15,140	222,385
Household Size	2.27	2.25	2.22	2.18	2.08	2.24	2.29	2.39	2.36	2.13	1.92	2.15	2.03	2.19

Note: Population and household values in this table are based on response rates and may differ from Census values
Source: Statistics Canada "Period of Construction Data" from 2016 Census

APPENDIX A - TABLE 5
CITY OF OTTAWA
HISTORICAL HOUSEHOLDS BY PERIOD OF CONSTRUCTION SHOWING HOUSEHOLD SIZE
OUTSIDE THE GREENBELT

Dwelling Unit Type	Period of Construction											Period of Construction Summaries		
	1920 or before	1921 to 1945	1946-1960	1961-1970	1971-1980	1981-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2016	2001-2016	2006-2016	Total
Singles & Semis														
Household Population	135	185	1,830	7,825	21,275	51,200	16,395	25,090	37,430	37,195	26,815	101,440	64,010	225,375
Households	80	70	725	3,070	7,765	17,755	5,185	7,765	10,915	10,605	7,855	29,375	18,460	71,790
Household Size	1.69	2.64	2.52	2.55	2.74	2.88	3.16	3.23	3.43	3.51	3.41	3.45	3.47	3.14
Rows														
Household Population	10	30	230	915	7,940	13,385	11,410	9,870	15,445	22,010	20,220	57,675	42,230	101,465
Households	20	0	85	385	3,170	5,465	4,330	3,875	5,765	7,930	7,900	21,595	15,830	38,925
Household Size	0.50	n/a	2.71	2.38	2.50	2.45	2.64	2.55	2.68	2.78	2.56	2.67	2.67	2.61
Apartments (incl. Duplexes)														
Household Population	50	65	345	670	855	2,015	705	655	1,510	2,765	4,640	8,915	7,405	14,275
Households	10	40	180	285	530	1,260	410	385	860	1,595	2,795	5,250	4,390	8,350
Household Size	5.00	1.63	1.92	2.35	1.61	1.60	1.72	1.70	1.76	1.73	1.66	1.70	1.69	1.71
All Units														
Household Population	195	280	2,405	9,410	30,070	66,600	28,510	35,615	54,385	61,970	51,675	168,030	113,645	341,115
Households	110	110	990	3,740	11,465	24,480	9,925	12,025	17,540	20,130	18,550	56,220	38,680	119,065
Household Size	1.77	2.55	2.43	2.52	2.62	2.72	2.87	2.96	3.10	3.08	2.79	2.99	2.94	2.86

Note: Population and household values in this table are based on response rates and may differ from Census values
Source: Statistics Canada "Period of Construction Data" from 2016 Census

APPENDIX A - TABLE 6
CITY OF OTTAWA
HISTORICAL HOUSEHOLDS BY PERIOD OF CONSTRUCTION SHOWING HOUSEHOLD SIZE
RURAL

Dwelling Unit Type	Period of Construction											Period of Construction Summaries		
	1920 or before	1921 to 1945	1946-1960	1961-1970	1971-1980	1981-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2016	2001-2016	2006-2016	Total
Singles & Semis														
Household Population	5,920	1,200	4,035	7,150	13,485	17,130	6,590	6,015	9,440	7,890	4,590	21,920	12,480	83,445
Households	525	1,755	2,930	5,175	6,035	2,230	2,010	3,000	2,480	1,465	2,285	6,230	3,750	29,890
Household Size	11.28	0.68	1.38	1.38	2.23	7.68	3.28	2.01	3.81	5.39	2.01	3.34	3.33	2.79
Rows														
Household Population	10	0	40	20	25	50	130	40	280	170	370	820	540	1,135
Households	0	0	10	10	35	10	45	20	170	85	110	365	195	495
Household Size	n/a	n/a	4.00	2.00	0.71	5.00	2.89	2.00	1.65	2.00	3.36	2.25	2.77	2.29
Apartments (incl. Duplexes)														
Household Population	95	40	90	245	330	315	50	125	35	30	10	75	40	1,365
Households	45	40	70	125	160	260	20	30	20	0	10	30	10	780
Household Size	2.11	1.00	1.29	1.96	2.06	1.21	2.50	4.17	1.75	n/a	1.00	2.50	4.00	1.75
All Units														
Household Population	6,025	1,240	4,165	7,415	13,840	17,495	6,770	6,180	9,755	8,090	4,970	22,815	13,060	85,945
Households	570	1,795	3,010	5,310	6,230	2,500	2,075	3,050	2,670	1,550	2,405	6,625	3,955	31,165
Household Size	10.57	0.69	1.38	1.40	2.22	7.00	3.26	2.03	3.65	5.22	2.07	3.44	3.30	2.76

Note: Population and household values in this table are based on response rates and may differ from Census values
Source: Statistics Canada "Period of Construction Data" from 2016 Census

**APPENDIX A - TABLE 7
CITY OF OTTAWA
POPULATION, HOUSEHOLD AND EMPLOYMENT FORECAST SUMMARY
CITY-WIDE**

Mid-Year	Total Population	Annual Growth	Census Population	Annual Growth	Occupied Households	Annual Growth	Av. Household Size (PPU)	DC Study Employment ¹	Annual Growth	Activity Rate	Work at Home Employment	Annual Growth	Total Employment	Annual Growth
2021	1,054,500		1,021,635		419,773		2.43	607,601		59.5%	40,769		648,370	
2022	1,071,868	17,368	1,038,426	16,791	429,501	9,728	2.42	611,570	3,969	58.9%	42,459	1,690	654,029	5,659
2023	1,090,236	18,368	1,056,221	17,795	439,454	9,953	2.40	615,565	3,995	58.3%	44,218	1,759	659,783	5,754
2024	1,108,918	18,682	1,074,320	18,099	449,638	10,184	2.39	619,586	4,021	57.7%	46,050	1,832	665,636	5,853
2025	1,127,921	19,003	1,092,730	18,410	460,058	10,420	2.38	623,634	4,048	57.1%	47,958	1,908	671,592	5,956
2026	1,148,000	20,079	1,112,182	19,452	470,720	10,662	2.36	627,708	4,074	56.4%	49,945	1,987	677,653	6,061
2027	1,163,003	15,003	1,126,717	14,535	478,076	7,356	2.36	631,809	4,101	56.1%	52,015	2,070	683,824	6,171
2028	1,178,202	15,199	1,141,442	14,725	485,547	7,471	2.35	635,937	4,128	55.7%	54,170	2,155	690,107	6,283
2029	1,193,599	15,397	1,156,359	14,917	493,134	7,587	2.34	640,092	4,155	55.4%	56,415	2,245	696,507	6,400
2030	1,209,198	15,599	1,171,471	15,112	500,840	7,706	2.34	644,274	4,182	55.0%	58,753	2,338	703,027	6,520
2031	1,225,000	15,802	1,186,780	15,309	508,666	7,826	2.33	648,483	4,209	54.6%	61,188	2,435	709,671	6,644
2032	1,238,691	13,691	1,200,043	13,263	515,246	6,580	2.33	652,720	4,237	54.4%	63,723	2,535	716,443	6,772
2033	1,252,535	13,844	1,213,455	13,412	521,911	6,665	2.33	656,984	4,264	54.1%	66,363	2,640	723,347	6,904
2046	1,410,000	10,557	1,366,008	10,227	599,500	5,377	2.28	715,020	4,640	52.3%	112,500	4,476	827,520	9,116
Growth 2024-2033		162,299		157,234		82,457			41,419			22,145		63,564
Growth 2024-2031		134,764		130,559		69,212			32,918			16,970		49,888

Source: City of Ottawa

¹ Employment includes no fixed place of work and work at home

**APPENDIX A - TABLE 8
CITY OF OTTAWA
FORECAST OF OCCUPIED HOUSEHOLDS BY UNIT TYPE
CITY-WIDE**

Mid-Year	Occupied Households					Shares By Unit Type				
	Singles	Semis	Rows	Apartments	Total	Singles	Semis	Rows	Apts.	Total
2021	172,072	21,866	92,359	133,476	419,773	41%	5%	22%	32%	100%
2022	176,060	22,373	94,499	136,569	429,501	41%	5%	22%	32%	100%
2023	180,140	22,891	96,689	139,734	439,454	41%	5%	22%	32%	100%
2024	183,602	22,993	99,235	143,808	449,638	41%	5%	22%	32%	100%
2025	187,135	23,097	101,840	147,986	460,058	41%	5%	22%	32%	100%
2026	190,738	23,204	104,506	152,272	470,720	41%	5%	22%	32%	100%
2027	193,217	23,278	106,345	155,236	478,076	40%	5%	22%	32%	100%
2028	195,727	23,353	108,213	158,254	485,547	40%	5%	22%	33%	100%
2029	198,268	23,429	110,110	161,327	493,134	40%	5%	22%	33%	100%
2030	200,841	23,506	112,037	164,456	500,840	40%	5%	22%	33%	100%
2031	203,447	23,584	113,994	167,641	508,666	40%	5%	22%	33%	100%
2032	205,631	23,650	115,639	170,326	515,246	40%	5%	22%	33%	100%
2033	207,837	23,717	117,305	173,052	521,911	40%	5%	22%	33%	100%
2046	232,999	24,493	136,704	205,304	599,500	39%	4%	23%	34%	100%

Source: City of Ottawa

**APPENDIX A - TABLE 9
CITY OF OTTAWA
FORECAST OF ANNUAL GROWTH IN OCCUPIED HOUSEHOLDS BY UNIT TYPE
CITY-WIDE**

Mid-Year	Annual Growth in Occupied Households					Shares By Unit Type				
	Singles	Semis	Rows	Apartments	Total	Singles	Semis	Rows	Apts.	Total
2021										
2022	3,988	507	2,140	3,093	9,728	41%	5%	22%	32%	100%
2023	4,080	518	2,190	3,165	9,953	41%	5%	22%	32%	100%
2024	3,462	102	2,546	4,074	10,184	34%	1%	25%	40%	100%
2025	3,533	104	2,605	4,178	10,420	34%	1%	25%	40%	100%
2026	3,603	107	2,666	4,286	10,662	34%	1%	25%	40%	100%
2027	2,479	74	1,839	2,964	7,356	34%	1%	25%	40%	100%
2028	2,510	75	1,868	3,018	7,471	34%	1%	25%	40%	100%
2029	2,541	76	1,897	3,073	7,587	34%	1%	25%	41%	100%
2030	2,573	77	1,927	3,129	7,706	33%	1%	25%	41%	100%
2031	2,606	78	1,957	3,185	7,826	33%	1%	25%	41%	100%
2032	2,184	66	1,645	2,685	6,580	33%	1%	25%	41%	100%
2033	2,206	67	1,666	2,726	6,665	33%	1%	25%	41%	100%
2046	1,710	54	1,344	2,269	5,377	32%	1%	25%	42%	100%
Growth 2024-2033	27,697	826	20,616	33,318	82,457	34%	1%	25%	40%	100%
Growth 2024-2031	23,307	693	17,305	27,907	69,212	34%	1%	25%	40%	100%

Source: City of Ottawa

APPENDIX A - TABLE 10
CITY OF OTTAWA
FORECAST POPULATION IN NEW HOUSEHOLDS BY UNIT TYPE
CITY-WIDE

Mid-Year	Forecast Population in New Households				
	Singles	Semis	Rows	Apartments	Total
2021					
2022	13,678	1,399	5,672	5,011	25,760
2023	13,994	1,431	5,803	5,127	26,355
2024	11,875	282	6,747	6,600	25,504
2025	12,118	287	6,903	6,768	26,076
2026	12,358	295	7,065	6,943	26,661
2027	8,503	204	4,873	4,802	18,382
2028	8,609	207	4,950	4,889	18,655
2029	8,716	210	5,027	4,978	18,931
2030	8,825	213	5,107	5,069	19,214
2031	8,939	215	5,186	5,160	19,500
2032	7,491	182	4,359	4,350	16,382
2033	7,567	185	4,415	4,416	16,583
2046	5,865	149	3,562	3,676	13,252
Growth 2024-2033	95,001	2,280	54,632	53,975	205,888
Growth 2024-2031	79,943	1,913	45,858	45,209	172,923

Based on person per unit:

3.43

2.76

2.65

1.62

Source: City of Ottawa and Hemson Consulting

**APPENDIX A - TABLE 11
CITY OF OTTAWA
FORECAST EMPLOYMENT BY TYPE
CITY-WIDE**

Mid-Year	Major Office	Annual Growth	Employment Land	Annual Growth	Population-Related	Annual Growth	Rural	Annual Growth	DC Study Employment	Annual Growth
2021	291,491		48,280		260,310		7,520		607,601	
2022	292,265	774	48,735	455	262,978	2,668	7,592	72	611,570	3,969
2023	293,032	767	49,195	460	265,673	2,695	7,665	73	615,565	3,995
2024	293,792	760	49,659	464	268,396	2,723	7,739	74	619,586	4,021
2025	294,547	755	50,127	468	271,147	2,751	7,813	74	623,634	4,048
2026	295,294	747	50,600	473	273,926	2,779	7,888	75	627,708	4,074
2027	296,034	740	51,077	477	276,734	2,808	7,964	76	631,809	4,101
2028	296,768	734	51,559	482	279,570	2,836	8,040	76	635,937	4,128
2029	297,494	726	52,045	486	282,436	2,866	8,117	77	640,092	4,155
2030	298,212	718	52,536	491	285,331	2,895	8,195	78	644,274	4,182
2031	298,922	710	53,031	495	288,256	2,925	8,274	79	648,483	4,209
2032	299,625	703	53,531	500	291,211	2,955	8,353	79	652,720	4,237
2033	300,319	694	54,036	505	294,196	2,985	8,433	80	656,984	4,264
2046	308,520	568	61,050	572	335,900	3,408	9,550	92	715,020	4,640
Growth 2024-2033		7,287		4,841		28,523		768		41,419
Growth 2024-2031		5,890		3,836		22,583		609		32,918

Source: City of Ottawa, Hemson Consulting

Note: Includes No Fixed Place of Work Employment, excludes Work at Home Employment

APPENDIX A - TABLE 12
CITY OF OTTAWA
NON-RESIDENTIAL SPACE FORECAST

Employment Density Assumptions	
Major Office	23.0 m ² per employee
Employment Land	110.0 m ² per employee
Population Related	50.0 m ² per employee
Rural	- m ² per employee

Mid-Year	Square Metres of Non-Residential Space				Total
	Major Office	Employment Land	Population-Related	Rural	
2021	-	-	-	-	-
2022	17,812	50,050	133,400	-	201,262
2023	17,641	50,600	134,750	-	202,991
2024	17,480	51,040	136,150	-	204,670
2025	17,365	51,480	137,550	-	206,395
2026	17,181	52,030	138,950	-	208,161
2027	17,020	52,470	140,400	-	209,890
2028	16,882	53,020	141,800	-	211,702
2029	16,698	53,460	143,300	-	213,458
2030	16,514	54,010	144,750	-	215,274
2031	16,330	54,450	146,250	-	217,030
2032	16,169	55,000	147,750	-	218,919
2033	15,962	55,550	149,250	-	220,762
2046	13,064	62,920	170,400	-	246,384
Growth 2024-2033	167,601	532,510	1,426,150	-	2,126,261
Growth 2024-2031	135,470	421,960	1,129,150	-	1,686,580

Source: City of Ottawa, Hemson Consulting

**APPENDIX A - TABLE 13
CITY OF OTTAWA
AREA-SPECIFIC CENSUS POPULATION FORECAST SUMMARY**

Mid-Year	Inside the Greenbelt	Annual Growth	Outside the Greenbelt	Annual Growth	Rural	Annual Growth	Total City-wide	Total Growth
2021	517,825		412,710		91,100		1,021,635	
2022	523,222	5,397	421,913	9,203	93,291	2,191	1,038,426	16,791
2023	529,365	6,143	431,321	9,408	95,535	2,244	1,056,221	17,795
2024	535,548	6,183	440,939	9,618	97,833	2,298	1,074,320	18,099
2025	541,773	6,225	450,771	9,832	100,186	2,353	1,092,730	18,410
2026	548,762	6,989	460,823	10,052	102,597	2,411	1,112,182	19,452
2027	552,993	4,231	469,485	8,662	104,239	1,642	1,126,717	14,535
2028	557,225	4,232	478,310	8,825	105,907	1,668	1,141,442	14,725
2029	561,456	4,231	487,301	8,991	107,602	1,695	1,156,359	14,917
2030	565,686	4,230	496,461	9,160	109,324	1,722	1,171,471	15,112
2031	569,913	4,227	505,792	9,331	111,075	1,751	1,186,780	15,309
2032	574,278	4,365	513,438	7,646	112,327	1,252	1,200,043	13,263
2033	578,662	4,384	521,200	7,762	113,593	1,266	1,213,455	13,412
2046	626,511	1,527	611,539	7,467	127,958	1,233	1,366,008	10,227
Growth 2024-2033		49,297		89,879		18,058		157,234
Growth 2024-2031		40,548		74,471		15,540		130,559

Source: Hemson Consulting

**APPENDIX A - TABLE 14
CITY OF OTTAWA
AREA-SPECIFIC HOUSEHOLD SUMMARY**

Mid-Year	Inside the Greenbelt	Annual Growth	Outside the Greenbelt	Annual Growth	Rural	Annual Growth	Total City-wide	Total Growth
2021	239,675		146,733		33,365		419,773	
2022	245,230	5,555	150,133	3,400	34,138	773	429,501	9,728
2023	250,913	5,683	153,612	3,479	34,929	791	439,454	9,953
2024	257,016	6,103	157,051	3,439	35,571	642	449,638	10,184
2025	263,266	6,250	160,567	3,516	36,225	654	460,058	10,420
2026	269,667	6,401	164,162	3,595	36,891	666	470,720	10,662
2027	272,669	3,002	167,838	3,676	37,569	678	478,076	7,356
2028	275,692	3,023	171,596	3,758	38,259	690	485,547	7,471
2029	278,734	3,042	175,438	3,842	38,962	703	493,134	7,587
2030	281,796	3,062	179,366	3,928	39,678	716	500,840	7,706
2031	284,877	3,081	183,382	4,016	40,407	729	508,666	7,826
2032	286,608	1,731	187,488	4,106	41,150	743	515,246	6,580
2033	288,320	1,712	191,686	4,198	41,905	755	521,911	6,665
2046	323,518	1,860	227,513	2,978	48,469	539	599,500	5,377
Growth 2024-2033		37,407		38,074		6,976		82,457
Growth 2024-2031		33,964		29,770		5,478		69,212

Source: Hemson Consulting

APPENDIX A - TABLE 15
CITY OF OTTAWA
AREA-SPECIFIC RESIDENTIAL UNIT TYPE AND POPULATION IN NEW UNITS FORECAST

	Inside the Greenbelt				
Residential Forecast	Singles	Semis	Rows	Apartments	Total
Growth in Units 2024-2033	374	374	5,862	30,797	37,407
<i>Pop in New Households</i>	1,230	939	15,183	49,891	67,243
Growth in Units 2024-2031	340	170	8,515	24,939	33,964
<i>Pop in New Households</i>	1,119	427	22,054	40,401	64,001
Based on PPU:	3.29	2.51	2.59	1.62	

	Outside the Greenbelt				
Residential Forecast	Singles	Semis	Rows	Apartments	Total
Growth in Units 2024-2033	21,548	274	13,871	2,381	38,074
<i>Pop in New Households</i>	75,849	786	37,036	3,857	117,528
Growth in Units 2024-2031	18,458	372	8,082	2,858	29,770
<i>Pop in New Households</i>	64,972	1,068	21,579	4,630	92,249
Based on ppu:	3.52	2.87	2.67	1.62	

	Rural				
Residential Forecast	Singles	Semis	Rows	Apartments	Total
Growth in Units 2024-2033	5,775	178	883	140	6,976
<i>Pop in New Households</i>	18,480	472	1,987	227	21,166
Growth in Units 2024-2031	4,510	151	708	110	5,478
<i>Pop in New Households</i>	14,432	400	1,593	178	16,603
Based on ppu:	3.20	2.65	2.25	1.62	

**APPENDIX A - TABLE 16
CITY OF OTTAWA
AREA-SPECIFIC TOTAL EMPLOYMENT SUMMARY**

Mid-Year	Inside the Greenbelt	Annual Growth	Outside the Greenbelt	Annual Growth	Rural	Annual Growth	Total City-wide	Total Growth
2021	483,534		107,542		16,525		607,601	
2022	486,692	3,158	108,245	703	16,633	108	611,570	3,969
2023	489,871	3,179	108,952	707	16,742	109	615,565	3,995
2024	492,140	2,269	110,540	1,588	16,906	164	619,586	4,021
2025	494,411	2,271	112,152	1,612	17,071	165	623,634	4,048
2026	496,683	2,272	113,787	1,635	17,238	167	627,708	4,074
2027	498,956	2,273	115,446	1,659	17,407	169	631,809	4,101
2028	501,231	2,275	117,129	1,683	17,577	170	635,937	4,128
2029	503,506	2,275	118,837	1,708	17,749	172	640,092	4,155
2030	505,781	2,275	120,570	1,733	17,923	174	644,274	4,182
2031	508,057	2,276	122,328	1,758	18,098	175	648,483	4,209
2032	510,334	2,277	124,111	1,783	18,275	177	652,720	4,237
2033	512,610	2,276	125,920	1,809	18,454	179	656,984	4,264
2046	542,090	2,255	151,989	2,183	20,941	202	715,020	4,640
Growth 2024-2033		22,739		16,968		1,712		41,419
Growth 2024-2031		18,186		13,376		1,356		32,918

Source: City of Ottawa

Note: Includes No Fixed Place of Work Employment but excludes Work at Home Employment

**APPENDIX A - TABLE 17
CITY OF OTTAWA
AREA-SPECIFIC RURAL SERVICED AND UNSERVICED POPULATION AND DWELLINGS FORECAST**

Population Growth						
Mid-Year	Rural Serviced Water	Rural Serviced Sewer	Rural Serviced Water and Sewer Area	Total Rural Serviced	Total Rural Unserviced	Total Rural
2023	1,911	4,777	6,687	13,375	82,160	95,535
2031	2,222	6,331	16,788	25,341	85,734	111,075
2033	2,272	6,583	18,425	27,280	86,313	113,593
2046	2,559	8,020	27,762	38,341	89,617	127,958
Growth 2024-2033	361	1,806	11,738	13,905	4,153	18,058
Growth 2024-2031	311	1,554	10,101	11,966	3,574	15,540

Dwelling Unit Growth						
Mid-Year	Rural Serviced Water	Rural Serviced Sewer	Rural Serviced Water and Sewer Area	Total Rural Serviced	Total Rural Unserviced	Total Rural
2023	699	1,746	2,096	4,541	30,388	34,929
2031	809	2,129	4,616	7,554	32,853	40,407
2033	839	2,234	5,305	8,378	33,527	41,905
2046	970	2,693	8,324	11,987	36,481	48,468
Growth 2024-2033	140	488	3,209	3,837	3,139	6,976
Growth 2024-2031	110	383	2,520	3,013	2,465	5,478

Population in New Dwelling Units Growth						
Mid-Year	Rural Serviced Water	Rural Serviced Sewer	Rural Serviced Water and Sewer Area	Total Rural Serviced	Total Rural Unserviced	Total Rural
Growth 2024-2033	425	1,481	9,736	11,642	9,524	21,166
Growth 2024-2031	333	1,161	7,638	9,132	7,471	16,603
PPUs 2024-2033	3.03	3.03	3.03	3.03	3.03	3.03
Growth 2024-2031	3.03	3.03	3.03	3.03	3.03	3.03

Employment Growth						
Mid-Year	Rural Serviced Water	Rural Serviced Sewer	Rural Serviced Water and Sewer Area	Total Rural Serviced	Total Rural Unserviced	Total Rural
2023	1,842	670	1,339	3,851	12,891	16,742
2031	2,059	724	1,502	4,285	13,813	18,098
2033	2,116	738	1,544	4,398	14,056	18,454
Growth 2024-2033	274	68	205	547	1,165	1,712
Growth 2024-2031	217	54	163	434	922	1,356

Notes:

- 1) Rural Serviced Water Area is defined as the serviced portion of South Gloucester and the the villages of Notre-Dame-de-Champs, Carlsbad Springs, Vars and Marionville.
- 2) Rural Serviced Sewer Area is defined as the parts of the village of Richmond not included in (3).
- 3) Rural Serviced Water and Sewer Area is defined as the serviced portion of Manotick and the villages of Munster and Carp and parts of the village of Richmond (Western Development lands and King's Landing).
- 4) Non-residential employment growth includes no fixed place of work employment and work at home

APPENDIX A - TABLE 18
CITY OF OTTAWA
AREA-SPECIFIC RURAL SERVICED AND UNSERVICED NON-RESIDENTIAL
EMPLOYMENT AND SPACE FORECAST
INCLUDES WORK AT HOME AND NO-FIXED PLACE OF WORK
2023-2033

Employment Density Assumptions	
Major Office	23.0 m ² per employee
Employment Land	110.0 m ² per employee
Population Related	50.0 m ² per employee
Rural	-

Non-Residential Forecast by Rural Area					
	Major Office	Employment Land	Population Related	Rural	Total
Rural Serviced Water					
Employees	-	98	108	11	217
GFA (sq.m)	-	10,780	5,400	-	16,180
Rural Serviced Sewer Area					
Employees	-	-	54	-	54
GFA (sq.m)	-	-	2,700	-	2,700
Rural Serviced Water and Sewer Area					
Employees	-	139	16	8	163
GFA (sq.m)	-	15,290	800	-	16,090
Total Rural Serviced Area					
Employees	-	237	178	19	434
GFA (sq.m)	-	26,070	8,900	-	34,970
Total Rural Unserviced					
Employees	-	645	231	46	922
GFA (sq.m)	-	70,950	11,550	-	82,500
Total Rural					
Employees	-	882	409	65	1,356
GFA (sq.m)	-	97,020	20,450	-	117,470

Notes:

- 1) Rural Serviced Water Area is defined as the serviced portion of South Gloucester and the the villages of Notre-Dame-de-Champs, Carlsbad Springs, Vars and Marionville.
- 2) Rural Serviced Sewer Area is defined as the parts of the village of Richmond not included in 4).
- 3) Rural Serviced Water and Sewer Area is defined as the serviced portion of Manotick and the villages of Munster and Carp and parts of the village of Richmond (Western Development lands and King's Landing).
- 4) Total Employment Growth includes No Fixed Place of Work but excludes Work at Home Employment.

Appendix B

Public Transit Technical Appendix

Appendix B: Public Transit Technical Appendix

This appendix provides the detailed analysis undertaken to establish the development charge rates for Public Transit services in the City of Ottawa. The appendix addresses the requirements of the legislation for calculating transit development charges.

A. Ridership Analysis

As per the requirements of the *Development Charges Act* and associated regulation that came into effect on January 1, 2016, transit services must be treated as a “discrete” service. Generally, it is understood that this provision is intended to preclude the inclusion of roads and related services and transit services in the same category for the purposes of the development charge calculation.

In accordance with the *Development Charges Act*, transit services must be based on a “planned level of service” rather than the more restrictive “15-year historical average level of service”. Any background study that incorporates transit services into the calculation must include the following:

- An assessment of ridership forecast for **all modes** of transit and whether ridership is generated from existing or planned development (O.Reg. 82/98 s.8(2)4).
- An assessment of ridership capacity for **all modes** of transit over the 10-year forecast period (O. Reg. 82/98 s.8(2)4).

The City is currently in the process of updating its Transportation Master Plan (TMP), which will update the City’s existing 2013 TMP. The new TMP will extend the planning horizon from 2031 to 2046 which will align with the new Official Plan and will also include an updated ridership analysis. At the time of completing the 2024 DC Background Study, the new TMP was not

yet completed and as such, the City’s current approved 2013 TMP was relied upon. More specifically, the following assumptions have been used for the purposes of the transit DC calculation:

- The ridership forecast for the purposes of this Background Study is consistent with the analysis used as part of the City’s 2019 Interim DC Background Study.
- Ridership has been informed by the City’s 2013 Transportation Master Plan (TMP) which was updated in 2019 to reflect ridership forecast modelling completed by the City’s consultant AECOM¹ and refinements made by the City’s transportation staff.

The results of the forecast are discussed in Appendix B.1.

B. Planned Level of Service

The *Development Charges Act* (s.5.2 (3)) requires that in estimating the increase in need for Public Transit services the increased need “shall not exceed the planned level of service over the 10-year period immediately following the preparation of the background study”. For the purposes of the development charge calculations, the “planned level of service” is considered the City Council approved 10-year capital program (2024-2033) as informed by the 2019 Interim DC Background Study and the City’s 2023 Public Transit Long-Range Financial Plan. Through its approval of the program, Council has indicated that it intends to ensure that the increase in need in Public Transit service will be met. Council has also determined that the construction, operation and maintenance of the transit infrastructure is financially sustainable.

¹ Retained as part of the Capital Transit Partners consortium to support the preliminary design of the City's Stage 2 LRT project.

C. Operating & Capital Cost Impacts and Asset Management Plan Legislative Requirements

Section 10 of the DCA identifies what must be included in a Development Charges Background Study, this appendix deals with two of those requirements for Public Transit services, namely:

- s.10 (2) The development charge background study shall include,
 - (c) an examination, for each service to which the development charge by-law would relate, of the long term capital and operating costs for capital infrastructure required for the service;
 - (c.2) an asset management plan prepared in accordance with subsection (3)

Asset management plan

- (3) The asset management plan shall,
 - (a) deal with all assets whose capital costs are proposed to be funded under the development charge by-law;
 - (b) demonstrate that all the assets mentioned in clause (a) are financially sustainable over their full life cycle;
 - (c) contain any other information that is prescribed; and
 - (d) be prepared in a prescribed manner.

The requirement to include an Asset Management Plan (AMP) was part of the DCA amendments that came into effect on January 1, 2016. A key function of the AMP is to demonstrate that all assets proposed to be funded under the development charges by-law are financially sustainable over their full life-cycle.

In addition to the requirements set out in section 10 of the DCA, the regulations to the Act, Ontario Regulation 82/98, identifies additional direction on the contents of the asset management strategy for Public Transit services, to be addressed in a DC Background Study. However, the Regulations are silent with respect to the AMP requirements for the DC Background Study for transportation services, or any other services.

D. Overview of Public Transit Technical Appendices

The following describes the Public Transit technical appendices:

- **Appendix C.1 – Transit Ridership Analysis** – provides an overview of the ridership analysis required under section 8(2) of O. Reg. 82/98.
- **Appendix C.2 – Transit Development-Related Capital Program** – contains details on the development-related capital program including projects, timing and costs as well as cash flow considerations.
- **Appendix C.3 – Transit Cost of Growth Analysis** – addresses the requirements of section 10(2) of the DCA relating to the examination of long-term capital and operating impact costs for capital infrastructure and section 8(3) of O.Reg. 82/98 for a DC Background Study to include an asset management plan relating to Transit Services.

Appendix B.1

Transit Ridership Forecast

Public Transit Ridership Forecast

A. Transit Service Delivery in the City of Ottawa

As demonstrated in Appendix A, Ottawa has experienced steady population and employment growth which is anticipated to continue over the forecast period. The infrastructure requirements relating to the increased need for transit services arising from new development in the City have been informed by the 2013 TMP.

As the City continues to develop, so will the need to provide adequate levels of transit service. Prior to the implementation of the 2013 TMP, Council endorsed a number of transit projects including the construction of the Confederation Line and O-Train expansion, double-decker bus acquisition, PRESTO card implementation, and access to real-time customer information². The TMP also identified the implementation of the rapid transit network, including light rail transit (LRT) and bus rapid transit (BRT)³.

Importantly, the TMP also recommended the use of an “Affordable Road and Transit Network Model” (herein referred to as the “2031 Affordable Network”). The Affordable Road and Transit Network, along with further ridership analysis completed by AECOM and City staff, have been used to inform the mode share estimates and corresponding ridership forecast for this Background Study. This approach is consistent with the 2019 DC Background Study.

For the purposes of determining the “planned level of service” for Public Transit, the City’s transit service capital program has been informed by the 2013 TMP and the latest Affordability Model. The City’s Affordability Model summarizes the transit operating and capital needs over a long-range

² 2013 TMP. Section 6.0 Transform the Ottawa Transit System, page 53

³ 2013 TMP. Section 6.1 Expand the Rapid Transit and Transit Priority Network, page 54

financial planning horizon, and assesses the affordability of the capital plan within forecast sources of revenue from fares, transit taxes, and other sources. These forecasts are based on a variety of factors including population, ridership and assessment growth projections. As part of the 2024 DC Background Study, Stage 2 LRT costs continue to be included in the calculation. Stage 3 LRT costs have also been identified, although at the time of drafting the DC rate calculations it was anticipated that these costs would be fully funded from upper levels of government.

The purpose of the transit ridership forecast is to inform the allocation of development and non-development related costs for the transit development charge calculation.

B. Relevant Sections from the 2019 DC Background Study

Details on the forecast methodology and key assumptions are detailed in the 2019 Interim DC Background Study as the following pages. As stated, the assumptions have been carried forward for the purposes of this DC Background Study. It is expected that the forecast and ridership analysis will be reviewed and updated as part of subsequent DC Background Studies once the new TMP is completed.

- **Forecast Methodology and Key Assumptions**, Section C, pg. 91 – provides details on the ridership modelling assumptions.
- **Ridership Forecast**, Section D, pg. 92-96 – provides details on the BTE and post-period benefit calculations.

C. Ridership Forecast

As required by the *Development Charges Act*, the anticipated ridership forecast includes an assessment of all modes (collectively) of transit proposed to be funded by development charges over the forecast period.

The forecast includes both bus and rapid rail transit. The following provides a summary of the revised 2031 mode share estimated from the Transportation Model (unadjusted).

Figure 1: Revised 2031 Mode Share Estimates from Transportation Model (Unadjusted)

Modes of Travel	2011 Model Estimates		2031 Model Estimates	
	Person Trips	Mode Share	Person Trips	Mode Share
Walking/Cycling	65,000	13.1%	92,300	15.0%
Transit	106,100	21.5%	145,000	23.6%
Auto Person	323,200	65.4%	377,800	61.4%
Total Person Trips	494,300	100.0%	615,100	100.0%

Notes:

* Includes trips to, from, and within Ottawa (excluding external and commercial trips)

* 2011 walking/cycling demand estimated based on mode share observations from 2011 OD Survey

* 2011 forecasts based on Model Version 1.11; 2031 forecasts based on Model Version 1.13 (updated August 2018)

* 2031 walking/cycling demand estimated based on mode share targets from 2013 TMP

* 2031 forecasts correspond to TMP Affordable Road and Transit networks (plus LRT extensions)

i. Assessment of Ridership Capacity

As detailed in the 2019 Interim DC Background Study, the infrastructure included in the Transit capital program is required to achieve the total transit person trips of 145,000 and transit mode share estimate of 23.6%. A portion of the capital costs have been deemed a post-period benefitting share relating to infrastructure improvements required to achieve the planned level of service.

D. Transit Development Charges Capital Program Allocations

The benefit to existing (BTE) and post-period benefit shares are consistent with those used in the 2019 DC Background Study and are calculated based on anticipated ridership from existing and planned development. A summary of the forecast is provided below:

i. Benefit to Existing Share Calculation

The benefit to existing share calculated is detailed in the city's 2019 DC Background Study based on the estimated travel demand, the calculated benefit to existing share is 33.1%. This share accounts for the benefit that will be received by existing development in achieving the identified total transit person trips and revised mode share of 23.6% (see Figure 2).

Figure 2: BTE Calculation Results

Person Trips by Mode of Travel				Proportion of New Transit Demand Allocated to Existing and New Development		
Mode of Travel	Scenario A 2019 Base	Scenario B 2019 Adjusted	Scenario C 2034 Base	Existing Development	New Development	Total
Walking/Cycling	63,800	71,600	92,300			
Transit	96,400	112,500	145,000	Scen B-Scen A 16,100	Scen C-Scen B 32,500	Scen C-Scen A 48,600
Auto Person	317,200	293,200	377,800	33%	67%	
Total Person Trips	477,400	477,300	615,100			

Mode Share				Mode Share: Trips Generated by New Development		
Mode of Travel	Scenario A	Scenario B	Scenario C	Mode of Travel	Trips	Mode Share
Walking/Cycling	13.4%	15.0%	15.0%	Walking/Cycling	20,700	15.0%
Transit	20.2%	23.6%	23.6%	Transit	32,500	23.6%
Auto Person	66.4%	61.4%	61.4%	Auto Person	84,600	61.4%
Total Person Trips	100.0%	100.0%	100.0%	Total Person Trips	137,800	100.0%

ii. Post-Period Benefit Calculation

For the proposed development-related transit projects, the post-period benefit calculation is consistent with the approach and analysis contained in the 2019 DC Background Study.

Post-period benefit calculation = **33.3%** (16,200 / 48,600)

For projects with outstanding debenture payments, the post-period benefit shares were calculated based on shares of transit growth. Recognizing that only the development charge eligible costs are included in the outstanding debenture payments, no benefit to existing deductions have been made. As such, the post-period benefit calculation for these projects is as follows:

Post-period benefit calculation = **49.8%** (16,200 / 32,500)

Appendix B.2
Public Transit Development Related
Capital Program

Public Transit Development Related Capital Program

A. Description of Projects Included in the Capital Program

Table 1 provides details on the 2024-2033 development-related capital program for Public Transit services. The capital program includes projects associated with the development of the Stage 2 Light Rail Transit (LRT) including park and ride facilities, rail construction and vehicle acquisition. As permitted by the DCA, the Public Transit capital program also includes the recovery of past commitments as well as debt and finance related costs.

i. Recovery of Negative DC Reserve Fund Balance

The City's Public Transit DC reserve fund is currently in a deficit position of \$122.8 million. This balance relates to the funding of development-related capital infrastructure that will service development over the identified planning period.

ii. Public Transit Projects

The identified transit projects are generally consistent with the infrastructure identified in the 2019 DC Background Study. However, as part of this study, the project costs, anticipated grants have been updated to align with the city's 2023 Transit Long-Range Financial Plan.

iii. Recovery of Past Commitments (Post-Period Capacity Debt)

In accordance with the DCA, eligible capital expenditures include costs incurred or to be incurred by a municipality and can include interest on money borrowed (s.5(3)). This category includes projects identified in previous DC By-laws with committed funding that are completed or will be completed in the future. The costs related to these projects are considered to be entirely related to new development and are net of benefit to existing allocations.

iv. Current Debt Payments – Principal and Interest

The City has debenture costs for transit related infrastructure identified under previous Development Charge By-laws. These costs relate to projects that have already been constructed and include transitway infrastructure, transit corridor protection measures, vehicle acquisition, Stage 2 costs etc. As only the development charge eligible portion of these projects were included in the debenture costs, no benefit to existing deduction has been made.

B. Summary of Capital Program Costs and Allocations

The following provides a summary of the Public Transit capital program costs. The detailed costs and allocations for the various projects are shown in Table 1.

Gross Costs \$11.0 billion	•Includes Stage 2 and 3 LRT projects, recovery of past commitments as well as debt and finance related costs
Grants and Subsidies \$7.9 billion	•Anticipated grants identified for Stage 2 and 3 related projects is removed from the gross costs. Stage 3 is anticipated to be fully funded by grants.
Net Municipal Costs \$3.1 billion	•The net municipal capital program amounts to the total gross costs (\$11.0 billion) less anticipated grants (\$7.9 billion)

i. Allocation of Net Municipal Cost: Development and Non-Development Related

The net municipal costs are then allocated between benefit to existing (BTE) and development-related shares.

Benefit to Existing (BTE)

\$374.3 million

- Ridership forecast discussed in Appendix B.1 has been used to inform the BTE shares
- This amount cannot be recovered by development charges

Development-Related

\$2.7 billion

- The net municipal cost less the BTE share allocation results in the development-related share of the capital program

ii. Allocation of Development-Related Costs: In-Period Recovery and Post-Period Benefit

The total \$1.47 billion in development-related eligible costs is then allocated between in-period and post-period recovery periods. For most of the Public Transit investments, a portion of the capital program will service development that will not occur until after 2029. This portion of the capital program is deemed to be “pre-built” service capacity and is considered as committed excess capacity to be included in future development charges studies. The analysis that supports the post-period share allocations is discussed further in Appendix A.2.

In-Period (2024-2033)

\$1.4 billion

- In-period costs are eligible for recovery through development charges and collected against development over the 10-year period

Post-Period (Post-2033)

\$1.3 billion

- Ridership forecast discussed in Appendix B.1 has been used to inform the post-period shares
- This amount will be considered for recovery in future development charges studies

iii. Allocation of Costs Eligible for Recovery

The in-period development-related cost of \$1.4 billion has been allocated to the benefitting residential, industrial and non-industrial sectors. The costs

have been allocated based on shares of net population and employment growth.

Residential (79%) \$1.1 billion	• Allocated based on shares of net population growth
Industrial (2%) \$34.7 million	• Allocated based on shares of net industrial employment growth
Non-Industrial (18%) \$262.5 million	• Allocated based on shares of net non-industrial employment growth

C. Cash Flow Analysis

A cash flow analysis is also undertaken to account for the timing of projects and receipt of development charges. Interest earnings or borrowing costs are accounted for in the calculation as allowed under the DCA. Based on the development forecast, the analysis calculates the development charges rate that is required to finance the net development-related capital spending plan including provisions for any borrowing costs or interest earnings on the reserve funds. The cash flow analysis is designed so that the closing cash balance at the end of the planning period is as close to nil as possible.

In order to determine appropriate development charges rates reflecting borrowing and earnings necessary to support the net development-related funding requirement, assumptions are used for the inflation rate and interest rate. An inflation rate of 3.0% is used for the funding requirements, and interest rates of 5.0% (negative balance) and 3.0% (positive balance) are used for borrowing/earnings on the funds.

Table 2 displays the results of the cash flow analysis and provides the adjusted or final per capita residential and per square foot (of GFA) non-residential development charges. As shown in Table 2, debenture finance

interest payments are not inflated and the principal repayment charge (related to outstanding debenture payments) will not be indexed.

After considering interest and borrowing rates the adjusted residential and non-residential development charges are as follows:

- Residential = \$5,103.50 per capita
- Non-Residential (Industrial) = \$60.60 per square metre
- Non-Residential (Non-Industrial) = \$140.80 per square metre

APPENDIX B.2

TABLE 1

CITY OF OTTAWA
DEVELOPMENT-RELATED PROGRAM
PUBLIC TRANSIT

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033
					BTE %	Replacement & BTE Shares				
1.1 Recovery of Negative Reserve Balance										
1.1.1 Reserve Fund Balance as of July 31, 2023	2024 - 2024	\$ 122,848,531	\$ -	\$ 122,848,531	0%	\$ -	\$ 122,848,531	\$ -	\$ 122,848,531	\$ -
Subtotal Recovery of Negative Reserve Balance		\$ 122,848,531	\$ -	\$ 122,848,531		\$ -	\$ 122,848,531	\$ -	\$ 122,848,531	\$ -
1.2 Transit Projects										
1.2.1 Bus Growth (based on electric buses)	2027 - 2033	\$ 58,180,000	\$ -	\$ 58,180,000	100%	\$ 58,180,000	\$ -	\$ -	\$ -	\$ -
1.2.2 Operations Support Vehicles - Growth	2024 - 2029	\$ 2,014,000	\$ -	\$ 2,014,000	0%	\$ -	\$ 2,014,000	\$ -	\$ 2,014,000	\$ -
1.2.3 Train Growth (O-Train Line 1)	2024 - 2024	\$ -	\$ -	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
1.2.4 Line 2 Lifecycle to Deferred construction	2024 - 2024	\$ 40,806,908	\$ -	\$ 40,806,908	33%	\$ 13,518,338	\$ 27,288,570	\$ -	\$ 27,288,570	\$ -
1.2.5 Park and Ride Facilities	2024 - 2033	\$ 19,000,000	\$ -	\$ 19,000,000	33%	\$ 6,294,239	\$ 12,705,761	\$ -	\$ 12,705,761	\$ -
1.2.6 Contingency Stage 2 LRT	2024 - 2027	\$ 152,000,000	\$ -	\$ 152,000,000	33%	\$ 50,353,909	\$ 101,646,091	\$ -	\$ 101,646,091	\$ -
1.2.7 Transit Corridor Protection	2024 - 2033	\$ 27,480,670	\$ -	\$ 27,480,670	33%	\$ 9,103,679	\$ 18,376,991	\$ -	\$ 18,376,991	\$ -
1.2.8 TMP Transit Priority Network	2024 - 2033	\$ 460,382,375	\$ -	\$ 460,382,375	33%	\$ 152,513,503	\$ 307,868,872	\$ -	\$ 159,067,590	\$ 148,801,282
1.2.9 Kanata North Transitway (Corkstown to Solandt)	2027 - 2028	\$ 135,100,000	\$ 90,066,667	\$ 45,033,333	33%	\$ 14,918,450	\$ 30,114,883	\$ -	\$ -	\$ 30,114,883
1.2.10 Southwest Transitway Extension (Chapman Mills to Cambrian)	2028 - 2030	\$ 55,000,000	\$ 36,666,667	\$ 18,333,333	33%	\$ 6,073,388	\$ 12,259,945	\$ -	\$ -	\$ 12,259,945
1.2.11 Baseline Transit Corridor (Baseline Station to Heron Station)	2024 - 2028	\$ 270,000,000	\$ 180,000,000	\$ 90,000,000	33%	\$ 29,814,815	\$ 60,185,185	\$ -	\$ -	\$ 60,185,185
1.2.12 Southwest Transitway Extension (Cambrian to Kilmorie P&R)	2031 - 2033	\$ 4,283,333	\$ 2,855,556	\$ 1,427,778	33%	\$ 472,988	\$ 954,790	\$ -	\$ -	\$ 954,790
1.2.13 Riverside South Transitway (Limebank O-Train Station to Riverview P&R)	2031 - 2033	\$ 4,200,000	\$ 2,800,000	\$ 1,400,000	33%	\$ 463,786	\$ 936,214	\$ -	\$ -	\$ 936,214
1.2.14 Kanata North Transitway (Solandt to Terry Fox)	2031 - 2033	\$ 6,150,000	\$ 4,100,000	\$ 2,050,000	33%	\$ 679,115	\$ 1,370,885	\$ -	\$ -	\$ 1,370,885
1.2.15 Kanata North Transitway (Terry Fox to Maxwell Bridge)	2031 - 2033	\$ 12,283,333	\$ 8,188,889	\$ 4,094,444	33%	\$ 1,356,390	\$ 2,738,054	\$ -	\$ -	\$ 2,738,054
1.2.16 West Transitway (Hazeldean to Fernbank)	2031 - 2033	\$ 7,350,000	\$ 4,900,000	\$ 2,450,000	33%	\$ 811,626	\$ 1,638,374	\$ -	\$ -	\$ 1,638,374
1.2.17 Heron BRT (Heron Station to Walkley)	2031 - 2033	\$ 23,466,667	\$ 15,644,444	\$ 7,822,223	33%	\$ 2,591,312	\$ 5,230,910	\$ -	\$ -	\$ 5,230,910
1.2.18 Heron BRT (Walkley to Innes)	2031 - 2033	\$ 36,866,667	\$ 24,577,778	\$ 12,288,889	33%	\$ 4,071,011	\$ 8,217,878	\$ -	\$ -	\$ 8,217,878
1.2.19 Cumberland Transitway (Blair Station to Innes Road)	2031 - 2033	\$ 21,250,000	\$ 14,166,667	\$ 7,083,333	33%	\$ 2,346,536	\$ 4,736,797	\$ -	\$ -	\$ 4,736,797
1.2.20 Cumberland Transitway (Blair Road to Chapel Hill)	2031 - 2033	\$ 38,333,333	\$ 25,555,556	\$ 12,777,778	33%	\$ 4,232,968	\$ 8,544,810	\$ -	\$ -	\$ 8,544,810
1.2.21 Cumberland Transitway (Chapel Hill to Tenth Line)	2031 - 2033	\$ 25,000,000	\$ 16,666,667	\$ 8,333,333	33%	\$ 2,760,631	\$ 5,572,702	\$ -	\$ -	\$ 5,572,702
1.2.22 Cumberland Transitway (Tenth Line to Frank Kenney)	2031 - 2033	\$ 25,000,000	\$ 16,666,667	\$ 8,333,333	33%	\$ 2,760,631	\$ 5,572,702	\$ -	\$ -	\$ 5,572,702
1.2.23 Baseline BRT (Baseline Station to Bayshore Station)	2031 - 2033	\$ 39,383,333	\$ 26,255,556	\$ 13,127,778	33%	\$ 4,348,914	\$ 8,778,864	\$ -	\$ -	\$ 8,778,864
1.2.24 Chapman Mills (Greenbank to Strandherd Connection)	2031 - 2033	\$ 2,200,000	\$ 1,466,667	\$ 733,333	33%	\$ 242,936	\$ 490,398	\$ -	\$ -	\$ 490,398
1.2.25 Hospital Link (Hurdman to St. Laurent to Blair at Innes)	2031 - 2033	\$ 30,416,667	\$ 20,277,778	\$ 10,138,889	33%	\$ 3,358,768	\$ 6,780,121	\$ -	\$ -	\$ 6,780,121
1.2.26 Chapman Mills (Longfields to Greenbank)	2028 - 2030	\$ 10,000,000	\$ 6,666,667	\$ 3,333,333	33%	\$ 1,104,252	\$ 2,229,081	\$ -	\$ -	\$ 2,229,081
1.2.27 Old Montreal Road BRT (Trim Road to Frank Kenney)	2031 - 2033	\$ 11,950,000	\$ 7,966,667	\$ 3,983,333	33%	\$ 1,319,582	\$ 2,663,752	\$ -	\$ -	\$ 2,663,752
1.2.28 Chapman Mills (Extension to Hwy 416)	2031 - 2033	\$ 5,883,333	\$ 3,922,222	\$ 1,961,111	33%	\$ 649,668	\$ 1,311,443	\$ -	\$ -	\$ 1,311,443
1.2.29 Carling LRT (Lincoln Fields to O-Train)	2028 - 2033	\$ -	\$ -	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
1.2.30 Stage 3 LRT: Kanata (Moodie to Terry Fox)	2028 - 2033	\$ 1,014,391,998	\$ 1,014,391,998	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
1.2.31 Stage 3 LRT: Kanata (Terry Fox to Palladium)	2028 - 2033	\$ 826,950,000	\$ 826,950,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
1.2.32 Stage 3 LRT: Kanata (Palladium to Hazeldean)	2028 - 2033	\$ 661,560,000	\$ 661,560,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
1.2.33 Stage 3 LRT: Barrhaven (Baseline to Fallowfield)	2028 - 2033	\$ 2,716,999,998	\$ 2,716,999,998	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
1.2.34 Stage 3 LRT: Barrhaven (Fallowfield to Barrhaven Town Centre)	2028 - 2033	\$ 1,302,000,000	\$ 1,302,000,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
1.2.35 Stage 3 LRT: Procurement & Preliminary Engineering	2025 - 2028	\$ 220,520,000	\$ -	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
1.2.36 Stage 3 LRT: Contingency and LRT Market Escalation	2028 - 2033	\$ 675,000,000	\$ 675,000,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
1.2.37 O-Train (Alexandre Tache to Bayview)	2024 - 2024	\$ -	\$ -	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal Transit Projects		\$ 8,941,402,616	\$ 7,926,833,107	\$ 1,014,569,509		\$ 374,341,434	\$ 640,228,075	\$ -	\$ 321,099,004	\$ 319,129,071

APPENDIX B.2
TABLE 1

CITY OF OTTAWA
DEVELOPMENT-RELATED PROGRAM
PUBLIC TRANSIT

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033
					BTE %	Replacement & BTE Shares				
1.4 Current Debt Payments - Principle & Interest										
1.4.1 By-Law 2012 282 (Various Tax Projects) - Principal	2024 - 2033	\$ 3,776,635	\$ -	\$ 3,776,635	0%	\$ -	\$ 3,776,635	\$ -	\$ 3,776,635	\$ -
1.4.2 By-Law 2012 282 (Various Tax Projects) - Interest	2024 - 2033	\$ 8,968,160	\$ -	\$ 8,968,160	0%	\$ -	\$ 8,968,160	\$ -	\$ 8,968,160	\$ -
1.4.3 Woodroffe Station at Strandherd & Transitway Corridor Protection - Principal	2024 - 2033	\$ 1,136,267	\$ -	\$ 1,136,267	0%	\$ -	\$ 1,136,267	\$ -	\$ 1,136,267	\$ -
1.4.4 Woodroffe Station at Strandherd & Transitway Corridor Protection - Interest	2024 - 2033	\$ 586,520	\$ -	\$ 586,520	0%	\$ -	\$ 586,520	\$ -	\$ 586,520	\$ -
1.4.5 By-Law 2017-258 - Principal	2024 - 2033	\$ 4,730,407	\$ -	\$ 4,730,407	0%	\$ -	\$ 4,730,407	\$ -	\$ 4,730,407	\$ -
1.4.6 By-Law 2017-258 - Interest	2024 - 2033	\$ 6,745,600	\$ -	\$ 6,745,600	0%	\$ -	\$ 6,745,600	\$ -	\$ 6,745,600	\$ -
1.4.7 Confederation Line - Principal	2024 - 2033	\$ 28,830,892	\$ -	\$ 28,830,892	0%	\$ -	\$ 28,830,892	\$ -	\$ 28,830,892	\$ -
1.4.8 Confederation Line - Interest	2024 - 2033	\$ 72,264,610	\$ -	\$ 72,264,610	0%	\$ -	\$ 72,264,610	\$ -	\$ 72,264,610	\$ -
1.4.9 Stage 2 LRT - RTG MOU - Principal	2024 - 2033	\$ 23,233,194	\$ -	\$ 23,233,194	0%	\$ -	\$ 23,233,194	\$ -	\$ 23,233,194	\$ -
1.4.10 Stage 2 LRT - RTG MOU - Interest	2024 - 2033	\$ 33,150,000	\$ -	\$ 33,150,000	0%	\$ -	\$ 33,150,000	\$ -	\$ 33,150,000	\$ -
1.4.11 Transitway Corridor Protection - Principal	2024 - 2033	\$ 1,887,823	\$ -	\$ 1,887,823	0%	\$ -	\$ 1,887,823	\$ -	\$ 1,887,823	\$ -
1.4.12 Transitway Corridor Protection - Interest	2024 - 2033	\$ 846,000	\$ -	\$ 846,000	0%	\$ -	\$ 846,000	\$ -	\$ 846,000	\$ -
1.4.13 2012 Park and Ride Facilities - Principal	2024 - 2033	\$ 25,837	\$ -	\$ 25,837	0%	\$ -	\$ 25,837	\$ -	\$ 25,837	\$ -
1.4.14 2012 Park and Ride Facilities - Interest	2024 - 2033	\$ 20,532	\$ -	\$ 20,532	0%	\$ -	\$ 20,532	\$ -	\$ 20,532	\$ -
1.4.15 Stage 2 LRT-Preliminary Plan-Procurement - Principal	2024 - 2033	\$ 22,240,528	\$ -	\$ 22,240,528	0%	\$ -	\$ 22,240,528	\$ -	\$ 22,240,528	\$ -
1.4.16 Stage 2 LRT-Preliminary Plan-Procurement - Interest	2024 - 2033	\$ 26,203,363	\$ -	\$ 26,203,363	0%	\$ -	\$ 26,203,363	\$ -	\$ 26,203,363	\$ -
1.4.17 Transit Priority Corridor 2012 - Principal	2024 - 2033	\$ 6,082	\$ -	\$ 6,082	0%	\$ -	\$ 6,082	\$ -	\$ 6,082	\$ -
1.4.18 Transit Priority Corridor 2012 - Interest	2024 - 2033	\$ 10,050	\$ -	\$ 10,050	0%	\$ -	\$ 10,050	\$ -	\$ 10,050	\$ -
1.4.19 Light Rail Transit Office - Principal	2024 - 2033	\$ 2,091	\$ -	\$ 2,091	0%	\$ -	\$ 2,091	\$ -	\$ 2,091	\$ -
1.4.20 Light Rail Transit Office - Interest	2024 - 2033	\$ 3,455	\$ -	\$ 3,455	0%	\$ -	\$ 3,455	\$ -	\$ 3,455	\$ -
1.4.21 Transit Priority Measures 2012 - Principal	2024 - 2033	\$ 4,942	\$ -	\$ 4,942	0%	\$ -	\$ 4,942	\$ -	\$ 4,942	\$ -
1.4.22 Transit Priority Measures 2012 - Interest	2024 - 2033	\$ 8,166	\$ -	\$ 8,166	0%	\$ -	\$ 8,166	\$ -	\$ 8,166	\$ -
1.4.23 Western Transitway (Bayshore-Moodie) - Principal	2024 - 2033	\$ 570,203	\$ -	\$ 570,203	0%	\$ -	\$ 570,203	\$ -	\$ 570,203	\$ -
1.4.24 Western Transitway (Bayshore-Moodie) - Interest	2024 - 2033	\$ 942,201	\$ -	\$ 942,201	0%	\$ -	\$ 942,201	\$ -	\$ 942,201	\$ -
1.4.25 Stage 2 LRT-Preliminary Plan-Procurement - Principal	2024 - 2033	\$ 42,473,425	\$ -	\$ 42,473,425	0%	\$ -	\$ 42,473,425	\$ -	\$ 42,473,425	\$ -
1.4.26 Stage 2 LRT-Preliminary Plan-Procurement - Interest	2024 - 2033	\$ 45,600,596	\$ -	\$ 45,600,596	0%	\$ -	\$ 45,600,596	\$ -	\$ 45,600,596	\$ -
1.4.27 Stage 2 LRT-Preliminary Plan-Procurement - Principal	2024 - 2033	\$ 48,415,176	\$ -	\$ 48,415,176	0%	\$ -	\$ 48,415,176	\$ -	\$ 48,415,176	\$ -
1.4.28 Stage 2 LRT-Preliminary Plan-Procurement - Interest	2024 - 2033	\$ 60,078,277	\$ -	\$ 60,078,277	0%	\$ -	\$ 60,078,277	\$ -	\$ 60,078,277	\$ -
1.4.29 Stage 2 LRT-Preliminary Plan-Procurement - Principal	2024 - 2033	\$ 38,379,038	\$ -	\$ 38,379,038	0%	\$ -	\$ 38,379,038	\$ -	\$ 38,379,038	\$ -
1.4.30 Stage 2 LRT-Preliminary Plan-Procurement - Interest	2024 - 2033	\$ 76,722,512	\$ -	\$ 76,722,512	0%	\$ -	\$ 76,722,512	\$ -	\$ 76,722,512	\$ -
1.4.31 Additional Stage 2 LRT Debt - Principal	2025 - 2033	\$ 58,655,439	\$ -	\$ 58,655,439	0%	\$ -	\$ 58,655,439	\$ -	\$ 58,655,439	\$ -
1.4.32 Additional Stage 2 LRT Debt - Interest	2025 - 2033	\$ 194,850,000	\$ -	\$ 194,850,000	0%	\$ -	\$ 194,850,000	\$ -	\$ 194,850,000	\$ -
1.4.33 Authorized (not issued) - Principal	2025 - 2033	\$ 7,513,651	\$ -	\$ 7,513,651	0%	\$ -	\$ 7,513,651	\$ -	\$ 7,513,651	\$ -
1.4.34 Authorized (not issued) - Interest	2025 - 2033	\$ 18,304,320	\$ -	\$ 18,304,320	0%	\$ -	\$ 18,304,320	\$ -	\$ 18,304,320	\$ -
1.4.35 Current Debt Payments Post-2033 Principal	2033 - 2033	\$ 414,026,171	\$ -	\$ 414,026,171	0%	\$ -	\$ 414,026,171	\$ -	\$ 56,592,108	\$ 357,434,063
1.4.36 Current Debt Payments Post-2033 Interest	2033 - 2033	\$ 716,079,510	\$ -	\$ 716,079,510	0%	\$ -	\$ 716,079,510	\$ -	\$ 97,878,955	\$ 618,200,555
Subtotal Current Debt Payments - Principle & Interest		\$ 1,957,291,672	\$ -	\$ 1,957,291,672		\$ -	\$ 1,957,291,672	\$ -	\$ 981,657,054	\$ 975,634,618
TOTAL PUBLIC TRANSIT		\$ 11,021,542,819	\$ 7,926,833,107	\$ 3,094,709,712		\$ 374,341,434	\$ 2,720,368,278	\$ -	\$ 1,425,604,589	\$ 1,294,763,689

Residential Development Charge Calculation		
Residential Share of 2024-2033 DC Eligible Costs	79%	\$1,128,367,112
10-Year Growth in Population in New Units		205,888
Development Charge Per Capita		\$5,480.49
Development Charge Per Single & Semi-Detached Unit	3.36	\$18.407
Non-Residential Development Charge Calculation		
<i>Industrial</i>		
Non-Residential Share of 2024-2033 DC Eligible Costs	2%	\$34,740,738
10-Year Growth in Square Metres		553,500
Development Charge Per Square Metre		\$62.77
<i>Non-Industrial</i>		
Non-Residential Share of 2024-2033 DC Eligible Costs	18%	\$262,496,739
10-Year Growth in Square Metres		2,474,363
Development Charge Per Square Metre		\$106.09

Transit Cost Allocations - Transit Projects		
	Ridership	Allocation
Benefit to Existing	16,100	33.1%
In-period	16,300	33.5%
Post-Period Benefit	16,200	33.3%
Total	48,600	100%

Transit Cost Allocations - Debentures		
	Ridership	Allocation
In-period	16,300	50.2%
PPB Share for Debt Payments	16,200	49.8%
Total	32,500	100%



APPENDIX B.2
TABLE 2

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PUBLIC TRANSIT

CITY-WIDE CHARGE
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PUBLIC TRANSIT	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
OPENING CASH BALANCE	(\$97,234.7)	(\$154,710.2)	(\$119,787.1)	(\$78,102.3)	(\$66,760.1)	(\$51,876.2)	(\$34,124.9)	(\$11,219.7)	\$25,361.2	\$50,341.1	
2017-2027 RESIDENTIAL FUNDING REQUIREMENTS											
- Public Transit Services: Non Inflated	\$122,751.22	\$16,936.8	\$16,936.8	\$16,936.8	\$16,936.8	\$17,778.2	\$16,936.8	\$9,645.5	\$9,645.5	\$9,645.5	\$254,150.1
- Public Transit Services: Inflated	\$122,751.22	\$17,444.9	\$17,968.3	\$18,507.3	\$19,062.6	\$20,609.8	\$20,223.5	\$11,862.7	\$12,218.6	\$12,585.2	\$273,234.2
- Public Transit Infrastructure: Debenture Finance Interest (1)	\$26,289.7	\$43,425.7	\$43,425.7	\$43,425.7	\$43,425.7	\$43,425.7	\$43,425.7	\$43,425.7	\$43,425.7	\$120,897.0	\$494,592.2
- Public Transit (Inflated + Debenture Financed)	\$149,040.9	\$60,870.6	\$61,394.0	\$61,933.0	\$62,488.3	\$64,035.5	\$63,649.2	\$55,288.4	\$55,644.3	\$133,482.1	\$767,826.4
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	25,504	26,076	26,661	18,382	18,655	18,931	19,214	19,500	16,382	16,583	205,888
REVENUE											
- DC Receipts: Inflated	\$97,710.4	\$102,898.9	\$108,363.6	\$76,955.0	\$80,440.9	\$84,079.9	\$87,896.9	\$91,881.4	\$79,505.5	\$82,895.4	\$892,627.9
INTEREST											
- Interest on Opening Balance	(\$4,861.7)	(\$7,735.5)	(\$5,989.4)	(\$3,905.1)	(\$3,338.0)	(\$2,593.8)	(\$1,706.2)	(\$561.0)	\$760.8	\$1,510.2	(\$28,419.7)
- Interest on In-year Transactions	(\$1,283.3)	\$630.4	\$704.5	\$225.3	\$269.3	\$300.7	\$363.7	\$548.9	\$357.9	(\$1,264.7)	\$852.9
TOTAL REVENUE	\$91,565.4	\$95,793.8	\$103,078.8	\$73,275.2	\$77,372.1	\$81,786.8	\$86,554.4	\$91,869.3	\$80,624.3	\$83,141.0	\$865,061.1
CLOSING CASH BALANCE	(\$154,710.2)	(\$119,787.1)	(\$78,102.3)	(\$66,760.1)	(\$51,876.2)	(\$34,124.9)	(\$11,219.7)	\$25,361.2	\$50,341.1	\$0.0	

2024 Principle Repayment Charge (2)	\$ 1,272.32
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$ 3,831.18
Total Charge per Capita	\$ 5,103.50

Single & Semi	3.36
Charge per SDU after cash flow analysis	\$ 17,141

Notes:

- (1) Debenture finance interest are not inflated
(2) Principal Repayment Charge will not be indexed

Allocation of Capital Program

Residential Sector	79.2%
Industrial	2.4%
Non-Industrial	18.4%

Rates

Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

**APPENDIX B.2
TABLE 3**

**CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PUBLIC TRANSIT**

**CITY-WIDE CHARGE
INDUSTRIAL DEVELOPMENT CHARGE
(in \$000)**

PUBLIC TRANSIT	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
OPENING CASH BALANCE	(\$2,993.7)	(\$5,439.1)	(\$5,136.2)	(\$4,733.0)	(\$4,226.7)	(\$3,603.2)	(\$2,889.3)	(\$2,010.2)	(\$710.2)	\$770.1	
2017-2027 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Public Transit Services: Non Inflated	\$3,779.33	\$521.46	\$521.46	\$521.46	\$521.46	\$547.36	\$521.46	\$296.97	\$296.97	\$296.97	\$7,824.9
- Public Transit Services: Inflated	\$3,779.3	\$537.1	\$553.2	\$569.8	\$586.9	\$634.5	\$622.7	\$365.2	\$376.2	\$387.5	\$8,412.5
- Public Transit Infrastructure: Debenture Finance Interest (1)	\$809.42	\$1,337.01	\$1,337.01	\$1,337.01	\$1,337.01	\$1,337.01	\$1,337.01	\$1,337.01	\$1,337.01	\$3,722.24	\$15,227.8
- Public Transit (Inflated + Debenture Financed)	\$4,588.75	\$1,874.12	\$1,890.23	\$1,906.83	\$1,923.92	\$1,971.56	\$1,959.66	\$1,702.25	\$1,713.21	\$4,109.72	\$23,640.2
NEW NON-RESIDENTIAL DEVELOPMENT											
- Growth in Square Metres	51,040	51,480	52,030	52,470	53,020	53,460	54,010	54,450	55,000	55,550	532,510
REVENUE											
- DC Receipts: Inflated	\$2,349.1	\$2,440.4	\$2,540.5	\$2,638.8	\$2,746.5	\$2,852.3	\$2,968.1	\$3,082.1	\$3,206.6	\$3,335.8	\$28,160.3
INTEREST											
- Interest on Opening Balance	(\$149.7)	(\$272.0)	(\$256.8)	(\$236.7)	(\$211.3)	(\$180.2)	(\$144.5)	(\$100.5)	(\$35.5)	\$23.1	(\$1,564.0)
- Interest on In-year Transactions	(\$56.0)	\$8.5	\$9.8	\$11.0	\$12.3	\$13.2	\$15.1	\$20.7	\$22.4	(\$19.3)	\$37.7
TOTAL REVENUE	\$2,143.4	\$2,176.9	\$2,293.4	\$2,413.1	\$2,547.5	\$2,685.4	\$2,838.8	\$3,002.3	\$3,193.5	\$3,339.6	\$26,633.9
CLOSING CASH BALANCE	(\$5,439.1)	(\$5,136.2)	(\$4,733.0)	(\$4,226.7)	(\$3,603.2)	(\$2,889.3)	(\$2,010.2)	(\$710.2)	\$770.1	\$0.0	

2024 Principle Repayment Charge (2)	\$	14.57
2024 Adjusted Capital Cost & Finance Interest Charge Per Square M	\$	46.02
Total Charge per Square Metre	\$	60.60

Allocation of Capital Program	
Residential Sector	79.2%
Industrial	2.4%
Non-Industrial	18.4%
Rates	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principal Repayment Charge will not be indexed

APPENDIX B.2
TABLE 4

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PUBLIC TRANSIT

CITY-WIDE CHARGE
NON-INDUSTRIAL DEVELOPMENT CHARGE
(in \$000)

PUBLIC TRANSIT	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
OPENING CASH BALANCE	(\$22,620.1)	(\$40,996.5)	(\$38,604.9)	(\$35,500.8)	(\$31,616.7)	(\$26,893.6)	(\$21,487.9)	(\$14,886.4)	(\$5,108.7)	\$5,981.2	
2017-2027 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Public Transit Services: Non Inflated	\$28,556.13	\$3,940.09	\$3,940.09	\$3,940.09	\$3,940.09	\$4,135.82	\$3,940.09	\$2,243.87	\$2,243.87	\$2,243.87	\$59,124.0
- Public Transit Services: Inflated	\$28,556.1	\$4,058.3	\$4,180.0	\$4,305.4	\$4,434.6	\$4,794.5	\$4,704.7	\$2,759.7	\$2,842.5	\$2,927.7	\$63,563.6
- Public Transit Infrastructure: Debenture Finance Interest (1)	\$6,115.88	\$10,102.30	\$10,102.30	\$10,102.30	\$10,102.30	\$10,102.30	\$10,102.30	\$10,102.30	\$10,102.30	\$28,124.76	\$115,059.0
- Public Transit (Inflated + Debenture Financed)	\$34,672.01	\$14,160.59	\$14,282.34	\$14,407.74	\$14,536.90	\$14,896.85	\$14,806.97	\$12,861.98	\$12,944.77	\$31,052.51	\$178,622.6
NEW NON-RESIDENTIAL DEVELOPMENT											
- Growth in Square Metres	153,630	154,915	156,131	157,420	158,682	159,998	161,264	162,580	163,919	165,212	1,593,751
REVENUE											
- DC Receipts: Inflated	\$17,847.2	\$18,536.4	\$19,242.3	\$19,983.2	\$20,747.7	\$21,547.4	\$22,369.4	\$23,228.5	\$24,122.4	\$25,042.1	\$212,666.8
INTEREST											
- Interest on Opening Balance	(\$1,131.0)	(\$2,049.8)	(\$1,930.2)	(\$1,775.0)	(\$1,580.8)	(\$1,344.7)	(\$1,074.4)	(\$744.3)	(\$255.4)	\$179.4	(\$11,706.3)
- Interest on In-year Transactions	(\$420.6)	\$65.6	\$74.4	\$83.6	\$93.2	\$99.8	\$113.4	\$155.5	\$167.7	(\$150.3)	\$282.3
TOTAL REVENUE	\$16,295.6	\$16,552.2	\$17,386.5	\$18,291.8	\$19,260.1	\$20,302.5	\$21,408.5	\$22,639.7	\$24,034.7	\$25,071.3	\$201,242.8
CLOSING CASH BALANCE	(\$40,996.5)	(\$38,604.9)	(\$35,500.8)	(\$31,616.7)	(\$26,893.6)	(\$21,487.9)	(\$14,886.4)	(\$5,108.7)	\$5,981.2	(\$0.0)	

2019 Principle Repayment Charge (2)	\$	24.63
2024 Adjusted Capital Cost & Finance Interest Charge Per Square Metre	\$	116.17
Total Charge per Square Metre	\$	140.80

Allocation of Capital Program	
Residential Sector	79.2%
Industrial	2.4%
Non-Industrial	18.4%
Rates	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principal Repayment Charge will not be indexed

Appendix B.3

Public Transit Cost of Growth Analysis

Public Transit Services Cost of Growth Analysis

This appendix addresses the capital, operating and asset management plan DC Background Study requirements for Public Transit services.

A. Relevant Analysis and City Documents

The City of Ottawa undertakes extensive evaluations of the fiscal impacts of capital works; these analyses include an examination of the full range of costs – initial capital, operating and the long-term repair, maintenance and replacement of infrastructure. The following are key, and interrelated, documents central to the City’s fiscal evaluation:

- City of Ottawa Financial Reports and Statements
- City of Ottawa 2017 Long Range Financial Plan (LRFP) V Transit.
Note: the City presented an update to Council in September 2023.
- Comprehensive Asset Management (CAM) Policy
- 2017 State of Assets Report (SOAR)
- 2017 Strategic Asset Management Plan (SAMP)

The key objective of these studies is to ensure the City’s financial sustainability. In addition, the City’s annual budget process implements and manages the year-to-year expenditure needs and revenue requirements.

B. Public Transit Asset Management Plan Requirements

The following provides an overview of the relevant documents and analysis that fulfills the AMP and long-term capital and operating cost requirements of the legislation.

i. Long Range Financial Plan for Public Transit Services

At the February 24, 2017 meeting of the City of Ottawa Finance and Economic Development Committee meeting, two important staff reports regarding the City's transit services were considered and approved:

1. Stage 2 Light Rail Transit Implementation – Project Definition and Procurement Plan, Report ACS2017-TSD-OTP-0001
2. Long Range Financial Plan Transit, Report ACS2017-CSD-FIN-0002⁴

For reference, report ACS2017-CSD-FIN-0002 is attached to this appendix.

The 2017 LRFP for transit specifically examines the long-term operating and capital costs associated with delivering transit services.⁵ As noted in the staff report, the LRFP – Public Transit is a financial model that “includes both operating and capital needs for the bus and light rail system over a 32-year time period to 2048, which covers the full contract period of the Confederation Line and Stage 2 of the Light Rail Transit (Stage 2 LRT).”

The City's LRFP and the separate Public Transit LRFP (sources of funding are dedicated to transit and cannot be used to fund other services) are structured to examine affordability and fiscal sustainability of transit infrastructure.

The City defines affordability from the point of view of current and future taxpayers and transit users. The parameters to determine affordability include:

- Public Transit taxes and transit fares will increase at the same rate as transit operating costs.
- Annual debt servicing will not exceed provincial and city limits.

⁴ This report is also referenced in Section B of this appendix

⁵ The City has a transit Affordability Model which is used as a tool to inform the Transit LRFP.

- Debt used to purchase an asset will be fully retired before the end of the asset's useful life.
- The city can operate, maintain in a good state of repair and expand the service to meet future needs.
- The future transit expansion as defined in the 2013 Transportation Master Plan (TMP) will be completed to service growth needs.

The results of the Public Transit LRFP determined that delivering, operating and maintaining the transit system is financially sustainable. Affordability and sustainability is based on the following key elements:

- Public Transit taxes and transit fares will increase at the same rate as transit costs.
- Contributions of two-thirds funding from other levels of government for LRT and BRT projects.
- Interest rates remain below 6 per cent.

These reports, and associated analysis, illustrate that the city, and Council, have fully evaluated and consider the full fiscal costs of undertaking the proposed transit capital program and determined that it is financial sustainable. The following sections provide an overview summary of the key components of the reports in the context of the DC Background Study.

Section F of this appendix references the requirements of the DCA and the Regulations and the various sections of this Background Study and source documents.

Since the release of the ACS2017-CSD-FIN-0002 report, the City has completed an update to the Transit Affordability Model to reflect the increased scope of work and costs associated with the Stage 2 LRT infrastructure as announced in February 2019. On March 6, 2019, City Council received a report entitled LRFP Transit Update which provided an update to the 2017 analysis. This report was further updated and presented to Council on September 18, 2023.

ii. Gross Capital Costs Have Been Used for the Purposes of the AMP Analysis

It is important to note that the Public Transit LRFP and related Affordability Model include the total cost of all transit infrastructure including development charge eligible and ineligible costs.

iii. Public Transit Assets: Condition Ratings & Useful Lives

Section 8(3) of the Regulations deal with the types of assets used to deliver the transit services and the state of existing local infrastructure. This section of the Regulations also address the principles, policies and approaches used by the municipality in asset management planning.

The City's Comprehensive Asset Management (CAM) address all of these issues fully. The CAM is an integrated business approach involving the different disciplines of planning, finance, engineering, maintenance and operations to effectively manage existing and new infrastructure. The objective of this integrated approach to infrastructure management are to maximize benefits, reduce risk and provide safe and reliable levels of service to community users in a socially, culturally, environmentally and economically conscious manner.

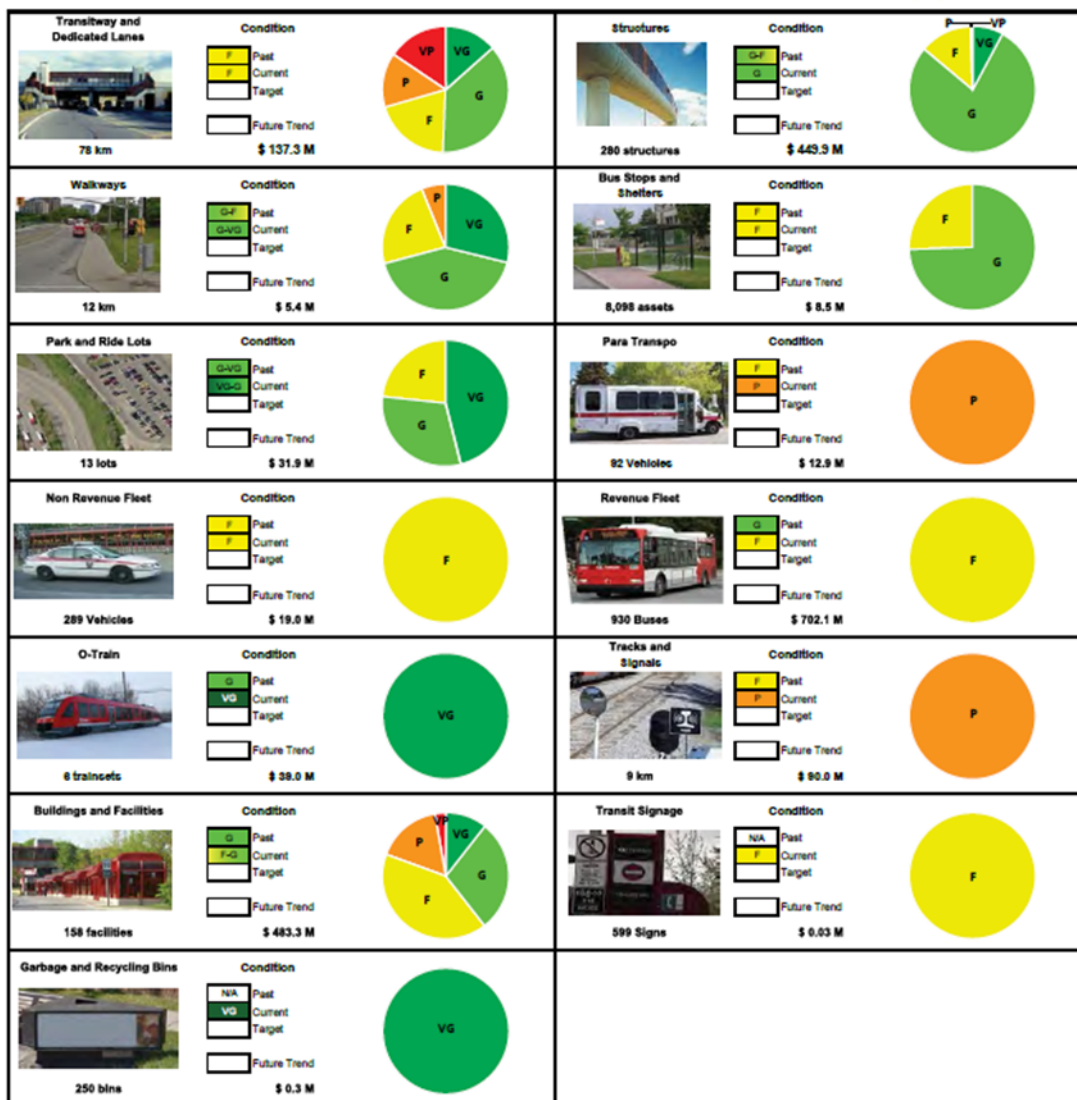
As noted on the City's website, the CAM Program encompasses all aspects of the management of each asset through its lifecycle in that it:

- Integrates with the Corporate Planning Framework to complement the strategic objectives of the City, other key business systems, legislation, and regulations;
- Creates a framework that establishes the mechanism for a clear line of sight between our AMP program and corporate objectives and strategies; and
- Commits to providing approved levels of service for present and future customers and communities, in the most effective and efficient way, through the planning, design, construction, acquisition, operation and maintenance, renewal, and disposal of assets.

In 2012 the City completed its first comprehensive report on the state of the City's physical assets, referred to as the 2012 State of Assets Report (SOAR). In 2017, the City completed an update to this document which is referenced in Section B of this report.

The 2017 SOAR (beginning on page 16) identified that the transit infrastructure has a replacement value of approximately \$1.98 billion (\$2017) with the majority of the assets rated as being in good or fair condition. Figure 1 shown below provides an excerpt from the 2017 SOAR which identifies the conditions of transit assets.

Figure 1: 2017 SOAR Condition of Transit Assets (pg. 17)



A summary of the future City-owned assets and estimated useful life assumptions considered under this Background Study is outlined in Table 1 for various types of transit assets. Although all capital assets considered in this Background Study have been identified, not all assets necessitate future replacement or ongoing maintenance activities. Some exceptions apply and the justification is as follows:

- Some projects do not relate to the emplacement of a tangible capital asset– some examples include the acquisition of land or the undertaking of development-related studies. These projects/costs do not necessarily require future replacement or ongoing maintenance. Such projects are identified as “not infrastructure” in the table.

It should be noted that the capital cost estimates prepared for each of the projects identified in this Background Study include grouped costs of various individual elements, which, as a stand-alone item, may have its own useful life (i.e. new buildings include: HVAC, structural elements, roof, etc.). Accordingly, the average useful life assumptions noted below are applicable to all project components.

Table 1 – Summary of Conventional Assets Considered and Useful Life Assumptions

Estimated Useful Life	Type of Assets
Not Infrastructure	Land, Studies
15 years	Vehicles, including buses but excluding LRT vehicles
20 years	LRT Vehicles
30 years	LRT rail and related infrastructure, Park and Ride facilities
50 years	Transit way stations, maintenance facilities
75 years	Overpasses, underpasses, bridges and other similar structures including Transitway infrastructure

iv. Summary of Capital Program

Table 2 provides a summary of future the transit projects identified in the capital program. The capital costs and 2024-2033 development charge recoverable shares are based on the analysis included in Appendix B.2.

Table 2 – Summary of Development Related Capital Program

Capital Project Description	Gross Cost	2024-2033 Development Charge Recoverable
Recovery of Negative DC Reserve Fund Balance	\$122.8 million	\$122.8 million
Transit Projects ¹	\$8.9 billion	\$321.1 million
Current Debt Payments – Principal and Interest	\$1.9 billion	\$981.7 million
Total	\$11.0 billion	\$1.4 billion

1) Capital costs do not include financing costs

v. Annual Provision

Table 3 provides a summary of the calculated annual reserve fund contributions based on the identified useful lives of the various assets and projects. As shown in the table below, the total DC recoverable 2034 contribution is \$37.93 million. The year 2034 has been included to calculate the annual contribution for the 2024-2033 period as the expenditures in 2033 will not trigger asset management contributions until 2034.

Table 3 – Summary of Calculated Full Life cycle Annual Contributions (\$Millions) at 2034

Capital Project Description	Gross Cost 2030 Contribution	2024-2033 DC Recoverable 2034 Contributions
Recovery of Negative DC Reserve Fund Balance	\$0.00	\$0.00
Transit Projects	\$8,620.3	\$321.1
Current Debt Payments – Principal and Interest	\$0.00	\$0.00
Total	\$8,620.3	\$321.1

It should be noted that the City's Transit Affordability Model is used as a tool to inform the Transit LRFP. The Affordability Model is a highly integrated fiscal impact model that incorporates the full range of operating, capital and life-cycle costs. The Affordability Model includes an analysis of a long-term planning horizon to from 2030 to 2048.

C. Transit Long-Term Capital and Operating Impacts

This section provides a brief examination of the long-term operating costs for the capital facilities and infrastructure to be included in the Development Charges By-law for Public Transit services. This examination is a requirement of the DCA. Similar to the AMP analysis, the operating cost impacts for transit infrastructure has been addressed through the outputs of the City's Public Transit LRFP analysis and related Affordability Model and is discussed below.

i. Forecasted Revenue and Operating Costs

As stated in the Finance and Economic Development Committee Report ACS2017-CSD-FIN-0002:

“Transit operations are primarily funded from two sources, fares and taxes. Additionally, some revenues are received from advertising and provincial gas tax revenue is applied towards operations annually. It is assumed that transit fares and transit tax rates will increase in keeping with the assumed 2.5% increase in transit costs. The model reflects the recent Provincial announcement to double gas tax contributions from \$35 million in 2017 to \$70 million by 2021 and is held constant thereafter. In the model, \$16 million of the annual provincial gas tax is applied to operating costs and the remainder is used as capital funding” (page 9)

Based on growth in assessment, ridership and inflationary increases to taxes and fares, the model also accounts for anticipated revenue. Table 4 below provides an excerpt of the forecast revenue and costs related to transit infrastructure over the 2011-2031 and 2032-2048 planning periods as identified in the staff report.

Table 4 – Summary of Forecasted Revenue and costs (\$billions)

	Period 1 (2011-2031)	Period 2 (2032-2048)	Total
Total Funds Available	\$10.4	\$20.7	\$31.1
Bus Costs	\$5.2	\$9.7	\$14.9
Rail Costs	\$2.1	\$5.5	\$7.6
All Other Costs	\$1.7	\$2.9	\$4.6
Total Operating Costs	\$9.0	\$18.1	\$27.1
Total Tax and Fare Revenue Available for Capital	\$1.4	\$2.6	\$4.0

Source: Report ACS2017-CSD-FIN-0002 page 13

ii. Capital Revenue Sources and Assumptions

Public Transit infrastructure in the City of Ottawa is funded from a number of different sources including property taxes, federal and provincial funding, federal and provincial gas tax and development charges. Details of the assumed capital revenue sources is provided in pages 13-15 of staff report ACS2017-CSD-FIN-0002.

iii. Use of Debt

The City's Public Transit LRFP includes debenture assumptions where the cost of capital investment exceeds the amount of funds available from other revenue sources. Criteria including the useful life of the asset and debt servicing limits are used in the determination of the amount and term of the debt. The City will continue to utilize long-term debt to finance transit capital needs when deemed efficient and within the financial policies of the city.

D. Summary

In summary, the analysis completed through the city’s Public Transit LRFP demonstrates that the City can afford to invest and operate transit infrastructure over the 10-year and long-term planning period.

Through the Public Transit LRFP analysis, it was concluded that the transit system will continue to be affordable if the following assumptions are built into the model and maintained going forward:

- Public Transit taxes and transit fares will increase at the same rate as transit costs at 2.5% (page 9 of Report ACS2017-CSD-FIN-0002).
- Contributions of two-thirds funding from other levels of government for LRT and BRT projects.
- Interest rates remain below 6%.

E. AMP Checklist

The following checklist provides an overview of how the AMP analysis for Public Transit services, as required by the provisions of the DCA has been addressed.

O.Reg. 82/98 Public Transit DC Requirement

Background Study

O.Reg. 82/98 Sections	Comments and Relevant Sections of this DC Background Study
1. The calculations that were used to prepare the estimate for the planned level of service for the transit services, as mentioned in subsection 5.2 (3) of the Act.	Appendix B provides details on this calculation. The City’s transit planned level of service is the provision of a higher order transit system (bus and light rail transit), integrated with the existing, which is to be expanded, as well as a bus transit system for the residents and businesses of the City of Ottawa.

O.Reg. 82/98 Sections	Comments and Relevant Sections of this DC Background Study
<p>2. An identification of the portion of the total estimated capital cost relating to the transit services that would benefit,</p> <ul style="list-style-type: none"> i. the anticipated development over the 10-year period immediately following the preparation of the background study, or ii. the anticipated development after the 10-year period immediately following the preparation of the background study. 	<p>Appendix A provides details on the anticipated development over the 10-year planning period.</p> <p>Appendix B.1 provides details as it relates to transit ridership over the 10-year planning period.</p>
<p>3. An identification of the anticipated excess capacity that would exist at the end of the 10-year period immediately following the preparation of the background study.</p>	<p>Appendix B.1 provides details on the excess capacity calculation.</p> <p>The analysis arising from the ridership forecast is applied to the Public Transit development charge calculations is contained in Appendix B.2.</p>
<p>4. An assessment of ridership forecasts for all modes of transit services proposed to be funded by the development charge over the 10-year period immediately following the preparation of the background study, categorized by development types, and whether the forecasted ridership will be from existing or planned development.</p>	<p>Appendix B.1 provides details on the excess capacity calculation.</p> <p>The analysis arising from the ridership forecast is applied to the Public Transit development charge calculations is contained in Appendix B.</p>
<p>5. An assessment of the ridership capacity for all modes of transit services proposed to be funded by the development charge over the 10-year period immediately following the preparation of the background study. O. Reg. 428/15, s. 4.</p>	<p>Appendix B.2 provides details on the ridership capacity calculation.</p>

Assessment Management Plan

8. (3) If a council of a municipality proposes to impose a development charge in respect of transit services, the asset management plan referred to in subsection 10 (2) (c.2) of the Act shall include the following in respect of those services:

1. A section that sets out the state of local infrastructure and that sets out,

O.Reg. 82/98 Sections	Comments and Relevant Sections of this DC Background Study
i. the types of assets and their quantity or extent	<p>Appendix B.3 provides a discussion of the AMP requirements and how they are met.</p> <p>Relevant City documents that also address these requirements include:</p> <ul style="list-style-type: none"> ▪ City of Ottawa Financial Reports and Statements ▪ City of Ottawa 2017 Long Range Financial Plan (LRFP) V Transit ▪ Comprehensive Asset Management (CAM) Policy ▪ 2017 State of Assets Report (SOAR) ▪ 2017 Strategic Asset Management Plan (SAMP)
ii. the financial accounting valuation and replacement cost valuation for all assets,	
iii. the asset age distribution and asset age as a proportion of expected useful life for all assets, and	
iv. the asset condition based on standard engineering practices for all assets	

2. A section that sets out the proposed level of service and that,

O.Reg. 82/98 Sections	Comments and Relevant Sections of this DC Background Study
i. defines the proposed level of service through timeframes and performance measures,	<p>Appendix B.1 and B.2 provide details on the proposed level of service in the City of Ottawa and current ridership performance relatives to targets.</p> <p>Relevant City documents that also address these requirements include:</p>
ii. discusses any external trends or issues that may affect the proposed level of service or the municipality's ability to meet it, and	

O.Reg. 82/98 Sections	Comments and Relevant Sections of this DC Background Study
<p>iii. shows current performance relative to the targets set out.</p>	<p>City’s Public Transit Long Range Financial Plan.</p> <p>The City’s Affordability Model is used to analysis external trends such as changes in the rate of development, transportation mode shares and fiscal/financing changes.</p> <p>The transit system is part of the City’s overall transportation planning. The provision of the planned transit infrastructure and service is a critical component of achieving the City’s growth management targets. Investment in transit infrastructure, together with other strategies, is required to reduce private automobile usage, increase use of public transit, and encourage more active transportation options.</p>

3. An asset management strategy that,

O.Reg. 82/98 Sections	Comments and Relevant Sections of this DC Background Study
<p>i. sets out planned actions that will enable the assets to provide the proposed level of service in a sustainable way, while managing risk, at the lowest life cycle cost,</p>	<p>Appendix B.3 provide details on the actions to implement a sustainable transit system.</p> <p>Relevant City documents that also address these requirements include:</p> <ul style="list-style-type: none"> ▪ City’s Public Transit Long Range Financial Plan
<p>ii. is based on an assessment of potential options to achieve the proposed level of service, which assessment compares,</p> <ol style="list-style-type: none"> A. life cycle costs, B. all other relevant direct and indirect costs and benefits, and C. the risks associated with the potential options, 	<p>Appendix B.3 provide details on the actions to implement a sustainable transit system.</p> <p>Relevant City documents that also address these requirements include:</p> <ul style="list-style-type: none"> ▪ City’s Public Transit Long Range Financial Plan

O.Reg. 82/98 Sections	Comments and Relevant Sections of this DC Background Study
<p>iii. contains a summary of, in relation to achieving the proposed level of service,</p> <ul style="list-style-type: none"> A. non-infrastructure solutions B. maintenance activities, C. renewal and rehabilitation activities, D. replacement activities, E. disposal activities, and F. expansion activities, 	<p>Appendix B.3 provide details on the actions to implement a sustainable transit system.</p> <p>Relevant City documents that also address these requirements include:</p> <ul style="list-style-type: none"> ▪ City’s Public Transit Long Range Financial Plan <p>In particular, disposal activities are addressed through vehicles replacement/management – no revenue is generated from vehicles that are disposed of.</p> <p>Appendix B provides details on expansion plans.</p>
<p>iv. discusses the procurement measures that are intended to achieve the proposed level of service</p>	<p>Appendix B.3 (including report ACS2017-CSD-FIN-0002) provides details on the procurement measures for Stage 2 LRT infrastructure.</p> <p>Relevant City documents that also address these requirements include:</p> <ul style="list-style-type: none"> ▪ City’s annual budget ▪ RFP policies and practices
<p>v. includes an overview of the risks associated with the strategy and any actions that will be taken in response to those risks</p>	<p>Appendix B.3 provides details on the Public Transit Long Range Financial Plan and Affordability Model analysis.</p> <p>Ottawa uses an Affordability Model to guide capital program decision and to ensure that projects are financial sustainable. The model summarizes transit operating and capital needs over a long-range financial planning horizon, and assesses the affordability of the capital plan within forecast sources of revenue from fares, transit taxes, and other sources. These forecasts are based on a variety of factors including population, ridership and assessment growth projections. This allows the City to mitigate financial risks. The model is also updated regularly and allows for staff/Council to make informed capital program decisions.</p>

4. A financial strategy that,

O.Reg. 82/98 Sections	Comments and Relevant Sections of this DC Background Study
<p>i. shows the yearly expenditure forecasts that are proposed to achieve the proposed level of service, categorized by,</p> <ul style="list-style-type: none"> A. non-infrastructure solutions, B. maintenance activities, C. renewal and rehabilitation activities, D. replacement activities, E. disposal activities, and F. expansion activities, 	<p>Appendix B.3 provide details on the relevant expenditure forecasts, where applicable.</p> <p>Relevant City documents that also address these requirements include:</p> <ul style="list-style-type: none"> ▪ City’s Public Transit Long Range Financial Plan ▪ Corporate Asset Management Plan <p>In particular, disposal activities are addressed through the Corporate Asset Management and are generally minimal.</p>
<p>ii. provides actual expenditures in respect of the categories set out in sub-subparagraphs i A to F from the previous two years, if available, for comparison purposes,</p>	<p>This information is not available and has not been provided.</p>
<p>iii. gives a breakdown of yearly revenues by source</p>	<p>Appendix B.3 (Table 4) provide details on the yearly revenues.</p> <p>Relevant City documents that also address this requirement includes:</p> <ul style="list-style-type: none"> ▪ City’s Public Transit Long Range Financial Plan
<p>iv. discusses key assumptions and alternative scenarios where appropriate, and</p>	<p>Alternative scenarios have not been examined and is therefore not applicable.</p>
<p>v. identifies any funding shortfall relative to financial requirements that cannot be eliminated by revising service levels, asset management or financing strategies, and discusses the impact of the shortfall and how the impact will be managed.</p>	<p>Appendix B.3 provides details on funding sources.</p> <p>The City’s Affordability Model is intended to address revenue shortfalls. This analysis is then used to inform the findings of the City’s LRFP.</p> <p>Relevant City documents that also address these requirements include:</p> <ul style="list-style-type: none"> ▪ City’s Public Transit Long Range Financial Plan

8 (4) For the purposes of subsection (3), the proposed level of service may relate to a time after the 10-year period immediately following the preparation of the background study. O. Reg. 428/15, s. 4.

Appendix C
General Services
Technical Appendix

Appendix C: General Services Technical Appendix

Introduction and Overview

The following appendix provides the detailed analysis undertaken to establish the development charge rates for each of the services in the City of Ottawa.

Appendix C.1	Protection (Fire)
Appendix C.2	Protection (Police)
Appendix C.3	Ambulance Service
Appendix C.4	Parks Development
Appendix C.5	Recreation Facilities
Appendix C.6	Library Services

Every service contains two sets of tables. The tables provide the background data and analysis undertaken to arrive at the calculated development charge rates for that particular service. An overview of the content and purpose of each of the tables is given below.

Historical Inventory Analysis and Funding Envelope Calculation

Table 1 presents the data used to determine the 15-year historical service level. The DCA and O. Reg. 82/98 require that development charges be set at a level no higher than the average service level provided in the City over the 15-year period immediately preceding the preparation of the background study, on a service-by-service basis. For the purpose of this study, the historical inventory period has been defined as 2009 to 2023.

O. Reg. 82/98 requires that when defining and determining historical service levels, both the quantity and quality of service be taken into consideration. In most cases, the service levels are initially established in quantitative

terms. For example, service levels for buildings are presented in terms of square feet. The qualitative aspect is introduced by considering the monetary value of the facility or service. In the case of buildings, for example, the cost is shown in terms of cost per square foot to replace or construct a facility of the same quality. This approach helps to ensure that the development-related capital facilities that are to be funded by new growth reflect not only the quantity (number and size) but also the quality (replacement value or cost) of service provided by the City in the past. Both the quantitative and qualitative aspects of service levels used in the current analysis are based on information provided by municipal staff. This information is generally based on historical records and experience with costs to acquire or construct similar facilities, equipment and infrastructure. Consistent with the practices used in the City's prior development charge background studies, the replacement cost related to land has been excluded from the historical inventory calculations.

The final page of Table 1 shows the calculation of the "maximum allowable" funding envelope, net of uncommitted excess capacity. The maximum allowable funding envelope is defined as the 15-year historical service level (expressed as either \$/capita or \$/population & employment) multiplied by the forecast increase in net population, or net population and employment growth, over the planning period. The resulting figure is the value of capital infrastructure that must be constructed for that particular service so that the 15-year historical service level is maintained.

The existing facilities have been examined and consideration has been given to whether "excess capacity" exists within the City's infrastructure that may be available to partially meet future servicing requirements. It has been determined that no "uncommitted excess capacity" exists within the City's general services, and as such, no adjustments have been made to the service level calculations.

Development-Related Capital Program: City-wide and Area-Specific

Consistent with the City's historical practice, the general services capital programs calculate applicable development charges on a City-wide and area-specific basis. The benefitting area for each project is shown in Table 2.

The DCA requires that Council express its intent to provide future capital facilities to support anticipated growth. Based on the development forecasts presented in Appendix A.1, Hemson Consulting, in collaboration with City staff, has created a development-related capital program which sets out the projects required to service anticipated development for the 10-year period from mid-2024 to mid-2033.

To determine the share of the development-related capital program eligible for recovery through development charges, the project costs are reduced by any anticipated grants and "replacement" or benefit to existing shares.

A replacement share occurs when a new facility will, at least in part, replace a facility that has been demolished, redeployed or will otherwise not be available to serve its former function. The replacement share of the capital program is not deemed to be development-related and is therefore removed from the development charge calculation. The capital cost for replacement will require funding from non-development charge sources, typically property taxes or user fees.

The capital program less any replacement or benefit to existing yields the development-related costs. Although deemed development-related, not all of the net development-related capital program may be recoverable from development charges in the 10-year period. For some of the services, a portion of the capital program will service growth beyond 2033. This portion of the capital program is either deemed "pre-built" service capacity to be considered as committed excess capacity and recovered under future development, or is a service level increase.

The remaining portion of the net capital program represents the development-related cost that may be included in the development charge. In all cases, as required, this amount is equal to or less than the maximum allowable capital amount as calculated on the final page of Table 1. The result is the discounted development-related net capital cost that is eligible for recovery against development over the period from mid-2024 to mid-2033.

For the purposes of the DC study calculations, the existing reserve funds are assumed to be paying for space, and/or servicing capacity related to development that has paid development charges, prior to the passage of the 2024 DC by-law (“prior growth”). This includes development that has paid DCs but the associated servicing capacity (facility) has yet to be constructed.

Calculation of Development Charge Rates: City-wide and Area-Specific

The section below the capital program displays the calculation of the applicable development charge rates. Consistent with the City’s historical growth-related practices, for the services included in this appendix, an average cost methodology is used to calculate the applicable rates.

City-wide Residential and Non-Residential DCs

The first step when determining the development charge rate is to allocate development-related net capital cost between the residential and non-residential sectors. Projects that provide a City-wide benefit have been apportioned based on shares of City-wide net population and employment growth. For City-wide projects, the development-related costs have been apportioned as approximately 79 per cent residential and 21 per cent non-residential.

Consistent with the City’s historical approach, the non-residential development charges for General Services is calculated on a uniform, City-wide basis. For services with a nominal 5 per cent cost allocation (e.g. Libraries, Recreation Facilities and Parks Development) a uniform non-

residential charge has been calculated while Protection (Fire), Protection (Police) and Ambulance Service have been calculated on an industrial and non-industrial basis.

Area-Specific DCs

For all services with the exception of Protection (Police) and Ambulance Service, area-specific projects have been identified for the following defined areas in the City: IGB, OGB and Rural. Projects identified for these areas are recovered against residential growth occurring in these respective areas while the residual non-residential costs are recovered on a City-wide basis.

Calculated Development Charges

Once costs have been apportioned between the benefitting areas, the residential share of DC eligible costs are divided by the forecast population growth in new units occurring in each area to yield the residential charge per capita.

The non-residential share of DC eligible costs are divided by the forecast increase in non-residential gross floor area (GFA) to yield the non-residential charge.

Appendix C.1

Protection (Fire)

Appendix C.1 – Protection (Fire) Technical Appendix

Fire Services is responsible for fire suppression and response, hazardous material response and technical rescues (e.g. water, auto extraction and/or confined spaces) in the City of Ottawa.

This appendix provides a brief outline of historical service levels for Protection (Fire) service, 2024–2033 development-related capital forecast and calculation of development charges. The cost, quantum and timing of the projects identified in the forecast are largely based on the projects identified in the 2014 and 2019 (Interim) DC Background Studies, and adjusted to account for expenditures and increases in project costs (i.e. indexing). The projects are further informed based on the proposed and Council-approved capital budgets.

The following discusses the individual components included in the Protection (Fire) service category. The analysis is set out in the tables which follow and include:

Table C.1-1 Historical Service Levels and Calculation of 15-Year Average Service Level

Table C.1-2 2024–2033 Development-Related Capital Program

A. Benefitting Area

The City's Protection (Fire) development charges is calculated on both a City-wide and area-specific basis. The smaller benefitting areas are defined as: IGB, OGB and Rural area.

B. Historical Service Levels and Calculation of 15-Year Average Service Levels and Maximum Allowable Charges

Protection (Fire) services are currently provided through various fire halls, and ancillary buildings valued at \$500.6 million in 2023. The building replacement unit cost includes the cost of the building itself (including design, site servicing, and construction) and also the cost of replacing furniture, furnishings and equipment. Consistent with the City’s prior DC Background Studies, no land has been included in the historical inventory calculation.

Vehicles and all fire equipment were also included in the level of service calculation. The vehicles add \$126.9 million to the inventory and equipment adds another \$34.5 million.

Table C.1-1 provides a summary of the level of service and the calculation of the 15-year historical service level. The calculation of the maximum allowable funding envelope is summarized as follows:

Ten-Year Funding Envelope Calculation

Average Service Level per Population & Employment (2009 – 2023)	\$420.52
Net Population and Employment Growth (2024 – 2033)	198,653
Maximum Allowable Funding Envelope	\$83,537,560

The existing facilities have been examined and consideration has been made with regard to whether “excess capacity” exists within the City’s infrastructure that may be available to partially meet future servicing requirements. It has been determined that no “uncommitted excess capacity” exists within the City’s Protection (Fire) infrastructure, and as such, no adjustments have been made to the service level calculations.

C. The Development-Related Capital Program

The projects identified in the capital forecast will result, in whole or in part, in increased capacity to meet the servicing needs of new development. The 2024–2033 development-related capital forecast includes for the development of a Fire Training facility that will provide a City-wide benefit as well as the construction of new or the expansion of existing stations.

In particular, the capital program also includes for the recovery of past expenditures (e.g. principal and interest payments as well as negative reserve fund balances) to fund Protection (Fire) facilities. In accordance with the DCA, eligible capital expenditures include costs incurred or to be incurred by a municipality and can include interest on money borrowed (s.5(3)). This category includes projects identified in previous Development Charge By-laws with committed funding that are completed or will be completed in the future. The total gross cost of this capital forecast is \$80.3 million.

Paragraph 5 of s.s.5(1) of the DCA requires a deduction from the increase in the need for service attributable to the anticipated development that can be met using the City’s “excess capacity” that is “uncommitted”. “Excess capacity” is undefined in the DCA, but is considered to relate to the capacity available to meet some or all of the increase in need for service in order to potentially represent a deduction. It is recognized that no “surplus” of capacity exists within Protection (Fire) services as the deduction of uncommitted excess capacity would occur as part of conceptual planning and feasibility work associated with planning new facilities.

D. Calculation of Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants or subsidies have been identified for the City-wide and area-specific capital works for Protection (Fire).

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for reductions. The identified benefit to existing shares includes costs that meet the needs of existing development, including past development. Generally speaking, shares have been deducted from the net cost of projects that account for portions of the overall cost that relate to state of good repair or the replacement or reconstruction of existing facilities. Those projects that are completely new are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost.

The benefit to existing and replacement shares are based on the increased servicing capacity arising from the proposed facilities, vehicles and equipment. In total, \$9.9 million is identified as the replacement and benefit to existing share and is removed from the DC calculation.

iii. Prior Growth

Available DC reserve funds have been applied to projects occurring within the identified planning period. Table C.1-2 provides details on the available DC reserve fund balance, the amount used and the amount of funding remaining.

In total, \$9.2 million in available DC reserve funds have been removed from City-wide DC eligible costs and \$469,600 has been removed from Rural DC eligible costs.

iv. Post-2033 Benefit

The DC eligible costs included in the Protection (Fire) services capital program is well below the maximum permissible funding envelope of \$83.5 million (shown in Table C.1-1 and C.1-2). No post-2033 shares have been identified for the Protection (Fire) capital program.

v. 2024-2033 In-Period Eligible Costs

After adjustments, a total of \$60.7 million is included in the development charge calculation.

E. Calculation of Residential and Non-Residential Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The development-related costs have been allocated 79% to residential development and 21% to the non-residential sector. This sector allocation is based upon future shares of City-wide population growth (157,234) and employment growth (41,419). The non-residential allocation of 21% for Protection (Fire) services is further allocated between the industrial (2%) and non-industrial (18%) sectors based on shares of City-wide employment growth over the 10-year planning period to 2033. This approach is consistent with the City's historical practice.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring City-wide, IGB, OGB and Rural area. The "residual" shown in the area-specific non-residential summary represents the sum of the costs remaining once the residential allocations have been made for IGB, OGB and Rural.

These costs allocations and DC rate calculations are presented in Table C.1-2.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
Inside the Greenbelt	79%	\$0
Outside the Greenbelt	79%	\$28,984,234
Rural	79%	\$459,383
City-wide	79%	\$18,622,109
Subtotal Residential		\$48,065,726
Non-Residential - Industrial		
Area-Specific	Residual	\$906,525
City-wide	21%	\$573,347
Non-Residential – Non-Industrial		
Area-Specific	Residual	\$6,849,591
City-wide	21%	\$4,332,139
Subtotal Non-Residential		\$12,661,602
Total:		\$60,727,327

F. Development Charge Calculation

Consistent with the City’s historical practice, an average cost methodology has been used to calculate development charges for the City’s general services included in this appendix.

The following table provides a summary of the residential and non-residential Protection (Fire) services development charges for each of the identified benefitting areas.

There continues to be no dedicated IGB residential \$/capita calculation as no projects have been identified for this area over the planning period.

Residential and Non-Residential Development Charges

Benefitting Area	Measure	Calculated DC
Residential		
Inside the Greenbelt	\$/capita	\$0.00
Outside the Greenbelt	\$/capita	\$246.62
Rural	\$/capita	\$21.70
City-wide	\$/capita	\$90.45
Non-Residential - Industrial		
Area-Specific	\$/square metre	\$1.70
City-wide	\$/square metre	\$1.08
Total Non-Res. Indus. \$.m²		\$2.78
Non-Residential - Industrial		
Area-Specific	\$/square metre	\$4.30
City-wide	\$/square metre	\$2.72
Total Non-Res. Indus. \$/m²		\$7.02

APPENDIX C.1
TABLE C.1-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
PROTECTION (FIRE)

BUILDINGS Station Name	# of Square Feet															UNIT COST (\$/sq. ft.)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Charlemagne - Station #53 - Fallingbrook	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	\$960
Cumberland Village - Station #72 - Old Montreal Road	6,600	6,600	6,600	6,600	6,600	6,600	6,600	6,600	6,600	6,600	6,600	6,600	6,600	6,600	6,600	\$960
Vars - Station #73 - Rockdale Avenue	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	\$960
Navan - Station #71 - Colonial Road	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400	\$960
Barrhaven - Station #44 - Greenbank Road	20,724	20,724	20,724	20,724	20,724	20,724	20,724	20,724	20,724	20,724	20,724	20,724	20,724	20,724	20,724	\$960
Bells Corners - Station #43 - Richmond Road	8,334	8,334	8,334	8,334	8,334	8,334	8,334	8,334	8,334	8,334	8,334	8,334	8,334	8,334	8,334	\$960
Viewmount - Station #24 - Viewmount Drive	9,706	9,706	9,706	9,706	9,706	9,706	9,706	9,706	9,706	9,706	9,706	9,706	9,706	9,706	9,706	\$960
Knoxdale - Station #25 - Knoxdale Road	6,130	6,130	6,130	6,130	6,130	6,130	6,130	6,130	6,130	6,130	6,130	6,130	6,130	6,130	6,130	\$960
Leitrim - Station #32 - Leitrim Road	9,548	9,548	9,548	9,548	9,548	9,548	9,548	9,548	9,548	9,548	9,548	9,548	9,548	9,548	9,548	\$960
South Urban - Station #37 - Earl Armstrong	12,546	12,546	12,546	12,546	12,546	12,546	12,546	12,546	12,546	12,546	12,546	12,546	12,546	12,546	12,546	\$960
Blair - Station #55 - Blair Road	21,889	21,889	21,889	21,889	21,889	21,889	21,889	21,889	21,889	21,889	-	-	-	-	-	\$960
Orleans - Station #52 - 6213 Jean D'Arc	7,724	7,724	7,724	7,724	7,724	7,724	7,724	7,724	7,724	7,724	7,724	7,724	7,724	7,724	7,724	\$960
Blackburn - Station #54 - Old Innes Road	13,369	13,369	13,369	13,369	13,369	13,369	13,369	13,369	13,369	13,369	13,369	13,369	13,369	13,369	13,369	\$960
Teron - Station #42 - Teron Road	7,208	7,208	7,208	7,208	7,208	7,208	7,208	7,208	7,208	7,208	7,208	7,208	7,208	7,208	7,208	\$960
Eagleson - Station #41 - Eagleson Road	7,645	7,645	7,645	7,645	7,645	7,645	7,645	7,645	7,645	7,645	7,645	7,645	7,645	7,645	7,645	\$960
Riddell - Station #45 - Riddell Drive	3,727	3,727	3,727	3,727	3,727	3,727	3,727	3,727	3,727	3,727	3,727	3,727	3,727	3,727	3,727	\$960
Stittsville - Station #81 - Main Street	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	\$960
Richmond - Station #82 - Perth Street	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	\$960
Metcalfe - Station #91 - Victoria Road	8,236	8,236	8,236	8,236	8,236	8,236	8,236	8,236	8,236	8,236	8,236	8,236	8,236	8,236	8,236	\$960
Osgoode - Station #92 - Nixon Drive	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	4,298	\$960
Greely - Station #93 - Parkway Road	5,670	5,670	5,670	5,670	5,670	5,670	5,670	5,670	5,670	5,670	5,670	5,670	5,670	5,670	5,670	\$960
Manotick - Station #94 - Main Street	8,106	8,106	8,106	8,106	8,106	8,106	8,106	8,106	8,106	8,106	8,106	8,106	8,106	8,106	8,106	\$960
Carling - Station #23 - Carling Avenue	21,030	21,030	21,030	21,030	21,030	21,030	21,030	21,030	21,030	21,030	21,030	21,030	21,030	21,030	21,030	\$960
O'Connor - Station #12 - O'Connor Street	11,673	11,673	11,673	11,673	11,673	11,673	11,673	11,673	11,673	11,673	11,673	11,673	11,673	11,673	11,673	\$960
Lincoln Fields - Station #22 - Richmond Road, Ottawa	13,858	13,858	13,858	13,858	13,858	13,858	13,858	13,858	13,858	13,858	13,858	13,858	13,858	13,858	13,858	\$960
King Edward - Station #13, King Edward	11,235	11,235	11,235	11,235	11,235	11,235	11,235	11,235	11,235	11,235	11,235	11,235	11,235	11,235	11,235	\$960
Woodroffe - Station #21 - Woodroffe Avenue	13,029	13,029	13,029	13,029	13,029	13,029	13,029	13,029	13,029	13,029	13,029	13,029	13,029	13,029	13,029	\$960
Preston - Station #11 - Preston Street	12,383	12,383	12,383	12,383	12,383	12,383	12,383	12,383	12,383	12,383	12,383	12,383	12,383	12,383	12,383	\$960
Conroy - Station #31 - Conroy Road	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447	19,447	\$960
McCarthy - Station #33 - McCarthy Road	13,609	13,609	13,609	13,609	13,609	13,609	13,609	13,609	13,609	13,609	13,609	13,609	13,609	13,609	13,609	\$960

APPENDIX C.1
TABLE C.1-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
PROTECTION (FIRE)

BUILDINGS Station Name	# of Square Feet															UNIT COST (\$/sq. ft.)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Brookfield - Station #34 - Brookfield Dr.	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	\$960
Dispatch - 1423 Randall Avenue	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	\$960
Alta Vista - Station #35 - Alta Vista Drive	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	\$960
Training Centre / Fire Prevention Office - Industrial Rd	600	600	600	600	600	600	600	600	600	31,854	31,854	31,854	31,854	31,854	31,854	\$960
Industrial - Station #36 - Industrial	31,254	31,254	31,254	31,254	31,254	31,254	31,254	31,254	31,254	31,254	31,254	31,254	31,254	31,254	31,254	\$960
Montreal - Station #51 - Montreal Road	13,934	13,934	13,934	13,934	13,934	13,934	13,934	13,934	13,934	13,934	13,934	13,934	13,934	13,934	13,934	\$960
Coventry - Station #56 - Overbrook	13,084	13,084	13,084	13,084	13,084	13,084	13,084	13,084	13,084	13,084	13,084	13,084	13,084	13,084	13,084	\$960
Beechwood - Station #57 - Beechwood Avenue	15,280	15,280	15,280	15,280	15,280	15,280	15,280	15,280	15,280	15,280	15,280	15,280	15,280	15,280	15,280	\$960
North Gower - Station #84	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	\$960
Outbuilding - North Gower	80	80	80	80	80	80	-	-	-	-	-	-	-	-	-	\$960
Troop Line Bldg	3,440	3,440	3,440	3,440	3,440	3,440	3,440	3,440	3,440	3,440	3,440	3,440	3,440	3,440	3,440	\$960
Kinburn - Station #61 - Kinburn Side Road	3,780	3,780	3,780	3,780	3,780	3,780	3,780	3,780	3,780	3,780	3,780	3,780	3,780	3,780	3,780	\$960
Fitzroy - Station #62 - Harbour Street	2,204	2,204	2,204	2,204	2,204	2,204	2,204	2,204	2,204	2,204	2,204	2,204	2,204	2,204	2,204	\$960
Fitzroy Out Building	704	704	704	704	704	704	704	704	704	704	704	704	704	704	704	\$960
Constance Bay - Station #63 - Woodlawn	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	\$960
Carp - Station #64 - Donald B. Munro	4,773	4,773	4,773	4,773	4,773	4,773	4,773	4,773	4,773	4,773	4,773	4,773	4,773	4,773	4,773	\$960
Dunrobin - Station #66 - Dunrobin Road	1,930	1,930	1,930	1,930	1,930	1,930	1,930	3,789	3,789	3,789	3,789	3,789	3,789	3,789	3,789	\$960
Dunrobin Out Building	144	144	144	144	144	-	-	-	-	-	-	-	-	-	-	\$960
Corkery - Station #84 - Old Almonte Road	2,896	2,896	2,896	2,896	2,896	2,896	2,896	2,896	2,896	2,896	2,896	2,896	2,896	2,896	2,896	\$960
Stittsville - Station #46 - Iber Rd	-	-	13,133	13,133	13,644	13,644	13,644	13,644	13,644	13,644	13,644	13,644	13,644	13,644	13,644	\$960
Barhaven - Station #47 - Greenbank Rd	-	-	13,133	13,133	14,498	14,498	14,498	14,498	14,498	14,498	14,498	14,498	14,498	14,498	14,498	\$960
Orleans - Station #55 - Portobello Blvd	-	-	-	-	-	-	-	-	-	11,000	11,000	11,000	11,000	11,000	11,000	\$960
Cyrville - Station #36 - Cyrville Road	-	-	-	-	-	-	-	-	-	11,000	11,000	11,000	11,000	11,000	11,000	\$960
Total (sq.ft.)	460,354	460,354	486,620	486,620	488,496	488,352	488,272	490,131	490,131	521,496	521,496	521,496	521,496	521,496	521,496	
Total (\$000)	\$441,939.8	\$441,939.8	\$467,155.2	\$467,155.2	\$468,956.2	\$468,817.9	\$468,741.1	\$470,525.8	\$470,525.8	\$500,636.2	\$500,636.2	\$500,636.2	\$500,636.2	\$500,636.2	\$500,636.2	

APPENDIX C.1
TABLE C.1-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
PROTECTION (FIRE)

VEHICLES Vehicle Type	# of Vehicles																UNIT COST (\$/vehicle)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
71-Hazmat	7	7	7	7	7	7	7	4	6	6	2	2	2	2	2	\$1,200,000	
74-Pumper	63	69	69	69	69	47	47	47	47	47	48	49	50	51	53	\$975,000	
74-Pumper Tanker	0	0	0	0	0	-	-	-	-	-	10	10	10	10	10	\$1,200,000	
75-Aerial Platform	13	13	13	13	13	13	13	13	13	13	12	11	11	11	11	\$2,200,000	
76-Aerial	8	8	8	8	8	8	8	8	8	8	9	10	11	12	12	\$1,800,000	
79-Tanker	26	26	27	27	27	27	27	27	27	27	17	17	17	17	17	\$780,000	
54-Command	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	\$1,500,000	
Fire Safety House	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	\$146,280	
Total (#)	120	126	127	127	127	105	105	102	104	104	101	102	104	106	108		
Total (\$000)	\$134,897.6	\$140,747.6	\$141,527.6	\$141,527.6	\$141,527.6	\$120,077.6	\$120,077.6	\$116,477.6	\$118,877.6	\$118,877.6	\$118,852.6	\$119,427.6	\$122,202.6	\$124,977.6	\$126,927.6		

EQUIPMENT	# of Equipped Firefighters																UNIT COST (\$/item)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
Fire Fighters																	
Career Fire Fighters	856	872	917	906	903	863	905	864	857	848	856	856	856	857	858	\$13,100	
Volunteer Fire Fighters	450	450	498	486	470	487	517	546	562	474	474	480	482	472	485	\$13,100	
Other Equipment																	
CAD	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	\$668,000	
Emergency Radio System - Corporate Shared System	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	\$691,000	
Portable Radios	514	514	567	544	544	558	555	555	576	494	600	600	600	606	632	\$5,200	
Mobile Radios	144	144	144	170	170	180	180	180	180	101	125	131	140	140	146	\$5,000	
Base Stations	76	76	76	76	76	76	78	78	78	63	63	63	63	63	63	\$5,200	
Repeaters	61	61	61	78	78	78	82	82	82	60	65	67	67	69	71	\$19,300	
Portable DVR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	\$23,000	
Pagers/Paging System	900	900	900	900	900	900	900	900	900	900	800	800	800	800	800	\$300	
Defibrillators	81	81	81	81	81	81	81	81	84	84	84	82	79	81	103	\$3,000	
Self-Contained Breathing Apparatus (SCBA)	535	535	535	535	535	650	650	650	650	650	650	650	650	650	650	\$6,000	
2nd set of Bunker Gear	-	-	-	-	-	-	-	-	-	848	848	848	848	1,347	1,347	\$2,117	
Thermal Imaging Cameras	17	17	37	92	107	99	99	99	99	99	110	122	130	136	140	\$10,000	
MDT (Mobile Data Terminal)	26	26	26	26	26	42	184	208	208	208	208	208	208	208	208	\$4,300	
Particulate Blocking Flash Hoods	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,500	\$155	
Total (#)	3,661	3,677	3,843	3,895	3,891	4,015	4,232	4,244	4,277	4,830	4,886	4,910	4,926	5,432	7,006		
Total (\$000)	\$26,101.7	\$26,311.3	\$28,005.2	\$28,592.4	\$28,493.5	\$28,993.8	\$30,619.6	\$30,565.6	\$30,801.7	\$30,002.2	\$32,313.7	\$32,574.9	\$32,717.1	\$33,791.4	\$34,517.1		

APPENDIX C.1
TABLE C.1-1

CITY OF OTTAWA
CALCULATION OF SERVICE LEVELS
PROTECTION (FIRE)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Historical Population	854,165	868,655	883,391	893,335	903,391	913,560	923,844	934,243	951,102	968,265	985,738	1,003,526	1,021,635	1,038,426	1,056,221
Historical Employment	513,157	522,104	531,208	538,394	545,677	553,058	560,539	568,121	575,806	583,595	591,489	599,490	607,601	611,570	615,565
Total Population & Employment	1,367,322	1,390,759	1,414,599	1,431,729	1,449,068	1,466,618	1,484,383	1,502,364	1,526,908	1,551,860	1,577,227	1,603,016	1,629,236	1,649,996	1,671,786

INVENTORY SUMMARY (\$000)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Buildings	\$441,939.8	\$441,939.8	\$467,155.2	\$467,155.2	\$468,956.2	\$468,817.9	\$468,741.1	\$470,525.8	\$470,525.8	\$500,636.2	\$500,636.2	\$500,636.2	\$500,636.2	\$500,636.2	\$500,636.2
Vehicles	\$134,897.6	\$140,747.6	\$141,527.6	\$141,527.6	\$141,527.6	\$120,077.6	\$120,077.6	\$116,477.6	\$118,877.6	\$118,877.6	\$118,852.6	\$119,427.6	\$122,202.6	\$124,977.6	\$126,927.6
Equipment	\$26,101.7	\$26,311.3	\$28,005.2	\$28,592.4	\$28,493.5	\$28,993.8	\$30,619.6	\$30,565.6	\$30,801.7	\$30,002.2	\$32,313.7	\$32,574.9	\$32,717.1	\$33,791.4	\$34,517.1
Total (\$000)	\$602,939.1	\$608,998.7	\$636,688.0	\$637,275.2	\$638,977.2	\$617,889.3	\$619,438.3	\$617,568.9	\$620,205.0	\$649,515.9	\$651,802.4	\$652,638.6	\$655,555.8	\$659,405.1	\$662,080.8

SERVICE LEVEL (\$/pop & emp)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Average Service Level
Buildings	\$323.22	\$317.77	\$330.24	\$326.29	\$323.63	\$319.66	\$315.78	\$313.19	\$308.16	\$322.60	\$317.42	\$312.31	\$307.28	\$303.42	\$299.46	\$316.03
Vehicles	\$98.66	\$101.20	\$100.05	\$98.85	\$97.67	\$81.87	\$80.89	\$77.53	\$77.86	\$76.60	\$75.36	\$74.50	\$75.01	\$75.74	\$75.92	\$84.51
Equipment	\$19.09	\$18.92	\$19.80	\$19.97	\$19.66	\$19.77	\$20.63	\$20.35	\$20.17	\$19.33	\$20.49	\$20.32	\$20.08	\$20.48	\$20.65	\$19.98
Total (\$/pop & emp)	\$440.96	\$437.89	\$450.08	\$445.11	\$440.96	\$421.30	\$417.30	\$411.06	\$406.18	\$418.54	\$413.26	\$407.13	\$402.37	\$399.64	\$396.03	\$420.52

CITY OF OTTAWA
CALCULATION OF MAXIMUM ALLOWABLE
PROTECTION (FIRE)

10-Year Funding Envelope Calculation	
15 Year Average Service Level 2009 - 2023	\$420.52
Net Population & Employment Growth 2024 - 2033	198,653
Maximum Allowable Funding Envelope	\$83,537,560

APPENDIX C.1
TABLE C.1-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
PROTECTION (FIRE)

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Funding	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
1.0 PROTECTION (FIRE): CITY-WIDE											
1.1 City-wide Facilities											
1.1.1 Fire Training Replacement Facility	2026 - 2033	\$ 36,360,000	\$ -	\$ 36,360,000	10%	\$ 3,636,000	\$ 32,724,000	\$ 9,196,405	\$ 23,527,595	\$ -	City-wide
Subtotal City-wide Facilities		\$ 36,360,000	\$ -	\$ 36,360,000		\$ 3,636,000	\$ 32,724,000	\$ 9,196,405	\$ 23,527,595	\$ -	
TOTAL PROTECTION (FIRE): CITY-WIDE		\$ 36,360,000	\$ -	\$ 36,360,000		\$ 3,636,000	\$ 32,724,000	\$ 9,196,405	\$ 23,527,595	\$ -	

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Funding	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
1.0 PROTECTION (FIRE): OUTSIDE GREENBELT											
1.2 Recovery of Negative Reserve Fund Balance											
1.2.1 Balance as of December 2023	2024 - 2024	\$ 4,425,602	\$ -	\$ 4,425,602	0%	\$ -	\$ 4,425,602	\$ -	\$ 4,425,602	\$ -	OGB
Subtotal Recovery of Negative Reserve Fund Balance		\$ 4,425,602	\$ -	\$ 4,425,602		\$ -	\$ 4,425,602	\$ -	\$ 4,425,602	\$ -	
1.3 Outstanding Debentures - Principal and Interest											
1.3.1 903157 Ottawa West Fire Station By-Law 2012-282	2024 - 2033	\$ 2,993,736	\$ -	\$ 2,993,736	0%	\$ -	\$ 2,993,736	\$ -	\$ 2,993,736	\$ -	OGB
Subtotal Outstanding Debentures - Principal and Interest		\$ 2,993,736	\$ -	\$ 2,993,736		\$ -	\$ 2,993,736	\$ -	\$ 2,993,736	\$ -	
1.4 Area-Specific Facilities											
1.4.1 Station Expansion East	2025 - 2030	\$ 5,000,000	\$ -	\$ 5,000,000	50%	\$ 2,500,000	\$ 2,500,000	\$ -	\$ 2,500,000	\$ -	OGB
1.4.2 Station Expansion South	2025 - 2030	\$ 5,000,000	\$ -	\$ 5,000,000	50%	\$ 2,500,000	\$ 2,500,000	\$ -	\$ 2,500,000	\$ -	OGB
1.4.3 Fire Vehicles & Equipment - 906832	2025 - 2034	\$ 8,000,000	\$ -	\$ 8,000,000	10%	\$ 800,000	\$ 7,200,000	\$ -	\$ 7,200,000	\$ -	OGB
1.4.4 South Ottawa Fire Station	2026 - 2030	\$ 17,000,000	\$ -	\$ 17,000,000	0%	\$ -	\$ 17,000,000	\$ -	\$ 17,000,000	\$ -	OGB
Subtotal Area-Specific Facilities		\$ 35,000,000	\$ -	\$ 35,000,000		\$ 5,800,000	\$ 29,200,000	\$ -	\$ 29,200,000	\$ -	
TOTAL PROTECTION (FIRE): OUTSIDE GREENBELT		\$ 42,419,338	\$ -	\$ 42,419,338		\$ 5,800,000	\$ 36,619,338	\$ -	\$ 36,619,338	\$ -	

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Funding	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
1.0 PROTECTION (FIRE): RURAL											
1.5 Area-Specific Facilities											
1.5.1 Fire Rural Water Supply	2026 - 2030	\$ 1,500,000	\$ -	\$ 1,500,000	30%	\$ 450,000	\$ 1,050,000	\$ 469,605	\$ 580,395	\$ -	Rural
Subtotal Area-Specific Facilities		\$ 1,500,000	\$ -	\$ 1,500,000		\$ 450,000	\$ 1,050,000	\$ 469,605	\$ 580,395	\$ -	
TOTAL PROTECTION (FIRE): RURAL		\$ 1,500,000	\$ -	\$ 1,500,000		\$ 450,000	\$ 1,050,000	\$ 469,605	\$ 580,395	\$ -	

TOTAL PROTECTION (FIRE)		\$ 80,279,338	\$ -	\$ 80,279,338		\$ 9,886,000	\$ 70,393,338	\$ 9,666,010	\$ 60,727,327	\$ -	
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APPENDIX C.1
TABLE C.1-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
PROTECTION (FIRE)

Cost Allocation By Benefitting Area		
Residential Calculation		
Inside the Greenbelt Residential Calculation		
Residential Share of Eligible Costs	79%	\$ -
10 Year Population Growth		67,243
Charge per Capita		\$0.00
Outside the Greenbelt Residential Calculation		
Residential Share of Eligible Costs	79%	\$ 28,984,234
10 Year Population Growth		117,528
Charge per Capita		\$246.62
Rural Residential Calculation		
Residential Share of Eligible Costs	79%	\$ 459,383
10 Year Population Growth		21,166
Charge per Capita		\$21.70
Non-Residential Calculation		
Non-Residential Share of Eligible Costs	21%	\$7,756,116
Industrial		
Non-Residential Share of Eligible Costs	2%	\$906,525
10 Year Non-Residential Growth in GFA (m2)		532,510
Charge per Square Metre		\$1.70
Non-Industrial		
Non-Residential Share of Eligible Costs	18%	\$6,849,591
10 Year Non-Residential Growth in GFA (m2)		1,593,751
Charge per Square Metre		\$4.30

City-wide Cost Allocations (Residential and Non-Residential)		
Residential Calculation		
Residential Share of Eligible Costs	79%	\$ 18,622,109
10 Year Population Growth		205,888
Unadjusted Per Unit Charge		\$90.45
Non-Residential Calculation		
Non-Residential Share of Eligible Costs	21%	\$ 4,905,486
Industrial		
Non-Residential Share of Eligible Costs	2%	\$ 573,347
10 Year Non-Residential Growth in GFA (m2)		532,510
Charge per Square Metre		\$1.08
Non-Industrial		
Non-Residential Share of Eligible Costs	18%	\$ 4,332,139
10 Year Non-Residential Growth in GFA (m2)		1,593,751
Charge per Square Metre		\$2.72

Available DC Reserve Fund Balance			
	Total	Amount Used	Remaining
City-wide	\$9,196,405	\$9,196,405	\$0
IGB	\$0	\$0	\$0
OGB	(\$4,425,602)	(\$4,425,602)	\$0
Rural	\$469,605	\$469,605	\$0
Total	\$5,240,408	\$5,240,408	\$0

2024 - 2046 Net Funding Envelope	\$83,537,560
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Appendix C.2

Protection (Police)

Appendix C.2: Protection (Police) Technical Appendix

Ottawa Police Services provide a wide range of protection services through various facilities across the City.

This appendix provides a brief outline of historical service levels for Protection (Police) services, 2024–2033 development-related capital forecast and calculation of development charges. The cost, quantum and timing of the projects identified in the forecast are largely based on the projects identified in the 2014 and 2019 (Interim)DC Background Studies, and adjusted to account for expenditures and increases in project costs (i.e. indexing). The projects are further informed based on the proposed and Council-approved capital budgets.

The following discusses the individual components included in the Protection (Police) service category. The analysis is set out in the tables which follow and include:

Table C.2-1 Historical Service Levels and Calculation of 15-Year Average Service Level

Table C.2-2 2024–2033 Development-Related Capital Forecast and Calculation of the Growth-Related Net Capital Costs

A. Benefitting Area

The City's Protection (Police) development charges is calculated on a City-wide basis.

B. Historical Service Levels and Calculation of 15-Year Average Service Levels and Maximum Allowable Charges

Protection (Police) services are currently provided through various police stations and ancillary buildings valued at \$350.3 million in 2023. The building replacement unit cost includes the cost of the building itself (including design, site servicing, and construction) and also the cost of replacing furniture, furnishings and equipment. Consistent with the City’s prior DC Background Studies, no land has been included in the historical inventory calculation.

Vehicles and all police equipment were also included in the level of service calculation. The vehicles add \$40.7 million to the inventory and equipment adds another \$18.0 million.

Table 1 provides a summary of the level of service and the calculation of the 15-year historical service level. The calculation of the maximum allowable funding envelope is summarized as follows:

Ten-Year Funding Envelope Calculation

Average Service Level per Population and Employment (2009 – 2023)	\$266.38
Net Population and Employment Growth (2024 – 2033)	198,653
Maximum Allowable Funding Envelope	\$52,917,186

The existing facilities have been examined and consideration has been made with regard to whether “excess capacity” exists within the City’s infrastructure that may be available to partially meet future servicing requirements. It has been determined that no “uncommitted excess capacity” exists within the City’s Protection (Police) infrastructure, and as such, no adjustments have been made to the service level calculations.

C. The Development-Related Capital Program

The projects identified in the capital forecast will result, in whole or in part, in increased capacity to meet the servicing needs of new development. The 2024–2033 development-related capital forecast includes for the development of a Professional Development Centre facility that will provide a City-wide benefit.

In particular, the capital program also includes for the recovery of past expenditures (e.g. principal and interest payments as well as negative reserve fund balances) to fund Protection (Police) facilities. In accordance with the DCA, eligible capital expenditures include costs incurred or to be incurred by a municipality and can include interest on money borrowed (s.5(3)). This category includes projects identified in previous Development Charge By-laws with committed funding that are completed or will be completed in the future. The total gross cost of this capital forecast is \$110.8 million.

Paragraph 5 of s.s.5(1) of the DCA requires a deduction from the increase in the need for service attributable to the anticipated development that can be met using the City’s “excess capacity” that is “uncommitted”. “Excess capacity” is undefined in the DCA, but is considered to relate to the capacity available to meet some or all of the increase in need for service in order to potentially represent a deduction. It is recognized that no “surplus” of capacity exists within Protection (Police) services as the deduction of uncommitted excess capacity would occur as part of conceptual planning and feasibility work associated with planning new facilities.

D. Calculation of Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants or subsidies have been identified for the City-wide capital works for Protection (Police).

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for reductions. The identified benefit to existing shares includes costs that meet the needs of existing development, including past development. Generally speaking, shares have been deducted from the net cost of projects that account for portions of the overall cost that relate to state of good repair or the replacement or reconstruction of existing facilities. Those projects that are completely new are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost.

The benefit to existing and replacement shares are based on the increased servicing capacity arising from the proposed facilities. In total, \$39.0 million is identified as the replacement and benefit to existing share and is removed from the DC calculation.

iii. Prior Growth

Available DC reserve funds have been applied to projects occurring within the identified planning period. Table C.2-2 provides details on the available DC reserve fund balance, the amount used and the amount of funding remaining.

In total, \$21.9 million in available DC reserve funds have been removed from City-wide DC eligible costs.

iv. Post-2033 Benefit

The DC eligible costs included in the Protection (Police) services capital program is below the maximum permissible funding envelope of \$52.9 million (shown in Table C.2-1 and C.2-2). No post-2033 shares have been identified for the Protection (Police) capital program.

v. 2024-2033 In-Period Eligible Costs

After adjustments, a total of \$49.9 million is included in the development charge calculation.

E. Calculation of Residential and Non-Residential Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The development-related costs have been allocated 79% to residential development and 21% to the non-residential sector. This sector allocation is based upon future shares of City-wide population growth (157,234) and employment growth (41,419). The non-residential allocation of 21% for Protection (Police) services is further allocated between the industrial (2%) and non-industrial (18%) sectors based on shares of City-wide employment growth over the 10-year planning period to 2033. This approach is consistent with the City's historical practice.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring City-wide, IGB, OGB and Rural area. The "residual" shown in the area-specific non-residential summary represents the sum of the costs remaining once the residential allocations have been made for IGB, OGB and Rural.

These costs allocations and DC rate calculations are presented in Table C.2-2.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
Inside the Greenbelt	79%	\$0
Outside the Greenbelt	79%	\$0
Rural	79%	\$0
City-wide	79%	\$39,522,761
Subtotal Residential		\$39,522,761
Non-Residential - Industrial		
Area-Specific	Residual	\$0
City-wide	2%	\$1,216,847
Non-Residential – Non-Industrial		
Area-Specific	Residual	\$0
City-wide	18%	\$9,194,344
Subtotal Non-Residential		\$10,411,191
Total:		\$49,933,952

F. Development Charge Calculation

Consistent with the City’s historical practice, an average cost methodology has been used to calculate development charges for the City’s general services included in this appendix.

The following table provides a summary of the residential and non-residential Protection (Police) services development charges for each of the identified benefitting areas.

It should be noted that there are no IGB, OGB or Rural residential \$/capita calculations, as no growth-related projects have been identified within these three geographic areas over the planning period.

Residential and Non-Residential Development Charges

Benefitting Area	Measure	Calculated DC
Residential		
Inside the Greenbelt	\$/capita	\$0.00
Outside the Greenbelt	\$/capita	\$0.00
Rural	\$/capita	\$0.00
City-wide	\$/capita	\$191.96
Non-Residential - Industrial		
Area-Specific	\$/square metre	\$0.00
City-wide	\$/square metre	\$2.29
Total Non-Res. Indus. \$.m²		\$2.29
Non-Residential - Industrial		
Area-Specific	\$/square metre	\$0.00
City-wide	\$/square metre	\$5.77
Total Non-Res. Indus. \$/m²		\$5.77

APPENDIX C.2
TABLE C.2-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
PROTECTION (POLICE)

BUILDINGS Station Name	# of Square Feet															UNIT COST (\$/sq. ft.)	
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
Elgin Street Head Quarters - Office Space (1)	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	\$750	
Elgin Street Head Quarters - Parking Facility	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000	\$500	
Greenbank - West Division	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	\$600	
St. Joseph - East Division	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	\$600	
Leitrim - Division and Quarter Master	22,816	22,816	22,816	22,816	22,816	22,816	22,816	22,816	22,816	22,816	22,816	22,816	22,816	22,816	22,816	\$600	
Swansea - Property Facility	30,800	30,800	30,800	30,800	30,800	30,800	30,800	30,800	30,800	30,800	34,400	34,400	34,400	34,400	34,400	\$600	
Algonquin College - Training Facility	36,711	36,711	36,711	36,711	36,711	36,711	36,711	36,711	36,711	36,711	36,711	36,711	36,711	36,711	36,711	\$600	
Elgin Street - Courts Section	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	\$600	
Youth Centre	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	-	-	-	-	-	\$300	
Airport Policing Office	2,215	2,215	2,215	2,215	2,215	2,215	2,215	2,215	2,215	2,215	2,215	2,215	2,215	2,215	2,215	\$300	
Concourse Gate	4,691	4,691	4,691	4,691	4,691	4,691	4,691	4,691	4,691	4,691	4,691	4,691	4,691	4,691	4,691	\$300	
Community Police Centres	16,995	16,995	16,995	13,317	13,317	13,317	13,317	13,317	13,317	13,317	13,317	13,050	13,050	11,529	8,229	8,229	\$300
Huntmar - West Division	39,705	39,705	39,705	39,705	39,705	39,705	39,705	39,705	39,705	39,705	39,705	39,705	39,705	39,705	39,705	\$600	
Fairmont	26,031	26,031	26,031	26,684	26,684	26,684	26,684	26,684	26,684	26,684	26,684	26,684	26,684	26,684	26,684	\$300	
Queensview (Records)	-	-	-	-	33,870	33,870	33,870	33,870	33,870	33,870	33,870	33,870	33,870	33,870	33,870	33,870	\$300
Isabella - Special Projects	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,035	3,035	\$300
Air Support Unit - 350 Comet Private	-	-	-	-	-	-	-	-	-	-	-	-	-	267	267	267	\$300
Total (sq.ft.)	585,339	585,339	585,339	582,314	616,184	616,184	616,184	616,184	616,184	616,184	611,017	611,017	609,763	609,498	609,498		
Total (\$000)	\$341,955.1	\$341,955.1	\$341,955.1	\$341,047.6	\$351,208.6	\$351,208.6	\$351,208.6	\$351,208.6	\$351,208.6	\$351,208.6	\$350,738.5	\$350,738.5	\$350,362.3	\$350,282.8	\$350,282.8		

(1) Underground parking facility totalling 145,000 sq ft has been excluded from Elgin Street Figure

APPENDIX C.2
TABLE C.2-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
PROTECTION (POLICE)

VEHICLES Vehicle Type	# of Vehicles															UNIT COST (\$/vehicle)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
POLICE PATROL VEHICLES																
# of Sworn Officers	1,356	1,371	1,377	1,363	1,339	1,334	1,334	1,351	1,376	1,399	1,429	1,460	1,481	1,472	1,493	
Vehicles/Sworn Officer Ratio	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
Total # of Vehicles	452	457	459	454	446	445	445	450	459	466	476	487	494	491	498	\$72,000
SPECIALTY VEHICLES																
#01001-54 Freightliner Truck	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000	\$252,000
#01002-54 Freightliner Truck	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000
#03662-13 Ford E450	\$106,000	\$106,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
#03663-13 Ford E450	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$120,000	\$0
#09951-13 Chev Cube Van	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
#03664-B5 Ford F450	\$148,000	\$148,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
#03665-B5 Ford F450	\$166,000	\$166,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
#03666-C5 Ford E450	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000	\$152,000
#03667-B5 Ford F450	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000	\$93,000
Surveillance Aircraft	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000	\$1,507,000
#03668-B5 Ford F450 (Old Box)	\$82,000	\$82,000	\$82,000	\$82,000	\$82,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
#03668-B5 Ford F450 (New Box)	\$0	\$0	\$0	\$0	\$0	\$149,000	\$149,000	\$149,000	\$149,000	\$149,000	\$149,000	\$149,000	\$149,000	\$149,000	\$149,000	\$149,000
#0995-60 Chevy Express	\$42,000	\$42,000	\$42,000	\$42,000	\$42,000	\$42,000	\$42,000	\$42,000	\$42,000	\$42,000	\$0	\$0	\$0	\$0	\$0	\$0
FQ-1014 2010 Well Cargo Trailer IDENT	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000	\$34,000
FQ-1017 2010 Streamline Trailer ESU	\$0	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
FQ-1018 2011 Streamline Trailer Canine	\$0	\$0	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
FQ-1022 2019 Stealth Trailer MDT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000
FQ-1023 2020 Stealth Trailer MDT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
FQ-1024 2020 Stealth Trailer MDT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,000	\$19,000	\$19,000	\$19,000	\$19,000
V9-22459 Highfield Boat MDT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$130,000	\$130,000	\$130,000
VB-2549-51 1998 Metal Craft Boat MDT	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
VB-2550-51 1999 Metal Craft Boat MDT	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
F4-2560 2018 Easy Hauler Trailer MDT	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700	\$5,700
V9-2561 2012 Hypalon Boat MDT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$111,000	\$111,000	\$111,000	\$111,000	\$111,000	\$111,000	\$111,000
V9-2562 2012 Titan Boat MDT	\$0	\$0	\$0	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000
54-1016 2010 Lenco Tactical	\$0	\$0	\$0	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000
C5-3669 2011 E450 Courts	\$0	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$0
C4-3755 2020 Transit Van (Mini Command Post)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$262,000	\$262,000	\$262,000
C4-3768 2020 Transit Van (Spec Events Van)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$225,000	\$225,000
B5-3781 2021 E450 Courts	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$145,000	\$145,000	\$145,000
56-3795 2006 F650 Marine Dive Trail	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$240,000	\$280,000	\$280,000
C4-3811 2020 T350-HD Transit Van Tactical	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$103,000	\$103,000	\$103,000
C3-9737 2011 Mercedes Sprinter Tactical	\$0	\$0	\$0	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000
Total (#)	452	457	459	454	446	445	445	450	459	466	476	487	494	491	498	
Total (\$000)	\$35,899.70	\$36,381.7	\$36,113.7	\$36,468.7	\$35,892.7	\$35,805.7	\$35,805.7	\$36,213.7	\$36,813.7	\$37,476.7	\$38,201.7	\$38,964.7	\$39,853.7	\$40,172.7	\$40,671.7	

EQUIPMENT Equipment Type	# of Items															UNIT COST (\$/item)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
New Officer Uprft (# of Officers)	1,356	1,371	1,377	1,363	1,339	1,334	1,334	1,351	1,376	1,399	1,429	1,460	1,481	1,472	1,493	\$6,964
Portable Radios	1,166	1,166	1,215	1,406	1,407	1,407	1,407	1,449	1,474	1,497	1,497	1,497	1,497	1,617	1,617	\$4,700
Total (#)	2,522	2,537	2,592	2,769	2,746	2,741	2,741	2,800	2,850	2,896	2,926	2,957	2,978	3,089	3,110	
Total (\$000)	\$14,923.4	\$15,027.8	\$15,299.9	\$16,100.1	\$15,937.7	\$15,902.9	\$15,902.9	\$16,218.7	\$16,510.3	\$16,778.5	\$16,987.5	\$17,203.3	\$17,349.6	\$17,850.9	\$17,997.2	



APPENDIX C.2
TABLE C.2-1

CITY OF OTTAWA
CALCULATION OF SERVICE LEVELS
PROTECTION (POLICE)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Historical Population	854,165	868,655	883,391	893,335	903,391	913,560	923,844	934,243	951,102	968,265	985,738	1,003,526	1,021,635	1,038,426	1,056,221
Historical Employment	513,157	522,104	531,208	538,394	545,677	553,058	560,539	568,121	575,806	583,595	591,489	599,490	607,601	611,570	615,565
Total Population & Employment	1,367,322	1,390,759	1,414,599	1,431,729	1,449,068	1,466,618	1,484,383	1,502,364	1,526,908	1,551,860	1,577,227	1,603,016	1,629,236	1,649,996	1,671,786

INVENTORY SUMMARY (\$000)

Buildings	\$341,955.1	\$341,955.1	\$341,955.1	\$341,047.6	\$351,208.6	\$351,208.6	\$351,208.6	\$351,208.6	\$351,208.6	\$351,208.6	\$350,738.5	\$350,738.5	\$350,362.3	\$350,282.8	\$350,282.8
Vehicles	\$35,899.7	\$36,381.7	\$36,113.7	\$36,468.7	\$35,892.7	\$35,805.7	\$35,805.7	\$36,213.7	\$36,813.7	\$37,476.7	\$38,201.7	\$38,964.7	\$39,853.7	\$40,172.7	\$40,671.7
Equipment	\$14,923.4	\$15,027.8	\$15,299.9	\$16,100.1	\$15,937.7	\$15,902.9	\$15,902.9	\$16,218.7	\$16,510.3	\$16,778.5	\$16,987.5	\$17,203.3	\$17,349.6	\$17,850.9	\$17,997.2
Total (\$000)	\$392,778.1	\$393,364.6	\$393,368.7	\$393,616.4	\$403,038.9	\$402,917.1	\$402,917.1	\$403,640.9	\$404,532.5	\$405,463.8	\$405,927.6	\$406,906.5	\$407,565.5	\$408,306.4	\$408,951.6

SERVICE LEVEL (\$/pop & emp)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Average Service Level
Buildings	\$250.1	\$245.9	\$241.7	\$238.2	\$242.4	\$239.5	\$236.6	\$233.8	\$230.0	\$226.3	\$222.4	\$218.8	\$215.0	\$212.3	\$209.5	\$230.8
Vehicles	\$26.3	\$26.2	\$25.5	\$25.5	\$24.8	\$24.4	\$24.1	\$24.1	\$24.1	\$24.1	\$24.2	\$24.3	\$24.5	\$24.3	\$24.3	\$24.7
Equipment	\$10.9	\$10.8	\$10.8	\$11.2	\$11.0	\$10.8	\$10.7	\$10.8	\$10.8	\$10.8	\$10.8	\$10.7	\$10.6	\$10.8	\$10.8	\$10.8
Total (\$/pop & emp)	\$287.3	\$282.8	\$278.1	\$274.9	\$278.1	\$274.7	\$271.4	\$268.7	\$264.9	\$261.3	\$257.4	\$253.8	\$250.2	\$247.5	\$244.6	\$266.4

CITY OF OTTAWA
CALCULATION OF MAXIMUM ALLOWABLE
PROTECTION (POLICE)

10-Year Funding Envelope Calculation	
15 Year Average Service Level 2009 - 2023	\$266.38
Net Population & Employment Growth 2024 - 2033	198,653
Maximum Allowable Funding Envelope	\$52,917,186

APPENDIX C.2
TABLE C.2-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
PROTECTION (POLICE)

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Funding	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
2.0 PROTECTION (POLICE): CITY-WIDE											
2.1 Outstanding Debentures											
2.1.1 Summary of Future Debt Payments - Principal	2024 - 2033	\$ 32,500,000	\$ -	\$ 32,500,000	0%	\$ -	\$ 32,500,000	\$ 21,866,048	\$ 10,633,952	\$ -	City-Wide
2.1.2 Summary of Future Debt Payments - Interest	2024 - 2033	\$ 13,300,000	\$ -	\$ 13,300,000	0%	\$ -	\$ 13,300,000	\$ -	\$ 13,300,000	\$ -	City-Wide
Subtotal Outstanding Debentures		\$ 45,800,000	\$ -	\$ 45,800,000		\$ -	\$ 45,800,000	\$ 21,866,048	\$ 23,933,952	\$ -	
2.2 Facilities											
2.2.1 Professional Development Centre	2024 - 2033	\$ 65,000,000	\$ -	\$ 65,000,000	60%	\$ 39,000,000	\$ 26,000,000	\$ -	\$ 26,000,000	\$ -	City-Wide
Subtotal Facilities		\$ 65,000,000	\$ -	\$ 65,000,000		\$ 39,000,000	\$ 26,000,000	\$ -	\$ 26,000,000	\$ -	
TOTAL PROTECTION (POLICE): CITY-WIDE		\$ 110,800,000	\$ -	\$ 110,800,000		\$ 39,000,000	\$ 71,800,000	\$ 21,866,048	\$ 49,933,952	\$ -	

City-wide Cost Allocations (Residential and Non-Residential)			
Residential Calculation			
Residential Share of Eligible Costs	79%	\$	39,522,761
10 Year Population Growth			205,888
Unadjusted Per Unit Charge			\$191.96
Non-Residential Calculation			
Non-Residential Share of Eligible Costs	21%	\$	10,411,191
Industrial			
Non-Residential Share of Eligible Costs	2%	\$	1,216,847
10 Year Non-Residential Growth in GFA (m2)			532,510
Charge per Square Metre			\$2.29
Non-Industrial			
Non-Residential Share of Eligible Costs	18%	\$	9,194,344
10 Year Non-Residential Growth in GFA (m2)			1,593,751
Charge per Square Metre			\$5.77

Available DC Reserve Fund Balance			
	Total	Amount Used	Remaining
City-wide	\$21,866,048	\$ 21,866,048	\$0
IGB	\$0	\$0	\$0
OGB	\$0	\$0	\$0
Rural	\$0	\$0	\$0
Total	\$ 21,866,048	\$ 21,866,048	\$ -

2024 - 2033 Net Funding Envelope	\$52,917,186
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Appendix C.3

Ambulance (Paramedic) Service

Appendix C.3 – Ambulance (Paramedic) Service Technical Appendix

Ottawa Ambulance (Paramedic) Service delivers medical treatment for medical emergencies and also provides supportive care and safety training for residents across the City of Ottawa.

This appendix provides a brief outline of historical service levels for Ambulance Services, the 2024–2033 development-related capital forecast and calculation of the development charges. The cost, quantum and timing of the projects identified in the forecast are largely based on the projects identified in the 2014 and 2019 (Interim) DC Background Studies, adjusted to account for expenditures and increases in project costs (i.e. indexing). The projects are further informed based on proposed and Council-approved capital budgets.

The following discusses the individual components included in the Ambulance Service category. The analysis is set out in the tables which follow and include:

Table C.3-1 Historical Service Levels and Calculation of 15-Year Average Service Level

Table C.3-2 2024–2033 Development-Related Capital Forecast and Calculation of the Growth-Related Net Capital Costs

A. Benefitting Area

The City’s Ambulance (Paramedic) Service development charges is calculated on a City-wide basis.

B. Historical Service Levels and Calculation of 15-Year Average Service Levels and Maximum Allowable Charges

A replacement cost of \$560 per square foot has been applied to all Ambulance Services facilities across the City. Approximately 174 vehicles are currently used to provide paramedic services which includes emergency response vehicles, special support and various paramedic support and response fleet. Communications and various medical equipment are also included in the historical service level calculation. Consistent with the City’s prior DC Background Studies, no land has been included in the historical inventory calculation.

Table C.3-1 provides a summary of the level of service and the calculation of the 15-year historical service level. The calculation of the maximum allowable funding envelope is summarized as follows:

Ten-Year Funding Envelope Calculation

Average Service Level per Population and Employment (2009 – 2023)	\$66.20
Net Population and Employment Growth (2024 – 2033)	198,653
Maximum Allowable Funding Envelope	\$13,150,829

The existing facilities have been examined and consideration has been made with regard to whether “excess capacity” exists within the City’s infrastructure that may be available to partially meet future servicing requirements. It has been determined that no “uncommitted excess capacity” exists within the City’s Ambulance Services infrastructure, and as such, no adjustments have been made to the service level calculations.

C. The Development-Related Capital Program

The projects identified in the capital forecast will result, in whole or in part, in increased capacity to meet the servicing needs of new development. The 2024–2033 development-related capital forecast includes for the development of four Paramedic Post facilities, land and vehicles and equipment that will provide a City-wide benefit.

In particular, the capital program also includes for the recovery of past expenditures (e.g. principal and interest payments as well as negative reserve fund balances) to fund Ambulance (Paramedic) facilities. In accordance with the DCA, eligible capital expenditures include costs incurred or to be incurred by a municipality and can include interest on money borrowed (s.5(3)). This category includes projects identified in previous Development Charge By-laws with committed funding that are completed or will be completed in the future. The total gross cost of this capital forecast is \$14.0 million.

Paragraph 5 of s.s.5(1) of the DCA requires a deduction from the increase in the need for service attributable to the anticipated development that can be met using the City’s “excess capacity” other than excess capacity which is “committed”. “Excess capacity” is undefined in the DCA, but is considered to relate to the capacity available to meet some or all of the increase in need for service in order to potentially represent a deduction. It is recognized that no “surplus” of capacity exists within Ambulance (Paramedic) Services as the deduction of uncommitted excess capacity occurs as part of the conceptual planning and feasibility work associated with planning new facilities.

D. Calculation of Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Ambulance Services. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for reductions. The identified benefit to existing shares include costs that meet the needs of existing development, including past development. Generally speaking, shares have been deducted for portions of the overall costs that relate to state of good repair or the replacement or reconstruction of existing facilities. Those projects that are completely new are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost.

The benefit to existing and replacement shares are based on the increase servicing capacity arising from the proposed facilities, vehicles and equipment. In total, \$1.2 million is identified as the replacement and benefit to existing share and is removed from the DC calculation.

iii. Prior Growth

Available DC reserve funds have been applied to projects occurring within the identified planning period. Table C.3-2 provides details on the available DC reserve fund balance, the amount used and the amount of funding remaining.

In total, \$1.2 million in available DC reserve funds have been removed from City-wide DC eligible costs.

iv. Post-2033 Benefit

The DC eligible costs included in the Ambulance (Paramedic) Services capital program is below the maximum permissible funding envelope of \$13.2 million (shown in Table C.3-1 and C.3-2). Therefore, no post-2033 benefit has been identified for this service.

v. 2024-2033 In-Period Eligible Costs

After these adjustments, a total of \$11.7 million is included in the development charge calculation.

E. Calculation of Residential and Non-Residential Development-Related Capital Costs

i. Residential and Non-Residential Allocation

Consistent with the 2014 and 2019 (Interim) DC Background Studies, Ambulance (Paramedic) Services are calculated on a City-wide basis. The development-related costs have been allocated 79% to residential development and 21% to the non-residential sector. This sector allocation is based upon future shares of City-wide population growth (157,234) and employment growth (41,419). The non-residential allocation of 21% for Ambulance (Paramedic) Services is further allocated between industrial (2%) and non-industrial (18%) sectors based on shares of City-wide employment growth over the 10-year planning period to 2033.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring City-wide, IGB, OGB and Rural area. The “residual” shown in the area-specific non-residential summary represents the sum of the costs remaining once the residential allocations have been made for IGB, OGB and Rural.

These costs allocations and DC rate calculations are presented in Table C.3-2.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
City Wide	79%	\$9,227,065
Subtotal Residential		\$9,227,065
Non-Residential - Industrial		
City-wide	2%	\$284,088
Non-Residential – Non-Industrial		
City-wide	18%	\$2,146,531
Subtotal Non-Residential		\$2,430,618
Total:		\$11,657,683

F. Development Charge Calculation

Consistent with the City’s historical practice, an average cost methodology has been used to calculate development charges for the City’s general services included in this appendix.

The following table provides a summary of the residential and non-residential Ambulance (Paramedic) Services development charges for each of the identified benefitting areas.

It should be noted that there are no IGB, OGB or Rural residential \$/capita calculations, as no growth-related projects have been identified within these three geographic areas over the planning period.

Residential and Non-Residential Development Charges

Benefitting Area	Measure	Calculated DC
Residential		
City Wide	\$/Capita	\$44.82
Total Residential \$/capita		\$44.82
Non-Residential - Industrial		
City-wide	\$/square metre	\$0.53
Total Non-Res. Indus. \$/m²:		\$0.53
Non-Residential – Non-Industrial		
City-wide	\$/square metre	\$1.35
Total Non-Res. Non-Indus. \$/m²:		\$1.35

APPENDIX C.3
TABLE C.3-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
AMBULANCE SERVICE

BUILDINGS Station Name	# of Square Feet															UNIT COST (\$/sq. ft.)	
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
3207 Vance Road, Osgoode (leased)	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	\$560
738 Gladstone Avenue (leased - Private)	3,479	3,479	3,479	3,479	3,479	3,479	3,479	3,479	3,479	3,479	3,479	3,479	3,479	3,479	3,479	3,479	\$560
911 Industrial Road (co-shared)	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	\$560
631 Main Street, Stittsville (co-shared with OFS)	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	\$560
360 Hunt Club Road	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	\$560
75 Donald B Munro, Carp (co-shared with OFS)- closed	1,200	1,200	1,200	1,200	1,200	-	-	-	-	-	-	-	-	-	-	-	\$560
6280 Perth Street, Richmond (co-shared with OFS)	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$560
5669 Main Street, Manotick (co-shared with OFS/OPS)	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$560
8011 Victoria Street, Metcalfe (co-shared with OFS)	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$560
1246 Colonial Road, Navan (co-shared with OFS)	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$560
2465 Don Reid Drive (Exclude Admin)	85,242	85,242	85,242	85,242	85,242	85,242	85,242	85,242	85,242	85,242	85,242	85,242	85,242	85,242	85,242	85,242	\$560
2475 Don Reid Drive (Exclude Admin)	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	\$560
2445 Old Montreal Rd, Cumberland (co-shared with OFS)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	\$560
5670 Carp Road, Kinburn (co-shared with West-Carl)	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	\$560
200 Montreal Road	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	\$560
384 St. Patrick Street	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	\$560
105 Catherine Street (Closed)	1,830	1,830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$560
103 Catherine Street (leased)	-	-	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	\$560
2851 St. Joseph Blvd	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	\$560
50 Lord Byng Way	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	1,830	\$560
20 Bexley Place, Unit 106 (leased)	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	\$560
1075 Greenbank Road (co-shared with OFS)	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	\$560
640 Cameron Harvey Drive, Kanata (previously Riddell Drive)	-	-	-	-	-	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$560
2430 Don Reid Drive (private lease) - Public Education Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,000	\$560
Total (sq. ft.)	129,021	129,021	129,021	129,021	129,021	129,021	129,021	129,021	129,021	129,021	129,021	129,021	129,021	129,021	129,021	136,021	
Total (\$000)	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$76,171.8	

APPENDIX C.3
TABLE C.3-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
AMBULANCE SERVICE

VEHICLES Vehicle Type	# of Vehicles															UNIT COST (\$/vehicle)	
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
Emergency Response Vehicles (ERV) - Taurus	27	27	27	27	22	25	26	26	26	26	37	10	9	8	5	-	\$31,200
Emergency Response Vehicles (ERV) - Taurus (Motor Pool)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	\$31,200
Community PAD Program (ERV) - Taurus (Motor pool)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	\$31,200
Response Vehicle (PTU) - Suburban	-	-	-	-	-	-	-	-	-	-	-	2	1	1	1	-	\$51,300
Response Vehicle (ERV) - Tahoe	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	\$51,300
Support Vehicle (LSU) - motor pool	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	\$44,400
Response Vehicle (ERV) - Explorer	-	-	-	-	-	-	-	-	-	-	-	30	30	30	30	30	\$84,000
Response Vehicle (ERV-Hybrid) - Explorer	-	-	-	-	-	-	-	-	-	-	-	1	7	10	10	-	\$84,000
Emergency Support Vehicles (ESU) - Pick-up Truck - F650	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	\$241,000
Special Service Vehicles - All Terrain ASAP Vehicles	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	\$81,000
Special Support Vehicle (Trailers/Shelters/CBRN/Bike/SRU):																	
16' Emergency Shelter Unit, Trailer	3	3	3	3	3	3	2	2	2	2	1	1	1	1	1	1	\$21,500
20' Utility, Trailer Flatdeck (UTV)	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	\$7,000
20' Incident Support, Trailer w/Generator	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	\$114,500
Special Response Vehicle (SRU)	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	\$196,600
Mobile Logistics Response Unit (MLSU)	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	\$196,600
Neonatal Transport Unit (NTU)	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	\$201,800
Logistic Cube Van, 16FT	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	\$77,600
Mountain Bike	-	-	-	-	-	-	-	-	-	-	-	16	16	16	16	16	\$1,600
Bariatric Transport Unit (BCU)	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	\$154,700
Bariatric Transport Unit (BCU) - motor pool	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	\$154,700
Mental Wellness Response Unit (MWRT) - motor pool	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	\$154,700
Support Vehicle - Lease/Rental	-	-	-	-	-	-	-	-	-	-	-	-	14	11	11	11	\$900
Treatment Rehabilitation Unit (TRU) - Bus	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	\$443,000
MultiPatient Unit (MPU) - Bus	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	\$1,494,300
Paramedic Units - Ambulance	76	76	76	76	76	78	77	76	77	78	80	80	82	82	82	82	\$201,800
Paramedic Units - Ambulance (motor pool)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	\$130,700
Total (#)	113	113	114	114	109	113	113	112	113	125	154	169	174	173	174		
Total (\$000)	\$17,325.7	\$17,325.7	\$17,332.7	\$17,332.7	\$17,176.7	\$17,559.4	\$17,481.8	\$17,280.0	\$17,481.8	\$18,026.8	\$20,931.1	\$21,615.2	\$23,906.1	\$23,823.5	\$24,133.1		

APPENDIX C.3
TABLE C.3-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
AMBULANCE SERVICE

EQUIPMENT Description	Total Value of Equipment (\$)															UNIT COST (\$/unit)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Portable Radios P25 (city Owned)	123	123	123	123	123	123	123	123	123	200	200	204	244	400	400	\$3,600
Mobile Radios P25 (city Owned)	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	\$3,600
Base Stations Radios P25 (city Owned)	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	\$3,800
CF 19 documentation and mapping toughbook	125	125	125	125	-	-	-	-	-	-	-	-	-	-	-	\$2,350
FZG1 documentation and mapping tablet	-	-	-	-	-	-	-	-	-	-	193	196	167	26	26	\$2,350
ToughPad (AirCard/Mapping) FZ-G1	-	-	-	-	-	-	-	-	-	-	153	153	153	-	-	\$2,350
ToughPad (iMedic/ePCR) FZ-G1	-	-	-	-	-	-	-	-	-	-	-	-	-	153	149	\$910
Toughbook 20, iMedic GEN II (Interdev, Lease)	-	-	-	-	-	-	-	-	-	-	-	-	-	153	153	\$910
Tablet (mCAD), iPad	-	-	-	-	259	259	259	259	259	259	-	-	-	-	-	\$2,350
Defibrillators, Zoll E	131	131	131	131	131	131	131	131	-	-	-	-	-	-	-	\$30,400
Defibrillators, Lifepak 15	-	-	-	-	-	-	-	-	130	130	132	132	134	151	151	\$26,540
Defibrillator LifePak 1000, Special Operations	-	-	-	-	-	-	-	-	-	-	20	20	20	20	20	\$2,870
Ferno ProflexX	112	112	112	112	112	114	117	117	60	60	-	-	-	-	8	\$6,200
Stryker Power Stretchers (power pro)	-	-	-	-	-	-	-	-	60	60	72	74	76	80	83	\$23,030
Stryker Power Stretchers (XPS)	-	-	-	-	-	-	-	-	3	3	3	3	5	8	13	\$28,300
Stryker power load system	-	-	-	-	-	-	-	-	55	55	66	84	86	86	92	\$35,300
Stair Chairs	90	90	90	90	96	96	96	96	96	101	101	101	98	97	97	\$3,110
CPR Assist Device (Zoll AutoPulse)	-	-	-	-	12	12	19	19	19	19	19	12	7	-	-	\$12,300
CPR Assist Device (Lucas)	-	-	-	-	-	-	-	-	-	-	16	21	28	29	29	\$17,590
Scoop stretcher	114	114	114	128	128	128	128	143	143	143	143	140	138	135	135	\$1,330
Backboards	-	-	-	-	-	-	-	-	-	-	188	188	188	188	188	\$460
Impact portable suction unit	106	106	106	106	106	106	106	106	106	106	112	120	124	130	138	\$990
Lamp, Portable Disinfection Air/Surface	-	-	-	-	-	-	-	-	-	-	2	12	12	12	12	\$5,290
Total (#)	801	801	801	815	967	969	979	994	1,054	1,142	1,426	1,466	1,486	1,674	1,700	
Total (\$000)	\$5,949.8	\$5,949.8	\$5,949.8	\$5,968.4	\$6,449.6	\$6,462.0	\$6,566.7	\$6,586.6	\$9,109.2	\$9,424.2	\$10,416.2	\$11,177.8	\$11,533.6	\$12,241.3	\$12,717.6	

APPENDIX C.3
TABLE C.3-1

CITY OF OTTAWA
CALCULATION OF SERVICE LEVELS
AMBULANCE SERVICE

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Historical Population	854,165	868,655	883,391	893,335	903,391	913,560	923,844	934,243	951,102	968,265	985,738	1,003,526	1,021,635	1,038,426	1,056,221
Historical Employment	513,157	522,104	531,208	538,394	545,677	553,058	560,539	568,121	575,806	583,595	591,489	599,490	607,601	611,570	615,565
Total Population & Employment	1,367,322	1,390,759	1,414,599	1,431,729	1,449,068	1,466,618	1,484,383	1,502,364	1,526,908	1,551,860	1,577,227	1,603,016	1,629,236	1,649,996	1,671,786

INVENTORY SUMMARY (\$000)

Buildings	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$72,251.8	\$76,171.8
Vehicles	\$17,325.7	\$17,325.7	\$17,332.7	\$17,332.7	\$17,176.7	\$17,559.4	\$17,481.8	\$17,280.0	\$17,481.8	\$18,026.8	\$20,931.1	\$21,615.2	\$23,906.1	\$23,823.5	\$24,133.1	
Equipment	\$5,949.8	\$5,949.8	\$5,949.8	\$5,968.4	\$6,449.6	\$6,462.0	\$6,566.7	\$6,586.6	\$9,109.2	\$9,424.2	\$10,416.2	\$11,177.8	\$11,533.6	\$12,241.3	\$12,717.6	
Total (\$000)	\$95,527.3	\$95,527.3	\$95,534.3	\$95,552.9	\$95,878.1	\$96,273.2	\$96,300.3	\$96,118.4	\$98,842.8	\$99,702.8	\$103,599.1	\$105,044.8	\$107,691.5	\$108,316.6	\$113,022.4	

SERVICE LEVEL (\$/pop & emp)

																Average Service Level
Buildings	\$52.84	\$51.95	\$51.08	\$50.46	\$49.86	\$49.26	\$48.67	\$48.09	\$47.32	\$46.56	\$45.81	\$45.07	\$44.35	\$43.79	\$45.56	\$48.05
Vehicles	\$12.67	\$12.46	\$12.25	\$12.11	\$11.85	\$11.97	\$11.78	\$11.50	\$11.45	\$11.62	\$13.27	\$13.48	\$14.67	\$14.44	\$14.44	\$12.66
Equipment	\$4.35	\$4.28	\$4.21	\$4.17	\$4.45	\$4.41	\$4.42	\$4.38	\$5.97	\$6.07	\$6.60	\$6.97	\$7.08	\$7.42	\$7.61	\$5.49
Total (\$/pop & emp)	\$69.86	\$68.69	\$67.53	\$66.74	\$66.17	\$65.64	\$64.88	\$63.98	\$64.73	\$64.25	\$65.68	\$65.53	\$66.10	\$65.65	\$67.61	\$66.20

CITY OF OTTAWA
CALCULATION OF MAXIMUM ALLOWABLE
AMBULANCE SERVICE

10-Year Funding Envelope Calculation	
15 Year Average Service Level 2009 - 2023	\$66.20
Net Population & Employment Growth 2024 - 2033	198,653
Maximum Allowable Funding Envelope	\$13,150,829

APPENDIX C.3
TABLE C.3-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
AMBULANCE SERVICE

Project Description	Project Number	Timing	Gross Project Cost	Grants/ Subsidies/Other Funding	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
						BTE Share (%)	Replacement & BTE Shares					
5.0 AMBULANCE SERVICE: CITY-WIDE												
5.1 Buildings and Facilities												
5.1.2 Paramedic Post - West (excludes land costs)	18.24CW01	2024 - 2033	\$ 1,500,000	\$ -	\$ 1,500,000	10%	\$ 150,000	\$ 1,350,000	\$ 1,235,517	\$ 114,483	\$ -	City-wide
5.1.3 Paramedic Post - East (excludes land costs)	18.24CW02	2024 - 2033	\$ 1,500,000	\$ -	\$ 1,500,000	10%	\$ 150,000	\$ 1,350,000	\$ -	\$ 1,350,000	\$ -	City-wide
5.1.4 Paramedic Post - South (excludes land costs)	18.24CW03	2024 - 2033	\$ 1,500,000	\$ -	\$ 1,500,000	10%	\$ 150,000	\$ 1,350,000	\$ -	\$ 1,350,000	\$ -	City-wide
5.1.5 Paramedic Post - West (excludes land costs)	18.24CW04	2024 - 2033	\$ 1,500,000	\$ -	\$ 1,500,000	10%	\$ 150,000	\$ 1,350,000	\$ -	\$ 1,350,000	\$ -	City-wide
Subtotal Buildings and Facilities			\$ 6,000,000	\$ -	\$ 6,000,000		\$ 600,000	\$ 5,400,000	\$ 1,235,517	\$ 4,164,483	\$ -	
5.2 Vehicles												
5.2.1 Paramedic Vehicles and Equipment	18.24CW05	2024 - 2033	\$ 5,000,000	\$ -	\$ 5,000,000	5%	\$ 250,000	\$ 4,750,000	\$ -	\$ 4,750,000	\$ -	City-wide
Subtotal Vehicles			\$ 5,000,000	\$ -	\$ 5,000,000		\$ 250,000	\$ 4,750,000	\$ -	\$ 4,750,000	\$ -	
5.3 Land												
5.3.1 Paramedic Posts - Future Land Costs - West, East, & South	18.24CW06	2024 - 2033	\$ 3,048,000	\$ -	\$ 3,048,000	10%	\$ 304,800	\$ 2,743,200	\$ -	\$ 2,743,200	\$ -	City-wide
Subtotal Land			\$ 3,048,000	\$ -	\$ 3,048,000		\$ 304,800	\$ 2,743,200	\$ -	\$ 2,743,200	\$ -	
TOTAL AMBULANCE SERVICE: CITY-WIDE			\$ 14,048,000	\$ -	\$ 14,048,000		\$ 1,154,800	\$ 12,893,200	\$ 1,235,517	\$ 11,657,683	\$ -	

City-wide Cost Allocations (Residential and Non-Residential)		
Residential Calculation		
Residential Share of Eligible Costs	79%	\$ 9,227,065
10 Year Employment Growth		205,888
Unadjusted Per Unit Charge		\$44.82
Non-Residential Calculation		
Non-Residential Share of Eligible Costs	21%	\$ 2,430,618
Industrial		
Non-Residential Share of Eligible Costs	2%	\$ 284,088
10 Year Non-Residential Growth in GFA (m2)		532,510
Charge per Square Metre		\$0.53
Non-Industrial		
Non-Residential Share of Eligible Costs	18%	\$ 2,146,531
10 Year Non-Residential Growth in GFA (m2)		1,593,751
Charge per Square Metre		\$1.35

Available DC Reserve Fund Balance			
	Total	Amount Used	Remaining
City-wide	\$1,235,517	\$1,235,517	\$0
IGB	\$0	\$0	\$0
OGB	\$0	\$0	\$0
Rural	\$0	\$0	\$0

2024 - 2033 Net Funding Envelope	\$13,150,829
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Appendix C.4

Parks Development

Appendix C.4 – Parks Development Technical Appendix

A. Introduction

Parks are provided to residents in the City through a network of developed parkland, park amenities and special facilities.

This appendix provides a brief outline of historical service levels for Parks services, the 2024–2033 development-related capital forecast and calculation of the development charges. The cost, quantum and timing of the projects identified in the forecast have been provided by City staff and are based on adopted 2021 Parks and Recreation Facilities Master Plan as well as the capital budget.

Consistent with the 2014 and 2019 (Interim) DC Background Study, the infrastructure included in the Parks Development capital program has been updated to reflect current funding arrangements. For example, the 2014 DC Background Study excluded Non-District Parks (e.g. neighbourhood parks and community located within OGB and Rural area) – these projects were removed from the DC capital program as this infrastructure has been deemed to be a developer (local service) funding responsibility. In particular, the capital program includes for Urban Parks which are recovered from development occurring IGB and District Parks which are recovered on a broader City-wide benefitting area.

The following discusses the individual components included in the Parks Development service category. The analysis is set out in the tables which follow and include:

- Table 1 Historical Service Levels and Calculation of 15-Year Average Service Level
- Table 2 2024–2033 Development-Related Capital Forecast and Calculation of the Growth-Related Net Capital Costs

B. Benefitting Area

Parks Development DCs continue to be calculated on both a City-wide and area-specific basis. Costs relating to District Parks are calculated on a City-wide basis and costs relating to Urban Parks are calculated on an area-specific basis IGB.

C. Historical Service Levels and Calculation of 15-Year Average Service Levels and Maximum Allowable Charges

The replacement cost for hectares of parkland have been calculated based on park classification. For instance:

- Passive District Parks have a replacement cost of \$265,000 per hectare;
- Active District Parks have a replacement cost of \$844,000 per hectare;
- Urban Parks (IGB) have a replacement cost of \$2,090,000; and
- Community Trails has a replacement cost of \$603,000 per kilometre of developed trail.

It should be noted that only District and Urban parks are included in the historical inventory as Community, Neighbourhood Parks and Parkettes located OGB and within the Rural area are not included in the DC capital program and therefore do not form part of the historical service level calculation.

Table C.4-1 provides a summary of the level of service and the calculation of the 15-year historical service level. The calculation of the maximum allowable funding envelope is summarized as follows:

Ten-Year Funding Envelope Calculation

Average Service Level per Capita (2009 – 2023)	\$2,838.53
Net Population Growth (2024 – 2033)	157,234
Maximum Allowable Funding Envelope	\$446,313,426

The existing facilities have been examined and consideration has been given to whether “excess capacity” exists within the City’s infrastructure that may be available to partially meet future servicing requirements. It has been determined that no “uncommitted excess capacity” exists within the City’s Parks infrastructure, and as such, no adjustments have been made to the service level calculations.

D. The Development-Related Capital Program

The 2024–2033 development-related capital forecast includes active and passive District Parks, new urban parks and parks for the City’s Secondary Plan Areas. Where possible, a park’s location and/or neighbourhood is identified. In total, the gross capital costs of the City-wide and IGB projects amount to \$158.5 million (\$84.1 million for City-wide park development and \$74.5 for IGB). The projects identified in the capital forecast will result, in whole or in part, in increased capacity to meet the servicing needs of new development over the planning period.

Paragraph 5 of s.s.5(1) of the DCA requires a deduction from the increase in the need for service attributable to the anticipated development that can be met using the City’s “excess capacity” that is “uncommitted”. “Excess capacity” is not defined by the DCA but is considered to relate to the capacity available to meet some or all of the increase in need for service arising from development over the planning horizon. It is recognized that no “surplus” of capacity exists within Parks Development services, as the deduction of uncommitted excess capacity would occur as part of the conceptual planning and feasibility work associated with new facilities.

E. Calculation of Development-Related Capital Costs

i. Grants, Subsidies, CIL and Other Recoveries

Grants and subsidies of \$30.0 million have been identified for various projects in the Parks Development capital program. Approximately \$24.8 million have been identified for City-wide District Parks, while the remaining \$5.2 million relates IGB Urban Parks. This amount includes CIL contributions to assets that are in part used to fund benefit to existing shares of projects.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for reductions. The identified benefit to existing shares include costs that meet the needs of existing development, including past development.

- **City-wide Parks** – for all District Parks in the capital program a BTE share of 10% has been applied to projects recognizing that there is a nominal benefit to existing residents.
- **IGB Urban Parks** – Generally speaking, the BTE shares for Urban Parks ranges from 5 to 10% recognizing that although these projects are largely required to service the needs of future development, a nominal share will benefit existing residents.

In total, \$11.3 million is identified as the replacement and BTE share and will not be funded from development charges.

iii. Prior Growth

Prior growth shares have been applied to projects occurring within the identified planning period. Table C.4-2 provides details on the available DC reserve fund balance, the amount used and the amount of funding remaining.

Approximately \$10.5 million in available DC reserve funds has been removed from DC eligible shares of projects relating to City-wide projects. The available IGB reserve fund balance of \$4.3 million has been applied to Urban Parks projects. In total, \$14.7 million in DC reserve funds have been removed from the development charges calculation.

iv. Post-2033 Benefit

The DC eligible costs included in the Parks Development capital program are well below the maximum permissible funding envelope of \$446.3 million (shown in Table C.4-1 and C.4-2). A portion, however, of total DC eligible costs relating to District Parks will benefit development occurring over the planning period to 2033. A share of \$8.7 million has been attributed to post-2033 development that is recoverable under future DCs.

v. 2024-2033 In-Period Eligible Costs

After adjustments, a total of \$93.8 million is included in the development charge calculation.

F. Calculation of Residential and Non-Residential Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The development-related costs have been allocated 95% to residential development, as these facilities are primarily provided and planned for the residential community. A nominal 5% allocation is made for non-residential development recognizing that park facilities are used by employees working within the City of Ottawa.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring City-wide and IGB. The “residual”

shown in the area-specific non-residential summary represents the sum of the costs remaining once the residential allocations have been made.

These costs allocations and DC rate calculations are presented in Table 2.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
Inside the Greenbelt	95%	\$56,627,840
Outside the Greenbelt	95%	\$0
Rural	95%	\$0
City-wide	95%	\$32,469,710
Subtotal Residential		\$89,097,550
Non-Residential		
Area-Specific	Residual	\$2,980,413
City-wide	5%	\$1,708,932
Subtotal Non-Residential		\$8,289,345
Total		\$93,786,894

G. Development Charge Calculation

Consistent with the City’s historical practice, an average cost methodology has been used to calculate development charges for Parks infrastructure.

The following table provides a summary of the residential and non-residential Parks Development services development charges for each of the identified benefitting areas City-wide and IGB.

Residential and Non-Residential Development Charges

Benefitting Area	Measure	Calculated DC
Residential		
Inside the Greenbelt	\$/capita	\$842.14
Outside the Greenbelt	\$/capita	\$0
Rural	\$/capita	\$0
City Wide	\$/capita	\$157.71
Non-Residential		
Area-Specific	\$/square metre	\$1.40
City-wide	\$/square metre	\$0.80
Total Non-Residential \$/m²		\$2.21

APPENDIX C.4
TABLE C.4-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
PARKS DEVELOPMENT

TRAILS Description	# of km of Developed Trails															UNIT COST (\$/km)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Community Trails	110	110	110	110	110	111	112	113	113	113	113	113	113	116	119	\$603,000
Total (sq.ft.)	110	110	110	110	110	111	112	113	113	113	113	113	113	116	119	
Total (\$000)	\$66,330.0	\$66,330.0	\$66,330.0	\$66,330.0	\$66,330.0	\$66,933.0	\$67,536.0	\$68,139.0	\$68,139.0	\$68,139.0	\$68,139.0	\$68,139.0	\$68,139.0	\$69,948.0	\$71,455.5	

PARKLAND Park Name	# of Hectares of Developed Area															UNIT COST (\$/ha)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
District Parks - Passive	534	534	534	534	534	534	543	559	559	559	559	559	559	560	563	\$265,000
District Parks - Active	487	487	487	487	487	492	492	492	492	492	492	492	492	494	499	\$844,000
Urban Parks (Inside Greenbelt)	974	976	976	976	976	976	977	977	977	985	985	985	986	989	996	\$2,090,000
Total (ha)	1,995.00	1,997.00	1,997.00	1,997.00	1,997.00	2,002.00	2,012.00	2,028.00	2,028.00	2,036.00	2,036.00	2,036.30	2,036.54	2,042.84	2,057.34	
Total (\$000)	\$2,588,198.0	\$2,592,378.0	\$2,592,378.0	\$2,592,378.0	\$2,592,378.0	\$2,596,598.0	\$2,601,073.0	\$2,605,313.0	\$2,605,313.0	\$2,622,033.0	\$2,622,033.0	\$2,622,660.0	\$2,623,161.6	\$2,632,924.1	\$2,651,524.1	

Note: Only District and Urban parks are included in the historical inventory as community, neighbourhood parks and parkettes and not recovered in the DC capital program

APPENDIX C.4
TABLE C.4-1

CITY OF OTTAWA
CALCULATION OF SERVICE LEVELS
PARKS DEVELOPMENT

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2018
Historical Population	854,165	868,655	883,391	893,335	903,391	913,560	923,844	934,243	951,102	968,265	985,738	1,003,526	1,021,635	1,038,426	1,056,221

INVENTORY SUMMARY (\$000)

Trails	\$66,330.0	\$66,330.0	\$66,330.0	\$66,330.0	\$66,330.0	\$66,933.0	\$67,536.0	\$68,139.0	\$68,139.0	\$68,139.0	\$68,139.0	\$68,139.0	\$68,139.0	\$69,948.0	\$71,455.5
Parkland	\$2,588,198.0	\$2,592,378.0	\$2,592,378.0	\$2,592,378.0	\$2,592,378.0	\$2,596,598.0	\$2,601,073.0	\$2,605,313.0	\$2,605,313.0	\$2,622,033.0	\$2,622,033.0	\$2,622,660.0	\$2,623,161.6	\$2,632,924.1	\$2,651,524.1
Total (\$000)	\$2,654,528.0	\$2,658,708.0	\$2,658,708.0	\$2,658,708.0	\$2,658,708.0	\$2,663,531.0	\$2,668,609.0	\$2,673,452.0	\$2,673,452.0	\$2,690,172.0	\$2,690,172.0	\$2,690,799.0	\$2,691,300.6	\$2,702,872.1	\$2,722,979.6

SERVICE LEVEL (\$/pop)

																Average Service Level
Trails	\$77.65	\$76.36	\$75.09	\$74.25	\$73.42	\$73.27	\$73.10	\$72.93	\$71.64	\$70.37	\$69.12	\$67.90	\$66.70	\$67.36	\$67.65	\$71.79
Parkland	\$3,030.09	\$2,984.36	\$2,934.58	\$2,901.91	\$2,869.61	\$2,842.29	\$2,815.49	\$2,788.69	\$2,739.26	\$2,707.97	\$2,659.97	\$2,613.44	\$2,567.61	\$2,535.50	\$2,510.39	\$2,766.74
Total (\$/pop)	\$3,107.75	\$3,060.72	\$3,009.66	\$2,976.16	\$2,943.03	\$2,915.55	\$2,888.59	\$2,861.62	\$2,810.90	\$2,778.34	\$2,729.09	\$2,681.34	\$2,634.31	\$2,602.85	\$2,578.04	\$2,838.53

CITY OF OTTAWA
CALCULATION OF MAXIMUM ALLOWABLE
PARKS DEVELOPMENT

10-Year Funding Envelope Calculation	
15 Year Average Service Level 2009 - 2023	\$2,838.53
Net Population Growth 2024 - 2033	157,234
Maximum Allowable Funding Envelope	\$446,313,426

APPENDIX C.4
TABLE C.4-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARKS DEVELOPMENT

Project Description	Timing	Gross Project Cost	Grants / Subsidies / CIL / Other*	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
4.0 PARKS DEVELOPMENT: CITY-WIDE											
4.1 District Parks (City-wide)											
4.1.1 East Urban Community District Park - Active	2024 - 2029	\$ 4,231,700	\$ -	\$ 4,231,700	10%	\$ 423,170	\$ 3,808,530	\$ -	\$ 1,904,265	\$ 1,904,265	City-wide
4.1.2 Riverside South Community - North District Park - Active	2024 - 2029	\$ 6,876,700	\$ 4,500,000	\$ 2,376,700	10%	\$ 237,670	\$ 2,139,030	\$ 2,139,030	\$ -	\$ -	City-wide
4.1.3 Fernbank Community District Park - Active	2024 - 2029	\$ 10,612,400	\$ 3,225,000	\$ 7,387,400	10%	\$ 738,740	\$ 6,648,660	\$ 6,648,660	\$ -	\$ -	City-wide
4.1.4 Kanata West Community District Park - Active	2024 - 2029	\$ 3,094,500	\$ -	\$ 3,094,500	10%	\$ 309,450	\$ 2,785,050	\$ -	\$ 1,392,525	\$ 1,392,525	City-wide
4.1.5 Jock River North District Park - Active	2024 - 2029	\$ 12,216,000	\$ 6,922,800	\$ 5,293,200	10%	\$ 529,320	\$ 4,763,880	\$ -	\$ 4,763,880	\$ -	City-wide
4.1.6 Jock River South District Park - Passive	2024 - 2029	\$ 7,517,800	\$ 1,222,000	\$ 6,295,800	10%	\$ 629,580	\$ 5,666,220	\$ -	\$ 5,666,220	\$ -	City-wide
4.1.7 Francois Dupuis District Park	2024 - 2029	\$ 12,695,000	\$ 1,158,000	\$ 11,537,000	10%	\$ 1,153,700	\$ 10,383,300	\$ 1,667,098	\$ 8,716,202	\$ -	City-wide
4.1.8 Riverside South Community Core District Park - Active	2024 - 2029	\$ 8,696,900	\$ 7,809,500	\$ 887,400	10%	\$ 88,740	\$ 798,660	\$ -	\$ 798,660	\$ -	City-wide
4.1.9 1010 Somerset Urban District Park	2024 - 2029	\$ 2,152,100	\$ -	\$ 2,152,100	10%	\$ 215,210	\$ 1,936,890	\$ -	\$ 1,936,890	\$ -	City-wide
4.1.10 Bank Street South Secondary Plan: Ledbury Park Expansion East (Future Albion Address)	2024 - 2033	\$ 4,000,000	\$ -	\$ 4,000,000	10%	\$ 400,000	\$ 3,600,000	\$ -	\$ 3,600,000	\$ -	City-wide
4.1.11 Lebreton Urban District Park	2024 - 2029	\$ 12,000,000	\$ -	\$ 12,000,000	10%	\$ 1,200,000	\$ 10,800,000	\$ -	\$ 5,400,000	\$ 5,400,000	City-wide
Subtotal District Parks (City-wide)		\$ 84,093,100	\$ 24,837,300	\$ 59,255,800		\$ 5,925,580	\$ 53,330,220	\$ 10,454,788	\$ 34,178,642	\$ 8,696,790	
TOTAL PARKS DEVELOPMENT: CITY-WIDE		\$ 84,093,100	\$ 24,837,300	\$ 59,255,800		\$ 5,925,580	\$ 53,330,220	\$ 10,454,788	\$ 34,178,642	\$ 8,696,790	

APPENDIX C.4

TABLE C.4-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARKS DEVELOPMENT

Project Description	Timing	Gross Project Cost	Grants / Subsidies / CIL / Other*	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
4.0 PARKS DEVELOPMENT: INSIDE GREENBELT											
4.2 Urban Parks											
4.2.1 1770 Heatherington Road - Urban Park West Downtown Core Secondary Plan (Dow's Lake Station): Preston / Carling & Ev	2024 - 2033	\$ 873,900	\$ 621,000	\$ 252,900	10%	\$ 25,290	\$ 227,610	\$ 227,610	\$ -	\$ -	IGB
4.2.2 Tremblay Expansion West Downtown Core Secondary Plan (Corso Italia Station): 933 Gladstone adjacent to 1010 Somerset	2024 - 2033	\$ 3,550,500	\$ 841,000	\$ 2,709,500	10%	\$ 270,950	\$ 2,438,550	\$ 2,438,550	\$ -	\$ -	IGB
4.2.3 West Downtown Core Secondary Plan (Corso Italia Station): 951 Gladstone	2024 - 2033	\$ 562,900	\$ -	\$ 562,900	10%	\$ 56,290	\$ 506,610	\$ -	\$ 506,610	\$ -	IGB
4.2.4 West Downtown Core Secondary Plan (Corso Italia Station): 75 Breezehill	2024 - 2033	\$ 281,500	\$ -	\$ 281,500	10%	\$ 28,150	\$ 253,350	\$ -	\$ 253,350	\$ -	IGB
4.2.5 West Downtown Core Secondary Plan (Corso Italia Station): Rochesterville / 818 Gladstone Piazza Dante Expansion	2024 - 2033	\$ 562,900	\$ -	\$ 562,900	10%	\$ 56,290	\$ 506,610	\$ -	\$ 506,610	\$ -	IGB
4.2.6 West Downtown Core Secondary Plan (Corso Italia Station): Park 5 of 5	2024 - 2033	\$ 422,200	\$ -	\$ 422,200	10%	\$ 42,220	\$ 379,980	\$ -	\$ 379,980	\$ -	IGB
4.2.7 1354-1376 Carling Avenue Urban Parkette	2024 - 2033	\$ 146,400	\$ -	\$ 146,400	10%	\$ 14,640	\$ 131,760	\$ -	\$ 131,760	\$ -	IGB
4.2.8 Inner East Lines 1&3 Stations Secondary Plan (Blair Station): Urban Park 1 of 3	2024 - 2033	\$ 301,200	\$ -	\$ 301,200	10%	\$ 30,120	\$ 271,080	\$ -	\$ 271,080	\$ -	IGB
4.2.9 Inner East Lines 1&3 Stations Secondary Plan (Blair Station): Urban Park 2 of 3	2024 - 2033	\$ 726,200	\$ -	\$ 726,200	10%	\$ 72,620	\$ 653,580	\$ -	\$ 653,580	\$ -	IGB
4.2.10 Inner East Lines 1&3 Stations Secondary Plan (Blair Station): Urban Park 3 of 3	2024 - 2033	\$ 726,200	\$ -	\$ 726,200	10%	\$ 72,620	\$ 653,580	\$ -	\$ 653,580	\$ -	IGB
4.2.11 Inner East Lines 1&3 Stations Secondary Plan (Cyrville Station): PDG Park 1 of 3	2024 - 2033	\$ 726,200	\$ -	\$ 726,200	10%	\$ 72,620	\$ 653,580	\$ -	\$ 653,580	\$ -	IGB
4.2.12 Inner East Lines 1&3 Stations Secondary Plan (Cyrville Station): Ogilvie Park 2 of 3	2024 - 2033	\$ 699,400	\$ 338,000	\$ 361,400	5%	\$ 18,070	\$ 343,330	\$ 343,330	\$ -	\$ -	IGB
4.2.13 Inner East Lines 1&3 Stations Secondary Plan (Cyrville Station): Urban Park 3 of 3	2024 - 2033	\$ 699,400	\$ 342,000	\$ 357,400	5%	\$ 17,870	\$ 339,530	\$ 339,530	\$ -	\$ -	IGB
4.2.14 Inner East Lines 1&3 Stations Secondary Plan (Cyrville Station): Urban Park 3 of 3	2024 - 2033	\$ 1,452,300	\$ 313,000	\$ 1,139,300	5%	\$ 56,965	\$ 1,082,335	\$ 922,167	\$ 160,168	\$ -	IGB
4.2.15 400 Albert Street: Urban Park 1 of 3	2024 - 2033	\$ 85,800	\$ -	\$ 85,800	10%	\$ 8,580	\$ 77,220	\$ -	\$ 77,220	\$ -	IGB
4.2.16 Urban Parks Manual	2024 - 2033	\$ 301,200	\$ -	\$ 301,200	10%	\$ 30,120	\$ 271,080	\$ -	\$ 271,080	\$ -	IGB
4.2.17 Scott Street Secondary Plan: Spencer Park 1 of 3	2024 - 2033	\$ 422,200	\$ -	\$ 422,200	10%	\$ 42,220	\$ 379,980	\$ -	\$ 379,980	\$ -	IGB
4.2.18 Scott Street Secondary Plan: Armstrong Park Expansion 2 of 3	2024 - 2033	\$ 422,200	\$ -	\$ 422,200	10%	\$ 42,220	\$ 379,980	\$ -	\$ 379,980	\$ -	IGB
4.2.19 Scott Street Secondary Plan: Urban Park 3 of 3	2024 - 2033	\$ 1,434,500	\$ -	\$ 1,434,500	10%	\$ 143,450	\$ 1,291,050	\$ -	\$ 1,291,050	\$ -	IGB
4.2.20 Heron Gate: Sandalwood Park 1 of 2	2024 - 2033	\$ 2,329,000	\$ 350,000	\$ 1,979,000	10%	\$ 197,900	\$ 1,781,100	\$ -	\$ 1,781,100	\$ -	IGB
4.2.21 Heron Gate: Baycrest Park 2 of 2	2024 - 2033	\$ 4,221,800	\$ -	\$ 4,221,800	10%	\$ 422,180	\$ 3,799,620	\$ -	\$ 3,799,620	\$ -	IGB
4.2.22 Urban DC Forecourt	2024 - 2033	\$ 1,844,400	\$ 1,231,000	\$ 613,400	10%	\$ 61,340	\$ 552,060	\$ -	\$ 552,060	\$ -	IGB
4.2.23 West Downtown Core Secondary Plan (Bayview Station): 3 Urban Parks	2024 - 2033	\$ 3,492,900	\$ -	\$ 3,492,900	10%	\$ 349,290	\$ 3,143,610	\$ -	\$ 3,143,610	\$ -	IGB
4.2.24 Lincoln Fields Secondary Plan: Carling Park 1 of 3	2024 - 2033	\$ 1,293,800	\$ -	\$ 1,293,800	10%	\$ 129,380	\$ 1,164,420	\$ -	\$ 1,164,420	\$ -	IGB

APPENDIX C.4

TABLE C.4-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARKS DEVELOPMENT

Project Description	Timing	Gross Project Cost	Grants / Subsidies / CIL / Other*	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
4.2.25 Lincoln Fields Secondary Plan: Richmond Park 2 of 3	2024 - 2033	\$ 422,200	\$ -	\$ 422,200	10%	\$ 42,220	\$ 379,980	\$ -	\$ 379,980	\$ -	IGB
4.2.26 Lincoln Fields Secondary Plan: Cleary Park 3 of 3	2024 - 2033	\$ 562,900	\$ -	\$ 562,900	10%	\$ 56,290	\$ 506,610	\$ -	\$ 506,610	\$ -	IGB
West Downtown Core Secondary Plan (Dow's Lake Station): 552 Booth (Norman Rochester Park 1 of 1)	2024 - 2033	\$ 654,400	\$ 465,000	\$ 189,400	10%	\$ 18,940	\$ 170,460	\$ -	\$ 170,460	\$ -	IGB
4.2.28 Elmvale Acres Secondary Plan: Park 1	2024 - 2033	\$ 688,200	\$ -	\$ 688,200	10%	\$ 68,820	\$ 619,380	\$ -	\$ 619,380	\$ -	IGB
4.2.29 Elmvale Acres Secondary Plan: Park 2 (Extension to Park 1)	2024 - 2033	\$ 562,900	\$ -	\$ 562,900	10%	\$ 56,290	\$ 506,610	\$ -	\$ 506,610	\$ -	IGB
4.2.30 Elmvale Acres Secondary Plan: Park 3	2024 - 2033	\$ 914,700	\$ -	\$ 914,700	10%	\$ 91,470	\$ 823,230	\$ -	\$ 823,230	\$ -	IGB
4.2.31 Hurdman & Lees Station TOD Areas: 1 of 5 320 Lees Avenue (2 Robinson)	2024 - 2033	\$ 1,310,200	\$ -	\$ 1,310,200	10%	\$ 131,020	\$ 1,179,180	\$ -	\$ 1,179,180	\$ -	IGB
4.2.32 Hurdman & Lees Station TOD Areas: 2 of 5 Urban Park	2024 - 2033	\$ 1,310,200	\$ -	\$ 1,310,200	10%	\$ 131,020	\$ 1,179,180	\$ -	\$ 1,179,180	\$ -	IGB
4.2.33 Hurdman & Lees Station TOD Areas: 3 of 5 Urban Park	2024 - 2033	\$ 1,310,200	\$ -	\$ 1,310,200	10%	\$ 131,020	\$ 1,179,180	\$ -	\$ 1,179,180	\$ -	IGB
4.2.34 Hurdman & Lees Station TOD Areas: 4 of 5 Urban Park	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	10%	\$ 25,000	\$ 225,000	\$ -	\$ 225,000	\$ -	IGB
4.2.35 Hurdman & Lees Station TOD Areas: 5 of 5 Urban Park	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	10%	\$ 25,000	\$ 225,000	\$ -	\$ 225,000	\$ -	IGB
West Downtown Core Secondary Plan (Pimisi Station and Lebreton Flats): Lett St Park 1 of 1	2024 - 2033	\$ 723,300	\$ -	\$ 723,300	5%	\$ 36,165	\$ 687,135	\$ -	\$ 687,135	\$ -	IGB
4.2.37 Sherbourne and New Orchard Secondary Plan (Sherbourne Station): 30 Cleary Avenue - park requested at the pre-consult	2024 - 2033	\$ 521,700	\$ -	\$ 521,700	5%	\$ 26,085	\$ 495,615	\$ -	\$ 495,615	\$ -	IGB
4.2.38 Sherbourne and New Orchard Secondary Plan (Sherbourne Station): 801 809 Richmond Road	2024 - 2033	\$ 140,700	\$ -	\$ 140,700	5%	\$ 7,035	\$ 133,665	\$ -	\$ 133,665	\$ -	IGB
4.2.39 Sherbourne and New Orchard Secondary Plan (500m to New Orchard Station): 2085 Carling Avenue / Carlingwood redevelopment	2024 - 2033	\$ 112,600	\$ -	\$ 112,600	5%	\$ 5,630	\$ 106,970	\$ -	\$ 106,970	\$ -	IGB
4.2.40 Sherbourne and New Orchard Secondary Plan - 1047 Richmond	2024 - 2033	\$ 281,500	\$ -	\$ 281,500	5%	\$ 14,075	\$ 267,425	\$ -	\$ 267,425	\$ -	IGB
4.2.41 Sherbourne and New Orchard Secondary Plan (700m to New Orchard Station): 2175 Carling - Ancaster Park	2024 - 2033	\$ 140,700	\$ -	\$ 140,700	5%	\$ 7,035	\$ 133,665	\$ -	\$ 133,665	\$ -	IGB
4.2.42 Sherbourne and New Orchard Secondary Plan:	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.2.43 Sherbourne and New Orchard Secondary Plan:	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.2.44 Pincrest-Queensview Secondary Plan Study: 2 parks and 1 Expansion in next 5 years (2029)	2024 - 2033	\$ 2,300,000	\$ -	\$ 2,300,000	10%	\$ 230,000	\$ 2,070,000	\$ -	\$ 2,070,000	\$ -	IGB
4.2.45 Pincrest and Queensview Secondary Plan Study (N of HWY): 3 new parks, 1 park expansion - Ruth Wildgen	2024 - 2033	\$ 3,236,700	\$ -	\$ 3,236,700	10%	\$ 323,670	\$ 2,913,030	\$ -	\$ 2,913,030	\$ -	IGB
4.2.46 Pincrest and Queensview Secondary Plan Study (S of HWY): 3 new parks, 1 park expansion - Parkway Park	2024 - 2033	\$ 3,236,700	\$ -	\$ 3,236,700	10%	\$ 323,670	\$ 2,913,030	\$ -	\$ 2,913,030	\$ -	IGB
4.2.47 St. Laurent Station TOD Plan: 599 Tremblay Rd (development application address)	2024 - 2033	\$ 1,286,200	\$ 700,000	\$ 586,200	5%	\$ 29,310	\$ 556,890	\$ -	\$ 556,890	\$ -	IGB
4.2.48 St. Laurent Station TOD Plan: 400 Coventry Road (St Laurant TOD)	2024 - 2033	\$ 703,600	\$ -	\$ 703,600	5%	\$ 35,180	\$ 668,420	\$ -	\$ 668,420	\$ -	IGB
4.2.49 St. Laurent Station TOD Plan: 500 Coventry Road - St. Laurent TOD/Inner East Lines 1 and 3 Stations Secondary Plan	2024 - 2033	\$ 1,286,200	\$ -	\$ 1,286,200	5%	\$ 64,310	\$ 1,221,890	\$ -	\$ 1,221,890	\$ -	IGB
4.2.50 St. Laurent Station TOD Plan: Park 4 of 4	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.2.51 Tremblay Station TOD Plan: 1330 Avenue K (25 Pickering)	2024 - 2033	\$ 984,400	\$ -	\$ 984,400	5%	\$ 49,220	\$ 935,180	\$ -	\$ 935,180	\$ -	IGB
4.2.52 Tremblay Station TOD Plan: Park 2 of 4	2024 - 2033	\$ 984,400	\$ -	\$ 984,400	5%	\$ 49,220	\$ 935,180	\$ -	\$ 935,180	\$ -	IGB
4.2.53 Tremblay Station TOD Plan: Park 3 of 4	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.2.54 Tremblay Station TOD Plan: Park 4 of 4	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
Subtotal Urban Parks		\$ 53,003,600	\$ 5,201,000	\$ 47,802,600		\$ 4,301,590	\$ 43,501,010	\$ 4,271,187	\$ 39,229,823	\$ -	

APPENDIX C.4

TABLE C.4-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARKS DEVELOPMENT

Project Description	Timing	Gross Project Cost	Grants / Subsidies / CIL / Other*	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
4.3 New Urban Parks											
4.3.1 Central and East Downtown Core Secondary Plan: 267 O'Connor (expansion of POPs)	2024 - 2033	\$ 500,000	\$ -	\$ 500,000	5%	\$ 25,000	\$ 475,000	\$ -	\$ 475,000	\$ -	IGB
4.3.1 Bank Street South Secondary Plan: Riverside to CN Rail - Greenway Linear Park	2024 - 2033	\$ 1,103,000	\$ -	\$ 1,103,000	5%	\$ 55,150	\$ 1,047,850	\$ -	\$ 1,047,850	\$ -	IGB
4.3.1 Bank Street South Secondary Plan: Billings Bridge	2024 - 2033	\$ 1,103,000	\$ -	\$ 1,103,000	5%	\$ 55,150	\$ 1,047,850	\$ -	\$ 1,047,850	\$ -	IGB
4.3.1 South Keys Secondary Plan: 2200 Bank Street (South Phase): Transit Plaza	2024 - 2033	\$ 1,635,378	\$ -	\$ 1,635,378	5%	\$ 81,769	\$ 1,553,609	\$ -	\$ 1,553,609	\$ -	IGB
4.3.1 1451 Wellington Street / 355 Island Park Drive (Rockhurst Parkette)	2024 - 2033	\$ 189,800	\$ -	\$ 189,800	5%	\$ 9,490	\$ 180,310	\$ -	\$ 180,310	\$ -	IGB
4.3.1 70 / 80 Woodridge Crescent (Bayshore Station)	2029 - 2029	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 2946 Baseline Brigil	2029 - 2029	\$ 800,000	\$ -	\$ 800,000	5%	\$ 40,000	\$ 760,000	\$ -	\$ 760,000	\$ -	IGB
4.3.1 1500 Merivale Road Claridge	2028 - 2028	\$ 1,185,800	\$ -	\$ 1,185,800	5%	\$ 59,290	\$ 1,126,510	\$ -	\$ 1,126,510	\$ -	IGB
4.3.1 780 Baseline Road Theberge Homes	2029 - 2029	\$ 337,900	\$ -	\$ 337,900	5%	\$ 16,895	\$ 321,005	\$ -	\$ 321,005	\$ -	IGB
4.3.1 Chapel St-parkette	2024 - 2033	\$ 101,700	\$ -	\$ 101,700	5%	\$ 5,085	\$ 96,615	\$ -	\$ 96,615	\$ -	IGB
4.3.1 200 Barribeau (addition to St Ambrose Park)	2025 - 2025	\$ 286,200	\$ -	\$ 286,200	5%	\$ 14,310	\$ 271,890	\$ -	\$ 271,890	\$ -	IGB
4.3.1 Montreal and Selkirk	2024 - 2033	\$ 355,100	\$ -	\$ 355,100	5%	\$ 17,755	\$ 337,345	\$ -	\$ 337,345	\$ -	IGB
4.3.1 112 Montreal	2024 - 2033	\$ 266,900	\$ -	\$ 266,900	5%	\$ 13,345	\$ 253,555	\$ -	\$ 253,555	\$ -	IGB
4.3.1 Manor Park 1/2-south (Manor Park SP)	2028 - 2028	\$ 2,044,500	\$ -	\$ 2,044,500	5%	\$ 102,225	\$ 1,942,275	\$ -	\$ 1,942,275	\$ -	IGB
4.3.1 Manor Park 2/2-north (Manor Park SP)	2029 - 2029	\$ 1,549,500	\$ -	\$ 1,549,500	5%	\$ 77,475	\$ 1,472,025	\$ -	\$ 1,472,025	\$ -	IGB
4.3.1 1081 Carling Avenue	2029 - 2029	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 1705 Carling	2024 - 2024	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 320 McCrae	2024 - 2024	\$ 336,000	\$ -	\$ 336,000	5%	\$ 16,800	\$ 319,200	\$ -	\$ 319,200	\$ -	IGB
4.3.1 Lion's Park expansion (150m to westboro station)	2025 - 2025	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 861 Clyde - new park along Clyde	2029 - 2029	\$ 581,100	\$ -	\$ 581,100	5%	\$ 29,055	\$ 552,045	\$ -	\$ 552,045	\$ -	IGB
4.3.1 Riverside and Hunt Club - New Park extension and trail	2024 - 2033	\$ 1,000,000	\$ -	\$ 1,000,000	5%	\$ 50,000	\$ 950,000	\$ -	\$ 950,000	\$ -	IGB
4.3.1 1640-1660 Carling Avenue - new park at Carling and Clyde (Canadian Tire)	2029 - 2029	\$ 1,094,600	\$ -	\$ 1,094,600	5%	\$ 54,730	\$ 1,039,870	\$ -	\$ 1,039,870	\$ -	IGB
4.3.1 3071 / 3095 Riverside Drive	2025 - 2025	\$ 1,291,300	\$ -	\$ 1,291,300	5%	\$ 64,565	\$ 1,226,735	\$ -	\$ 1,226,735	\$ -	IGB
4.3.1 299 Carling CLC	2026 - 2026	\$ 236,700	\$ -	\$ 236,700	5%	\$ 11,835	\$ 224,865	\$ -	\$ 224,865	\$ -	IGB
4.3.1 1600 James Naismith	2024 - 2033	\$ 818,300	\$ -	\$ 818,300	5%	\$ 40,915	\$ 777,385	\$ -	\$ 777,385	\$ -	IGB
4.3.1 2510 St Laurent	2024 - 2033	\$ 1,134,200	\$ -	\$ 1,134,200	5%	\$ 56,710	\$ 1,077,490	\$ -	\$ 1,077,490	\$ -	IGB
4.3.1 1765 Montreal & 9 Beckham	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 Central and East Downtown Core Secondary Plan: 381 Kent Street	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 265 Catherine Street	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 335 Roosevelt Avenue	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 1919 / 1967 Riverside Drive	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 1495 Heron Road	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 1244 Kilborn Avenue	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 1740 / 1754 / 1760 St-Laurent Boulevard	2024 - 2033	\$ 250,000	\$ -	\$ 250,000	5%	\$ 12,500	\$ 237,500	\$ -	\$ 237,500	\$ -	IGB
4.3.1 LeBretton Lett St park	2024 - 2033	\$ 500,000	\$ -	\$ 500,000	5%	\$ 25,000	\$ 475,000	\$ -	\$ 475,000	\$ -	IGB
Subtotal New Urban Parks		\$ 21,450,978	\$ -	\$ 21,450,978		\$ 1,072,549	\$ 20,378,429	\$ -	\$ 20,378,429	\$ -	
TOTAL PARKS DEVELOPMENT: INSIDE GREENBELT		\$ 74,454,578	\$ 5,201,000	\$ 69,253,578		\$ 5,374,139	\$ 63,879,439	\$ 4,271,187	\$ 59,608,252	\$ -	

* Includes grants, subsidies, prior DC spending, other contributions as well as CIL funding is used, in part, to fund BTE shares of projects.

TOTAL PARKS DEVELOPMENT	\$ 158,547,678	\$ 30,038,300.0	\$ 128,509,378	\$ 11,299,719	\$ 117,209,659	\$ 14,725,975	\$ 93,786,894	\$ 8,696,790	
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APPENDIX C.4
TABLE C.4-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARKS DEVELOPMENT

Cost Allocation By Benefiting Area			
Residential Calculation			
Inside the Greenbelt Residential Calculation			
Residential Share of Eligible Costs	95%	\$	56,627,840
10 Year Population Growth			67,243
Charge per Capita			\$842.14
Outside the Greenbelt Residential Calculation			
Residential Share of Eligible Costs	95%	\$	-
10 Year Population Growth			103,007
Charge per Capita			\$0.00
Rural Residential Calculation			
Residential Share of Eligible Costs	95%	\$	-
10 Year Population Growth			21,166
Charge per Capita			\$0.00
Non-Residential Calculation			
Non-Residential Share of Eligible Costs			\$2,980,413
10 Year Non-Residential Growth in GFA (m2)			2,126,261
Charge per Square Metre			\$1.40

City-wide Cost Allocations (Residential and Non-Residential)			
Residential Calculation			
Residential Share of Eligible Costs	95%	\$	32,469,710
10 Year Employment Growth			205,888
Unadjusted Per Unit Charge			\$157.71
Non-Residential Calculation			
Non-Residential Share of Eligible Costs	5%	\$	1,708,932
10 Year Non-Residential Growth in GFA (m2)			2,126,261
Charge per Square Metre			\$0.80

Available DC Reserve Fund Balance			
	Total	Amount Used	Remaining
City-wide	\$10,454,788	\$10,454,788	\$0
IGB	\$4,271,187	\$4,271,187	\$0
OGB	\$0	\$0	\$0
Rural	\$0	\$0	\$0
Total	\$14,725,975	\$14,725,975	\$0

(1) Portion of OGB and Rural available reserve fund balance is applied to City-wide projects

2024 - 2033 Net Funding Envelope	\$446,313,426
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Appendix C.5

Recreation Facilities

Appendix C.5 – Recreation Facilities Technical Appendix

Recreation services are provided to residents in the City through a range of facilities including recreation complexes; community centres and buildings; fieldhouses; indoor pool, ice pad and soccer facilities, outdoor skate parks and pools; stadiums and a sportsfield.

This appendix provides a brief outline of historical service levels for Recreation Facilities services, the 2024–2033 development-related capital forecast and calculation of the development charges. The cost, quantum and timing of the projects identified in the forecast are based on the projects identified in the 2014 and 2019 (Interim) DC Background Studies, adjusted to account for expenditures and increases in project costs (i.e. indexing). The projects are further informed based on Council-approved capital budgets and Parks and Recreation Facilities Master Plan.

The following discusses the individual components included in the Recreation Facilities service category. The analysis is set out in the tables which follow and include:

Table C.5-1 Historical Service Levels and Calculation of 15-Year Average Service Level

Table C.5-2 2019–2029 Development-Related Capital Forecast and Calculation of the Growth-Related Net Capital Costs

A. Benefitting Area

The City's Recreation Facilities development charges is calculated on both a City-wide and area-specific basis. The smaller benefitting areas are defined as: IGB, OGB and Rural area.

B. Historical Service Levels and Calculation of 15-Year Average Service Levels and Maximum Allowable Charges

The replacement costs for Recreation Facilities are based on recent estimates provided by City staff. Consistent with the City’s prior DC Background Studies, no land has been included in the historical inventory calculation.

Table C.5-1 provides a summary of the level of service and the calculation of the 15-year historical service level. The calculation of the maximum allowable funding envelope is summarized as follows:

Ten-Year Funding Envelope Calculation

Average Service Level per Capita (2009 – 2023)	\$3,577.86
Net Population Growth (2024 – 2033)	157,2234
Maximum Allowable Funding Envelope	\$562,561,239

The existing facilities have been examined and consideration has been given to whether “excess capacity” exists within the City’s infrastructure that may be available to partially meet future servicing requirements. It has been determined that no “uncommitted excess capacity” exists within the City’s parks infrastructure, and as such, no adjustments have been made to the service level calculations.

C. The Development-Related Capital Program

The 2024–2033 development-related capital forecast includes a variety of projects for the provision of Recreation Facilities in the City and amounts to a total gross cost of \$673.7 million. The projects identified in the capital forecast will result, in whole or in part, in increased capacity to meet the servicing needs of new development over the planning period.

The capital program provides for new outdoor aquatic facilities, indoor skate parks and studies that will provide a benefit to development occurring on a City-wide basis. Consistent with the City's historical practice, smaller recreation facilities that provide a more localized benefit (e.g. community centres) are recovered based on smaller geographic areas.

The capital program also includes for the recovery of principal and interest payments related to the construction of existing Recreation Facilities. In accordance with the DCA, eligible capital expenditures include costs incurred or to be incurred by a municipality and can include interest on money borrowed (s.5(3)). This category includes projects identified in previous Development Charge By-laws with committed funding that are completed or will be completed in the future.

Paragraph 5 of s.s.5(1) of the DCA requires a deduction from the increase in the need for service attributable to the anticipated development that can be met using the City's "excess capacity" that is "uncommitted". "Excess capacity" is undefined in the DCA but is considered to relate to the capacity available to meet some or all the increase in need for service in order to potentially represent a deduction. It is recognized that no "surplus" of capacity exists within Recreation Facilities services as the deduction of uncommitted excess capacity would occur as part of the conceptual planning and feasibility work associated with planning new facilities.

D. Calculation of Development-Related Capital Costs

i. Grants, Subsidies, CIL and Other Recoveries

Grants and subsidies of \$51.8 million have been identified for the Recreation Facilities capital program. A grant of \$19.2 million has been identified for the Barhaven Town Centre Civic Complex, which is a City-wide facility. An additional \$27.4 million in grants has been identified for IGB, \$3.6 million for

OGB, and \$1.6 million for Rural. This amount includes CIL contributions to assets that are in part used to fund benefit to existing shares of projects.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for reductions. The identified benefit to exiting shares include costs that meet the needs of existing development, including past development. Shares have been deducted from the net cost of projects that account for portions of the overall cost that relate to state of good repair or the replacement or reconstruction of existing facilities.

The benefit to existing shares are consistent with the approach utilized in the 2014 and 2019 DC Background Studies. For example, a minimum of a 5% BTE share has been applied to new community centre space. For larger facilities that are intended to meet both existing and future needs, a higher BTE share has been applied. It should be noted that the identified debenture payments are entirely related to new development, as these only address net growth-related capital costs.

The Riverside South Recreation Complex Construction reflects a 5% BTE. For the purposes of the DC study calculations, the existing reserve funds are assumed to be paying for space and/or servicing capacity, which is in addition to this requirement and relates to development that occurred prior to the passage of the 2024 DC by-law (“prior growth”) that has paid DCs but has yet to receive new facilities. As such, a significant portion of the Riverside South Recreation Complex (\$88.8 million) is funded from the City’s available reserve fund balance for OGB.

In total, \$93.8 million is identified as the replacement and benefit to existing share. These costs will not be funded from future DC requirements.

iii. Prior Growth

Available DC reserve funds have been applied to projects occurring within the identified planning period. Table C.5-2 provides details on the available DC reserve fund balance, the amount used and the amount of funding remaining

In total, \$12.2 million in available DC reserve funds have been removed from City-wide DC eligible costs, \$93.2 million has been removed from OGB DC eligible costs and \$1.4 million has been removed from Rural DC eligible costs.

iv. Post-2033 Benefit

The DC eligible costs included in the Recreation Facilities capital program is well below the maximum permissible funding envelope of \$562.6 million (shown in Table C.5-1 and C.5-2). Some of the projects, however, have been deemed to provide benefit beyond the 2033 planning period and \$107.4 million has been removed from the DC calculation to be recovered under future DCs.

v. 2024-2033 In-Period Eligible Costs

After these adjustments, a total of \$313.9 million is included in the development charge calculation.

E. Calculation of Residential and Non-Residential Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The development-related costs have generally been allocated 95% to residential development, as these facilities are primarily provided and planned for the residential community. A nominal 5% allocation is made for non-residential development recognizing that Recreation Facilities are used by employees working within the City of Ottawa.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring City-wide, IGB, OGB and Rural areas. The “residual” shown in the area-specific non-residential summary represents the sum of the costs remaining once the residential allocations have been made to the benefitting areas.

These costs allocations and DC rate calculations are presented in Table C.5-2.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
Inside the Greenbelt	95%	\$40,478,450
Outside the Greenbelt	95%	\$54,257,493
Rural	95%	\$572,467
City Wide	95%	\$202,871,458
Subtotal Residential		\$289,179,868
Non-Residential		
Area-Specific	Residual	\$5,106,232
City-wide	5%	\$10,677,445
Subtotal Non-Residential		\$15,693,677
Total:		\$313,873,545

F. Development Charge Calculation

Consistent with the City’s historical practice, an average cost methodology has been used to calculate development charges for the City’s general services included in this appendix.

The following table provides a summary of the residential and non-residential Recreation Facilities development charges for each of the identified benefitting areas.

Residential and Non-Residential Development Charges

Benefitting Area	Measure	Calculated DC
Residential		
Inside the Greenbelt	\$/capita	\$601.97
Outside the Greenbelt	\$/capita	\$461.66
Rural	\$/capita	\$27.05
City Wide	\$/capita	\$985.35
Non-Residential		
Area-Specific	\$/square metre	\$2.36
City-wide	\$/square metre	\$5.02
Total Non-Residential \$/m²		\$7.38

APPENDIX C.5
TABLE C.5-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
RECREATION FACILITIES

BUILDINGS Facility Name	# of Square Feet															UNIT COST (\$/sq. ft.)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Recreation Complex	1,681,168	1,681,168	1,696,238	1,696,238	1,819,220	1,819,220	2,119,220	2,119,220	2,130,320	2,130,320	2,130,320	2,130,320	2,130,320	2,130,320	2,130,320	\$700
Community Centre	882,000	898,250	914,400	922,220	922,220	922,220	922,220	927,720	928,900	932,200	934,934	934,934	934,934	934,934	934,934	\$1,004
Community Building	52,863	52,863	52,863	52,863	55,875	55,875	55,875	55,875	56,650	56,650	60,150	60,150	60,150	64,350	69,650	\$1,343
Fieldhouse	180,683	180,683	183,912	183,912	183,912	183,912	183,912	184,287	184,287	184,287	184,287	184,287	184,287	184,287	185,387	\$1,364
Indoor Pool	502,680	506,575	506,575	506,575	506,575	506,575	506,575	506,575	506,575	506,575	506,575	506,575	506,575	506,575	506,575	\$700
Indoor Ice Pad	56,725	56,725	56,725	56,725	56,725	56,725	56,725	56,725	75,405	75,405	75,405	75,405	82,326	82,326	82,326	\$888
Indoor Soccer	142,200	142,200	142,200	142,200	142,200	142,200	142,200	142,200	142,200	142,200	142,200	142,200	142,200	142,200	142,200	\$100
Outdoor District Skateboard Park	39,720	39,720	39,720	39,720	51,850	59,650	59,650	69,850	69,850	69,850	69,850	69,850	69,850	69,850	69,850	\$0
Outdoor Pool	10,835	10,835	10,835	10,835	10,835	10,835	10,835	10,835	10,835	10,835	27,543	27,543	27,543	27,543	44,251	\$300
Stadium	440,420	440,420	440,420	440,420	440,420	440,420	440,420	440,420	440,420	440,420	440,420	440,420	440,420	440,420	440,420	\$700
Sportsfield (Lansdowne)	72,647	72,647	72,647	72,647	72,647	72,647	72,647	72,647	72,647	72,647	72,647	72,647	72,647	72,647	72,647	\$100
Total (sq.ft.)	4,061,941	4,082,086	4,116,535	4,124,355	4,262,479	4,270,279	4,570,279	4,586,354	4,618,089	4,621,389	4,644,331	4,644,331	4,651,252	4,655,452	4,678,560	
Total (\$000)	\$3,115,279.5	\$3,134,325.8	\$3,165,497.5	\$3,173,351.1	\$3,263,483.6	\$3,263,483.6	\$3,473,483.6	\$3,479,518.6	\$3,506,106.1	\$3,509,420.3	\$3,521,878.9	\$3,521,878.9	\$3,528,026.2	\$3,533,666.8	\$3,547,297.1	

APPENDIX C.5
TABLE C.5-1

CITY OF OTTAWA
CALCULATION OF SERVICE LEVELS
RECREATION FACILITIES

Historical Population	2009 854,165	2010 868,655	2011 883,391	2012 893,335	2013 903,391	2014 913,560	2015 923,844	2016 934,243	2017 951,102	2018 968,265	2019 985,738	2020 1,003,526	2021 1,021,635	2022 1,038,426	2023 1,056,221
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INVENTORY SUMMARY (\$000)

Buildings	\$3,115,279.5	\$3,134,325.8	\$3,165,497.5	\$3,173,351.1	\$3,263,483.6	\$3,263,483.6	\$3,473,483.6	\$3,479,518.6	\$3,506,106.1	\$3,509,420.3	\$3,521,878.9	\$3,521,878.9	\$3,528,026.2	\$3,533,666.8	\$3,547,297.1
Total (\$000)	\$3,115,279.5	\$3,134,325.8	\$3,165,497.5	\$3,173,351.1	\$3,263,483.6	\$3,263,483.6	\$3,473,483.6	\$3,479,518.6	\$3,506,106.1	\$3,509,420.3	\$3,521,878.9	\$3,521,878.9	\$3,528,026.2	\$3,533,666.8	\$3,547,297.1

SERVICE LEVEL (\$/pop)

Buildings	\$3,647.16	\$3,608.25	\$3,583.35	\$3,552.25	\$3,612.48	\$3,572.27	\$3,759.82	\$3,724.43	\$3,686.36	\$3,624.44	\$3,572.83	\$3,509.50	\$3,453.31	\$3,402.91	\$3,358.48	\$3,577.86
Total (\$/pop)	\$3,647.16	\$3,608.25	\$3,583.35	\$3,552.25	\$3,612.48	\$3,572.27	\$3,759.82	\$3,724.43	\$3,686.36	\$3,624.44	\$3,572.83	\$3,509.50	\$3,453.31	\$3,402.91	\$3,358.48	\$3,577.86

Average
Service
Level

CITY OF OTTAWA
CALCULATION OF MAXIMUM ALLOWABLE
RECREATION FACILITIES

10-Year Funding Envelope Calculation	
15 Year Average Service Level 2009 - 2023	\$3,577.86
Net Population Growth 2024 - 2033	157,234
Maximum Allowable Funding Envelope	\$562,561,239

APPENDIX C.5

TABLE C.5-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
RECREATION FACILITIES

Project Description	Timing	Gross Project Cost	Grants / Subsidies / CIL / Other*	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
5.0 RECREATION FACILITIES: CITY-WIDE											
5.1 City-wide Facilities											
5.1.1 Outdoor Aquatic Facility	2024 - 2029	\$ 3,248,000	\$ -	\$ 3,248,000	79%	\$ 2,565,920	\$ 682,080	\$ 682,080	\$ -	\$ -	City-wide
5.1.2 Outdoor Aquatic Facility	2024 - 2029	\$ 3,248,000	\$ -	\$ 3,248,000	10%	\$ 324,800	\$ 2,923,200	\$ 2,923,200	\$ -	\$ -	City-wide
5.1.3 Indoor Major Aquatic Facility	2024 - 2029	\$ 54,600,000	\$ -	\$ 54,600,000	45%	\$ 24,570,000	\$ 30,030,000	\$ 8,569,717	\$ 21,460,283	\$ -	City-wide
5.1.4 Cricket (Millenium)	2024 - 2029	\$ 500,000	\$ -	\$ 500,000	10%	\$ 50,000	\$ 450,000	\$ -	\$ 450,000	\$ -	City-wide
5.1.5 Barhaven Town Centre Civic Complex	2024 - 2029	\$ 66,310,144	\$ 19,219,144	\$ 47,091,000	10%	\$ 4,709,100	\$ 42,381,900	\$ -	\$ 42,381,900	\$ -	City-wide
5.1.6 Barhaven Town Centre Civic Complex - Land Acquisition	2024 - 2029	\$ 13,500,000	\$ -	\$ 13,500,000	10%	\$ 1,350,000	\$ 12,150,000	\$ -	\$ 12,150,000	\$ -	City-wide
5.1.7 Recreation Complex - 1 new Queensview (160,000 sq feet)	2026 - 2033	\$ 112,000,000	\$ -	\$ 112,000,000	10%	\$ 11,200,000	\$ 100,800,000	\$ -	\$ -	\$ 100,800,000	City-wide
5.1.8 Community Centre- 3 new (25,000 sq feet each)	2024 - 2033	\$ 52,040,800	\$ -	\$ 52,040,800	10%	\$ 5,204,080	\$ 46,836,720	\$ -	\$ 46,836,720	\$ -	City-wide
5.1.9 Indoor Ice Pad - 2 new twin arenas (70,000 sq feet each)	2024 - 2033	\$ 97,300,000	\$ -	\$ 97,300,000	10%	\$ 9,730,000	\$ 87,570,000	\$ -	\$ 87,570,000	\$ -	City-wide
5.1.10 Outdoor District Skateboard Park-2 within DP	2024 - 2033	\$ 3,000,000	\$ -	\$ 3,000,000	10%	\$ 300,000	\$ 2,700,000	\$ -	\$ 2,700,000	\$ -	City-wide
Subtotal City-wide Facilities		\$ 405,746,944	\$ 19,219,144	\$ 386,527,800		\$ 60,003,900	\$ 326,523,900	\$ 12,174,997	\$ 213,548,903	\$ 100,800,000	
TOTAL RECREATION FACILITIES: CITY-WIDE		\$ 405,746,944	\$ 19,219,144	\$ 386,527,800		\$ 60,003,900	\$ 326,523,900	\$ 12,174,997	\$ 213,548,903	\$ 100,800,000	

APPENDIX C.5

TABLE C.5-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
RECREATION FACILITIES

Project Description	Timing	Gross Project Cost	Grants / Subsidies / CIL / Other*	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
5.0 RECREATION FACILITIES: INSIDE GREENBELT											
5.2 Recovery of Negative DC Reserve balance											
5.2.1 As of December 2023	2024 - 2024	\$ 9,191,041	\$ -	\$ 9,191,041	0%	\$ -	\$ 9,191,041	\$ -	\$ 9,191,041	\$ -	IGB
Subtotal Recovery of Negative DC Reserve balance		\$ 9,191,041	\$ -	\$ 9,191,041		\$ -	\$ 9,191,041	\$ -	\$ 9,191,041	\$ -	
5.3 Outstanding Debentures - Principal and Interest											
5.3.1 903417 Albion Heatherington CC Expansion By-Law 2013-323	2024 - 2033	\$ 119,551	\$ -	\$ 119,551	0%	\$ -	\$ 119,551	\$ -	\$ 119,551	\$ -	IGB
5.3.2 903718 Hunt Club / Riverside Expansion By-Law 2013-323	2024 - 2033	\$ 239,102	\$ -	\$ 239,102	0%	\$ -	\$ 239,102	\$ -	\$ 239,102	\$ -	IGB
5.3.3 903718 Hunt Club/Riverside Expansion By-Law 2017-258	2024 - 2033	\$ 52,960	\$ -	\$ 52,960	0%	\$ -	\$ 52,960	\$ -	\$ 52,960	\$ -	IGB
Subtotal Outstanding Debentures - Principal and Interest		\$ 411,613	\$ -	\$ 411,613		\$ -	\$ 411,613	\$ -	\$ 411,613	\$ -	
5.4 Area-Specific Facilities											
5.4.1 Pinecrest Community Centre Expansion (12,000 SF)	2024 - 2029	\$ 12,945,800	\$ -	\$ 12,945,800	70%	\$ 9,062,060	\$ 3,883,740	\$ -	\$ 3,883,740	\$ -	IGB
5.4.2 Community Centre - Central (Ottawa East - 25,500 SF)	2024 - 2029	\$ 17,346,000	\$ 10,500,000	\$ 6,846,000	45%	\$ 3,080,700	\$ 3,765,300	\$ -	\$ 3,765,300	\$ -	IGB
5.4.3 Community Centre Space Upgrades - Alexander	2024 - 2029	\$ 11,801,000	\$ 8,574,666	\$ 3,226,334	45%	\$ 1,451,850	\$ 1,774,484	\$ -	\$ 1,774,484	\$ -	IGB
5.4.4 Field House - Wateridge Village	2024 - 2029	\$ 2,900,000	\$ 1,500,000	\$ 1,400,000	5%	\$ 70,000	\$ 1,330,000	\$ -	\$ 1,330,000	\$ -	IGB
5.4.5 Community Centre Space Upgrades - Sawmill Creek	2029 - 2033	\$ 5,901,000	\$ 4,257,334	\$ 1,643,666	45%	\$ 739,650	\$ 904,016	\$ -	\$ 904,016	\$ -	IGB
5.4.6 Sandy Hill CC- Expansion	2029 - 2033	\$ 10,500,000	\$ -	\$ 10,500,000	70%	\$ 7,350,000	\$ 3,150,000	\$ -	\$ 3,150,000	\$ -	IGB
5.4.7 Frank Ryan Fieldhouse Redevelopment & Expansion	2024 - 2029	\$ 3,000,000	\$ 254,000	\$ 2,746,000	45%	\$ 1,235,700	\$ 1,510,300	\$ -	\$ 1,510,300	\$ -	IGB
5.4.8 Woodroffe Fieldhouse redevelopment	2024 - 2029	\$ 3,000,000	\$ 340,000	\$ 2,660,000	45%	\$ 1,197,000	\$ 1,463,000	\$ -	\$ 1,463,000	\$ -	IGB
5.4.9 Heron Park Fieldhouse redevelopment	2024 - 2029	\$ 3,900,000	\$ 2,000,000	\$ 1,900,000	49%	\$ 924,599	\$ 975,401	\$ -	\$ 975,401	\$ -	IGB
5.4.10 Community Building-3 new (3,500 sq feet each)	2024 - 2033	\$ 8,000,000	\$ -	\$ 8,000,000	5%	\$ 400,000	\$ 7,600,000	\$ -	\$ 7,600,000	\$ -	IGB
5.4.11 Community Building - Lebreton Park Service Building	2024 - 2033	\$ 3,000,000	\$ -	\$ 3,000,000	5%	\$ 150,000	\$ 2,850,000	\$ -	\$ 2,850,000	\$ -	IGB
5.4.12 Fieldhouse 3 @ (1722 sq feet each)	2024 - 2033	\$ 4,000,000	\$ -	\$ 4,000,000	5%	\$ 200,000	\$ 3,800,000	\$ -	\$ 3,800,000	\$ -	IGB
Subtotal Area-Specific Facilities		\$ 86,293,800	\$ 27,426,000	\$ 58,867,800		\$ 25,861,559	\$ 33,006,241	\$ -	\$ 33,006,241	\$ -	
TOTAL RECREATION FACILITIES: INSIDE GREENBELT		\$ 95,896,454	\$ 27,426,000	\$ 68,470,454		\$ 25,861,559	\$ 42,608,895	\$ -	\$ 42,608,895	\$ -	

APPENDIX C.5
TABLE C.5-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
RECREATION FACILITIES

Project Description	Timing	Gross Project Cost	Grants / Subsidies / CIL / Other*	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
5.0 RECREATION FACILITIES: OUTSIDE GREENBELT											
5.5 Area-Specific Facilities											
5.5.1 Riverside South Recreation Complex Construction	2024 - 2029	\$ 96,016,000	\$ 2,500,000	\$ 93,516,000	5%	\$ 4,675,800	\$ 88,840,200	\$ 88,840,200	\$ -	\$ -	OGB
5.5.2 Community Centre - East (EUC)	2029 - 2033	\$ 14,700,000	\$ 1,050,000	\$ 13,650,000	5%	\$ 682,500	\$ 12,967,500	\$ 4,397,076	\$ 8,570,424	\$ -	OGB
5.5.3 Community Centre - West (25,500 SF)	2024 - 2033	\$ 19,334,000	\$ -	\$ 19,334,000	5%	\$ 966,700	\$ 18,367,300	\$ -	\$ 18,367,300	\$ -	OGB
Subtotal Area-Specific Facilities		\$ 130,050,000	\$ 3,550,000	\$ 126,500,000		\$ 6,325,000	\$ 120,175,000	\$ 93,237,276	\$ 26,937,724	\$ -	
5.6 Outstanding Debentures - Principal and Interest											
5.6.1 Riverside South Community Centre	2024 - 2033	\$ 13,270,519	\$ -	\$ 13,270,519	0%	\$ -	\$ 13,270,519	\$ -	\$ 6,635,260	\$ 6,635,260	OGB
5.6.2 Minto Recreation Complex	2024 - 2033	\$ 8,669,409	\$ -	\$ 8,669,409	0%	\$ -	\$ 8,669,409	\$ -	\$ 8,669,409	\$ -	OGB
5.6.3 903625 S.E. Nepean Complex Land By-Law 2012-282	2024 - 2033	\$ 1,995,824	\$ -	\$ 1,995,824	0%	\$ -	\$ 1,995,824	\$ -	\$ 1,995,824	\$ -	IGB
5.6.4 903613 Goulbourn CC Expansion By-Law 2013-323	2024 - 2033	\$ 1,075,959	\$ -	\$ 1,075,959	0%	\$ -	\$ 1,075,959	\$ -	\$ 1,075,959	\$ -	OGB
5.6.5 903620 Kanata North Complex Land By-Law 2013-323	2024 - 2033	\$ 1,793,265	\$ -	\$ 1,793,265	0%	\$ -	\$ 1,793,265	\$ -	\$ 1,793,265	\$ -	OGB
5.6.6 904373 Kanata North Recreations Centre By-Law 2013-323	2024 - 2033	\$ 5,499,346	\$ -	\$ 5,499,346	0%	\$ -	\$ 5,499,346	\$ -	\$ 5,499,346	\$ -	OGB
5.6.7 904373 North Kanata Recreation Complex By-Law 2017-258	2024 - 2033	\$ 962,611	\$ -	\$ 962,611	0%	\$ -	\$ 962,611	\$ -	\$ 962,611	\$ -	OGB
5.6.8 902168 - CLS*Indoor Pools - Growth (OSGB) (Tax DC Component)	2024 - 2033	\$ 3,543,752	\$ -	\$ 3,543,752	0%	\$ -	\$ 3,543,752	\$ -	\$ 3,543,752	\$ -	OGB
Subtotal Outstanding Debentures - Principal and Interest		\$ 36,810,686	\$ -	\$ 36,810,686		\$ -	\$ 36,810,686	\$ -	\$ 30,175,426	\$ 6,635,260	
TOTAL RECREATION FACILITIES: OUTSIDE GREENBELT		\$ 166,860,686	\$ 3,550,000	\$ 163,310,686		\$ 6,325,000	\$ 156,985,686	\$ 93,237,276	\$ 57,113,150	\$ 6,635,260	

Project Description	Timing	Gross Project Cost	Grants / Subsidies / CIL / Other*	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
5.0 RECREATION FACILITIES: RURAL											
5.7 Area-Specific Facilities											
5.7.1 Community Building - Rural East (3,000 SF)	2024 - 2029	\$ 2,524,000	\$ -	\$ 2,524,000	45%	\$ 1,135,800	\$ 1,388,200	\$ 785,603	\$ 602,597	\$ -	Rural
5.7.2 Community Building - Rural West Corkery (3,000 SF)	2024 - 2029	\$ 2,663,000	\$ 1,600,000	\$ 1,063,000	45%	\$ 478,350	\$ 584,650	\$ 584,650	\$ -	\$ -	Rural
Subtotal Area-Specific Facilities		\$ 5,187,000	\$ 1,600,000	\$ 3,587,000		\$ 1,614,150	\$ 1,972,850	\$ 1,370,253	\$ 602,597	\$ -	
TOTAL RECREATION FACILITIES: RURAL		\$ 5,187,000	\$ 1,600,000	\$ 3,587,000		\$ 1,614,150	\$ 1,972,850	\$ 1,370,253	\$ 602,597	\$ -	

* Includes grants, subsidies, prior DC spending, other contributions as well as CIL funding is used, in part, to fund BTE shares of projects.

TOTAL ALL AREAS		\$ 673,691,083	\$ 51,795,144	\$ 621,895,939	0%	\$ 93,804,609	\$ 528,091,330	\$ 106,782,526	\$ 313,873,545	\$ 107,435,260	
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APPENDIX C.5

TABLE C.5-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
RECREATION FACILITIES

Cost Allocation By Benefiting Area			
Residential Calculation			
<i>Inside the Greenbelt Residential Calculation</i>			
Residential Share of Eligible Costs	95%	\$	40,478,450
10 Year Population Growth			67,243
Charge per Capita			\$601.97
<i>Outside the Greenbelt Residential Calculation</i>			
Residential Share of Eligible Costs	95%	\$	54,257,493
10 Year Population Growth			117,528
Charge per Capita			\$461.66
<i>Rural Residential Calculation</i>			
Residential Share of Eligible Costs	95%	\$	572,467
10 Year Population Growth			21,166
Charge per Capita			\$27.05
Non-Residential Calculation			
Non-Residential Share of Eligible Costs		\$	5,016,232
10 Year Non-Residential Growth in GFA (m2)			2,126,261
Charge per Square Metre			\$2.36

City-wide Cost Allocations (Residential and Non-Residential)			
Residential Calculation			
Residential Share of Eligible Costs	95%	\$	202,871,458
10 Year Employment Growth			205,888
Unadjusted Per Unit Charge			\$985.35
Non-Residential Calculation			
Non-Residential Share of Eligible Costs	5%	\$	10,677,445
10 Year Non-Residential Growth in GFA (m2)			2,126,261
Charge per Square Metre			\$5.02

Available DC Reserve Fund Balance			
	Total	Amount Used	Remaining
City-wide	\$12,174,997	\$12,174,997	\$0
IGB	(\$9,191,041)	(\$9,191,041)	\$0
OGB	\$93,237,276	\$93,237,276	\$0
Rural	\$1,370,253	\$1,370,253	\$0
Total	\$97,591,485	\$97,591,485	\$0

2024 - 2033 Net Funding Envelope	\$562,561,239
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Appendix C.6

Libraries

Appendix C.6 – Libraries Technical Appendix

Libraries are operated by the Ottawa Public Library (OPL), which provides library services through 33 branches, two mobile libraries as well as more unconventional “vending machine-style” lending services across the City. The OPL is North America’s largest bilingual public library system.

This appendix provides a brief outline of historical service levels for Libraries, the 2024–2033 development-related capital forecast and calculation of the development charges. The cost, quantum and timing of the projects identified in the forecast are largely based on the projects identified in the 2014 and 2019 (Interim) DC Background Studies, adjusted to account for expenditures and increases in project costs (i.e. indexing). The projects are further informed based on proposed and Council-approved capital budgets.

The following discusses the individual components included in the Libraries service category. The analysis is set out in the tables which follow and include:

Table C.6-1 Historical Service Levels and Calculation of 15-Year Average Service Level

Table C.6-2 2024–2033 Development-Related Capital Forecast and Calculation of the Growth-Related Net Capital Cost

A. Benefitting Area

The City’s Libraries development charge is calculated on both a City-wide and area-specific basis. The smaller benefitting areas are defined as: IGB, OGB and Rural area.

B. Historical Service Levels and Calculation of 15-Year Average Service Levels and Maximum Allowable Charges

An average replacement cost of \$725 per square foot of library space has been applied to all branches in the City and a replacement cost of \$60 per unit has been applied to library collections (e.g. books and other reference materials). Library equipment has also been included in the historical inventory and is based on the replacement cost of each asset. Consistent with the City’s historical practice, the replacement cost of land has been excluded from the calculation.

Table C.6-1 provides a summary of the level of service and the calculation of the 15-year historical service level. The calculation of the maximum allowable funding envelope is summarized as follows:

Ten-Year Funding Envelope Calculation

Average Service Level per Capita (2009 – 2023)	\$401.67
Net Population Growth (2024 – 2033)	157,234
Maximum Allowable Funding Envelope	\$63,156,181

The existing facilities have been examined and consideration has been given to whether “excess capacity” exists within the City’s infrastructure that may be available to partially meet future servicing requirements. It has been determined that no “uncommitted excess capacity” exists within the City’s library infrastructure, and as such, no adjustments have been made to the service level calculations.

C. The Development-Related Capital Program

The 2024–2033 development-related capital forecast includes a variety of projects for the provision of Libraries in the City and amounts to a total gross cost of \$87.2 million. Such projects include the construction of new libraries in Riverside South, East Urban and Barrhaven South communities.

The capital program also includes for the recovery of principal and interest payments related to the construction of Libraries. In accordance with the DCA, eligible capital expenditures include costs incurred or to be incurred by a municipality and can include interest on money borrowed (s.5(3)). This category includes projects identified in previous Development Charge By-laws with committed funding that are completed or will be completed in the future. The projects identified in the capital forecast will result, in whole or in part, in increased capacity to meet the servicing needs of new development over the planning period.

Paragraph 5 of s.s.5(1) of the DCA requires a deduction from the increase in the need for service attributable to the anticipated development that can be met using the City's "excess capacity" that is "uncommitted". "Excess capacity" is undefined in the DCA, but is considered to relate to the capacity available to meet some or all of the increase in need for service in order to potentially represent a deduction. It is recognized that no "surplus" of capacity exists within Libraries as the deduction of uncommitted excess capacity typically occurs as part of the conceptual planning and feasibility work associated with planning new facilities.

D. Calculation of Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Libraries. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for reductions. The identified benefit to existing shares include costs that meet the needs of existing development, including past

development. The benefit to existing shares are generally consistent with the approach applied in the 2014 and 2019 DC Background Studies (e.g. new library facilities have a 10 per cent deduction). It should be noted that the identified debenture payments are considered to be entirely related to new development, as these only address net growth-related capital costs.

In total, \$5.3 million is identified as the replacement and benefit to existing share. These costs will not be funded from development charges.

iii. Prior Growth

Available DC reserve funds have been applied to projects occurring within the identified planning period. Table C.6-2 provides details on the available DC reserve fund balance, the amount used and the amount of funding remaining.

In total, \$19.4 million in available DC reserve funds have been removed from City-wide DC eligible costs, \$1.3 million has been removed from OGB DC eligible costs and \$87,200 has been removed from Rural DC eligible costs.

iv. Post-2033 Benefit

The DC eligible costs included in the Libraries capital program is below the maximum permissible funding envelope of \$63.2 million (shown in Table C.6-1 and C.6-2) and all of the projects identified in the DC capital program are related to servicing needs arising from new development over the planning period. As such, no post-period adjustment has been applied to the calculation.

v. 2024-2033 In-Period Eligible Costs

After these adjustments and, a total of \$61.2 million is included in the development charge calculation.

E. Calculation of Residential and Non-Residential Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The development-related costs have generally been allocated 95% to residential development, as these facilities are primarily provided and planned for the residential community. A nominal 5% allocation is made for non-residential development recognizing that library facilities are used by employees working within the City of Ottawa.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring City-wide, IGB, OGB and Rural areas. The “residual” shown in the area-specific non-residential summary represents the sum of the costs remaining once the residential allocations have been made for the benefitting areas.

These costs allocations and DC rate calculations are presented in Table C.6-2.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
Inside the Greenbelt	95%	\$0
Outside the Greenbelt	95%	\$38,739,358
Rural	95%	\$1,627,123
City Wide	95%	\$17,753,858
Subtotal Residential		\$58,120,339
Non-Residential		
Area-Specific	Residual	\$2,124,552
City-wide	5%	\$934,414
Subtotal Non-Residential		\$3,058,965
Total:		\$61,179,304

F. Development Charge Calculation

Consistent with the City’s historical practice, an average cost methodology has been used to calculate development charges for the City’s general services included in this appendix

The following table provides a summary of the residential and non-residential Libraries development charges for each of the identified benefitting areas.

Residential and Non-Residential Development Charges

Benefitting Area	Measure	Calculated DC
Residential		
Inside the Greenbelt	\$/capita	\$0.00
Outside the Greenbelt	\$/capita	\$329.62
Rural	\$/capita	\$76.87
City Wide	\$/capita	\$86.23
Non-Residential		
Area-Specific	\$/square metre	\$1.00
City-wide	\$/square metre	\$0.44
Total Non-Residential \$/m²		\$1.44

APPENDIX C.6
TABLE C.6-1

CITY OF OTTAWA
INVENTORY OF CAPITAL ASSETS
LIBRARIES

MATERIALS Type of Collection	# of Collection Materials															UNIT COST (\$/item)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Collection Materials	2,245,266	2,387,235	2,355,859	2,331,407	2,322,094	2,284,581	2,279,852	2,049,706	2,014,891	2,014,891	2,138,780	2,105,753	2,074,167	2,043,289	1,923,640	\$60
Total (#)	2,245,266	2,387,235	2,355,859	2,331,407	2,322,094	2,284,581	2,279,852	2,049,706	2,014,891	2,014,891	2,138,780	2,105,753	2,074,167	2,043,289	1,923,640	
Total (\$000)	\$134,716.0	\$143,234.1	\$141,351.5	\$139,884.4	\$139,325.6	\$137,074.9	\$136,791.1	\$122,982.4	\$120,893.5	\$120,893.5	\$128,326.8	\$126,345.2	\$124,450.0	\$122,597.3	\$115,418.4	

EQUIPMENT Type of Equipment	# of Items															UNIT COST (\$/item)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
60 Watt Laser Cutter	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	\$25,800
Assitive Work Stations	-	35	35	35	35	35	35	35	35	35	35	35	35	35	35	\$6,000
Automated Materials Handling System	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	\$1,670,000
Bar Code - De/Resensitizer	28	34	48	49	49	42	24	19	6	-	-	-	-	-	-	\$6,500
Bar Code Reader	24	19	19	19	19	19	8	8	5	5	-	-	-	-	-	\$7,800
Book Return Station	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	\$14,800
Colour 3D Printer, With Oven, Wash Station	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	\$21,600
Colour 3D Printer, No Oven, Wash Station	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	\$18,700
Dual Aisle Security Gates	-	3	3	2	2	2	2	1	1	1	1	1	1	1	1	\$14,000
Emergency Generator Main Library	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	\$40,400
Epilog Laser Cutter	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	\$25,500
HPE Proliant DL380 Gen Server	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	\$17,700
OPL - External Book Return (Mobile)	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	\$7,600
Service Kiosk Book Dispensing System	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	\$20,200
Microfilm Reader	8	8	8	8	8	8	8	-	-	-	-	-	-	-	-	\$11,500
Microfilm Scanner	-	-	-	-	-	-	-	-	8	8	8	8	8	8	8	\$6,000
Photocopier	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	\$14,000
RFID Automated Materials Sorting System	-	-	-	1	2	5	9	11	11	12	12	12	12	12	12	\$267,000
RFID AV Holds Dispenser	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	\$37,200
RFID Book Drop	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	\$10,800
RFID Dual Aisle Security Gates	-	-	-	-	2	2	7	12	14	14	14	14	13	13	13	\$9,600
RFID Holds Locker	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	\$28,100
RFID LS Transit Bins	-	-	-	-	-	-	30	54	76	76	97	105	105	122	122	\$5,800
RFID Return Bin	-	-	-	-	-	-	-	6	11	18	18	18	18	18	18	\$13,000
RFID Self Checkout	-	-	-	-	6	21	51	68	87	102	102	102	102	102	102	\$9,900
RFID Handheld Device	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	\$500
Security Gate	15	16	14	14	14	10	10	5	4	7	7	7	7	7	7	\$10,200
Self Checkout	-	-	-	-	-	-	-	-	-	-	14	14	14	14	14	\$12,100
Self Checkout	18	29	30	31	30	25	9	5	-	-	-	-	-	-	-	\$23,000
Self Checkout Built-In Model	-	-	6	6	6	3	3	3	-	-	-	-	-	-	-	\$20,100
Service Point Desk	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	\$12,800
Single Aisle Security Gate	-	-	1	2	2	1	1	-	-	-	-	-	-	-	-	\$12,000
Single Point of Service Height Adjustable Desk	-	-	-	-	-	-	-	5	9	16	18	18	19	21	21	\$17,600
Technologic Smart Bins	-	-	-	30	45	54	75	90	105	112	127	118	114	115	115	\$6,300
Vendcard Kiosk	-	-	-	3	4	5	5	19	18	18	-	-	-	-	-	\$8,500
Total (#)	94	144	167	205	228	236	290	352	402	439	471	470	466	486	486	
Total (\$000)	\$1,042.2	\$1,555.8	\$1,824.0	\$4,017.0	\$4,428.6	\$5,196.1	\$6,523.2	\$7,473.1	\$7,791.6	\$8,458.5	\$8,745.4	\$8,735.1	\$8,717.9	\$8,858.0	\$8,858.0	



APPENDIX C.6
TABLE C.6-1

CITY OF OTTAWA
CALCULATION OF SERVICE LEVELS
LIBRARIES

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Historical Population	854,165	868,655	883,391	893,335	903,391	913,560	923,844	934,243	951,102	968,265	985,738	1,003,526	1,021,635	1,038,426	1,056,221

INVENTORY SUMMARY (\$000)

Buildings	\$236,851.5	\$236,851.5	\$237,958.5	\$237,958.5	\$239,882.0	\$239,882.0	\$240,265.5	\$245,547.1	\$245,547.1	\$245,547.1	\$245,546.4	\$245,546.4	\$244,417.6	\$245,067.9	\$245,067.9
Materials	\$134,716.0	\$143,234.1	\$141,351.5	\$139,884.4	\$139,325.6	\$137,074.9	\$136,791.1	\$122,982.4	\$120,893.5	\$120,893.5	\$128,326.8	\$126,345.2	\$124,450.0	\$122,597.3	\$115,418.4
Equipment	\$1,042.2	\$1,555.8	\$1,824.0	\$4,017.0	\$4,428.6	\$5,196.1	\$6,523.2	\$7,473.1	\$7,791.6	\$8,458.5	\$8,745.4	\$8,735.1	\$8,717.9	\$8,858.0	\$8,858.0
Total (\$000)	\$372,609.6	\$381,641.4	\$381,134.1	\$381,860.0	\$383,636.2	\$382,152.9	\$383,579.8	\$376,002.6	\$374,232.2	\$374,899.1	\$382,618.6	\$380,626.7	\$377,585.5	\$376,523.2	\$369,344.3

SERVICE LEVEL (\$/pop)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Average Service Level
Buildings	\$277.29	\$272.66	\$269.37	\$266.37	\$265.54	\$262.58	\$260.07	\$262.83	\$258.17	\$253.59	\$249.10	\$244.68	\$239.24	\$236.00	\$232.02	\$256.63
Materials	\$157.72	\$164.89	\$160.01	\$156.59	\$154.23	\$150.04	\$148.07	\$131.64	\$127.11	\$124.86	\$130.18	\$125.90	\$121.81	\$118.06	\$109.27	\$138.69
Equipment	\$1.22	\$1.79	\$2.06	\$4.50	\$4.90	\$5.69	\$7.06	\$8.00	\$8.19	\$8.74	\$8.87	\$8.70	\$8.53	\$8.53	\$8.39	\$6.35
Total (\$/pop)	\$436.23	\$439.35	\$431.44	\$427.45	\$424.66	\$418.31	\$415.20	\$402.47	\$393.47	\$387.19	\$388.15	\$379.29	\$369.59	\$362.59	\$349.68	\$401.67

CITY OF OTTAWA
CALCULATION OF MAXIMUM ALLOWABLE
LIBRARIES

15-Year Funding Envelope Calculation	
15 Year Average Service Level 2009 - 2023	\$401.67
Net Population Growth 2024 - 2033	157,234
Maximum Allowable Funding Envelope	\$63,156,181

APPENDIX C.6
TABLE C.6-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
LIBRARIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Funding	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post-2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
6.0 LIBRARIES: CITY-WIDE											
6.1 Outstanding Debentures											
6.1.1 OPL - LAC Joint Facility - Principal	2024 - 2033	\$ 16,997,000	\$ -	\$ 16,997,000	0%	\$ -	\$ 16,997,000	\$ 16,997,000	\$ -	\$ -	City-wide
6.1.2 OPL - LAC Joint Facility - Interest	2024 - 2033	\$ 12,501,000	\$ -	\$ 12,501,000	0%	\$ -	\$ 12,501,000	\$ 2,362,728	\$ 10,138,272	\$ -	City-wide
Subtotal Outstanding Debentures		\$ 29,498,000	\$ -	\$ 29,498,000		\$ -	\$ 29,498,000	\$ 19,359,728	\$ 10,138,272	\$ -	
6.2 Library Materials & Equipment											
6.2.1 Library Materials (Collections)	2024 - 2033	\$ 6,000,000	\$ -	\$ 6,000,000	5%	\$ 300,000	\$ 5,700,000	\$ -	\$ 5,700,000	\$ -	City-wide
6.2.2 RFID Collection Sorting Equipment	2024 - 2033	\$ 3,000,000	\$ -	\$ 3,000,000	5%	\$ 150,000	\$ 2,850,000	\$ -	\$ 2,850,000	\$ -	City-wide
Subtotal Library Materials & Equipment		\$ 9,000,000	\$ -	\$ 9,000,000		\$ 450,000	\$ 8,550,000	\$ -	\$ 8,550,000	\$ -	
TOTAL LIBRARIES: CITY-WIDE		\$ 38,498,000	\$ -	\$ 38,498,000		\$ 450,000	\$ 38,048,000	\$ 19,359,728	\$ 18,688,272	\$ -	

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Funding	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post-2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
6.0 LIBRARIES: OUTSIDE GREENBELT											
6.3 Area-Specific - Buildings and Facilities											
6.3.1 Barrhaven - New Branch Construction	2024 - 2027	\$ 10,500,000	\$ -	\$ 10,500,000	10%	\$ 1,050,000	\$ 9,450,000	\$ 1,197,729	\$ 8,252,271	\$ -	OGB
6.3.2 Riverside South Library	2025 - 2028	\$ 2,025,000	\$ -	\$ 2,025,000	10%	\$ 202,500	\$ 1,822,500	\$ -	\$ 1,822,500	\$ -	OGB
6.3.3 Findlay Creek New Branch Construction	2033 - 2033	\$ 16,615,000	\$ -	\$ 16,615,000	10%	\$ 1,661,500	\$ 14,953,500	\$ -	\$ 14,953,500	\$ -	OGB
6.3.4 East Urban New Branch Construction	2031 - 2033	\$ 17,500,000	\$ -	\$ 17,500,000	10%	\$ 1,750,000	\$ 15,750,000	\$ -	\$ 15,750,000	\$ -	OGB
Subtotal Area-Specific - Buildings and Facilities		\$ 46,640,000	\$ -	\$ 46,640,000		\$ 4,664,000	\$ 41,976,000	\$ 1,197,729	\$ 40,778,271	\$ -	
6.4 Outstanding Debenture Payments - Principal and Interest											
6.4.1 Summary of Authorized DC Debt - Principal Payments	2024 - 2029	\$ 28,510	\$ -	\$ 28,510	0%	\$ -	\$ 28,510	\$ 28,510	\$ -	\$ -	OGB
6.4.2 Summary of Authorized DC Debt - Interest Payments	2024 - 2029	\$ 47,110	\$ -	\$ 47,110	0%	\$ -	\$ 47,110	\$ 47,110	\$ -	\$ -	OGB
Subtotal Outstanding Debenture Payments - Principal and Interest		\$ 75,620	\$ -	\$ 75,620		\$ -	\$ 75,620	\$ 75,620	\$ -	\$ -	
TOTAL LIBRARIES: OUTSIDE GREENBELT		\$ 46,715,620	\$ -	\$ 46,715,620		\$ 4,664,000	\$ 42,051,620	\$ 1,273,349	\$ 40,778,271	\$ -	

APPENDIX C.6
TABLE C.6-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
LIBRARIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Funding	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Less: Prior Growth	DC Recoverable 2024-2033	Less: Post -2033 (Future DC Recoverable)	Benefiting Area
					BTE Share (%)	Replacement & BTE Shares					
6.0 LIBRARIES: RURAL											
6.5 Area-Specific - Buildings and Facilities											
6.5.1 Riverside South Library	2024 - 2024	\$ 2,000,000	\$ -	\$ 2,000,000	10%	\$ 200,000	\$ 1,800,000	\$ 87,239	\$ 1,712,761	\$ -	Rural
Subtotal Area-Specific - Buildings and Facilities		\$ 2,000,000	\$ -	\$ 2,000,000		\$ 200,000	\$ 1,800,000	\$ 87,239	\$ 1,712,761	\$ -	
TOTAL LIBRARIES: RURAL		\$ 2,000,000	\$ -	\$ 2,000,000		\$ 200,000	\$ 1,800,000	\$ 87,239	\$ 1,712,761	\$ -	
TOTAL LIBRARIES		\$ 87,213,620	\$ -	\$ 87,213,620		\$ 5,314,000	\$ 81,899,620	\$ 20,720,316	\$ 61,179,304	\$ -	

Cost Allocation By Benefiting Area		
Residential Calculation		
<i>Inside the Greenbelt Residential Calculation</i>		
Residential Share of Eligible Costs	95%	\$ -
10 Year Population Growth		67,243
Charge per Capita		\$0.00
<i>Outside the Greenbelt Residential Calculation</i>		
Residential Share of Eligible Costs	95%	\$ 38,739,358
10 Year Population Growth		117,528
Charge per Capita		\$329.62
<i>Rural Residential Calculation</i>		
Residential Share of Eligible Costs	95%	\$ 1,627,123
10 Year Population Growth		21,166
Charge per Capita		\$76.87
Non-Residential Calculation		
Non-Residential Share of Eligible Costs		\$ 2,124,552
10 Year Non-Residential Growth in GFA (m2)		2,126,261
Charge per Square Metre		\$1.00

Available DC Reserve Fund Balance			
	Total	Amount Used	Remaining
City-wide	\$19,359,728	\$19,359,728	\$0
IGB	\$0	\$0	\$0
OGB	\$1,273,349	\$1,273,349	\$0
Rural	\$87,239	\$87,239	\$0
Total	\$20,720,316	\$20,720,316	\$0

2024 - 2033 Net Funding Envelope	\$63,156,181
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City-wide Cost Allocations (Residential and Non-Residential)		
Residential Calculation		
Residential Share of Eligible Costs	95%	\$ 17,753,858
10 Year Employment Growth		205,888
Unadjusted Per Unit Charge		\$86.23
Non-Residential Calculation		
Non-Residential Share of Eligible Costs	5%	\$ 934,414
10 Year Non-Residential Growth in GFA (m2)		2,126,261
Charge per Square Metre		\$0.44

Appendix D
Special Area Charges
Technical Appendix

Appendix D: Special Area Charges Technical Appendix

Introduction and Overview

The following appendix provides the detailed analysis undertaken to establish special area charges in the City of Ottawa. In total, five special area charges are included in the 2024 DC Study.

Appendix D.1	Millennium Park (Parks)
Appendix D.2	Village of Richmond (Sanitary Sewer)
Appendix D.3	Provence Avenue (Sanitary Sewer & Roads and Related)
Appendix D.4	Flag Station (Roads and Related)
Appendix D.5	Trillium Line Extension (Transit)

Every service contains three sets of tables and a map of the benefitting area. The tables provide the background data and analysis undertaken to arrive at the calculated development charge rates for the defined area. An overview of the content and purpose of each of the tables is given below.

Table 1 Development Forecast Summary

Table 1 provides a summary of the residential and non-residential development potential of each defined special area development charge boundary. The development forecast identifies the development potential of the area over a defined benefitting period (e.g. 2024-2033).

Table 2 Area-Specific Development-Related Capital Program & Calculation of Area-Specific Development Charges

The DCA requires that Council express its intent to provide future capital facilities to support future growth. To determine the share of the development-related capital program eligible for recovery through development charges, the project costs are reduced by any anticipated grants, “replacement” shares as well as shares of projects that provide a benefit beyond the planning horizon. These deductions are consistent with the approach described in Appendix C of the 2024 DC Study.

The summary table below the capital program displays the calculation of the applicable special area charge rates. Consistent with the City’s historical DC practices, for the services included in this appendix an average cost methodology is used to calculate the applicable rates. Capital costs are allocated based on shares of residential and non-residential growth identified within each benefitting area, unless otherwise specified.

Table 3 Calculated Development Charges

Table 3 provides an overview of the calculated special area rates. A comparison of the current and calculated rates is provided following the rate table.

Figure 1: Map of Benefitting Area

Finally, a map has been included in each appendix, which identifies the benefitting area that is subject to the calculated special area charges.

Appendix D.1

Millennium Park (District Park)

Appendix D.1 - Millennium Park (District Park)

Technical Appendix

The following discusses the individual components included in the Millennium Park special area charge. The analysis is set out in the following tables:

Table 1	Area-Specific Development Forecast
Table 2	2024-2033 Development-Related Capital Forecast and Calculation of the Discounted Growth-Related Net Capital Costs
Table 3	Summary of Calculated Development Charges
Table 4	Summary of Current vs Calculated Development Charges
Figure 1	Map of Benefitting Area

Consistent with the approach applied in the City’s 2019 Interim DC Background Study, the historical service level for Millennium Park is included within the City-wide Parks Development funding envelope calculation. For further details, refer to Appendix C.1.

A. Area-Specific Development Forecast

Table 1 provides a summary of the residential development forecast for Millennium Park over the 2024-2033 planning period. The capital costs for Millennium Park are 100% allocated to residential development, as such, no development forecast is prepared for non-residential development.

As Millennium Park is located within the OGB area, the following person per unit (PPU) assumptions have been applied to arrive at the population in new units forecast:

- Singles = 3.52
- Semis = 2.87
- Towns/Rows = 2.67
- Apartments = 1.62

Table 1 – Residential Development Forecast Summary (2024-2033)

	Singles	Semis	Towns/ Rows	Apts	Total
Growth (2024 – 2033)	1,782	85	2,634	595	5,098
Pop in New Units	6,280	244	7,033	964	14,521

B. The Development-Related Capital Forecast

The development forecast for Millennium Park is based on a planning horizon of 2024-2033. The development forecast includes for the recovery of an outstanding debenture related to the construction of the Park (\$1.20 million) and a negative reserve fund balance (\$2.08 million).

C. Calculation of Discounted Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Millennium Park. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The identified debenture payment and recovery of negative DC reserve fund balance is net of any replacement and/or benefit to existing shares. As such, no deduction is made.

iii. Prior Growth

The Millennium Park DC reserve fund is in a negative position, therefore no reduction to the DC eligible costs have been made.

iv. Post-2033 Benefit

The capital costs are related to development occurring over the 2024-2033 planning period. In particular, the DC eligible costs identified for Millennium Park are below the maximum permissible funding envelope calculated for Parks Development (see Appendix C.1). The total DC eligible costs for all Parks infrastructure is \$97.06 million (\$3.28 million for Millennium Park and \$93.79 million for Parks Development) which is well below the funding envelope of \$446.31 million.

v. 2024-2033 In-Period Eligible Costs

A total of \$3.28 million is included in the development charge calculation.

D. Calculation of Residential and Non-Residential Discounted Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The discounted development-related costs have been allocated 100% to residential development. These costs allocations and DC rate calculations are presented in Table 2.

E. Development Charge Calculation

Consistent with the City's historical practice, an average cost methodology has been used to calculate development charges for Millennium Park.

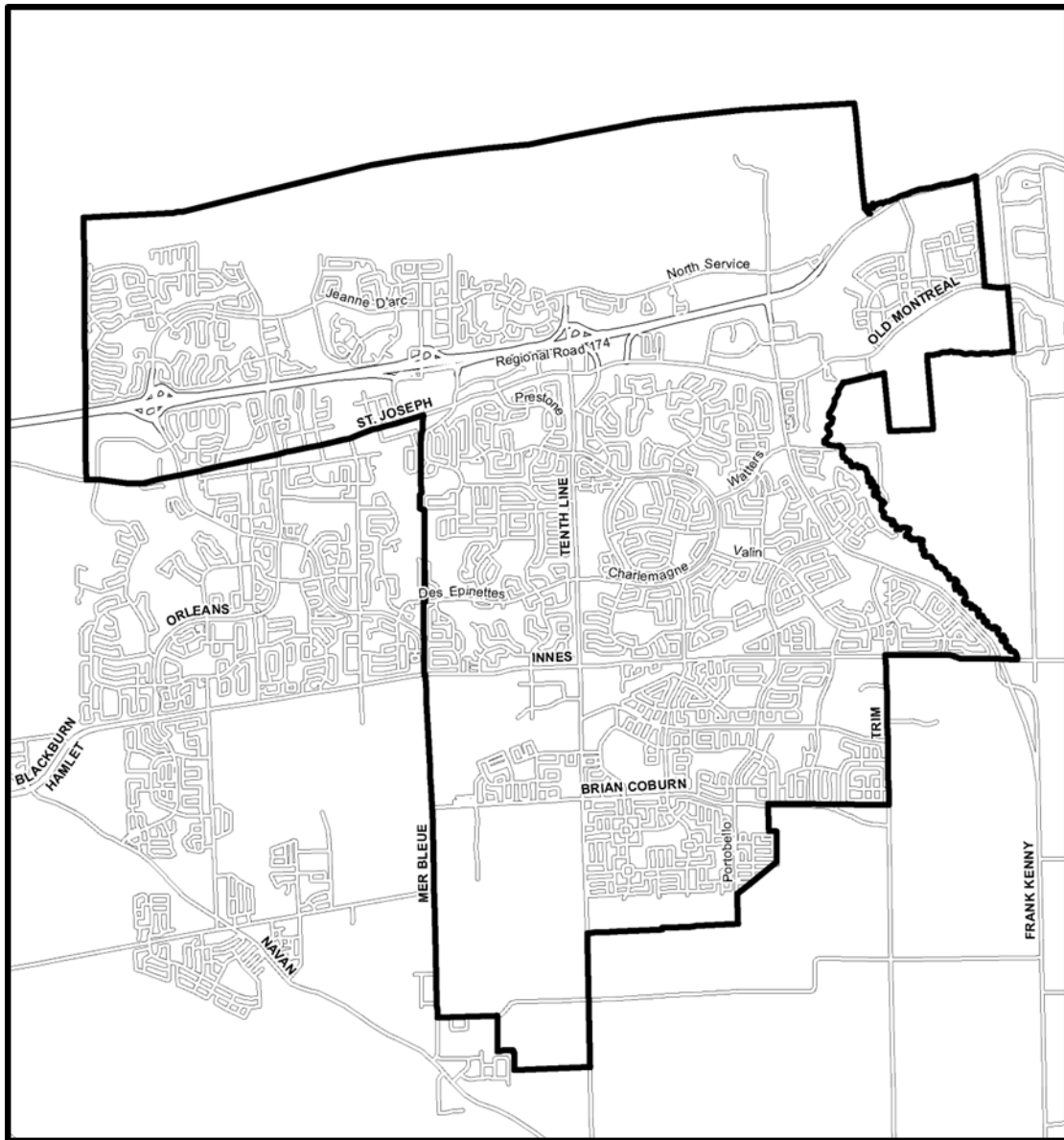
Table 3 provides a summary of the residential development charges for Millennium Park.

Table 4 provides a summary of the current versus calculated development charges.

F. Map of Benefitting Area

Figure 1 shows the boundary of the identified benefiting area.

Figure 1 i Millennium Park Benefitting Area



APPENDIX D.1

TABLE 2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
DISTRICT PARKS - OUTSIDE THE GREENBELT, MILLENNIUM PARK AREA ONLY

Project Description	Project Number	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs		
						BTE Share (%)	Replacement & BTE Shares		Prior Growth	2024 2033	Post 2033
1.0 Millennium Park											
1.1 Recovery of Negative Reserve Fund Balance											
1.1.1 Balance as of December 31, 2023		2024 - 2024	\$ 2,080,000	\$ -	\$ 2,080,000	0%	\$ -	\$ 2,080,000	\$ -	\$ 2,080,000	\$ -
Subtotal Recovery of Negative Reserve Fund Balance			\$ 2,080,000	\$ -	\$ 2,080,000		\$ -	\$ 2,080,000	\$ -	\$ 2,080,000	\$ -
1.2 Recovery of Outstanding Debenture											
1.2.1 Principle Payment		2024 - 2025	\$ 1,177,876	\$ -	\$ 1,177,876	0%	\$ -	\$ 1,177,876	\$ -	\$ 1,177,876	\$ -
1.2.2 Principle Interest		2024 - 2025	\$ 19,342	\$ -	\$ 19,342	0%	\$ -	\$ 19,342	\$ -	\$ 19,342	\$ -
Subtotal Recovery of Outstanding Debenture			\$ 1,197,218	\$ -	\$ 1,197,218		\$ -	\$ 1,197,218	\$ -	\$ 1,197,218	\$ -
TOTAL Millennium Park			\$ 3,277,218	\$ -	\$ 3,277,218		\$ -	\$ 3,277,218	\$ -	\$ 3,277,218	\$ -

Millennium Park Cost Allocations (Residential and Non-Residential)

Residential Calculation		
Residential Share of Eligible Costs	100%	\$ 3,277,218
10-Year Population Growth (Millennium Park Only)		14,521
Unadjusted Per Unit Charge		\$225.69
Non-Residential Calculation		
Non-Residential Share of Eligible Costs	0%	\$ -
10-Year Non-Residential Growth in GFA (m2)		-
Charge per Square Metre		\$0.00

Available DC Reserve Fund Balance			
	Total	Amount Used	Remaining
Millennium Park	\$ (2,080,000)	\$ -	\$0

2024 - 2033 Net Funding Envelope	\$446,313,426
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APPENDIX D.1

TABLE 3

CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE

MILLENNIUM PARK

	Adjusted Charge Per Capita	Residential Charge By Unit Type (1)				
		Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room
Millennium Park	\$225.69	\$779	\$603	\$411	\$292	\$226
(1) Based on Persons Per Unit Of:		3.45	2.67	1.82	1.29	1.00

* Based on PPU's for OGB

APPENDIX D.1

TABLE 4

CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
SUMMARY OF CURRENT VS. CALCULATED DEVELOPMENT CHARGES

Millennium Park	Residential Charges (By Unit Type)						Non-Residential Charges (Per Square Foot)	
	Single and Semi-detached	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room	Industrial	Non-Industrial	
Current Charge (Oct 1, 2023)	\$842	\$664	\$456	\$323	\$249	N/A	N/A	
Calculated	\$779	\$603	\$411	\$292	\$226	N/A	N/A	
<i>Difference \$</i>	<i>-\$63</i>	<i>-\$61</i>	<i>-\$45</i>	<i>-\$31</i>	<i>-\$23</i>			
<i>Difference %</i>	<i>-7%</i>	<i>-9%</i>	<i>-10%</i>	<i>-10%</i>	<i>-9%</i>			

Appendix D.2

Village of Richmond (Sanitary Sewer)

Appendix D.3 – Village of Richmond (Sanitary Sewer) Technical Appendix

The following discusses the individual components included in the Village of Richmond (herein referred to as “Richmond”) special area charges calculation. The analysis is set out in the following tables:

Table 1	Area-Specific Development Forecast
Table 2	2024-2046 Development-Related Capital Forecast and Calculation of the Discounted Growth-Related Net Capital Costs
Table 3	Summary of Calculated Residential Development Charges
Table 4	Summary of Calculated Non-Residential Development Charges
Table 5	Summary of Current vs. Calculated Development Charges
Figure 1	Map of Benefitting Area

A. Area-Specific Development Forecast

Table 1 provides a summary of the residential development forecast for Richmond over the 2024-2046 planning period. The development forecast for Richmond is based on the forecast included in the 2019 Interim DC Background Study and adjusted for latest traffic zone forecast estimates and discussions with City staff. For the residential forecast, only single-detached units have been identified over the forecast period. As Richmond is located within the Rural area, the following person per unit (PPU) assumptions have been applied to arrive at the population in new units forecast: Singles (3.20 PPU).

Table 1 Residential & Non-Residential Development Forecast Summary

Residential	2024-2046
Units (Single-Detached)	3,293
Pop in New Units	10,539
Non-Residential	2024-2046
Employment	318
Non-Res GFA (m ²)	14,310

B. The Development-Related Capital Forecast

The development forecast for Richmond is based on a 2033-2046 planning horizon. The capital forecast includes for the recovery of a negative reserve fund balance of \$18.84 million and the Richmond Pump Station and Forcemain Expansion valued at \$39.80 million. The total gross cost of the capital program is \$58.64 million.

C. Calculation of Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Richmond. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for the reductions. The identified benefit to exiting shares includes costs that meet the needs of existing development, including past development. Generally speaking, shares have been deducted from the net cost of projects that account for portions of the project that relate to state of good repair or the replacement or reconstruction of existing facilities. Those projects that are completely new are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost.

In total, \$9.95 million has been identified for Sanitary Sewer infrastructure as a benefit to existing share is removed from the total DC eligible costs.

iii. Prior Growth

The development charge reserve funds for Richmond are in a negative position of \$18.84 million. These costs relate to past commitments required to service new development and have been included in the DC calculation.

iv. Post-2046 Benefit

No post-period shares have been identified for Sanitary Sewer infrastructure in Richmond as the infrastructure is required to service growth over the planning horizon to 2046. These costs will be considered for recovery in subsequent DC studies.

v. 2024-2046 In-Period Eligible Costs

After these adjustments and discounts, a total of \$48.69 million is included in the Richmond Sanitary Sewer calculation.

D. Calculation of Residential and Non-Residential Discounted Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The capital costs for Richmond are allocated 97% residential and 3% non-residential. The industrial and non-residential charge was weighted based on allocations presented in the 2014 and 2019 Interim DC Background Studies.

These costs allocations and DC rate calculations are presented in Table 2.

E. Development Charge Calculation

An average cost methodology has been used to calculate development charges for Richmond. Importantly, the non-residential charge is calculated on a village-wide basis.

Table 3 provides a summary of the residential development charges.

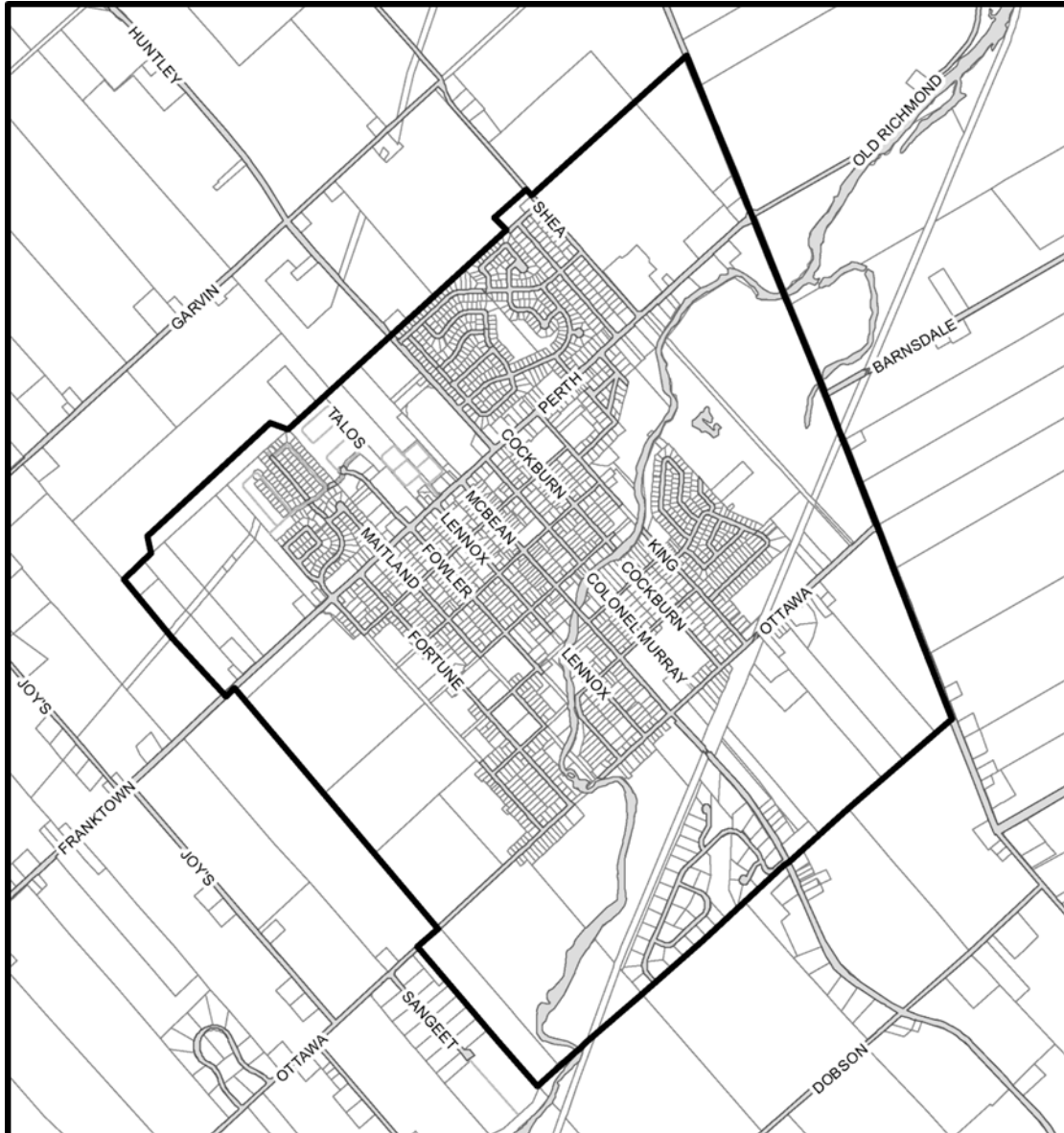
Table 4 provides a summary of the non-residential development charges for Richmond.

Table 5 provides a summary of the current versus calculated development charges.

F. Map of Benefitting Area

Figure 1 shows the boundary of the identified benefiting area.

Figure 1 – Richmond Benefitting Area



APPENDIX D.2

TABLE 2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
SANITARY (WASTE WATER)
SPECIAL AREA CHARGE - VILLAGE OF RICHMOND

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs		
					BTE Share (%)	Replacement & BTE Shares		Prior Growth	2024 - 2046	Post 2046
3.0 SANITARY SEWER (VILLAGE OF RICHMOND)										
3.1 Recovery of Past Commitments										
3.1.1 Negative Reserve Fund Balance	2024 - 2024	\$ 18,839,476	\$ -	\$ 18,839,476	0%	\$ -	\$ 18,839,476	\$ -	\$ 18,839,476	\$ -
Subtotal Recovery of Past Commitments		\$ 18,839,476	\$ -	\$ 18,839,476		\$ -	\$ 18,839,476	\$ -	\$ 18,839,476	\$ -
3.2 Sanitary Sewer Infrastructure										
3.2.1 Richmond Pump Station and Forcemain Expansion Phase 4	2024 - 2033	\$ 33,800,000	\$ -	\$ 33,800,000	25%	\$ 8,450,000	\$ 25,350,000	\$ -	\$ 25,350,000	\$ -
3.2.2 Richmond King Street Sewer Upgrade Phase 4A	2024 - 2033	\$ 6,000,000	\$ -	\$ 6,000,000	25%	\$ 1,500,000	\$ 4,500,000	\$ -	\$ 4,500,000	\$ -
Subtotal Sanitary Sewer Infrastructure		\$ 39,800,000	\$ -	\$ 39,800,000		\$ 9,950,000	\$ 29,850,000	\$ -	\$ 29,850,000	\$ -
TOTAL SANITARY SEWER (VILLAGE OF RICHMOND)		\$ 58,639,476	\$ -	\$ 58,639,476		\$ 9,950,000	\$ 48,689,476	\$ -	\$ 48,689,476	\$ -

Area-Specific Cost Allocations (Residential and Non-Residential)		
Residential Calculation		
Residential Share of Eligible Costs	97%	\$ 47,263,368
Population Growth		10,539
Charge per Capita		\$4,484.62
Non-Residential Calculation		
Non-Residential Share of Eligible Costs	3%	\$ 1,426,108
Non-Residential GFA		14,310
Charge per Square Metre		\$99.66
Industrial - Charge Per Square Metre		\$47.42
Non-Industrial - Charge Per Square Metre		\$120.78

Reserve Fund Balance	(\$18,839,476)
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APPENDIX D.2

TABLE 3

CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE

VILLAGE OF RICHMOND

	Residential Charge By Unit Type (1)				
	Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room
Richmond (Sanitary Sewer)	\$14,227	\$10,075	\$8,166	\$5,805	\$4,485
(1) Based on Persons Per Unit Of:	3.17	2.25	1.82	1.29	1.00

* Based on Rural Area PPU's

APPENDIX D.2

TABLE 4

**CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
NON-RESIDENTIAL DEVELOPMENT CHARGES PER SQUARE METRE**

VILLAGE OF RICHMOND

	Industrial		Non-Industrial	
	Per Square Metre of GFA	Per Square Foot of GFA	Per Square Metre of GFA	Per Square Foot of GFA
Richmond (Sanitary Sewer)	\$47.42	\$4.41	\$120.78	\$11.22

APPENDIX D.2
TABLE 5

CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
SUMMARY OF CURRENT VS. CALCULATED DEVELOPMENT CHARGES

Village of Richmond	Residential Charges (By Unit Type)					Non-Residential Charges (Per Square Foot)	
	Single and Semi-detached	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room	Industrial	Non-Industrial
Current Charge (Oct 1, 2023)	\$14,841	\$10,509	\$8,517	\$6,054	\$4,677	\$4.71	\$11.97
Calculated	\$14,227	\$10,075	\$8,166	\$5,805	\$4,485	\$4.41	\$11.22
<i>Difference \$</i>	<i>-\$614</i>	<i>-\$434</i>	<i>-\$351</i>	<i>-\$249</i>	<i>-\$192</i>	<i>(\$0.30)</i>	<i>(\$0.75)</i>
<i>Difference %</i>	<i>-4%</i>	<i>-4%</i>	<i>-4%</i>	<i>-4%</i>	<i>-4%</i>	<i>-6%</i>	<i>-6%</i>

Appendix D.3
Provence Avenue
(Sanitary Sewer & Roads)

Appendix D.3 – Provence Avenue (Sanitary Sewer & Roads) Technical Appendix

The following discusses the individual components included in the Provence special area charges calculation. The analysis is set out in the following tables:

Table 1	Area-Specific Development Forecast
Table 2	2024-2033 Development-Related Capital Forecast and Calculation of the Discounted Growth-Related Net Capital Costs
Table 3	Summary of Calculated Residential Development Charges
Table 4	Summary of Current vs Calculated Development Charges
Figure 1	Map of Benefitting Area

A. Area-Specific Development Forecast

Table 1 provides a summary of the residential development forecast for Provence Avenue over the 2024-2033 planning period. The development forecast for Provence is based on the forecast included in the 2019 Interim DC Background Study and adjusted for known developments. Consistent with the 2019 Interim DC Background Study, no non-residential development is forecast to occur in this area.

As Provence Avenue is located OGB area, the following person per unit (PPU) assumptions have been applied to arrive at the population in new units forecast:

- Singles = 3.52
- Semis = 2.87
- Towns/Rows = 2.67
- Apartments = 1.62

Table 1 – Residential Development Forecast Summary (2024-2033)

	Singles	Towns/ Rows	Apts	Total
Units	271	215	112	598
Pop in New Units	955	574	181	1,710

B. The Development-Related Capital Forecast

The development forecast for Provence Avenue is based on a 10-year planning horizon to 2033. The capital forecast includes \$1.02 million in Roads and Related infrastructure and approximately \$191,900 in Sanitary Sewer infrastructure. The total gross cost of the capital program is \$1.21 million.

C. Calculation of Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Provence Avenue. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for the reductions. The identified benefit to exiting shares includes costs that meet the needs of existing development, including past development. Generally speaking, shares have been deducted from the net cost of projects that account for portions of the project that relate to state of good repair or the replacement or reconstruction of existing facilities. Those projects that are completely new are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost.

As the infrastructure identified in the capital program is entirely related to development over the identified planning period, no benefit to existing share is identified.

iii. Prior Growth

The Provence Avenue DC reserve fund is currently \$0. As such, no adjustments have been made to the calculation.

iv. Post-2033 Benefit

As the costs identified in the capital program are entirely related to development occurring over the planning period, no post-period deduction has been made.

v. 2024-2033 In-Period Eligible Costs

After these adjustments and discounts, a total of \$1.21 million is included in the Provence Avenue calculation.

D. Calculation of Residential and Non-Residential Discounted Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The capital costs for Provence Avenue are allocated 100% to residential development consistent with the approach used in the 2019 Interim DC Background Study.

The costs allocation and DC rate calculation are presented in Table 2.

E. Development Charge Calculation

Consistent with the City's past DC Background Studies, an average cost methodology has been used to calculate the residential development charges for Provence Avenue.

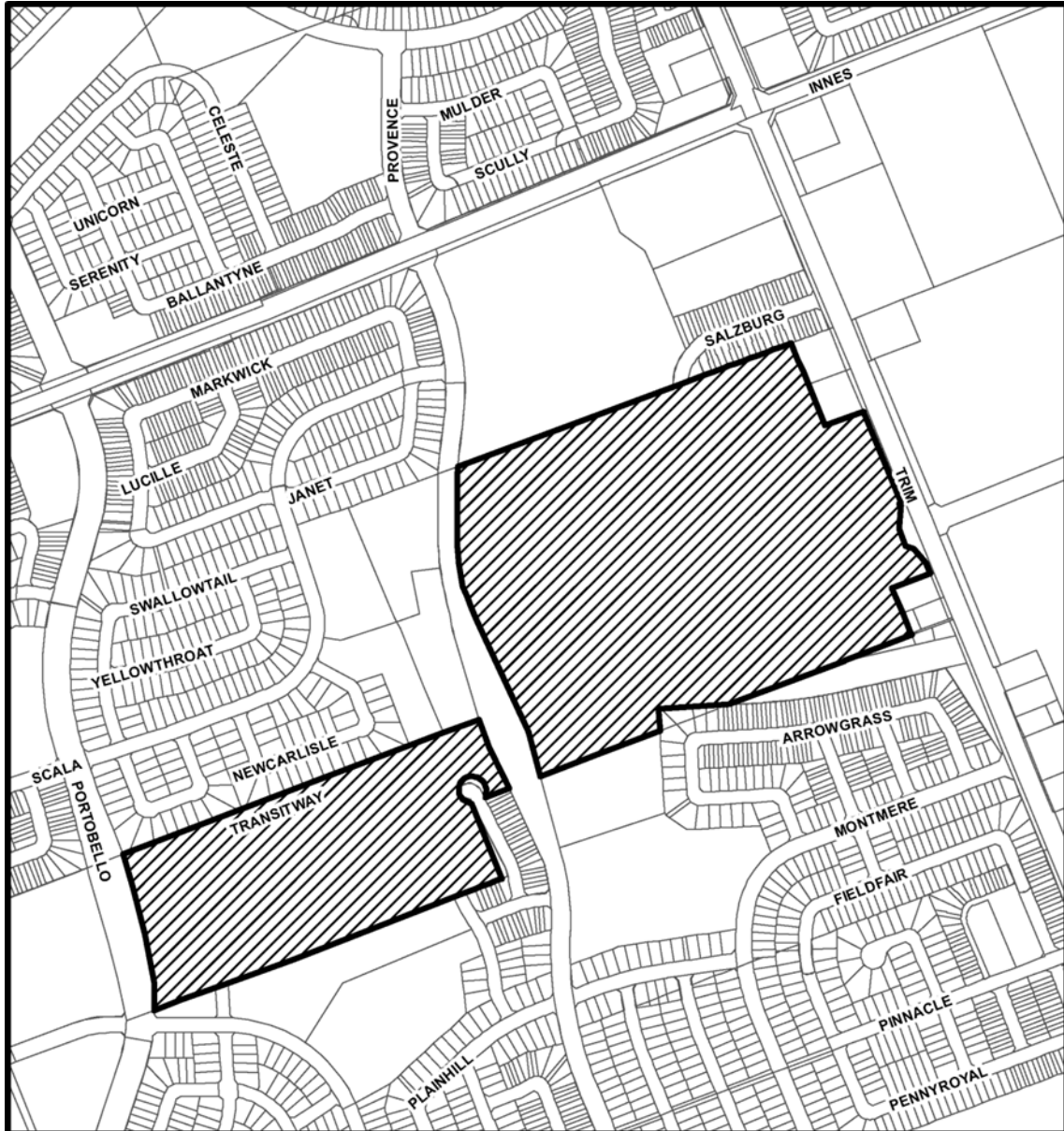
Table 3 provides a summary of the residential development charges for Provence Avenue.

Table 4 provides a summary of the current versus calculated development charges.

F. Map of Benefitting Area

Figure 1 shows the boundary of the identified benefiting area.

Figure 1 – Provence Avenue Benefitting Area



APPENDIX D.3
TABLE 2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
ROADS AND RELATED SERVICES
AREA-SPECIFIC CHARGE PROVENCE AVENUE

Project Description	Project Number	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs			
						BTE Share (%)	Replacement & BTE Shares		Prior Growth	2024-2033	Post 2033	
5.0 PROVENCE AVENUE INFRASTRUCTURE												
5.1 Provence Avenue Infrastructure												
5.1.1		Roads and Related Infrastructure	2024 - 2033	\$ 1,021,802	\$ -	\$ 1,021,802	0%	\$ -	\$ 1,021,802	\$ -	\$ 1,021,802	\$ -
5.1.2		Sanitary Sewer Infrastructure	2024 - 2033	\$ 191,944	\$ -	\$ 191,944	0%	\$ -	\$ 191,944	\$ -	\$ 191,944	\$ -
Subtotal Provence Avenue Infrastructure				\$ 1,213,746	\$ -	\$ 1,213,746		\$ -	\$ 1,213,746	\$ -	\$ 1,213,746	\$ -
TOTAL PROVENCE AVENUE INFRASTRUCTURE				\$ 1,213,746	\$ -	\$ 1,213,746		\$ -	\$ 1,213,746	\$ -	\$ 1,213,746	\$ -

Area-Specific Cost Allocations (Residential and Non-Residential)			
Residential Calculation			
Residential Share of Eligible Costs	100%	\$	1,213,746
10-Year Population Growth			1,710
Unadjusted Per Charge per Capita			\$709.79
Non-Residential Calculation			
Non-Residential Share of Eligible Costs	0%		-
10 Year Non-Residential Growth in GFA (m2)			-
Charge per Square Metre			\$0.00

Reserve Fund Balance	\$0
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**APPENDIX D.3
TABLE 3**

**CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE**

PROVENCE AVENUE

	Adjusted Charge Per Capita	Residential Charge By Unit Type (1)				
		Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room
Provence Avenue (Roads and Related)	\$709.79	\$2,451	\$1,896	\$1,292	\$919	\$710
(1) Based on Persons Per Unit Of:		3.45	2.67	1.82	1.29	1.00

* Based on PPU's OGB

APPENDIX D.3
TABLE 4

CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
SUMMARY OF CURRENT VS. CALCULATED DEVELOPMENT CHARGES

Roads and Related (Provence Avenue)	Residential Charges (By Unit Type)					Non-Residential Charges (Per Square Foot)	
	Single and Semi-detached	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room	Industrial	Non-Industrial
Current Charge (Oct 1, 2023)	\$2,915	\$2,256	\$1,538	\$1,093	\$844	N/A	N/A
Calculated	\$2,451	\$1,896	\$1,292	\$919	\$710	N/A	N/A
<i>Difference \$</i>	<i>-\$464</i>	<i>-\$360</i>	<i>-\$246</i>	<i>-\$174</i>	<i>-\$134</i>		
<i>Difference %</i>	<i>-16%</i>	<i>-16%</i>	<i>-16%</i>	<i>-16%</i>	<i>-16%</i>		

Appendix D.4
Flag Station Road
(Roads and Related)

Appendix D.4 – Flag Station Road (Roads and Related) Technical Appendix

The following discusses the individual components included in the Provence special area charges calculation. The analysis is set out in the following tables:

Table 1	Area-Specific Development Forecast
Table 2	2024-2033 Development-Related Capital Forecast and Calculation of the Discounted Growth-Related Net Capital Costs
Table 3	Summary of Calculated Residential Development Charges
Table 4	Summary of Current vs Calculated Development Charges
Figure 1	Map of Benefitting Area

A. Area-Specific Development Forecast

Table 1 provides a summary of the residential development forecast for Flag Station Road over the 2024-2033 planning period. The development forecast for Provence is based on the forecast included in the 2019 Interim DC Background Study and adjusted for known developments. Consistent with the 2019 Interim DC Background Study, no non-residential development is forecast to occur in this area.

As Flag Station Road is located within the Rural area, the following person per unit (PPU) assumptions have been applied to arrive at the population in new units forecast: Single-Detached (3.20 PPU). For the residential forecast, only single-detached units have been identified.

Table 1 i Residential Development Forecast Summary (2024-2033)

Residential	
Single-Detached Units	16
Pop in New Units	51

B. The Development-Related Capital Forecast

The development forecast for Flag Station Road is based on a 10-year planning horizon to 2033. The capital forecast includes approximately \$55,800 in roads and related infrastructure.

C. Calculation of Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Flag Station Road. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for the reductions. The identified benefit to exiting shares includes costs that meet the needs of existing development, including past development. Generally speaking, shares have been deducted from the net cost of projects that account for portions of the project that relate to state of good repair or the replacement or reconstruction of existing facilities. Those projects that are completely new are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost.

As the infrastructure identified in the capital program is entirely related to development over the identified planning period, no benefit to existing share is identified.

iii. Prior Growth

The Flag Station Road DC reserve fund is currently \$0. As such, no adjustments have been made to the calculation.

iv. Post-2033 Benefit

As the costs identified in the capital program are entirely related to development occurring over the planning period, no post-period deduction has been made.

v. 2024-2033 In-Period Eligible Costs

After these adjustments and discounts, a total of \$55,800 is included in the Flag Station Road calculation.

D. Calculation of Residential and Non-Residential Discounted Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The capital costs for Flag Station Road are allocated 100% to residential development consistent with the approach used in the 2019 Interim DC Background Study.

The costs allocation and DC rate calculation are presented in Table 2.

E. Development Charge Calculation

Consistent with the City's past DC Background Studies, an average cost methodology has been used to calculate the residential development charges for Flag Station Road.

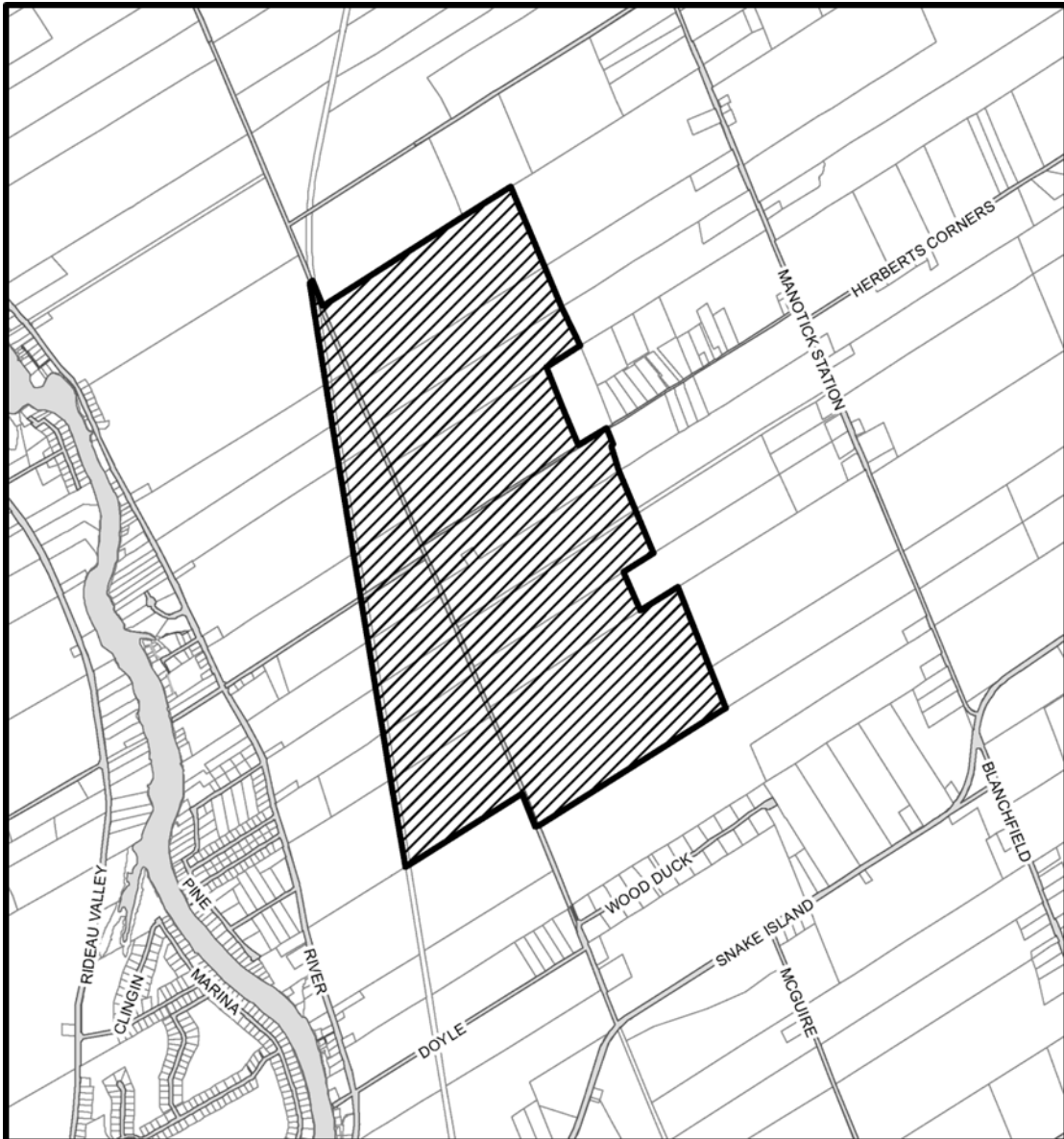
Table 3 provides a summary of the residential development charges for Flag Station Road.

Table 4 provides a summary of the current versus calculated development charges.

F. Map of Benefitting Area

Figure 1 shows the boundary of the identified benefiting area.

Figure 1 – Flag Station Benefitting Area



APPENDIX D.4
TABLE 2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
ROADS AND RELATED SERVICES
AREA-SPECIFIC CHARGE FLAG STATION

Project Description	Project Number	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs		
						BTE Share (%)	Replacement & BTE Shares		Prior Growth	2024-2033	Post 2033
6.0 FLAG STATION INFRASTRUCTURE											
6.1 Flag Station Infrastructure											
6.1.1 Roads and Related Infrastructure		2024 - 2033	\$ 55,806	\$ -	\$ 55,806	0%	\$ -	\$ 55,806	\$ -	\$ 55,806	\$ -
Subtotal Flag Station Infrastructure			\$ 55,806	\$ -	\$ 55,806		\$ -	\$ 55,806	\$ -	\$ 55,806	\$ -
TOTAL FLAG STATION INFRASTRUCTURE			\$ 55,806	\$ -	\$ 55,806		\$ -	\$ 55,806	\$ -	\$ 55,806	\$ -

Area-Specific Cost Allocations (Residential and Non-Residential)		
Residential Calculation		
Residential Share of Eligible Costs	100%	\$ 55,806
10-Year Population Growth		51
Unadjusted Per Charge per Capita		\$1,094.24
Non-Residential Calculation		
Non-Residential Share of Eligible Costs	0%	-
10 Year Non-Residential Growth in GFA (m2)		-
Charge per Square Metre		\$0.00

Reserve Fund Balance	\$0
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**APPENDIX D.4
TABLE 3**

**CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE**

FLAG STATION ROAD

	Adjusted Charge Per Capita	Residential Charge By Unit Type (1)				
		Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room
Roads & Related (Flag Station)	\$1,094.24	\$3,779	\$2,922	\$1,992	\$1,416	\$1,094
(1) Based on Persons Per Unit Of:		3.17	2.25	1.82	1.29	1.00

* Based on PPU's Rural Area

APPENDIX D.4
TABLE 4

CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
SUMMARY OF CURRENT VS. CALCULATED DEVELOPMENT CHARGES

Roads and Related (Flag Station)	Residential Charges (By Unit Type)					Non-Residential Charges (Per Square Foot)	
	Single and Semi-detached	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room	Industrial	Non-Industrial
Current Charge (Oct 1, 2023)	\$5,636	\$4,359	\$2,972	\$2,112	\$1,632	N/A	N/A
Calculated	\$3,779	\$2,922	\$1,992	\$1,416	\$1,094	N/A	N/A
<i>Difference \$</i>	<i>-\$1,857</i>	<i>-\$1,437</i>	<i>-\$980</i>	<i>-\$696</i>	<i>-\$538</i>		
<i>Difference %</i>	<i>-33%</i>	<i>-33%</i>	<i>-33%</i>	<i>-33%</i>	<i>-33%</i>		

Appendix D.5
Trillium Line Extension
(Public Transit)

Appendix D.5 – Trillium Line Extension (Public Transit) Technical Appendix

The following discusses the individual components included in the Trillium Line Extension special area charges calculation. The analysis is set out in the following tables:

Table 1	Area-Specific Development Forecast
Table 2	2024-2033 Development-Related Capital Forecast and Calculation of the Discounted Growth-Related Net Capital Costs
Table 3	Summary of Calculated Residential Development Charges
Table 4	Summary of Calculated Non-Residential Development Charges
Table 5	Summary of Current vs Calculated Development Charges
Figure 1	Map of Benefitting Area

A. Area-Specific Development Forecast

Table 1 provides a summary of the residential development forecast for Trillium Line Extension over the 2024-2033 planning period. The development forecast for Trillium Line Extension is based on the Riverside South Storm Water Management (SWM) benefitting area (Area S-1). It should be noted that the Trillium Line Extension forecast is based on a 10-year planning period consistent with the requirements of the DCA. The forecast is based on the assumptions used as part of the 2019 Interim DC Background Study.

As Trillium Line Extension is located within the Outside the Greenbelt area, the following person per unit (PPU) assumptions have been applied to arrive at the population in new units forecast:

- Singles = 3.52
- Semis = 2.87
- Towns/Rows = 2.67
- Apartments = 1.62

Table 1-1: Residential Development Forecast (2024-2033)

	Singles	Semis	Towns/ Rows	Apts.	Total
Unit Growth	1,767	256	1,448	1,205	4,676
Pop in New Units	6,225	734	3,867	1,949	12,775

Table 1-2: Non-Residential Development Forecast (2024-2033)

	Industrial	Non-Industrial	Total
Emp. Growth	524	1,100	1,624
Non-Res GFA (m²)	48,161	39,772	87,934

B. The Development-Related Capital Forecast

The development forecast for Trillium Line Extension is based on a 10-year planning horizon. The capital program includes costs relating to the Public Transit - Trillium Line Extension Annual Debt Servicing which amounts to a total gross capital cost of \$16.27 million and the recovery of a negative reserve fund balance of \$1.23 million.

C. Calculation of Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Trillium Line Extension. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

No benefit to existing shares have been identified for the Trillium Line Extension. As such, no adjustment is made.

iii. Prior Growth

A negative reserve fund balance of \$1.23 million has been identified and included in the DC eligible costs for recovery.

iv. Post-2033 Benefit

The identified DC eligible costs are related to meeting the increase in need for servicing arising from development over the planning period, as such, no post-period benefit allocation has been applied.

v. 2024-2033 In-Period Eligible Costs

After these adjustments and discounts, a total of \$17.51 million is included in the Trillium Line Extension calculation.

D. Calculation of Residential and Non-Residential Discounted Development-Related Capital Costs

i. Residential and Non-Residential Allocation

The capital costs for Trillium Line Extension are allocated 89% residential and 11% non-residential (4% industrial and 8% non-industrial). These costs allocations and DC rate calculations are presented in Table 2.

E. Development Charge Calculation

The development charges for the Trillium Line Extension are calculated using an average cost methodology consistent with the City's other special area charges calculations.

Table 3 provides a summary of the residential development charges.

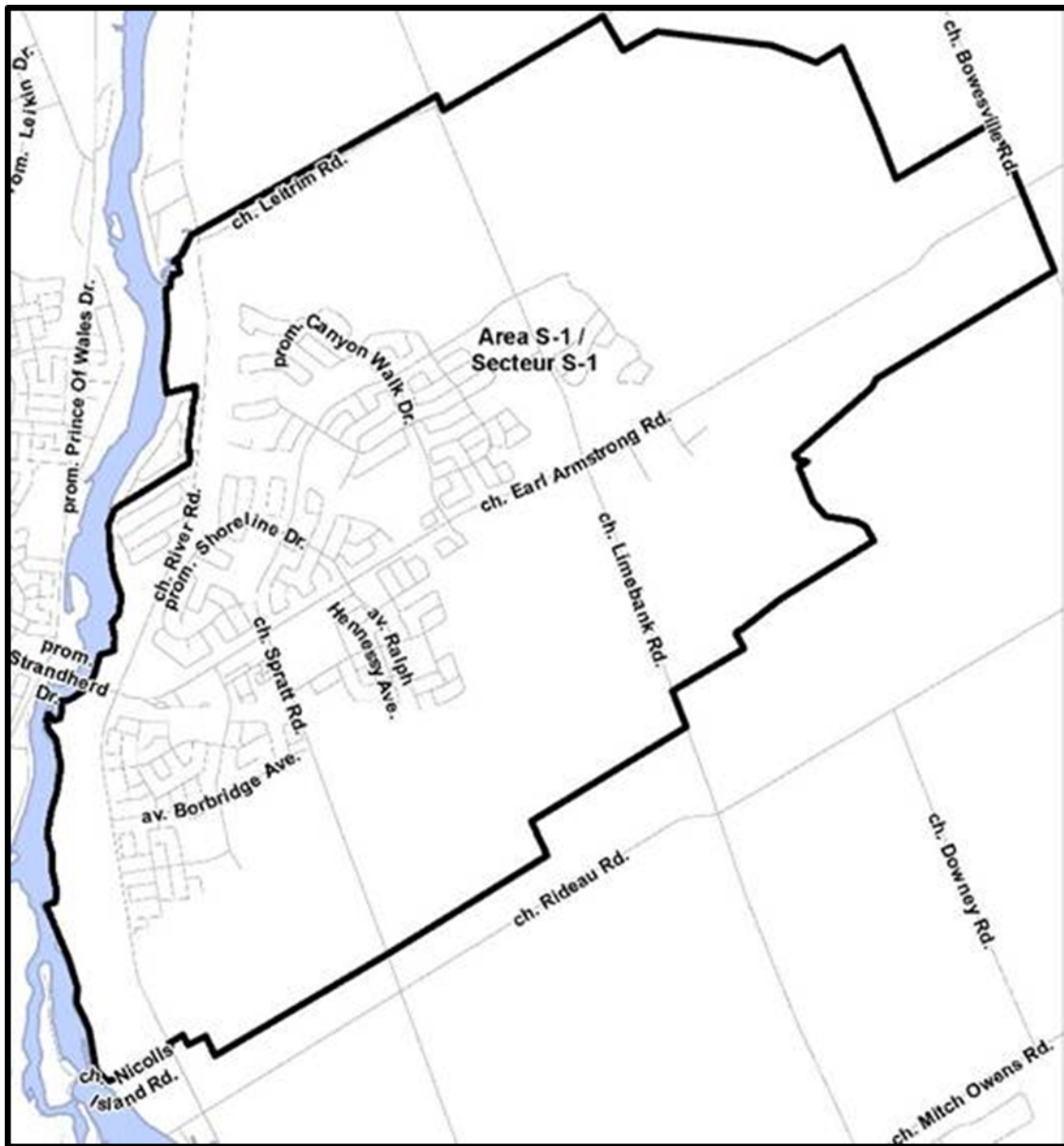
Table 4 provides a summary of the non-residential development charges for Trillium Line Extension.

Table 5 provides a summary of the current versus calculated development charges.

F. Map of Benefitting Area

Figure 1 shows the boundary of the identified benefiting area.

Figure 1 – Trillium Line Extension Benefitting Area



APPENDIX D.5

TABLE 2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
TRANSIT SERVICES
SPECIAL AREA CHARGE TRILLIUM LINE EXTENSION

Project Description	Project Number	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs			
						BTE Share (%)	Replacement & BTE Shares		Prior Growth ¹	2024 - 2033	Post 2033	
5.0 SPECIAL AREA CHARGE TRILLIUM LINE EXTENSION												
5.1 Special Area Charge Trillium Line Extension												
5.1.1 Recovery of Negative Reserve Fund Balance		2024 - 2024	\$ 1,234,641	\$ -	\$ 1,234,641	0%	\$ -	\$ 1,234,641	\$ -	\$ 1,234,641	\$ -	
5.1.2 Public Transit - Trillium Line Extension Annual Debt Servicing		2024 - 2033	\$ 16,274,540	\$ -	\$ 16,274,540	0%	\$ -	\$ 16,274,540	\$ -	\$ 16,274,540	\$ -	
Subtotal Special Area Charge Trillium Line Extension			\$ 17,509,181	\$ -	\$ 17,509,181		\$ -	\$ 17,509,181	\$ -	\$ 17,509,181	\$ -	
TOTAL SPECIAL AREA CHARGE TRILLIUM LINE EXTENSION			\$ 17,509,181	\$ -	\$ 17,509,181		\$ -	\$ 17,509,181	\$ -	\$ 17,509,181	\$ -	

¹ Riverside South Transit Services charge is a new ASDC. Therefore, no reserve fund balances exists

² Post-period allocations include costs related to other development and may be recovered from other funding sources

Area-Specific Cost Allocations (Residential and Non-Residential)

Residential Calculation

Residential Share of Eligible Costs	89%	\$ 15,534,435
10-Year Population Growth		12,775
Charge per Capita		\$1,215.98
Calculated Rate per Single & Semi-Detached Unit	3.45	\$4,199

Non-Residential Calculation

Non-Residential Share of Eligible Costs	11%	\$ 1,974,746
Industrial		
Non-Residential Share of Eligible Costs	4%	\$ 637,172
10 Year Non-Residential Growth in GFA (m2)		48,161
Charge per Square Metre		\$13.23
Non-Industrial		
Non-Residential Share of Eligible Costs	8%	\$ 1,337,574
10 Year Non-Residential Growth in GFA (m2)		39,772
Charge per Square Metre		\$33.63

Reserve Fund Balance	(\$1,234,641)
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APPENDIX D.5

TABLE 3

CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE

TRANSIT (RIVERSIDE SOUTH)

	Residential Charge By Unit Type (1)				
	Singles & Semis	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room
Transit (Riverside South)	\$4,199	\$3,248	\$2,214	\$1,574	\$1,216
(1) Based on Persons Per Unit Of:	3.45	2.67	1.82	1.29	1.00

APPENDIX D.5

TABLE 4

CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
NON-RESIDENTIAL DEVELOPMENT CHARGES PER SQUARE METRE

TRANSIT (RIVERSIDE SOUTH)

	Industrial		Non-Industrial	
	Per Square Metre of GFA	Per Square Foot of GFA	Per Square Metre of GFA	Per Square Foot of GFA
Transit (Riverside South)	\$13.23	\$1.23	\$33.63	\$3.12

APPENDIX D.5
TABLE 5

CITY OF OTTAWA
SPECIAL AREA DEVELOPMENT CHARGES
SUMMARY OF CURRENT VS. CALCULATED DEVELOPMENT CHARGES

Transit (Riverside South)	Residential Charges (By Unit Type)					Non-Residential Charges (Per Square Foot)	
	Single and Semi-detached	Multiple, Row and Mobile Dwelling	Apartment Dwelling, Back to Back and Stacked Townhouse (2+ bedrooms)	Apartment (less than 2 bedrooms)	Dwelling Room	Industrial	Non-Industrial
Current Charge (Oct 1, 2023)	\$4,455	\$3,444	\$2,350	\$1,669	\$1,290	\$1.31	\$3.28
Calculated	\$4,199	\$3,248	\$2,214	\$1,574	\$1,216	\$1.23	\$3.12
<i>Difference \$</i>	-\$256	-\$196	-\$136	-\$95	-\$74	(\$0.08)	(\$0.16)
<i>Difference %</i>	-6%	-6%	-6%	-6%	-6%	-6%	-5%

Appendix E
Engineered Services
Technical Appendix

Appendix E – Engineered Services Technical Appendix

Introduction and Overview

The following appendix provides the detailed analysis undertaken to establish the development charge rates for each of the services in the City of Ottawa.

Appendix E.1	Roads and Related
Appendix E.2	Sanitary (Waste Water)
Appendix E.3	Water
Appendix E.4	Stormwater Drainage

All service areas contain tables that provide the background data and analysis undertaken to arrive at the calculated development charge rates for that particular service. An overview of the content and purpose of each of the tables is given below.

Development-Related Capital Program: City-wide and Area-Specific

Consistent with the City's historical practice, engineering services are calculated on both a city-wide and area-specific basis. The exception being Stormwater Drainage which is calculated on a city-wide basis.

The DCA requires that Council express its intent to provide future capital facilities to support future growth. The cost, quantum and timing of the projects identified in the forecast have been provided by City staff and are generally based on the capital projects identified in the 2013 IMP, 2013 TMP, the 2014 DC Background Study and the interim 2019 DC Background Study and adjusted to account for recent expenditures and indexing. For the purposes of the DC rate calculations, a 2031 planning horizon, consistent with the planning horizon used in the 2013 TMP and 2013 IMP, is used. The City is currently in the process of updating its master plans and is expected that future DC studies will be informed by infrastructure needs identified as part of these reports.

In addition to the engineering services discussed in this appendix, area-specific development charge rates for stormwater infrastructure are discussed and calculated in a separate 2024 Stormwater Management ASDC Background Study.

Calculation of Development Charge Rates: City-wide and Area-Specific

The section below the capital program displays the calculation of the applicable development charge rates. An unadjusted rate is calculated below each capital program but a further adjustment is made to account for the timing of capital works and timing of anticipated development through the cashflow analysis. All services and rates are cashflowed.

City-wide Residential and Non-Residential DCs

The first step when determining the development charge rate is to allocate development-related net capital cost between the residential and non-residential sectors. The apportionment between these sectors varies based on the identified benefitting area (e.g. city-wide, IGB, OGB and Rural area). The approach used to allocate costs is discussed in each appendix.

Consistent with the City's historical approach, the non-residential development charges are calculated on a city-wide basis.

Area-Specific DCs

For all services with the exception of Stormwater Drainage, area-specific projects have been identified for the following defined areas in the City:

- Inside the Greenbelt;
- Outside the Greenbelt; and
- Rural

Projects identified are recovered against residential growth occurring in each respective area. Consistent with the City's historical approach to calculating DCs, the non-residential share related to area-specific costs are recovered on a City-wide basis.

Appendix E.1

Services Related to a Highway: Roads and Related

Appendix E.1 – Roads and Related Technical Appendix

Capital infrastructure contained in the Services Related to a Highway: Roads and Related category includes roads, environmental assessment studies, pedestrian facilities, cycling facilities, multi-use pathways, transportation programs, public works facilities, provisions for intersection control measures as well as area-specific infrastructure. In addition, the DCA permits a municipality to use DCs for the acquisition of land for DC-eligible services (including roads) as such these costs have been included for recovery in the DC rate calculations.

This appendix details the 15-year historical level of service, capital infrastructure that will benefit development occurring over the 2024-2031 period, the calculation of the “unadjusted” DCs, and the “adjusted” calculated charge after cash flow considerations for Roads and Related services. The cost, quantum and timing of the projects identified in the forecast have been provided by City staff and are generally based on the capital projects identified in the City’s 2013 TMP and related LRFP as reflected in 2014 DC Background Study and 2019 Interim 2019 DC Background Study, adjusted to account for recent expenditures and cost indexing. The active transportation projects from the 2013 TMP, however, were replaced with a Council approved list of eligible items in 2023.

The following discusses the individual components included in the Roads and Related service category. The analysis is set out in the tables which follow:

Table E.1-1 Historical Service Levels – Roads Screenline and Unit Replacement Costs

Table E.1-2 Morning Peak Hour Vehicles Kilometre Travelled (VKT) by Residents Only

Table E.1-3 2024-2031 Development-Related Capital Forecast and Calculation of the Discounted Growth-Related Net Capital Costs

Table E.1-4 Detailed List of Intersection Control Measures

Table E.1-5 Development Charge Calculation: Cash Flow Analysis for Roads Area-Specific Development Charges

A. Benefitting Area

The City's Roads and Related development charges are calculated on both a city-wide and area-specific basis. The area-specific benefitting areas are defined as: Inside the Greenbelt, Outside the Greenbelt and Rural area.

B. Historical Service Levels and Calculation of 15-Year Average Service Levels and Maximum Allowable Charges

i. Quantity and Quality Service Level Measures

Consistent with the approach employed in the City's 2014 and 2019 DC Background Studies, the quantity level of service measurement for Roads and Related services is based on road volume/capacity by screenline for 2011 to 2031 (Table E.1-1). In contrast, the quality level of service measure is based on road costs assumptions provided by IBI Group (dated September 2013) and indexed to current day dollars (Table E.1-2).

ii. Consideration of Excess Capacity

The existing facilities have been examined and consideration has been given to whether or not “excess capacity” exists within the City’s infrastructure that may be available to meet future servicing requirements. It has been determined that no “uncommitted excess capacity” exists within the roads and related network, and as such, no adjustments have been made to the service level calculations.

C. Development-Related Capital Forecast

The following summarizes the city-wide and area-specific capital programs:

- **City-wide Capital Program** – The development-related capital forecast that will benefit development occurring over the 2024 to 2031 period includes roads extensions and other improvements, environmental assessments, pedestrian facilities, cycling facilities, multi-use pathways, public works equipment and facilities, intersection improvements, transit priority measures (as related to infrastructure within the roads right-of-way) as well as the recovery of outstanding debenture payments. The total gross cost of the capital program amounts to \$1.3 billion, as shown in Table E.1-3.
- **Outside the Greenbelt Capital Program** – The total gross capital program related to development OGB totals \$119.8 million. The program includes the recovery of outstanding principal and interest debenture payments, the construction of a multi-use pathway along Terry Fox Drive and intersection control measures shared between the OGB and Rural areas. A detailed list of intersections is provided as Table E.1-4.
- **Inside the Greenbelt Capital Program** – no capital projects have been identified for the IGB area. DC Rates are based on recovery of the existing negative reserve fund balance.

- **Rural** – the capital program for the Rural area includes the recovery of outstanding debenture payments related to development in the rural area, a share of the Terry Fox Drive Multi-Use Pathway and a share of intersection control measures (for detailed list of intersection projects see Table E.1-4). The gross capital program for rural road related services totals \$104.6 million.

D. Calculation of Discounted Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Roads and Related Services. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The replacement and BTE shares have been examined on a project-by-project basis and the nature of each project determined the rationale for the reductions. The identified benefit to existing shares includes costs that meet the needs of existing development, including past development. Decisions were based on a variety of factors including the population and employment growth over the 10-year base, rehabilitation costs and input from City staff.

New projects are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost. For projects that were identified in the 2014 and 2019 DC Background Studies, the prior benefit to existing shares have largely been maintained based on past practice. In total across all development areas, \$144.1 million is identified as the replacement and benefit to existing share over the planning period. The table below describes how the BTE shares were determined.

Summary of BTE and DC Eligible Shares of Projects

Project Type	No.	Benefitting Area	BTE and Description
City-wide Road Network	1.1	City-wide	5-6% BTE applied to projects to reflect the cost of rehabilitating existing road segments. This approach is consistent with the 2014 and 2019 DC Studies.
Environmental Assessments	1.2	City-wide	5% BTE consistent with the approach used in the 2014 and 2019 DC Studies. EAs are related for new roads required to meet the increase in need for servicing arising from development.
Pedestrian Facilities	1.3	City-wide	75% BTE consistent with the approach used in the 2014 and 2019 DC Studies.
Cycling Facilities	1.4	City-wide	51% BTE consistent with the approach used in the 2014 and 2019 DC Studies.
Multi-Use Pathways	1.5	City-wide	57% BTE consistent with the approach used in the 2014 and 2019 DC Studies.
Transportation Programs	1.6	City-wide	BTE consistent with the 2014 and 2019 DC Studies and vary based on the type of project. 5% BTE for development sidewalks are related to net new additions. 50% Transportation Demand Management as works will equally benefit both existing and future growth. 84% BTE Area Traffic Management works will benefit both existing and future growth.
Public Works	1.7	City-wide	15% BTE consistent with the 2014 and 2019 DC Studies. Infrastructure is primarily required to service future development.
Intersections	1.9	City-wide	5% BTE for intersection control measures recognizing a nominal benefit to existing residents. 17% BTE for Network Modifications is consistent with the 2014 and 2019 DC Studies.
Missing Links	1.11	City-wide	57% BTE same as multi-use pathways above.

Project Type	No.	Benefitting Area	BTE and Description
Outstanding Debenture Payments	1.8, 2.1, 3.1	City-wide, OGB, Rural	0% BTE as only the growth-related share of projects which have been debenture financed are included in the capital program.
Multi-Use Pathway	2.2, 3.2	OGB, Rural	0% BTE as project relates to net new infrastructure required to meet the increase in need for service arising from future development.
Intersection Control Measures	2.3, 3.3	OGB, Rural	0% BTE as projects relate to net new infrastructure required to meet the increase in need for service arising from future development.

iii. Prior DC Funding / Available DC Reserve Funds

Prior DC funding relates to portions of projects which have had DCs collected and applied against the DC eligible project costs. These amounts are removed from the capital forecast and are not brought forward into the development charge calculation. Table E.1-3 provides details on the available DC reserve fund balance by benefitting area.

In total, the \$80.3 million identified in the City-wide Roads and Related reserve fund (\$64.2 million associated with residential development and \$16.2 million related to non-residential development) has been reduced from the total City-wide DC eligible capital costs. Similarly, the \$24.6 million identified in the OGB and \$3.4 million in the Rural Roads and Related reserve funds have been applied to projects.

The City's IGB Roads and Related DC reserve fund (\$14.0 million) is in a deficit position. As such, these costs have been included in the DC eligible expenditures as it relates to committed excess capacity that will benefit growth over the identified planning period.

iv. Post-2031 Benefit

None of the identified projects benefit development beyond 2031.

v. 2024-2031 DC Eligible Development Related Costs

The total in-period DC eligible costs shown in Table E.1-3 amounts to \$1.3 billion after adjustments for benefit to existing and post-period benefits.

After deductions for available DC reserve fund balances the in-period DC eligible cost is reduced to \$1.2 billion (shown in the DC cost allocation summary at the bottom of Table E.1-2).

E. Calculation of Residential and Non-Residential Discounted Development-Related Capital Costs

The development-related City-wide costs have been allocated based on shares of population and employment growth over the 2024-2031 benefitting period. The development-related area-specific costs are allocated between the OGB and Rural areas based on share of Vehicles Kilometres Travelled (VKT) data shown in Table E.1-2.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring City-wide, IGB, OGB and Rural areas. The “residual” shown in the area-specific non-residential summary represents the sum of the costs remaining once the residential allocations (based on shares of population growth) have been made. The residual costs are then recovered on a city-wide basis.

The costs allocations and DC rate calculations are presented in Table E.1-3. The summary shown below reflect the total costs brought forward to the DC calculation after adjusting for DC reserve funds.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
Inside the Greenbelt	69%	\$9,664,880
Outside the Greenbelt	85%	\$71,605,871
Rural	92%	\$5,530,473
City Wide	80%	\$847,800,400
Subtotal Residential		\$934,601,623
Non-Residential – Industrial		
Area-Specific	Residual	\$2,060,136
City-wide	2%	\$24,909,522
Non-Residential – Non-Industrial		
Area-Specific	Residual	\$15,618,581
City-wide	18%	\$188,847,427
Subtotal Non-Residential		\$231,435,667
TOTAL		\$1,166,037,290

F. Development Charges Calculation: Cash Flow Analysis

Consistent with the approach used in the City’s 2014 and 2019 DC Studies, the development charges for the Roads and Related projects relating to IGB, OGB and Rural area has been calculated using a cash flow analysis. As part of the 2024 DC Background Study, the city-wide rates are also calculated using the same approach.

A cash flow analysis is undertaken to account for the timing of projects and receipt of DCs. It is particularly applicable where the timing of the forecast capital expenditures is significantly front-ended or back ended over the planning period. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the DCA. Based on the development forecast, the analysis calculates the DC rate required to finance the discounted development-related capital spending plan including

provisions for any borrowing costs or interest earnings on the reserve funds. The cash flow analysis is designed so that the closing cash balance at the end of the planning period is as close to nil as possible.

In order to determine appropriate DC rates reflecting borrowing and earnings necessary to support the discounted development-related funding requirement, assumptions are used for the inflation and interest rates. An inflation rate of 3.0% is used for the funding requirements, an interest rate of 3.0% is used for positive opening balances, and a rate of 5.0% is used for negative opening balances.

Table E.1-5 displays the results of the cash flow analysis and provides the adjusted or final per capita residential and per employees in new non-residential DCs. For residential development charges a per capita amount has been calculated for development occurring IGB, OGB and the Rural area. A city-wide charge has been calculated for the residual industrial and non-industrial shares of the program. Debenture interest is not inflated in the cash flow analysis and the principal repayment component of the charge continues to be not indexed as has been the case since 2014.

Summary of Adjusted Area-Specific Roads Cash Flow Analysis

Benefitting Area	Adjusted Charge
Residential	
City-wide (\$/capita)	\$4,908.12
Inside the Greenbelt (\$/capita)	\$166.93
Outside the Greenbelt (\$/capita)	\$853.32
Rural (\$/capita)	\$398.53
Non-Residential - Industrial	
City-wide (\$/m ²)	\$64.56
Non-Residential – Non-Industrial	
City-wide (\$/m ²)	\$163.29

**APPENDIX E.1
TABLE E.1-1**

**CITY OF OTTAWA
MAJOR SCREENLINES LEVEL OF SERVICE**

Screenline	2011 (base)					2031 (affordable)				v/c <0.9	Post Planning Capacity	Identified Solution to v/c deficiencies at Screenlines (lanes per direction)
	V	C	V/C	v/c >0.9	Benefit to Existing	V	ADD C	C	V/C			
SOUTHEAST												
#13 CNR East	8,268	9,200	0.90	N	6%	8,668	1,200	10,400	0.83	Y	7%	+1 lane on Airport Parkway (+1200)
#8 Leitrim	4,641	5,200	0.89	N	0	6,593	-	5,200	1.27	N	0	none provided
SOUTHWEST												
#12 CNR West	10,536	12,000	0.88	N	0	11,466	-	12,000	0.96	N	0	none provided
#9 Fallowfield	9,333	11,400	0.82	N	0	10,762	1,000	12,400	0.87	Y	24%	+1 lane on Prince of Wales Drive (+1000)
EAST												
#16 Green's Creek	10,470	8,800	1.19	Y	0	11,570	-	8,800	1.31	N	0	none provided
#45 Bilberry Creek	6,790	8,000	0.85	N	0	7,653	800	8,800	0.87	Y	18%	+1 lane on Brian Coburn Boulevard (+800)
WEST												
#10a Eagleson (north)	7,911	8,800	0.90	N	0	9,254	-	8,800	1.05	N	0	none provided
#10b Eagleson (south)	2,718	3,800	0.72	N	0	4,251	800	4,600	0.92	N	22%	+1 lane of Hope Side Road, Old Richmond Road and West Hunt Club Road (+800)
#44 Terry Fox	5,731	10,400	0.55	N	0	7,686	5,200	15,600	0.49	Y	50% with Hwy 417; excluding Hwy 417 is 35%	+2 lanes on Campeau (+1600) and 2 lanes on Hwy 417 (+3600)

**APPENDIX E.1
TABLE E.1-1**

**CITY OF OTTAWA
ROADS AND RELATED SERVICES - REPLACEMENT COSTS**

Type	Existing Cross-Section	Proposed Cross-Section	Unit Cost 2023 (\$Millions)
New Construction	-	2 Lane Rural, Undivided	\$6.47 / km
		2 Lane Urban, Undivided	\$11.77 / km
		4 Lane Urban, Divided	\$15.03 / km
		6 Lane Urban, Divided	\$17.21 / km
Widening	2 Lane Rural, Undivided	4 Lane Rural, Undivided (ref. B1)	\$8.56 / km
		4 Lane Rural, Divided	\$9.54 / km
		4 Lane Urban, Undivided (ref. B2)	\$12.69 / km
		4 Lane Urban, Divided (ref. B3)	\$15.19 / km
	2 Lane Urban, Undivided	6 Lane Urban, Divided (ref. B4)	\$17.99 / km
		4 Lane Urban, Undivided	\$11.17 / km
		4 Lane Urban, Divided	\$13.64 / km
		4 Lane Rural, Divided	6 Lane Rural, Divided (ref. B5)
4 Lane Urban, Divided	6 Lane Urban, Divided	\$9.73 / km	

Source: IBI GROUP FINAL DRAFT: ROAD NETWORK DEVELOPMENT REPORT THE CITY OF OTTAWA, Exhibit 5-2: Summary of Benchmark Costs for Roadway Projects

Notes:

(1) Preliminary cost estimates include: Property – 10%; Engineering-15%; Project Management – 10%; Miscellaneous Soft Costs (Permits, Public Art, etc.) –5%; and Project Contingency – 40%.

(2) Typical roadway cross-sections (identified as ref. B1-B5 above) are provided in Appendix B.

**APPENDIX E.1
TABLE E.1-2**

**CITY OF OTTAWA
TRANS Model (V1.13)
Morning Peak Hour VKT by residents only**

Increase in Vehicle Kilometres Travelled (VKT)								
Auto Mode								
From	To	Vehicle Km Travelled (VKT)					% distribution of growth	DC Cost Allocation
		2011	2031	change	% change			
Inside Greenbelt	Everywhere	500,500	500,700	200	0.04%	Inside Greenbelt	0%	0%
Orleans	Everywhere	198,700	239,400	40,700	20%	Outside Greenbelt	16%	91%
Riverside South and Leitrim	Everywhere	34,000	79,400	45,400	134%		17%	
South Nepean	Everywhere	128,000	190,300	62,300	49%		24%	
Kanata-Stittsville	Everywhere	191,400	280,700	89,300	47%		34%	
Rural	Everywhere	284,300	307,600	23,300	8%	Rural	9%	9%
Total		1,336,900	1,598,100	261,200	20%		100%	100%

APPENDIX E.1
TABLE E.1-3

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
ROADS & RELATED SERVICES

Project Description	Item #	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area			Less:	DC Recoverable 2024-2031	Less:	
						BTE Share (%)	Replacement & BTE Shares		Area	%	\$	Prior Growth ¹		Post 2031	
1.0 ROADS & RELATED SERVICES : CITY-WIDE															
1.1 City-wide Road Network															
1.1.1 Airport Parkway (Brookfield Road and Hunt Club Road)	1.00024A	2025 - 2028	\$ 68,179,200	\$ -	\$ 68,179,200	6%	\$ 4,090,752	\$ 64,088,448	City-wide	100%	\$ 64,088,448	\$ -	\$ 64,088,448	\$ -	
1.1.2 Bank Street (Leitrim Road - Blais Road)	1.08144	2025 - 2028	\$ 76,320,000	\$ -	\$ 76,320,000	5%	\$ 3,816,000	\$ 72,504,000	City-wide	100%	\$ 72,504,000	\$ -	\$ 72,504,000	\$ -	
1.1.3 Brian Coburn Extension (Blair Road to Navan Road)	1.0049A4	2025 - 2031	\$ 172,992,000	\$ -	\$ 172,992,000	5%	\$ 8,649,600	\$ 164,342,400	City-wide	100%	\$ 164,342,400	\$ -	\$ 164,342,400	\$ -	
1.1.4 Carp Road (Hazeldean Road - Highway 417)	1.01194	2025 - 2029	\$ 35,616,000	\$ -	\$ 35,616,000	5%	\$ 1,780,800	\$ 33,835,200	City-wide	100%	\$ 33,835,200	\$ -	\$ 33,835,200	\$ -	
1.1.5 Chapman Mills Drive (Longfields Drive - Strandherd Drive)	1.04644	2025 - 2027	\$ 48,277,000	\$ -	\$ 48,277,000	5%	\$ 2,413,850	\$ 45,863,150	City-wide	100%	\$ 45,863,150	\$ -	\$ 45,863,150	\$ -	
1.1.6 Eagleson Road (Cadence Gate - Hope Side Road)	1.08744	2025 - 2029	\$ 45,857,100	\$ -	\$ 45,857,100	5%	\$ 2,292,855	\$ 43,564,245	City-wide	100%	\$ 43,564,245	\$ -	\$ 43,564,245	\$ -	
1.1.7 Greenbank Road Extension (Jockvale Road - Cambrian Road)	1.0924B4	2025 - 2028	\$ 111,936,000	\$ -	\$ 111,936,000	5%	\$ 5,596,800	\$ 106,339,200	City-wide	100%	\$ 106,339,200	\$ -	\$ 106,339,200	\$ -	
1.1.8 Longfields Road (Cambrian Road - Prince of Wales)	1.10144	2025 - 2029	\$ 67,600,000	\$ -	\$ 67,600,000	5%	\$ 3,380,000	\$ 64,220,000	City-wide	100%	\$ 64,220,000	\$ -	\$ 64,220,000	\$ -	
1.1.9 Kanata Avenue (Campeau Drive - Highway 417)	1.00074	2025 - 2028	\$ 32,382,100	\$ -	\$ 32,382,100	5%	\$ 1,619,105	\$ 30,762,995	City-wide	100%	\$ 30,762,995	\$ -	\$ 30,762,995	\$ -	
1.1.10 Lester Road (Airport Parkway - Bank Street)	1.00094	2025 - 2029	\$ 63,749,600	\$ -	\$ 63,749,600	6%	\$ 3,824,976	\$ 59,924,624	City-wide	100%	\$ 59,924,624	\$ -	\$ 59,924,624	\$ -	
1.1.11 Mer Bleue Road (Brian Coburn Boulevard - Renaud Road)	1.0134-01744	2025 - 2028	\$ 14,095,800	\$ -	\$ 14,095,800	5%	\$ 704,790	\$ 13,391,010	City-wide	100%	\$ 13,391,010	\$ -	\$ 13,391,010	\$ -	
1.1.13 Robert Grant (Hazeldean - Palladium Drive)	1.1344A4	2025 - 2028	\$ 90,742,400	\$ -	\$ 90,742,400	5%	\$ 4,537,120	\$ 86,205,280	City-wide	100%	\$ 86,205,280	\$ -	\$ 86,205,280	\$ -	
1.1.14 Tenth Line Road (Harvest Valley Road - South of Wall)	1.00012	2025 - 2029	\$ 53,347,700	\$ -	\$ 53,347,700	5%	\$ 2,667,385	\$ 50,680,315	City-wide	100%	\$ 50,680,315	\$ -	\$ 50,680,315	\$ -	
Subtotal City-wide Road Network			\$ 881,094,900	\$ -	\$ 881,094,900		\$ 45,374,033	\$ 835,720,867			\$ 835,720,867	\$ -	\$ 835,720,867	\$ -	

APPENDIX E.1
TABLE E.1-3

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
ROADS & RELATED SERVICES

Project Description	Item #	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area			Less:	DC Recoverable 2024-2031	Less:
						BTE Share (%)	Replacement & BTE Shares		Area	%	\$	Prior Growth ¹		Post 2031
1.2 Environmental Assessment Studies														
1.2.1 Environmental Assessment Studies - Arterial and Major Collector Roads	1.02494	2025 - 2031	\$ 28,080,700	\$ -	\$ 28,080,700	5%	\$ 1,404,035	\$ 26,676,665	City-wide	100%	\$ 26,676,665	\$ -	\$ 26,676,665	\$ -
Subtotal Environmental Assessment Studies			\$ 28,080,700	\$ -	\$ 28,080,700		\$ 1,404,035	\$ 26,676,665			\$ 26,676,665	\$ -	\$ 26,676,665	\$ -
1.3 Pedestrian Facilities														
1.3.1 Pedestrian Facilities Standalone Capital Projects	1.15644	2025 - 2031	\$ 23,870,700	\$ -	\$ 23,870,700	75%	\$ 17,903,025	\$ 5,967,675	City-wide	100%	\$ 5,967,675	\$ -	\$ 5,967,675	\$ -
Subtotal Pedestrian Facilities			\$ 23,870,700	\$ -	\$ 23,870,700		\$ 17,903,025	\$ 5,967,675			\$ 5,967,675	\$ -	\$ 5,967,675	\$ -
1.4 Cycling Facilities														
1.4.1 Cycling Facilities Standalone Capital Projects	1.14544	2025 - 2031	\$ 54,817,300	\$ -	\$ 54,817,300	51%	\$ 27,956,823	\$ 26,860,477	City-wide	100%	\$ 26,860,477	\$ -	\$ 26,860,477	\$ -
Subtotal Cycling Facilities			\$ 54,817,300	\$ -	\$ 54,817,300		\$ 27,956,823	\$ 26,860,477			\$ 26,860,477	\$ -	\$ 26,860,477	\$ -
1.5 Multi-Use Pathway Structures														
1.5.1 Multi-use Pathway Structures - Other - Phase 3	1.000144	2025 - 2031	\$ 24,998,800	\$ -	\$ 24,998,800	57%	\$ 14,249,316	\$ 10,749,484	City-wide	100%	\$ 10,749,484	\$ -	\$ 10,749,484	\$ -
Subtotal Multi-Use Pathway Structures			\$ 24,998,800	\$ -	\$ 24,998,800		\$ 14,249,316	\$ 10,749,484			\$ 10,749,484	\$ -	\$ 10,749,484	\$ -
1.6 Transportation Programs														
1.6.1 Transportation Demand Management	1.14944	2025 - 2031	\$ 3,569,700	\$ -	\$ 3,569,700	50%	\$ 1,784,850	\$ 1,784,850	City-wide	100%	\$ 1,784,850	\$ -	\$ 1,784,850	\$ -
1.6.2 Area Traffic Management	1.14444	2025 - 2031	\$ 15,044,200	\$ -	\$ 15,044,200	84%	\$ 12,561,907	\$ 2,482,293	City-wide	100%	\$ 2,482,293	\$ -	\$ 2,482,293	\$ -
1.6.2 Development Sidewalks	1.16444	2025 - 2031	\$ 1,353,400	\$ -	\$ 1,353,400	5%	\$ 67,670	\$ 1,285,730	City-wide	100%	\$ 1,285,730	\$ -	\$ 1,285,730	\$ -
Subtotal Transportation Programs			\$ 19,967,300	\$ -	\$ 19,967,300		\$ 14,414,427	\$ 5,552,873			\$ 5,552,873	\$ -	\$ 5,552,873	\$ -

APPENDIX E.1

TABLE E.1-3

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
ROADS & RELATED SERVICES

Project Description	Item #	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area			Less: Prior Growth ¹	DC Recoverable 2024-2031	Less: Post 2031	
						BTE Share (%)	Replacement & BTE Shares		Area	%	\$				
1.7 Public Works															
1.7.1 Vehicle & Equipment	8.03440	2025 - 2031	\$ 19,381,210	\$ -	\$ 19,381,210	15%	\$ 2,907,181	\$ 16,474,028	City-wide	100%	\$ 16,474,028	\$ -	\$ 16,474,028	\$ -	
1.7.2 Various Works Yard Facilities	8.00240	2025 - 2031	\$ 10,001,990	\$ -	\$ 10,001,990	15%	\$ 1,500,299	\$ 8,501,692	City-wide	100%	\$ 8,501,692	\$ -	\$ 8,501,692	\$ -	
Subtotal Public Works			\$ 29,383,200	\$ -	\$ 29,383,200		\$ 4,407,480	\$ 24,975,720			\$ 24,975,720	\$ -	\$ 24,975,720	\$ -	
1.8 Outstanding Debenture Payments - Principal and Interest															
1.8.1 MacK/Rideau Principal	1.24CWD1	2024 - 2025	\$ 21,613	\$ -	\$ 21,613	0%	\$ -	\$ 21,613	City-wide	100%	\$ 21,613	\$ -	\$ 21,613	\$ -	
1.8.1 MacK/Rideau Interest	1.24CWD1	2024 - 2025	\$ 1,219	\$ -	\$ 1,219	0%	\$ -	\$ 1,219	City-wide	100%	\$ 1,219	\$ -	\$ 1,219	\$ -	
1.8.2 Hunt Club (Russell/Hwy 417) Principal	1.24CWD2	2024 - 2031	\$ 7,956,053	\$ -	\$ 7,956,053	0%	\$ -	\$ 7,956,053	City-wide	100%	\$ 7,956,053	\$ -	\$ 7,956,053	\$ -	
1.8.2 Hunt Club (Russell/Hwy 417) Interest	1.24CWD2	2024 - 2031	\$ 3,565,388	\$ -	\$ 3,565,388	0%	\$ -	\$ 3,565,388	City-wide	100%	\$ 3,565,388	\$ -	\$ 3,565,388	\$ -	
1.8.3 Hunt Club (Russell/Hwy 417) Principal	1.24CWD3	2024 - 2031	\$ 6,952,903	\$ -	\$ 6,952,903	0%	\$ -	\$ 6,952,903	City-wide	100%	\$ 6,952,903	\$ -	\$ 6,952,903	\$ -	
1.8.3 Hunt Club (Russell/Hwy 417) Interest	1.24CWD3	2024 - 2031	\$ 16,510,663	\$ -	\$ 16,510,663	0%	\$ -	\$ 16,510,663	City-wide	100%	\$ 16,510,663	\$ -	\$ 16,510,663	\$ -	
1.8.4 Trim Road (Innes to Brian Coburn) Principal	1.24CWD4	2024 - 2031	\$ 375,833	\$ -	\$ 375,833	0%	\$ -	\$ 375,833	City-wide	100%	\$ 375,833	\$ -	\$ 375,833	\$ -	
1.8.4 Trim Road (Innes to Brian Coburn) Interest	1.24CWD4	2024 - 2031	\$ 892,468	\$ -	\$ 892,468	0%	\$ -	\$ 892,468	City-wide	100%	\$ 892,468	\$ -	\$ 892,468	\$ -	
1.8.5 ISF-Extension of Terry Fox Drive Principal	1.24CWD5	2024 - 2031	\$ 657,707	\$ -	\$ 657,707	0%	\$ -	\$ 657,707	City-wide	100%	\$ 657,707	\$ -	\$ 657,707	\$ -	
1.8.5 ISF-Extension of Terry Fox Drive Interest	1.24CWD5	2024 - 2031	\$ 1,561,819	\$ -	\$ 1,561,819	0%	\$ -	\$ 1,561,819	City-wide	100%	\$ 1,561,819	\$ -	\$ 1,561,819	\$ -	
1.8.6 Alta Vista Corridor (Riverside-Hospital) Principal	1.24CWD6	2024 - 2031	\$ 348,331	\$ -	\$ 348,331	0%	\$ -	\$ 348,331	City-wide	100%	\$ 348,331	\$ -	\$ 348,331	\$ -	
1.8.6 Alta Vista Corridor (Riverside-Hospital) Interest	1.24CWD6	2024 - 2031	\$ 496,723	\$ -	\$ 496,723	0%	\$ -	\$ 496,723	City-wide	100%	\$ 496,723	\$ -	\$ 496,723	\$ -	
1.8.7 Greenbank Road (Malvern to Strandherd) Principal	1.24CWD7	2024 - 2031	\$ 1,615,451	\$ -	\$ 1,615,451	0%	\$ -	\$ 1,615,451	City-wide	100%	\$ 1,615,451	\$ -	\$ 1,615,451	\$ -	
1.8.7 Greenbank Road (Malvern to Strandherd) Interest	1.24CWD7	2024 - 2031	\$ 2,303,646	\$ -	\$ 2,303,646	0%	\$ -	\$ 2,303,646	City-wide	100%	\$ 2,303,646	\$ -	\$ 2,303,646	\$ -	
1.8.8 Tenth Line Road (Innes to Harvest Valley) Principal	1.24CWD8	2024 - 2031	\$ 857,205	\$ -	\$ 857,205	0%	\$ -	\$ 857,205	City-wide	100%	\$ 857,205	\$ -	\$ 857,205	\$ -	
1.8.8 Tenth Line Road (Innes to Harvest Valley) Interest	1.24CWD8	2024 - 2031	\$ 1,222,382	\$ -	\$ 1,222,382	0%	\$ -	\$ 1,222,382	City-wide	100%	\$ 1,222,382	\$ -	\$ 1,222,382	\$ -	
1.8.9 Trim Road (Ottawa Road 174 to Innes) Principal	1.24CWD9	2024 - 2031	\$ 229,006	\$ -	\$ 229,006	0%	\$ -	\$ 229,006	City-wide	100%	\$ 229,006	\$ -	\$ 229,006	\$ -	
1.8.9 Trim Road (Ottawa Road 174 to Innes) Interest	1.24CWD9	2024 - 2031	\$ 326,564	\$ -	\$ 326,564	0%	\$ -	\$ 326,564	City-wide	100%	\$ 326,564	\$ -	\$ 326,564	\$ -	
1.8.10 North Service Road Sidewalk Principal	1.24CWD10	2024 - 2031	\$ 29,777	\$ -	\$ 29,777	0%	\$ -	\$ 29,777	City-wide	100%	\$ 29,777	\$ -	\$ 29,777	\$ -	
1.8.10 North Service Road Sidewalk Interest	1.24CWD10	2024 - 2031	\$ 42,462	\$ -	\$ 42,462	0%	\$ -	\$ 42,462	City-wide	100%	\$ 42,462	\$ -	\$ 42,462	\$ -	
1.8.11 Rideau River Ped Bridge(Donald-Somerset) Principal	1.24CWD11	2024 - 2031	\$ 1,563,723	\$ -	\$ 1,563,723	0%	\$ -	\$ 1,563,723	City-wide	100%	\$ 1,563,723	\$ -	\$ 1,563,723	\$ -	
1.8.11 Rideau River Ped Bridge(Donald-Somerset) Interest	1.24CWD11	2024 - 2031	\$ 2,229,882	\$ -	\$ 2,229,882	0%	\$ -	\$ 2,229,882	City-wide	100%	\$ 2,229,882	\$ -	\$ 2,229,882	\$ -	
1.8.12 Mer Bleue Road (Innes to Navan) Principal	1.24CWD12	2024 - 2031	\$ 497,974	\$ -	\$ 497,974	0%	\$ -	\$ 497,974	City-wide	100%	\$ 497,974	\$ -	\$ 497,974	\$ -	
1.8.12 Mer Bleue Road (Innes to Navan) Interest	1.24CWD12	2024 - 2031	\$ 385,470	\$ -	\$ 385,470	0%	\$ -	\$ 385,470	City-wide	100%	\$ 385,470	\$ -	\$ 385,470	\$ -	
1.8.13 Alta Vista Corridor (Riverside-Hospital) Principal	1.24CWD13	2024 - 2031	\$ 175,081	\$ -	\$ 175,081	0%	\$ -	\$ 175,081	City-wide	100%	\$ 175,081	\$ -	\$ 175,081	\$ -	
1.8.13 Alta Vista Corridor (Riverside-Hospital) Interest	1.24CWD13	2024 - 2031	\$ 289,303	\$ -	\$ 289,303	0%	\$ -	\$ 289,303	City-wide	100%	\$ 289,303	\$ -	\$ 289,303	\$ -	
1.8.14 Trim Road (Ottawa Road 174 to Innes) Principal	1.24CWD14	2024 - 2031	\$ 2,271,337	\$ -	\$ 2,271,337	0%	\$ -	\$ 2,271,337	City-wide	100%	\$ 2,271,337	\$ -	\$ 2,271,337	\$ -	
1.8.14 Trim Road (Ottawa Road 174 to Innes) Interest	1.24CWD14	2024 - 2031	\$ 3,753,149	\$ -	\$ 3,753,149	0%	\$ -	\$ 3,753,149	City-wide	100%	\$ 3,753,149	\$ -	\$ 3,753,149	\$ -	
1.8.15 Strandherd Dr Ph 2 (Maravista to Jockvale) Principal	1.24CWD15	2024 - 2031	\$ 2,038,563	\$ -	\$ 2,038,563	0%	\$ -	\$ 2,038,563	City-wide	100%	\$ 2,038,563	\$ -	\$ 2,038,563	\$ -	
1.8.15 Strandherd Dr Ph 2 (Maravista to Jockvale) Interest	1.24CWD15	2024 - 2031	\$ 3,295,541	\$ -	\$ 3,295,541	0%	\$ -	\$ 3,295,541	City-wide	100%	\$ 3,295,541	\$ -	\$ 3,295,541	\$ -	
Subtotal Outstanding Debenture Payments - Principal and Interest			\$ 62,467,236	\$ -	\$ 62,467,236		\$ -	\$ 62,467,236			\$ 62,467,236	\$ -	\$ 62,467,236	\$ -	

APPENDIX E.1
TABLE E.1-3

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
ROADS & RELATED SERVICES

Project Description	Item #	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area			Less: Prior Growth ¹	DC Recoverable 2024-2031	Less: Post 2031	
						BTE Share (%)	Replacement & BTE Shares		Area	%	\$				
1.9 City-Wide Intersections															
1.9.1 Intersection Control Measures (Undefined)	1.05244	2025 - 2031	\$ 118,204,400	\$ -	\$ 118,204,400	5%	\$ 5,910,220	\$ 112,294,180	City-wide	100%	\$ 112,294,180	\$ -	\$ 112,294,180	\$ -	\$ -
1.9.2 Network Modification Program	1.15344	2025 - 2031	\$ 30,222,700	\$ -	\$ 30,222,700	17%	\$ 5,137,859	\$ 25,084,841	City-wide	100%	\$ 25,084,841	\$ -	\$ 25,084,841	\$ -	\$ -
Subtotal City-Wide Intersections			\$ 148,427,100	\$ -	\$ 148,427,100		\$ 11,048,079	\$ 137,379,021			\$ 137,379,021	\$ -	\$ 137,379,021	\$ -	\$ -
1.10 City-Wide Transit Priority Measures															
1.10.1 Transit Priority Measures	2.109X4	2025 - 2031	\$ -	\$ -	\$ -	32%	\$ -	\$ -	City-wide	100%	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal City-Wide Transit Priority Measures			\$ -	\$ -	\$ -		\$ -	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -
1.11 City-Wide Missing Links															
1.11.1 Missing Links	n/a	2025 - 2031	\$ 12,921,000	\$ -	\$ 12,921,000	57%	\$ 7,364,970	\$ 5,556,030	City-wide	100%	\$ 5,556,030	\$ -	\$ 5,556,030	\$ -	\$ -
Subtotal City-Wide Missing Links			\$ 12,921,000	\$ -	\$ 12,921,000		\$ 7,364,970	\$ 5,556,030			\$ 5,556,030	\$ -	\$ 5,556,030	\$ -	\$ -
TOTAL ROADS & RELATED SERVICES : CITY-WIDE			\$ 1,286,028,236	\$ -	\$ 1,286,028,236		\$ 144,122,188	\$ 1,141,906,048			\$ 1,141,906,048	\$ -	\$ 1,141,906,048	\$ -	\$ -

(1) Prior growth funds are adjusted through the cost allocation analysis shown below
(2) Detailed list of intersections is provided in Appendix E.1

2.0 ROADS & RELATED SERVICES : OUTSIDE THE GREENBELT															
2.1 Outstanding Debenture Payments - Principal and Interest															
2.1.1 Armstrong Road Principal	1.240SD1	2024 - 2024	\$ 62,480	\$ -	\$ 62,480	0%	\$ -	\$ 62,480	OGB/Rural	91%	\$ 56,859	\$ -	\$ 56,859	\$ -	\$ -
2.1.2 Armstrong Road Interest	1.240SD1	2024 - 2024	\$ 2,698	\$ -	\$ 2,698	0%	\$ -	\$ 2,698	OGB/Rural	91%	\$ 2,455	\$ -	\$ 2,455	\$ -	\$ -
2.1.3 Strandherd Drive (Woodroffe to Prince of Wales) Principal	1.240SD2	2024 - 2031	\$ 4,686,475	\$ -	\$ 4,686,475	0%	\$ -	\$ 4,686,475	OGB/Rural	91%	\$ 4,264,836	\$ -	\$ 4,264,836	\$ -	\$ -
2.1.4 Strandherd Drive (Woodroffe to Prince of Wales) Interest	1.240SD2	2024 - 2031	\$ 11,733,788	\$ -	\$ 11,733,788	0%	\$ -	\$ 11,733,788	OGB/Rural	91%	\$ 10,678,106	\$ -	\$ 10,678,106	\$ -	\$ -
Subtotal Outstanding Debenture Payments - Principal and Interest			\$ 16,485,441	\$ -	\$ 16,485,441		\$ -	\$ 16,485,441			\$ 15,002,256	\$ -	\$ 15,002,256	\$ -	\$ -
2.2 Multi-use Pathway Construction - West Urban Community															
2.2.1 Terry Fox Drive to Fernbank Road - Multi-Use Pathway	1.OMB1	2024 - 2031	\$ 498,200	\$ -	\$ 498,200	0%	\$ -	\$ 498,200	OGB/Rural	91%	\$ 453,377	\$ -	\$ 453,377	\$ -	\$ -
Subtotal Multi-use Pathway Construction - West Urban Community			\$ 498,200	\$ -	\$ 498,200		\$ -	\$ 498,200			\$ 453,377	\$ -	\$ 453,377	\$ -	\$ -
2.3 Intersection Control Measures (Defined)²															
2.3.1 East Area	1.ICM1	2024 - 2031	\$ 31,282,800	\$ -	\$ 31,282,800	0%	\$ -	\$ 31,282,800	OGB/Rural	91%	\$ 28,468,306	\$ -	\$ 28,468,306	\$ -	\$ -
2.3.2 South Area	1.ICM2	2024 - 2031	\$ 26,355,800	\$ -	\$ 26,355,800	0%	\$ -	\$ 26,355,800	OGB/Rural	91%	\$ 23,984,585	\$ -	\$ 23,984,585	\$ -	\$ -
2.3.3 West Area	1.ICM3	2024 - 2031	\$ 16,383,400	\$ -	\$ 16,383,400	0%	\$ -	\$ 16,383,400	OGB/Rural	91%	\$ 14,909,396	\$ -	\$ 14,909,396	\$ -	\$ -
2.3.4 Rural Area	1.ICM4	2024 - 2031	\$ 17,095,700	\$ -	\$ 17,095,700	0%	\$ -	\$ 17,095,700	OGB/Rural	91%	\$ 15,557,611	\$ -	\$ 15,557,611	\$ -	\$ -
2.3.5 Central Area	1.ICM5	2024 - 2031	\$ 11,702,400	\$ -	\$ 11,702,400	0%	\$ -	\$ 11,702,400	OGB/Rural	91%	\$ 10,649,542	\$ -	\$ 10,649,542	\$ -	\$ -
Subtotal Intersection Control Measures (Defined) ²			\$ 102,820,100	\$ -	\$ 102,820,100		\$ -	\$ 102,820,100			\$ 93,569,440	\$ -	\$ 93,569,440	\$ -	\$ -
TOTAL ROADS & RELATED SERVICES : OUTSIDE THE GREENBELT			\$ 119,803,741	\$ -	\$ 119,803,741		\$ -	\$ 119,803,741			\$ 109,025,074	\$ -	\$ 109,025,074	\$ -	\$ -

(1) Prior growth funds are adjusted through the cost allocation analysis shown below
(2) Detailed list of intersections is provided in Appendix E.1

APPENDIX E.1
TABLE E.1-3

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
ROADS & RELATED SERVICES

Project Description	Item #	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area			Less: Prior Growth ¹	DC Recoverable 2024-2031	Less: Post 2031	
						BTE Share (%)	Replacement & BTE Shares		Area	%	\$				
3.0 ROADS & RELATED SERVICES : RURAL															
3.1 Outstanding Debenture Payments - Principal and Interest															
3.1.1 Armstrong Road Principal	1.24RUD1	2024 - 2024	\$ 5,621	\$ -	\$ 5,621	0%	\$ -	\$ 5,621	OGB/Rural	9%	\$ 506	\$ -	\$ 506	\$ -	
3.1.2 Armstrong Road Interest	1.24RUD1	2024 - 2024	\$ 243	\$ -	\$ 243	0%	\$ -	\$ 243	OGB/Rural	9%	\$ 22	\$ -	\$ 22	\$ -	
3.1.3 Strandherd Drive (Woodroffe to Prince of Wales) Principal	1.24RUD2	2024 - 2031	\$ 421,639	\$ -	\$ 421,639	0%	\$ -	\$ 421,639	OGB/Rural	9%	\$ 37,935	\$ -	\$ 37,935	\$ -	
3.1.4 Strandherd Drive (Woodroffe to Prince of Wales) Interest	1.24RUD2	2024 - 2031	\$ 1,055,682	\$ -	\$ 1,055,682	0%	\$ -	\$ 1,055,682	OGB/Rural	9%	\$ 94,979	\$ -	\$ 94,979	\$ -	
Subtotal Outstanding Debenture Payments - Principal and Interest			\$ 1,483,185	\$ -	\$ 1,483,185		\$ -	\$ 1,483,185			\$ 133,441	\$ -	\$ 133,441	\$ -	
3.2 Multi-use Pathway Construction - West Urban Community															
3.2.1 Terry Fox Drive to Fernbank Road - Multi-Use Pathway	1.OMB1	2024 - 2024	\$ 283,900	\$ -	\$ 283,900	0%	\$ -	\$ 283,900	OGB/Rural	9%	\$ 25,542	\$ -	\$ 25,542	\$ -	
Subtotal Multi-use Pathway Construction - West Urban Community			\$ 283,900	\$ -	\$ 283,900		\$ -	\$ 283,900			\$ 25,542	\$ -	\$ 25,542	\$ -	
3.3 Intersection Control Measures (Defined)²															
3.3.1 East Area	1.ICM1	2024 - 2031	\$ 31,282,800	\$ -	\$ 31,282,800	0%	\$ -	\$ 31,282,800	OGB/Rural	9%	\$ 2,814,494	\$ -	\$ 2,814,494	\$ -	
3.3.2 South Area	1.ICM2	2024 - 2031	\$ 26,355,800	\$ -	\$ 26,355,800	0%	\$ -	\$ 26,355,800	OGB/Rural	9%	\$ 2,371,215	\$ -	\$ 2,371,215	\$ -	
3.3.3 West Area	1.ICM3	2024 - 2031	\$ 16,383,400	\$ -	\$ 16,383,400	0%	\$ -	\$ 16,383,400	OGB/Rural	9%	\$ 1,474,004	\$ -	\$ 1,474,004	\$ -	
3.3.4 Rural Area	1.ICM4	2024 - 2031	\$ 17,095,700	\$ -	\$ 17,095,700	0%	\$ -	\$ 17,095,700	OGB/Rural	9%	\$ 1,538,089	\$ -	\$ 1,538,089	\$ -	
3.3.5 Central Area	1.ICM5	2024 - 2031	\$ 11,702,400	\$ -	\$ 11,702,400	0%	\$ -	\$ 11,702,400	OGB/Rural	9%	\$ 1,052,858	\$ -	\$ 1,052,858	\$ -	
Subtotal Intersection Control Measures (Defined) ²			\$ 102,820,100	\$ -	\$ 102,820,100		\$ -	\$ 102,820,100			\$ 9,250,660	\$ -	\$ 9,250,660	\$ -	
TOTAL ROADS & RELATED SERVICES : RURAL			\$ 104,587,185	\$ -	\$ 104,587,185		\$ -	\$ 104,587,185			\$ 9,409,643	\$ -	\$ 9,409,643	\$ -	

(1) Prior growth funds are adjusted through the cost allocation analysis shown below
(2) Detailed list of intersections is provided in Appendix E.1

TOTAL ROADS & RELATED SERVICES			\$1,510,419,162	\$ -	\$1,510,419,162		\$ 144,122,188	\$1,366,296,974			\$1,260,340,765	\$ -	\$1,260,340,765	\$ -
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APPENDIX E.1
TABLE E.1-3

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
ROADS & RELATED SERVICES

Cost Allocation By Benefiting Area				
Residential Calculation		Total Cost	Reserve Adjs	DC Rate
Inside the Greenbelt Residential Calculation				
Residential Share of Eligible Costs	69%	\$0	(\$9,664,880)	\$9,664,880
8-Year Population Growth		64,001		64,001
Unadjusted Per Charge per Capita		\$0.00		\$151.01
Outside the Greenbelt Residential Calculation				
Residential Share of Eligible Costs	85%	\$92,424,400	\$20,818,528	\$71,605,871
8-Year Population Growth		92,249		92,249
Unadjusted Per Charge per Capita		\$1,001.90		\$776.22
Rural Residential Calculation				
Residential Share of Eligible Costs	92%	\$8,654,466	\$3,123,993	\$5,530,473
8-Year Population Growth		16,603		16,603
Unadjusted Per Charge per Capita		\$521.26		\$333.10
Non-Residential Calculation				
Non-Residential Share of Eligible Costs		\$17,355,851	(\$322,866)	\$17,678,717
Industrial				
Non-Residential Share of Eligible Costs		\$2,022,512	(\$37,624)	\$2,060,136
8-Year Non-Residential Growth in GFA (m2)		421,960		421,960
Charge per Square Metre		\$4.79		\$4.88
Non-Industrial				
Non-Residential Share of Eligible Costs		\$15,333,339	(\$285,242)	\$15,618,581
8-Year Non-Residential Growth in GFA (m2)		1,264,620		1,264,620
Charge per Square Metre		\$12.12		\$12.35

Reserve Fund Balance			
	Total	Residential	Non-Res
City-wide	\$80,348,699	\$64,169,552	\$16,179,147
IGB	(\$13,999,631)	(\$9,664,880)	(\$4,334,751)
OBG	\$24,557,818	\$20,818,528	\$3,739,290
Rural	\$3,396,589	\$3,123,993	\$272,596

City-wide Cost Allocations (Residential and Non-Residential)				
Residential Calculation		Total Cost	Reserve Adjs	DC Rate
Residential Share of Eligible Costs	80%	\$911,969,951	\$64,169,552	\$847,800,400
8-Year Population Growth		172,923		172,923
Unadjusted Per Charge per Capita		\$5,273.85		\$4,902.76
Non-Residential Calculation				
Non-Residential Share of Eligible Costs	20%	\$229,936,097	\$16,179,147	\$213,756,949
Industrial				
Non-Residential Share of Eligible Costs	2%	\$26,794,911	\$1,885,388	\$24,909,522
8-Year Non-Residential Growth in GFA (m2)		421,960		421,960
Charge per Square Metre		\$63.50		\$59.03
Non-Industrial				
Non-Residential Share of Eligible Costs	18%	\$203,141,186	\$14,293,759	\$188,847,427
8-Year Non-Residential Growth in GFA (m2)		1,264,620		1,264,620
Charge per Square Metre		\$160.63		\$149.33

TOTAL DC ELIGIBLE COSTS 2024-2031 AFTER ADJUSTMENT FOR AVAILABLE DC RESERVE FUNDS

\$ 1,166,037,290



**APPENDIX E.1
TABLE E.1-4**

**CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
DETAILS ON INTERSECTION CONTROL MEASURES**

Project Description	Timing	Gross Project Cost
Intersection Control Measures (Defined)		
East		
Fern Casey Street and Eastboro Ave	2024 – 2031	\$2,300,000
Fern Casey Street and Renaud Road	2024 – 2031	\$2,300,000
Fern Casey Street and Navan Road	2024 – 2031	\$2,300,000
Brian Coburn Boulevard and Ascend	2024 – 2031	\$4,000,000
Navan Road and Mark Inch Road	2024 – 2031	\$2,300,000
Frank Bender Street and Vanguard Dr	2024 – 2031	\$2,300,000
Innes Road and Lamarche Street	2024 – 2031	\$310,000
Mer Bleu Road and Decoeur Drive	2024 – 2031	\$2,300,000
Mer Bleu Road and Renaud Road	2024 – 2031	\$2,300,000
Highway 174 and Cardinal Creek Drive	2024 – 2031	\$2,300,000
Old Montreal Road and Dairy Drive	2024 – 2031	\$1,200,000
Old Montreal Road and Cardinal Creek	2024 – 2031	\$2,300,000
Renaud Road and Navan Road	2024 – 2031	\$4,000,000
South		
Earl Armstrong Road and Collector A	2024 – 2031	\$2,300,000
Limebank Road and Riverside Main Street	2024 – 2031	\$2,300,000
Spratt Road and Borbridge Avenue	2024 – 2031	\$1,200,000
Borrisokane and Street 31	2024 – 2031	\$2,300,000
Cambrian Road and Borrisokane Road	2024 – 2031	\$4,000,000
Limebank Road and Leitrim Road	2024 - 2031	\$2,300,000
Limebank Road and Collector I	2024 – 2031	\$2,300,000
Limebank Road and Collector J	2024 – 2031	\$2,300,000
Old Greenbank and Barnsdale Road	2024 – 2031	\$2,300,000
Old Greenbank Road at Street 2	2024 – 2031	\$2,300,000
Old Greenbank Road and Street B	2024 – 2031	\$2,300,000
West		
Kavanagh and Hazeldean Road	2024 – 2031	\$2,300,000
Street 1 and Terry Fox Drive (Kanata Highlands)	2024 – 2031	\$2,300,000
March Road and Street D	2024 – 2031	\$2,300,000
March Road and Kanata Street A/G	2024 – 2031	\$2,300,000
March Road and Kanata Street C/E	2024 – 2031	\$2,300,000
Terry Fox Drive and Michael Cowpland	2024 – 2031	\$2,300,000
Terry Fox Drive and Cope Drive	2024 – 2031	\$2,300,000

**APPENDIX E.1
TABLE E.1-4**

**CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
DETAILS ON INTERSECTION CONTROL MEASURES**

Project Description	Timing	Gross Project Cost
Intersection Control Measures (Defined)		
Rural		
Carp Road and Russ Bradley	2024 – 2031	\$1,200,000
March Road and Thomas Argue Road	2024 – 2031	\$1,200,000
March Road and Diamondview Road	2024 – 2031	\$1,200,000
Boundary Road and Mitch Owens Road	2024 – 2031	\$2,300,000
Perth Street and Meynell Road	2020 – 2031	\$4,000,000
Eagleson Road and Ottawa Street	2024 – 2031	\$2,300,000
Shea Road and Perth Street	2024 – 2031	\$2,300,000
Manotick Main Street and Bridgeport Avenue	2024 – 2031	\$2,300,000
Central		
Ottawa Street and Booth Street	2024 - 2031	\$2,300,000
Albert Street and Broad Street	2024 – 2031	\$2,300,000
Albert Street and Champagne Street	2024 – 2031	\$2,300,000
Aviation Parkway and Hemlock Road	2024 – 2031	\$2,300,000
Sir John A MacDonald and 1 block west of Preston Street	2024 – 2031	\$2,300,000

**APPENDIX E.1
TABLE E.1-5**

**CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
ROADS & RELATED SERVICES : CITY-WIDE**

**CITY-WIDE RESIDENTIAL DEVELOPMENT CHARGE
CITY-WIDE
(in \$000)**

ROADS & RELATED SERVICES : CITY-WIDE	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$64,169.55	\$188,323.64	\$140,794.98	\$93,345.97	(\$1,439.52)	(\$86,377.63)	(\$87,949.28)	(\$38,994.66)	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Roads & Related Services : City-Wide: Non Inflated	\$0.0	\$173,583.8	\$173,583.8	\$173,583.8	\$161,374.4	\$86,843.3	\$46,556.1	\$46,556.1	\$862,081.2
- Roads & Related Services : City-Wide: Inflated	\$0.0	\$178,791.3	\$184,155.0	\$189,679.7	\$181,628.3	\$100,675.2	\$55,590.4	\$57,258.1	\$947,778.0
- Roads & Related Services : City-Wide Infrastructure: Debenture Finance Int	\$1,739.7	\$1,739.3	\$1,739.0	\$1,739.0	\$1,739.0	\$1,739.0	\$1,739.0	\$17,277.2	\$29,451.1
- Roads & Related Services : City-Wide (Inflation + Debenture Financed)	\$1,739.7	\$180,530.6	\$185,894.0	\$191,418.7	\$183,367.3	\$102,414.2	\$57,329.4	\$74,535.3	\$977,229.2
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units - City-Wide	25,504	26,076	26,661	18,382	18,655	18,931	19,214	19,500	172,923
REVENUE									
- DC Receipts: Inflated	\$122,162.3	\$128,649.2	\$135,481.5	\$96,212.9	\$100,571.1	\$105,120.8	\$109,893.0	\$114,874.6	\$912,965.6
INTEREST									
- Interest on Opening Balance	\$1,925.1	\$5,649.7	\$4,223.8	\$2,800.4	(\$72.0)	(\$4,318.9)	(\$4,397.5)	(\$1,949.7)	\$3,861.0
- Interest on In-year Transactions	\$1,806.3	(\$1,297.0)	(\$1,260.3)	(\$2,380.1)	(\$2,069.9)	\$40.6	\$788.5	\$605.1	(\$3,766.9)
TOTAL REVENUE	\$125,893.8	\$133,001.9	\$138,445.0	\$96,633.2	\$98,429.2	\$100,842.5	\$106,284.0	\$113,530.0	\$913,059.6
CLOSING CASH BALANCE	\$188,323.6	\$140,795.0	\$93,346.0	(\$1,439.5)	(\$86,377.6)	(\$87,949.3)	(\$38,994.7)	\$0.0	

2024 Principle Repayment Charge (2)	\$ 118.19
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$ 4,789.93
Total Charge per Capita	\$ 4,908.12

Allocation of Capital Program	
Residential	79.9%
Non-Residential	20.1%
Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed



APPENDIX E.1
TABLE E.1-5

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
ROADS & RELATED SERVICES : INSIDE THE GREENBELT

INSIDE GREENBELT RESIDENTIAL DEVELOPMENT CHARGE
INSIDE THE GREENBELT
(in \$000)

ROADS & RELATED SERVICES : INSIDE THE GREENBELT	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	(\$9,664.9)	(\$8,792.6)	(\$7,836.0)	(\$6,789.8)	(\$5,648.0)	(\$4,404.8)	(\$3,053.6)	(\$1,587.7)	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Roads & Related Services : Inside The Greenbelt: Non Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Roads & Related Services : Inside The Greenbelt: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Roads & Related Services : Inside The Greenbelt Infrastructure: Debenture Finance Interest (1)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Roads & Related Services : Inside The Greenbelt (Inflation + Debenture Financed)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units - Inside the Greenbelt	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	64,001
REVENUE									
- DC Receipts: Inflated	\$1,335.5	\$1,375.6	\$1,416.8	\$1,459.3	\$1,503.1	\$1,548.2	\$1,594.6	\$1,642.5	\$11,875.6
INTEREST									
- Interest on Opening Balance	(\$483.2)	(\$439.6)	(\$391.8)	(\$339.5)	(\$282.4)	(\$220.2)	(\$152.7)	(\$79.4)	(\$2,388.9)
- Interest on In-year Transactions	\$20.0	\$20.6	\$21.3	\$21.9	\$22.5	\$23.2	\$23.9	\$24.6	\$178.1
TOTAL REVENUE	\$872.3	\$956.6	\$1,046.3	\$1,141.7	\$1,243.2	\$1,351.2	\$1,465.9	\$1,587.7	\$9,664.9
CLOSING CASH BALANCE	(\$8,792.6)	(\$7,836.0)	(\$6,789.8)	(\$5,648.0)	(\$4,404.8)	(\$3,053.6)	(\$1,587.7)	(\$0.0)	

2024 Principle Repayment Charge (2)	\$	-
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$	166.93
Total Charge per Capita	\$	166.93

Notes

(1) Debenture finance interest are not inflated

(2) Principle Repayment Charge will not be indexed

Allocation of Capital Program	
Residential	69.0%
Non-Residential	31.0%
Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

APPENDIX E.1
TABLE E.1-5

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
ROADS & RELATED SERVICES : OUTSIDE THE GREENBELT

OUTSIDE GREENBELT RESIDENTIAL DEVELOPMENT CHARGE
OUTSIDE THE GREENBELT
(in \$000)

ROADS & RELATED SERVICES : OUTSIDE THE GREENBELT	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$20,818.53	\$19,206.23	\$17,497.06	\$15,684.49	\$13,763.82	\$11,730.22	\$9,578.64	\$7,303.82	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Roads & Related Services : Outside The Greenbelt: Non Inflated	\$9,963.3	\$9,963.3	\$9,963.3	\$9,963.3	\$9,963.3	\$9,963.3	\$9,963.3	\$9,963.3	\$79,706.5
- Roads & Related Services : Outside The Greenbelt: Inflated	\$9,963.3	\$10,262.2	\$10,570.1	\$10,887.2	\$11,213.8	\$11,550.2	\$11,896.7	\$12,253.6	\$88,597.1
- Roads & Related Services : Outside The Greenbelt Infrastructure: Debenture Finance Interest (1)	\$536.0	\$533.9	\$533.9	\$533.9	\$533.9	\$533.9	\$533.9	\$5,314.7	\$9,054.3
- Roads & Related Services : Outside The Greenbelt (Inflation + Debenture Financed)	\$10,499.3	\$10,796.1	\$11,104.0	\$11,421.1	\$11,747.7	\$12,084.1	\$12,430.6	\$17,568.3	\$97,651.4
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units - City-wide	11,531	11,531	11,531	11,531	11,531	11,531	11,531	11,531	92,249
REVENUE									
- DC Receipts: Inflated	\$8,317.0	\$8,566.5	\$8,823.5	\$9,088.2	\$9,360.9	\$9,641.7	\$9,931.0	\$10,228.9	\$73,957.7
INTEREST									
- Interest on Opening Balance	\$624.6	\$576.2	\$524.9	\$470.5	\$412.9	\$351.9	\$287.4	\$219.1	\$3,467.5
- Interest on In-year Transactions	(\$54.6)	(\$55.7)	(\$57.0)	(\$58.3)	(\$59.7)	(\$61.1)	(\$62.5)	(\$183.5)	(\$592.3)
TOTAL REVENUE	\$8,887.0	\$9,087.0	\$9,291.4	\$9,500.4	\$9,714.1	\$9,932.5	\$10,155.8	\$10,264.5	\$76,832.8
CLOSING CASH BALANCE	\$19,206.2	\$17,497.1	\$15,684.5	\$13,763.8	\$11,730.2	\$9,578.6	\$7,303.8	(\$0.0)	

2024 Principle Repayment Charge (2)	\$ 132.05
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$ 721.27
Total Charge per Capita	\$ 853.32

Notes
(1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

Allocation of Capital Program	
Residential	84.8%
Non-Residential	15.2%
Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

APPENDIX E.1
TABLE E.1-5

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
ROADS & RELATED SERVICES : RURAL

RURAL RESIDENTIAL DEVELOPMENT CHARGE
RURAL
(in \$000)

ROADS & RELATED SERVICES : RURAL	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$3,123.99	\$2,842.00	\$2,567.08	\$2,274.87	\$1,964.57	\$1,635.37	\$1,286.41	\$916.80	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Roads & Related Services : Rural: Non Inflated	\$1,087.0	\$1,063.5	\$1,063.5	\$1,063.5	\$1,063.5	\$1,063.5	\$1,063.5	\$1,063.5	\$8,531.7
- Roads & Related Services : Rural: Inflated	\$1,087.0	\$1,095.4	\$1,128.3	\$1,162.1	\$1,197.0	\$1,232.9	\$1,269.9	\$1,308.0	\$9,480.8
- Roads & Related Services : Rural Infrastructure: Debenture Finance Interest (1)	\$57.5	\$57.3	\$57.3	\$57.3	\$57.3	\$57.3	\$57.3	\$570.1	\$971.2
- Roads & Related Services : Rural (Inflation + Debenture Financed)	\$1,144.5	\$1,152.7	\$1,185.6	\$1,219.4	\$1,254.3	\$1,290.2	\$1,327.2	\$1,878.1	\$10,451.9
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units - Rural	2,075	2,075	2,075	2,075	2,075	2,075	2,075	2,075	16,603
REVENUE									
- DC Receipts: Inflated	\$778.0	\$801.3	\$825.3	\$850.1	\$875.6	\$901.9	\$928.9	\$956.8	\$6,918.0
INTEREST									
- Interest on Opening Balance	\$93.7	\$85.3	\$77.0	\$68.2	\$58.9	\$49.1	\$38.6	\$27.5	\$498.3
- Interest on In-year Transactions	(\$9.2)	(\$8.8)	(\$9.0)	(\$9.2)	(\$9.5)	(\$9.7)	(\$10.0)	(\$23.0)	(\$88.3)
TOTAL REVENUE	\$862.5	\$877.8	\$893.4	\$909.1	\$925.1	\$941.2	\$957.6	\$961.3	\$7,327.9
CLOSING CASH BALANCE	\$2,842.0	\$2,567.1	\$2,274.9	\$1,964.6	\$1,635.4	\$1,286.4	\$916.8	\$0.0	

2024 Principle Repayment Charge (2)	\$ 23.67
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$ 374.86
Total Charge per Capita	\$ 398.53

Notes

(1) Debenture finance interest are not inflated

(2) Principle Repayment Charge will not be indexed

Allocation of Capital Program	
Residential	92.0%
Non-Residential	8.0%
Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

**APPENDIX E.1
TABLE E.1-5**

**CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
ROADS & RELATED**

**CITY-WIDE CHARGE
INDUSTRIAL
(in \$000)**

ROADS & RELATED	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$1,847.76	\$4,855.36	\$2,718.54	\$488.48	(\$1,845.09)	(\$3,900.57)	(\$3,487.02)	(\$1,556.36)	
2024-2031 NON-RESIDENTIAL FUNDING REQUIREMENTS									
- Roads & Related: Non Inflated	\$219.6	\$5,319.5	\$5,319.5	\$5,319.5	\$4,960.8	\$2,770.9	\$1,587.2	\$1,587.2	\$27,084.2
- Roads & Related: Inflated	\$219.6	\$5,479.1	\$5,643.4	\$5,812.7	\$5,583.4	\$3,212.3	\$1,895.2	\$1,952.1	\$29,797.8
- Roads & Related Infrastructure: Debenture Finance Interest (1)	\$62.9	\$62.9	\$62.9	\$62.9	\$62.9	\$62.9	\$62.9	\$624.7	\$1,064.7
- Roads & Related (Inflation + Debenture Financed)	\$282.5	\$5,541.9	\$5,706.3	\$5,875.6	\$5,646.2	\$3,275.1	\$1,958.1	\$2,576.8	\$30,862.5
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Non-Res Industrial GFA	51,040	51,480	52,030	52,470	53,020	53,460	54,010	54,450	421,960
REVENUE									
- DC Receipts: Inflated	\$3,191.0	\$3,315.1	\$3,451.0	\$3,584.6	\$3,730.9	\$3,874.7	\$4,032.0	\$4,186.8	\$29,366.2
INTEREST									
- Interest on Opening Balance	\$55.4	\$145.7	\$81.6	\$14.7	(\$92.3)	(\$195.0)	(\$174.4)	(\$77.8)	(\$242.1)
- Interest on In-year Transactions	\$43.6	(\$55.7)	(\$56.4)	(\$57.3)	(\$47.9)	\$9.0	\$31.1	\$24.2	(\$109.3)
TOTAL REVENUE	\$3,290.1	\$3,405.1	\$3,476.2	\$3,542.0	\$3,590.7	\$3,688.7	\$3,888.8	\$4,133.1	\$29,014.7
CLOSING CASH BALANCE	\$4,855.4	\$2,718.5	\$488.5	(\$1,845.1)	(\$3,900.6)	(\$3,487.0)	(\$1,556.4)	\$0.0	

2024 Principle Repayment Charge (2)	\$ 2.04
2024 Adjusted Capital Cost & Finance Interest Charge Per M2	\$ 62.52
Total Charge per m2	\$ 64.56

Allocation of Capital Program	
Industrial Sector	2.35%
Non-Industrial Sector	17.79%

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

(1) Debenture finance interest are not inflated

(2) Principle Repayment Charge will not be indexed

**APPENDIX E.1
TABLE E.1-5**

**CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
ROADS & RELATED**

**CITY-WIDE CHARGE
NON-INDUSTRIAL
(in \$000)**

ROADS & RELATED	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$14,008.52	\$36,914.50	\$20,820.60	\$3,951.68	(\$13,705.15)	(\$29,316.66)	(\$26,212.44)	(\$11,682.63)	
2024-2031 NON-RESIDENTIAL FUNDING REQUIREMENTS									
- Roads & Related: Non Inflated	\$1,664.8	\$40,328.8	\$40,328.8	\$40,328.8	\$37,609.1	\$21,007.3	\$12,033.4	\$12,033.4	\$205,334.2
- Roads & Related: Inflated	\$1,664.8	\$41,538.6	\$42,784.8	\$44,068.3	\$42,329.4	\$24,353.3	\$14,368.5	\$14,799.5	\$225,907.1
- Roads & Related Infrastructure: Debenture Finance Interest (1)	\$477.0	\$476.6	\$476.5	\$476.5	\$476.5	\$476.5	\$476.5	\$4,735.8	\$8,071.9
- Roads & Related (Inflation + Debenture Financed)	\$2,141.8	\$42,015.2	\$43,261.3	\$44,544.8	\$42,805.9	\$24,829.8	\$14,845.0	\$19,535.3	\$233,979.0
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Non-Res Non-Industrial GFA	153,630	154,915	156,131	157,420	158,682	159,998	161,264	162,580	1,264,620
REVENUE									
- DC Receipts: Inflated	\$24,295.2	\$25,233.4	\$26,194.4	\$27,203.0	\$28,243.7	\$29,332.3	\$30,451.3	\$31,620.8	\$222,574.1
INTEREST									
- Interest on Opening Balance	\$420.3	\$1,107.4	\$624.6	\$118.6	(\$685.3)	(\$1,465.8)	(\$1,310.6)	(\$584.1)	(\$1,775.0)
- Interest on In-year Transactions	\$332.3	(\$419.5)	(\$426.7)	(\$433.5)	(\$364.1)	\$67.5	\$234.1	\$181.3	(\$828.6)
TOTAL REVENUE	\$25,047.8	\$25,921.3	\$26,392.4	\$26,888.0	\$27,194.4	\$27,934.0	\$29,374.8	\$31,217.9	\$219,970.5
CLOSING CASH BALANCE	\$36,914.5	\$20,820.6	\$3,951.7	(\$13,705.1)	(\$29,316.7)	(\$26,212.4)	(\$11,682.6)	\$0.0	

2024 Principle Repayment Charge (2)	\$ 5.15
2024 Adjusted Capital Cost & Finance Interest Charge Per M2	\$ 158.14
Total Charge per m2	\$ 163.29

Allocation of Capital Program	
Industrial Sector	2.35%
Non-Industrial Sector	17.79%

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

(1) Debenture finance interest are not inflated

(2) Principle Repayment Charge will not be indexed

Appendix E.2

Sanitary (Waste Water)

Appendix E.2 – Sanitary (Waste Water)

Technical Appendix

Capital infrastructure contained in the Sanitary (Waste Water) service category includes plant expansions and upgrades of linear sanitary sewer infrastructure.

This appendix provides a brief outline of historical service levels for Sanitary (Waste Water) services, the projects that will benefit development occurring over the 2024 to 2031 development-related capital forecast. The cost, quantum and timing of the projects identified in the forecast have been provided by City staff and are based on the capital projects identified in the City's existing Infrastructure Master Plan and the 2014 DC Background Study and 2019 Interim 2019 DC Background Study and adjusted to account for recent expenditures and indexing.

Table E.2-1: Forecast Wastewater Demand by Area

Table E.2-2: 2024-2031 Development-Related Capital Forecast and Calculation of the Discounted Growth-Related Net Capital Costs

Table E.2-3: Development Charge Calculation: Cash Flow Analysis for Sanitary (Waste Water) Area-Specific Development Charges

A. Benefitting Area

The City's Sanitary (Waste Water) development charges is calculated on both a City-wide and area-specific basis. The smaller benefitting areas are defined as: Inside the Greenbelt, Outside the Greenbelt and Rural area.

B. Historical Service Level Analysis

Sanitary (Waste Water) facilities included in the DC capital forecast are required to achieve health and safety standards as identified in relevant legislation including Provincial regulations, other relevant legislation as well as City standards. As such, in accordance with section 4(3) of O.Reg. 82/98, the 15-year historical service level does not apply.

C. Forecast Wastewater Demand by Area

Consistent with the approach included in the 2014 DC Background Study and 2019 Interim DC Background Study, the residential and non-residential allocations have been based on average flows required by these types of development (shown in Table E.2-1).

Sanitary treatment projects including plant expansions are allocated based on the total demand for all areas (78% residential and 22% non-residential). The residential and non-residential split for linear infrastructure is based on the location of the assets and is identified in Table E.2-1.

D. Development-Related Capital Forecast

The development-related capital forecast that will benefit development occurring over the 2024 to 2031 period includes a variety of projects for the provision of Sanitary (Waste Water) services in the City and amounts to a total gross cost of \$1.4 billion, as shown in Table E.2-2.

The following summarizes the city-wide and area-specific capital programs:

- **City-wide Capital Program** – The development-related capital forecast that will benefit development occurring over the 2024 to 2031 period includes expansion of the R.O. Pickard Plant, improving reliability of the plant, wet weather program costs as well as the recovery of

outstanding debenture payments. The total gross cost of the capital program amounts to \$467.7 million, as shown in Table E.2-2.

- **Inside the Greenbelt Capital Program** – The gross capital program for IGB Sanitary totals \$762.9 million and includes the recovery of costs for O’Conner Flood Control Works, Rideau River Collector Upgrade and Twinning as well as Waste water System Renewal Program- Intensification Areas.
- **Outside the Greenbelt Capital Program** – The total gross capital program related to development OGB totals \$165.8 million. The program includes the recovery of outstanding principal and interest debenture payments, various expansion and upgrade projects as well as projects in the east urban and south urban communities.
- **Rural** – there are no capital projects identified for sewer in the Rural area of the City and as such, there is no DC rate calculated for development occurring in this area.

E. Calculation of Discounted Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Sanitary (Waste Water) Services. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for the reductions. The identified benefit to existing shares includes costs that meet the needs of existing development, including past development. Decisions were based on a variety of factors including the population and employment growth over the planning period, rehabilitation costs and input from City staff.

New projects are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost. For projects that were identified in the 2014 DC Background Study and the 2019 Interim DC Background Study, the prior benefit to existing shares have been maintained.

In total, \$744.3 million is identified as the replacement and benefit to existing share over the planning period. The largest share of this cost is related to IGB Wastewater Systems Renewal Program – Intensification Areas totaling \$554.5 million.

iii. Prior DC Funding / Available DC Reserve Funds

Prior DC funding relates to portions of projects which have had DCs collected and applied against a portion of the DC eligible project costs. These amounts are removed from the capital forecast and not brought forward into the development charge calculation. Table E.2-2 provides details on the available DC reserve fund balance by benefitting area.

In total, the \$96.2 million identified in the City-wide Sanitary (Waste Water) reserve fund has been reduced from the total City-wide DC eligible capital costs. Similarly, \$25.1 million is identified in the IGB, \$1.2 million in the OGB and \$23,000 in the Rural Sanitary (Waste Water) DC reserve funds have been applied to projects occurring in these areas.

iv. Post-2031 Benefit

Approximately \$110.3 million in post-period DC shares has been identified and are reduced from the total DC eligible costs. These shares of projects will be considered for recovery as part of subsequent development charges studies.

v. 2024-2031 DC Eligible Development Related Costs

The total in-period DC eligible costs shown in Table E.2-2 amounts to \$464.0 million after adjustments for benefit to existing and post-period benefits. After deductions for available DC reserve fund balances the in-period DC eligible cost is reduced to \$341.4 million (shown in the DC cost allocation summary at the bottom of Table E.2-2).

F. Calculation of Residential and Non-Residential Discounted Development-Related Capital Costs

The discounted development-related costs have been allocated based on shares of forecast demand for each area over the 2024-2031 benefitting period.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring City-wide, Inside the Greenbelt, Outside the Greenbelt and Rural areas. The “residual” shown in the area-specific non-residential summary represents the sum of the costs remaining once the residential allocations have been made for Inside the Greenbelt and Outside the Greenbelt area.

These costs allocations and DC rate calculations are presented in Table E2-2. The total costs shown below reflect the total costs brought forward to the DC calculation after adjusting for DC reserve funds.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
Inside the Greenbelt	18%	\$48,928,831
Outside the Greenbelt	39%	\$141,685,798
Rural	0%	\$0
City Wide	78%	\$86,473,547

Benefitting Area	% Allocation	Total Cost (\$)
Subtotal Residential		\$277,088,176
Non-Residential --Industrial		
Area-Specific	Residual	\$4,641,603
City-wide	3%	\$2,852,581
Non-Residential – Non-Industrial		
Area-Specific	Residual	\$35,189,545
City-wide	19%	\$21,626,372
Subtotal Non-Residential		\$64,310,101
TOTAL		\$341,398,276

G. Development Charge Calculation

The Sanitary (Waste Water) DC rates include financing costs through a cash flow analysis. A cash flow analysis is undertaken to account for the timing of projects and receipt of DCs. It is particularly applicable where the timing of the forecast capital expenditures is significantly front-ended or back ended over the planning period. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the DCA. Based on the development forecast, the analysis calculates the DC rate required to finance the discounted development-related capital spending plan including provisions for any borrowing costs or interest earnings on the reserve funds. The cash flow analysis is designed so that the closing cash balance at the end of the planning period is as close to nil as possible.

In order to determine appropriate DC rates reflecting borrowing and earnings necessary to support the discounted development-related funding requirement, assumptions are used for the inflation and interest rates. An inflation rate of 3.0% is used for the funding requirements, an interest rate of 3.0% is used for positive opening balances, and a rate of 5.0% is used for negative opening balances.

Table E.2-3 displays the results of the cash flow analysis and provides the adjusted or final per capita residential and per employees in new non-residential DCs. For residential development charges a per capita amount has been calculated for development occurring IGB and OGB area. A city-wide charge has been calculated for the residual industrial and non-industrial shares of the program. Debenture interest is not inflated in the cash flow analysis and the principal repayment component of the charge continues to be not indexed as has been the case since 2014.

The following table provides a summary of the calculated per capita and per square metre of industrial and non-industrial space City-wide.

Summary of Adjusted Area-Specific Sanitary (Waste Water) Cash Flow Analysis

Benefitting Area	Adjusted Charge
Residential	
City-wide (\$/capita)	\$495.75
Inside the Greenbelt (\$/capita)	\$763.96
Outside the Greenbelt (\$/capita)	\$1,503.18
Rural (\$/capita)	\$0.0
Non-Residential - Industrial	
City-wide (\$/m ²)	\$20.67
Non-Residential – Non-Industrial	
City-wide (\$/m ²)	\$43.90

**APPENDIX E.2
TABLE E.2-1**

**CITY OF OTTAWA
SANITARY (WASTEWATER) DEMAND BY AREA**

Residential no Outdoor Water Demand (OWD)										
Wastewater	Residential - MId		ICI MId		Total - MId		Growth in Demand	Res Growth	Non-Res Growth	Res Component of Growth
	2019	2031	2019	2031	2019	2031	MId	MId	MId	%
Inside the Greenbelt	115.0	126.8	67.4	72.5	182.4	199.4	17.0	11.8	5.2	69.60%
Outside the Greenbelt	63.5	76.6	9.4	11.3	73.0	87.9	14.9	13.1	1.9	87.40%
West Urban Community	22.6	27.8	5.1	5.6	27.7	33.4	5.7	5.2	0.5	91.23%
South Urban Community	20.3	24.7	2.0	2.7	22.3	27.5	5.1	4.4	0.7	86.51%
East Urban Community	20.7	24.0	2.3	3.0	23.0	27.0	4.1	3.4	0.7	83.13%
Total	178.6	203.4	76.8	83.8	255.3	287.3	31.9	24.9	7.0	77.94%

APPENDIX E.2
TABLE E.2-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
SANITARY (WASTE WATER)

Project Description	Item Number	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area			Less: Prior Growth ¹	DC Recoverable 2024-2031	Less: Post 2031	
						BTE Share (%)	Replacement & BTE Shares		Area	%	\$				
2.0 SANITARY (WASTE WATER): CITY-WIDE															
2.1 R.O. Pickard Plant Expansion															
2.1.1	Waste Activated Sludge (WAS) Pumps	10.4A2	2025 - 2025	\$ 625,732	\$ -	\$ 625,732	0%	\$ -	\$ 625,732	City-wide	100%	\$ 625,732	\$ -	\$ 595,027	\$ 30,705
2.1.2	Sludge Thickening Centrifuges	10.4A4	2025 - 2025	\$ 295	\$ -	\$ 295	0%	\$ -	\$ 295	City-wide	100%	\$ 295	\$ -	\$ 273	\$ 22
2.1.3	Short Term Accommodations	10.4A5	2025 - 2025	\$ 22,726,002	\$ -	\$ 22,726,002	40%	\$ 9,090,401	\$ 13,635,601	City-wide	100%	\$ 13,635,601	\$ -	\$ 11,339,392	\$ 2,296,209
2.1.4	Primary Clarifiers	10.4A6	2025 - 2025	\$ 2,312,230	\$ -	\$ 2,312,230	0%	\$ -	\$ 2,312,230	City-wide	100%	\$ 2,312,230	\$ -	\$ 2,024,261	\$ 287,969
2.1.5	Chlorine Contact Tank	10.4A7	2025 - 2025	\$ 85,175,577	\$ -	\$ 85,175,577	0%	\$ -	\$ 85,175,577	City-wide	100%	\$ 85,175,577	\$ -	\$ 75,711,327	\$ 9,464,250
2.1.6	New Raw Sewage Pump Station	10.4A8	2024 - 2026	\$ 17,989,758	\$ -	\$ 17,989,758	0%	\$ -	\$ 17,989,758	City-wide	100%	\$ 17,989,758	\$ -	\$ 13,669,598	\$ 4,320,160
2.1.7	Coarse Screen for New - Raw Sewage Pump Station (RSPS)	10.4A9	2024 - 2024	\$ 54,735,189	\$ -	\$ 54,735,189	0%	\$ -	\$ 54,735,189	City-wide	100%	\$ 54,735,189	\$ -	\$ 27,581,381	\$ 27,153,808
2.1.8	Disinfection System	10.4A10	2024 - 2026	\$ 431,205	\$ -	\$ 431,205	10%	\$ 43,121	\$ 388,084	City-wide	100%	\$ 388,084	\$ -	\$ 173,351	\$ 214,733
2.1.9	Outfall Expansion	10.4A11	2027 - 2029	\$ 3,554,755	\$ -	\$ 3,554,755	0%	\$ -	\$ 3,554,755	City-wide	100%	\$ 3,554,755	\$ -	\$ 1,583,076	\$ 1,971,679
2.1.10	Dewatering Centrifuge Polymer Pumps	10.4A12	2032 - 2032	\$ 42,163,773	\$ -	\$ 42,163,773	0%	\$ -	\$ 42,163,773	City-wide	100%	\$ 42,163,773	\$ -	\$ -	\$ 42,163,773
2.1.11	New Storage/Warehouse Building	10.4A13	2032 - 2032	\$ 470,789	\$ -	\$ 470,789	0%	\$ -	\$ 470,789	City-wide	100%	\$ 470,789	\$ -	\$ -	\$ 470,789
2.1.12	Fine Screens	10.4A14	2032 - 2032	\$ 11,990,223	\$ -	\$ 11,990,223	0%	\$ -	\$ 11,990,223	City-wide	100%	\$ 11,990,223	\$ -	\$ -	\$ 11,990,223
2.1.13	Aeration Tanks	10.4A15	2032 - 2032	\$ 23,247,445	\$ -	\$ 23,247,445	0%	\$ -	\$ 23,247,445	City-wide	100%	\$ 23,247,445	\$ -	\$ -	\$ 23,247,445
2.1.14	Substation 1 (West)	10.4A16	2032 - 2032	\$ 49,572,898	\$ -	\$ 49,572,898	0%	\$ -	\$ 49,572,898	City-wide	100%	\$ 49,572,898	\$ -	\$ -	\$ 49,572,898
	Subtotal R.O. Pickard Plant Expansion			\$ 314,995,871	\$ -	\$ 314,995,871		\$ 9,133,522	\$ 305,862,349			\$ 305,862,349	\$ -	\$ 132,677,686	\$ 173,184,663
2.2 R.O. Pickard Plant Reliability															
2.2.1	Digester Gas Flare System	10.5B1	2024 - 2026	\$ 1,490	\$ -	\$ 1,490	50%	\$ 745	\$ 745	City-wide	100%	\$ 745	\$ -	\$ 745	\$ -
2.2.2	Aeration Blowers	10.5B2	2024 - 2026	\$ 6,284,140	\$ -	\$ 6,284,140	67%	\$ 4,210,374	\$ 2,073,766	City-wide	100%	\$ 2,073,766	\$ -	\$ 2,073,766	\$ -
2.2.3	Main Electrical Feed	10.5B3	2024 - 2025	\$ 2,803,877	\$ -	\$ 2,803,877	50%	\$ 1,401,938	\$ 1,401,939	City-wide	100%	\$ 1,401,939	\$ -	\$ 1,401,939	\$ -
	Subtotal R.O. Pickard Plant Reliability			\$ 9,089,507	\$ -	\$ 9,089,507		\$ 5,613,057	\$ 3,476,450			\$ 3,476,450	\$ -	\$ 3,476,450	\$ -
2.3 Wet Weather Program															
2.3.1	Wet Weather Program/ORAP Wet Weather Flow Reduction	10.CW01	2024 - 2025	\$ 3,516,390	\$ -	\$ 3,516,390	87%	\$ 3,059,259	\$ 457,131	City-wide	100%	\$ 457,131	\$ -	\$ 457,131	\$ -
2.3.2	Wet Weather Program/ORAP Wet Weather Flow Reduction	10.CW02	2026 - 2031	\$ 32,776,455	\$ -	\$ 32,776,455	87%	\$ 28,515,515	\$ 4,260,940	City-wide	100%	\$ 4,260,940	\$ -	\$ 4,260,940	\$ -
2.3.3	Integrated Program/Infrastructure Assessment and Data Collection	10.CW03	2024 - 2025	\$ 14,193,881	\$ -	\$ 14,193,881	87%	\$ 12,348,676	\$ 1,845,205	City-wide	100%	\$ 1,845,205	\$ -	\$ 1,845,205	\$ -
2.3.4	Integrated Program/Infrastructure Assessment and Data Collection	10.CW04	2026 - 2031	\$ 32,955,235	\$ -	\$ 32,955,235	87%	\$ 28,671,055	\$ 4,284,180	City-wide	100%	\$ 4,284,180	\$ -	\$ 4,284,180	\$ -
	Subtotal Wet Weather Program			\$ 83,441,960	\$ -	\$ 83,441,960		\$ 72,594,505	\$ 10,847,455			\$ 10,847,455	\$ -	\$ 10,847,455	\$ -
2.4 Debt Payments															
2.4.1	ROPEC Plant Digester Expansion - Principal	10.24CWD1	2024 - 2031	\$ 7,231,377	\$ -	\$ 7,231,377	0%	\$ -	\$ 7,231,377	City-wide	100%	\$ 7,231,377	\$ -	\$ 7,231,377	\$ -
2.4.2	ROPEC Plant Digester Expansion - Interest	10.24CWD1	2024 - 2031	\$ 18,105,600	\$ -	\$ 18,105,600	0%	\$ -	\$ 18,105,600	City-wide	100%	\$ 18,105,600	\$ -	\$ 18,105,600	\$ -
2.4.1	City-wide Debt - Principal - Post 2031 Payments		2031 - 2031	\$ 9,943,143	\$ -	\$ 9,943,143	0%	\$ -	\$ 9,943,143	City-wide	100%	\$ 9,943,143	\$ -	\$ 4,971,572	\$ 4,971,571
2.4.2	City-wide Debt - Interest - Post 2031 Payments		2031 - 2031	\$ 24,895,200	\$ -	\$ 24,895,200	0%	\$ -	\$ 24,895,200	City-wide	100%	\$ 24,895,200	\$ -	\$ 12,447,600	\$ 12,447,600
	Subtotal Debt Payments			\$ 60,175,319	\$ -	\$ 60,175,319		\$ -	\$ 60,175,319			\$ 60,175,319	\$ -	\$ 42,756,148	\$ 17,419,171
TOTAL SANITARY (WASTE WATER): CITY-WIDE				\$ 467,702,657	\$ -	\$ 467,702,657		\$ 87,341,084	\$ 380,361,573			\$ 380,361,573	\$ -	\$ 189,757,740	\$ 190,603,834

APPENDIX E.2
TABLE E.2-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
SANITARY (WASTE WATER)

Project Description	Item Number	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area			Less: Prior Growth ¹	DC Recoverable 2024-2031	Less: Post 2031	
						BTE Share (%)	Replacement & BTE Shares		Area	%	\$				
2.0 SANITARY (WASTE WATER): INSIDE THE GREENBELT															
2.3 Expansion & Upgrade Projects															
2.3.1 O'Connor Flood Control Works	10.50740	2024 - 2031	\$ 109,000,000	\$ -	\$ 109,000,000	90%	\$ 98,100,000	\$ 10,900,000	IGB	100%	\$ 10,900,000	\$ -	\$ 10,900,000	\$ -	
2.3.2 Rideau River Collector Upgrade	10.50740	2028 - 2028	\$ 2,784,898	\$ -	\$ 2,784,898	0%	\$ -	\$ 2,784,898	IGB	100%	\$ 2,784,898	\$ -	\$ 278,489	\$ 2,506,409	
2.3.3 Rideau River Collector Twinning	10.50740	2028 - 2028	\$ 13,769,775	\$ -	\$ 13,769,775	0%	\$ -	\$ 13,769,775	IGB	100%	\$ 13,769,775	\$ -	\$ 1,376,977	\$ 12,392,798	
2.3.4 Wastewater System Renewal Program - Intensification Areas	10.20040	2025 - 2031	\$ 637,330,710	\$ -	\$ 637,330,710	87%	\$ 554,477,718	\$ 82,852,992	IGB	100%	\$ 82,852,992	\$ -	\$ 82,852,992	\$ -	
Subtotal Expansion & Upgrade Projects			\$ 762,885,384	\$ -	\$ 762,885,384		\$ 652,577,718	\$ 110,307,666			\$ 110,307,666	\$ -	\$ 95,408,459	\$ 14,899,207	
TOTAL SANITARY (WASTE WATER): INSIDE THE GREENBELT			\$ 762,885,384	\$ -	\$ 762,885,384		\$ 652,577,718	\$ 110,307,666			\$ 110,307,666	\$ -	\$ 95,408,459	\$ 14,899,207	

APPENDIX E2
TABLE E.2-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
SANITARY (WASTE WATER)

Project Description	Item Number	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area			Less: Prior Growth ¹	DC Recoverable 2024-2031	Less: Post 2031	
						BTE Share (%)	Replacement & BTE Shares		Area	%	\$				
2.0 SANITARY (WASTE WATER): OUTSIDE THE GREENBELT															
2.4 Expansion & Upgrade Projects															
2.4.1	Mer Bleue UEA New Wastewater Pumping Station and Forcemain (including land)	10.ASA05	2030 - 2030	\$ 11,769,360	\$ -	\$ 11,769,360	0%	\$ -	\$ 11,769,360	OGB	100%	\$ 11,769,360	\$ -	\$ 11,769,360	\$ -
2.4.2	Tenth Line Pumping Station and Overflows - Upgrades	10.ASA07	2030 - 2030	\$ 1,296,285	\$ -	\$ 1,296,285	0%	\$ -	\$ 1,296,285	OGB	100%	\$ 1,296,285	\$ -	\$ 1,296,285	\$ -
2.4.3	Tenth Line Road Trunk Sanitary Sewer	10.ASA08	2030 - 2030	\$ 9,015,255	\$ -	\$ 9,015,255	0%	\$ -	\$ 9,015,255	OGB	100%	\$ 9,015,255	\$ -	\$ 9,015,255	\$ -
2.4.4	Campeau Road Oversized Sanitary Sewer - West	Existing	2024 - 2024	\$ 608,760	\$ -	\$ 608,760	0%	\$ -	\$ 608,760	OGB	100%	\$ 608,760	\$ -	\$ 608,760	\$ -
2.4.5	Kanata West Trunk Sewers	10.03940	2024 - 2024	\$ 14,321,821	\$ -	\$ 14,321,821	0%	\$ -	\$ 14,321,821	OGB	100%	\$ 14,321,821	\$ -	\$ 14,321,821	\$ -
2.4.6	Fernbank Collector Sewer - Front-ending Agreement	10.04940	2024 - 2024	\$ 9,670,740	\$ -	\$ 9,670,740	0%	\$ -	\$ 9,670,740	OGB	100%	\$ 9,670,740	\$ -	\$ 9,670,740	\$ -
2.4.7	Signature Ridge Pump Station and Forcemain Expansion	10.50240	2025 - 2029	\$ 5,400,000	\$ -	\$ 5,400,000	0%	\$ -	\$ 5,400,000	OGB	100%	\$ 5,400,000	\$ -	\$ 5,400,000	\$ -
2.4.8	Stittsville Pump Station Gravity Connection and Decommissioning	10.50340	2024 - 2024	\$ 6,300,000	\$ -	\$ 6,300,000	70%	\$ 4,410,000	\$ 1,890,000	OGB	100%	\$ 1,890,000	\$ -	\$ 1,890,000	\$ -
2.4.9	Acres Road Pump Station Upgrade	10.50440	2025 - 2029	\$ 42,400,000	\$ -	\$ 42,400,000	0%	\$ -	\$ 42,400,000	OGB	100%	\$ 42,400,000	\$ -	\$ 42,400,000	\$ -
2.4.10	Conroy Road Collector Twinning	10.50640	2030 - 2030	\$ 11,300,000	\$ -	\$ 11,300,000	0%	\$ -	\$ 11,300,000	OGB	100%	\$ 11,300,000	\$ -	\$ 11,300,000	\$ -
2.4.11	Pump Stations Capacity Increase - Replacement	10.50740	2024 - 2031	\$ 4,600,000	\$ -	\$ 4,600,000	0%	\$ -	\$ 4,600,000	OGB	100%	\$ 4,600,000	\$ -	\$ 4,600,000	\$ -
	Subtotal Expansion & Upgrade Projects			\$ 116,682,221	\$ -	\$ 116,682,221		\$ 4,410,000	\$ 112,272,221			\$ 112,272,221	\$ -	\$ 112,272,221	\$ -
2.5 East Urban Community															
2.5.1	Neighbourhood 5 Sanitary Pumping Station Overflow	10.00X1	2024 - 2024	\$ 1,253,565	\$ -	\$ 1,253,565	0%	\$ -	\$ 1,253,565	OGB	100%	\$ 1,253,565	\$ -	\$ 1,253,565	\$ -
2.5.2	Avalon South N4 Trunk Sewers	10.00X2	2025 - 2029	\$ 289,029	\$ -	\$ 289,029	0%	\$ -	\$ 289,029	OGB	100%	\$ 289,029	\$ -	\$ 289,029	\$ -
2.5.3	EUC Sanitary Sewer System	10.00X6	2025 - 2029	\$ 613,814	\$ -	\$ 613,814	0%	\$ -	\$ 613,814	OGB	100%	\$ 613,814	\$ -	\$ 613,814	\$ -
	Subtotal East Urban Community			\$ 2,156,407	\$ -	\$ 2,156,407		\$ -	\$ 2,156,407			\$ 2,156,407	\$ -	\$ 2,156,407	\$ -
2.6 South Urban Community															
2.6.1	SUC Nepean Sewer Oversizing South of Jock	10.00X9	2024 - 2024	\$ 618,105	\$ -	\$ 618,105	0%	\$ -	\$ 618,105	OGB	100%	\$ 618,105	\$ -	\$ 618,105	\$ -
2.6.2	Leitrim Sanitary Sewer System	10.00X10	2024 - 2024	\$ 117,697	\$ -	\$ 117,697	0%	\$ -	\$ 117,697	OGB	100%	\$ 117,697	\$ -	\$ 117,697	\$ -
	Subtotal South Urban Community			\$ 735,802	\$ -	\$ 735,802		\$ -	\$ 735,802			\$ 735,802	\$ -	\$ 735,802	\$ -
2.7 West Urban Community															
2.7.1	Kanata Lakes North	10.00X13	2025 - 2029	\$ 8,939	\$ -	\$ 8,939	0%	\$ -	\$ 8,939	OGB	100%	\$ 8,939	\$ -	\$ 8,939	\$ -
2.7.2	Jackson Trail Pumping Station and Sewer Oversizing	10.00X17	2024 - 2024	\$ 35,756	\$ -	\$ 35,756	0%	\$ -	\$ 35,756	OGB	100%	\$ 35,756	\$ -	\$ 35,756	\$ -
	Subtotal West Urban Community			\$ 44,695	\$ -	\$ 44,695		\$ -	\$ 44,695			\$ 44,695	\$ -	\$ 44,695	\$ -
2.8 Debt Payments															
2.8.1	Kanata West Pump Station & Forcemain - Principal	10.240GD1	2026 - 2031	\$ 1,494,301	\$ -	\$ 1,494,301	0%	\$ -	\$ 1,494,301	OGB	100%	\$ 1,494,301	\$ -	\$ 1,494,301	\$ -
2.8.1	Kanata West Pump Station & Forcemain - Interest	10.240GD1	2026 - 2031	\$ 1,651,880	\$ -	\$ 1,651,880	0%	\$ -	\$ 1,651,880	OGB	100%	\$ 1,651,880	\$ -	\$ 1,651,880	\$ -
2.8.2	Bilberry Creek Ind Gravity Outlet Ph2 - Principal	10.240GD2	2026 - 2031	\$ 712,938	\$ -	\$ 712,938	0%	\$ -	\$ 712,938	OGB	100%	\$ 712,938	\$ -	\$ 712,938	\$ -
2.8.2	Bilberry Creek Ind Gravity Outlet Ph2 - Interest	10.240GD2	2026 - 2031	\$ 788,120	\$ -	\$ 788,120	0%	\$ -	\$ 788,120	OGB	100%	\$ 788,120	\$ -	\$ 788,120	\$ -
2.8.2	Kanata West Pump Station & Forcemain - Principal	10.240GD3	2024 - 2031	\$ 26,087	\$ -	\$ 26,087	0%	\$ -	\$ 26,087	OGB	100%	\$ 26,087	\$ -	\$ 26,087	\$ -
2.8.2	Kanata West Pump Station & Forcemain - Interest	10.240GD3	2024 - 2031	\$ 37,200	\$ -	\$ 37,200	0%	\$ -	\$ 37,200	OGB	100%	\$ 37,200	\$ -	\$ 37,200	\$ -
2.8.2	South Nepean Collector Ph 2 & Decommission - Principal	10.240GD4	2024 - 2031	\$ 74,260	\$ -	\$ 74,260	0%	\$ -	\$ 74,260	OGB	100%	\$ 74,260	\$ -	\$ 74,260	\$ -
2.8.2	South Nepean Collector Ph 2 & Decommission - Interest	10.240GD4	2024 - 2031	\$ 105,896	\$ -	\$ 105,896	0%	\$ -	\$ 105,896	OGB	100%	\$ 105,896	\$ -	\$ 105,896	\$ -
2.8.2	North Kanata Sewer Ph 2 - Principal	10.240GD5	2024 - 2031	\$ 124,695	\$ -	\$ 124,695	0%	\$ -	\$ 124,695	OGB	100%	\$ 124,695	\$ -	\$ 124,695	\$ -
2.8.2	North Kanata Sewer Ph 2 - Interest	10.240GD5	2024 - 2031	\$ 177,816	\$ -	\$ 177,816	0%	\$ -	\$ 177,816	OGB	100%	\$ 177,816	\$ -	\$ 177,816	\$ -
2.8.2	March PS Conversion - Principal	10.240GD6	2024 - 2031	\$ 24,696	\$ -	\$ 24,696	0%	\$ -	\$ 24,696	OGB	100%	\$ 24,696	\$ -	\$ 24,696	\$ -
2.8.2	March PS Conversion - Interest	10.240GD6	2024 - 2031	\$ 35,216	\$ -	\$ 35,216	0%	\$ -	\$ 35,216	OGB	100%	\$ 35,216	\$ -	\$ 35,216	\$ -
2.8.2	DCA-O/S - Riverside S Community Sanitary - Principal	10.240GD7	2024 - 2031	\$ 4,348	\$ -	\$ 4,348	0%	\$ -	\$ 4,348	OGB	100%	\$ 4,348	\$ -	\$ 4,348	\$ -
2.8.2	DCA-O/S - Riverside S Community Sanitary - Interest	10.240GD7	2024 - 2031	\$ 6,200	\$ -	\$ 6,200	0%	\$ -	\$ 6,200	OGB	100%	\$ 6,200	\$ -	\$ 6,200	\$ -
2.8.2	Stittsville/Fernbank Intercept-Diversion - Principal	10.240GD8	2024 - 2031	\$ 2,197,726	\$ -	\$ 2,197,726	0%	\$ -	\$ 2,197,726	OGB	100%	\$ 2,197,726	\$ -	\$ 2,197,726	\$ -
2.8.2	Stittsville/Fernbank Intercept-Diversion - Interest	10.240GD8	2024 - 2031	\$ 3,133,976	\$ -	\$ 3,133,976	0%	\$ -	\$ 3,133,976	OGB	100%	\$ 3,133,976	\$ -	\$ 3,133,976	\$ -
2.8.2	By-Law 2016-256 - Principal	10.240GD9	2024 - 2031	\$ 830,732	\$ -	\$ 830,732	0%	\$ -	\$ 830,732	OGB	100%	\$ 830,732	\$ -	\$ 830,732	\$ -
2.8.2	By-Law 2016-256 - Interest	10.240GD9	2024 - 2031	\$ 1,240,000	\$ -	\$ 1,240,000	0%	\$ -	\$ 1,240,000	OGB	100%	\$ 1,240,000	\$ -	\$ 1,240,000	\$ -
2.8.2	Acres Road PS Upgrade - Principal	10.240GD10	2024 - 2031	\$ 9,411	\$ -	\$ 9,411	0%	\$ -	\$ 9,411	OGB	100%	\$ 9,411	\$ -	\$ 9,411	\$ -
2.8.2	Acres Road PS Upgrade - Interest	10.240GD10	2024 - 2031	\$ 7,479	\$ -	\$ 7,479	0%	\$ -	\$ 7,479	OGB	100%	\$ 7,479	\$ -	\$ 7,479	\$ -
2.8.2	South Nepean Collector Ph 2 & Decommission - Principal	10.240GD11	2024 - 2031	\$ 74,260	\$ -	\$ 74,260	0%	\$ -	\$ 74,260	OGB	100%	\$ 74,260	\$ -	\$ 74,260	\$ -
2.8.2	South Nepean Collector Ph 2 & Decommission - Interest	10.240GD11	2024 - 2031	\$ 105,896	\$ -	\$ 105,896	0%	\$ -	\$ 105,896	OGB	100%	\$ 105,896	\$ -	\$ 105,896	\$ -

APPENDIX E.2
TABLE E.2-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
SANITARY (WASTE WATER)

Project Description	Item Number	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area			Less: Prior Growth ¹	DC Recoverable 2024-2031	Less: Post 2031
						BTE Share (%)	Replacement & BTE Shares		Area	%	\$			
2.8.2 Kanata West Pump Station & Forcemain - Principal	10.24OGD12	2024 - 2031	\$ 26,087	\$ -	\$ 26,087	0%	\$ -	\$ 26,087	OGB	100%	\$ 26,087	\$ -	\$ 26,087	\$ -
2.8.2 Kanata West Pump Station & Forcemain - Interest	10.24OGD12	2024 - 2031	\$ 37,200	\$ -	\$ 37,200	0%	\$ -	\$ 37,200	OGB	100%	\$ 37,200	\$ -	\$ 37,200	\$ -
2.8.2 Outside Greenbelt Debt - Principal - Post 2031 Payments		2031 - 2031	\$ 15,142,853	\$ -	\$ 15,142,853	0%	\$ -	\$ 15,142,853	OGB	100%	\$ 15,142,853	\$ -	\$ 7,571,427	\$ 7,571,426
2.8.2 Outside Greenbelt Debt - Interest - Post 2031 Payments		2031 - 2031	\$ 18,088,627	\$ -	\$ 18,088,627	0%	\$ -	\$ 18,088,627	OGB	100%	\$ 18,088,627	\$ -	\$ 9,044,313	\$ 9,044,314
Subtotal Debt Payments			\$ 46,157,900	\$ -	\$ 46,157,900		\$ -	\$ 46,157,900			\$ 46,157,900	\$ -	\$ 29,542,160	\$ 16,615,740
TOTAL SANITARY (WASTE WATER): OUTSIDE THE GREENBELT			\$ 165,777,026	\$ -	\$ 165,777,026		\$ 4,410,000	\$ 161,367,026			\$ 161,367,026	\$ -	\$ 144,751,286	\$ 16,615,740
TOTAL SANITARY (WASTE WATER)			\$ 1,396,365,067	\$ -	\$ 1,396,365,067		\$ 744,328,802	\$ 652,036,265			\$ 652,036,265	\$ -	\$ 429,917,484	\$ 222,118,781

APPENDIX E.2
TABLE E.2-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
SANITARY (WASTE WATER)

Cost Allocation By Benefitting Area				Reserve Adjs	DC Rate
Inside the Greenbelt Residential Calculation					
Residential Share of Eligible Costs	19%	\$	66,406,424	\$4,868,363	\$61,538,061
8-Year Population Growth			64,001		64,001
Unadjusted Per Charge per Capita			\$1,037.58		\$961.52
Outside the Greenbelt Residential Calculation					
Residential Share of Eligible Costs	37%	\$	128,220,910	\$447,722	\$127,773,189
8-Year Population Growth			92,249		92,249
Unadjusted Per Charge per Capita			\$1,389.94		\$1,385.09
Rural Residential Calculation					
Residential Share of Eligible Costs	0%	\$	-	\$0	\$0
8-Year Population Growth			16,603		16,603
Unadjusted Per Charge per Capita			\$0.00		\$0.00
Non-Residential Calculation					
Non-Residential Share of Eligible Costs			\$45,532,411	\$21,013,623	\$24,518,788
Industrial					
Non-Residential Share of Eligible Costs			\$5,305,982	\$2,448,759	\$2,857,223
8-Year Non-Residential Growth in GFA (m2)			351,010		351,010
Charge per Square Metre			\$15.12		\$8.14
Non-Industrial					
Non-Residential Share of Eligible Costs			\$40,226,428	\$18,564,864	\$21,661,564
8-Year Non-Residential Growth in GFA (m2)			1,253,070		1,253,070
Charge per Square Metre			\$32.10		\$17.29

*Residential and non-residential share of costs are based on forecast demand for each area

City-wide Cost Allocations (Residential and Non-Residential)					
Residential Calculation				Reserve Adjs	DC Rate
Residential Share of Eligible Costs	78%		\$147,892,340	\$74,994,851	\$72,897,490
8-Year Population Growth			165,452		165,452
Unadjusted Per Charge per Capita			\$893.87		\$440.60
Non-Residential Calculation					
Non-Residential Share of Eligible Costs	22%		\$41,865,400	\$21,229,560	\$20,635,839
Industrial					
Non-Residential Share of Eligible Costs	3%		\$4,878,658	\$2,473,923	\$2,404,735
8-Year Non-Residential Growth in GFA (m2)			351,010		351,010
Charge per Square Metre			\$13.90		\$6.85
Non-Industrial					
Non-Residential Share of Eligible Costs	19%		\$36,986,741	\$18,755,638	\$18,231,104
8-Year Non-Residential Growth in GFA (m2)			1,253,070		1,253,070
Charge per Square Metre			\$29.52		\$14.55

TOTAL DC ELIGIBLE COSTS 2024-2031 AFTER ADJUSTMENT FOR AVAILABLE DC RESERVE FUNDS

\$ 307,363,365

Reserve Fund Balance	Total	Residential	Non-Residential
City-wide	\$96,224,411	\$74,994,851	\$21,229,560
IGB	\$25,110,676	\$4,868,363	\$20,242,313
OBG	\$1,196,010	\$447,722	\$748,288
Rural	\$23,022	\$0	\$23,022



APPENDIX E.2
TABLE E.2-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SANITARY (WASTE WATER)

CITY-WIDE RESIDENTIAL DEVELOPMENT CHARGE
CITY-WIDE
(in \$000)

SANITARY (WASTE WATER)	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$74,994.85	\$55,501.60	(\$16,262.77)	(\$16,302.51)	(\$12,137.01)	(\$7,560.11)	(\$2,545.15)	\$3,434.51	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Sanitary (Waste Water): Non Inflated	\$27,075.0	\$75,465.5	\$5,245.2	\$1,521.2	\$1,521.2	\$1,521.2	\$1,110.0	\$1,110.0	\$114,569.3
- Sanitary (Waste Water): Inflated	\$27,075.0	\$77,729.4	\$5,564.6	\$1,662.3	\$1,712.2	\$1,763.5	\$1,325.4	\$1,365.1	\$118,197.5
- Sanitary (Waste Water) Infrastructure: Debenture Finance Interest (1)	\$1,763.9	\$1,763.9	\$1,763.9	\$1,763.9	\$1,763.9	\$1,763.9	\$1,763.9	\$1,465.2	\$23,812.4
- Sanitary (Waste Water) (Inflation + Debenture Financed)	\$28,838.8	\$79,493.3	\$7,328.5	\$3,426.2	\$3,476.1	\$3,527.4	\$3,089.2	\$12,830.4	\$142,009.9
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units - City-Wide	20,682	20,682	20,682	20,682	20,682	20,682	20,682	20,682	165,452
REVENUE									
- DC Receipts: Inflated	\$7,626.1	\$7,854.8	\$8,090.5	\$8,333.2	\$8,583.2	\$8,840.7	\$9,105.9	\$9,379.1	\$67,813.5
INTEREST									
- Interest on Opening Balance	\$2,249.8	\$1,665.0	(\$813.1)	(\$815.1)	(\$606.9)	(\$378.0)	(\$127.3)	\$103.0	\$1,277.6
- Interest on In-year Transactions	(\$530.3)	(\$1,791.0)	\$11.4	\$73.6	\$76.6	\$79.7	\$90.2	(\$86.3)	(\$2,076.0)
TOTAL REVENUE	\$9,345.6	\$7,728.9	\$7,288.8	\$7,591.7	\$8,053.0	\$8,542.4	\$9,068.9	\$9,395.8	\$67,015.1
CLOSING CASH BALANCE	\$55,501.6	(\$16,262.8)	(\$16,302.5)	(\$12,137.0)	(\$7,560.1)	(\$2,545.1)	\$3,434.5	\$0.0	

2024 Principle Repayment Charge (2)	\$ 25.07
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$ 368.74
Total Charge per Capita	\$ 393.81

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

APPENDIX E.2
TABLE E.2-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SANITARY (WASTE WATER)

INSIDE THE GREENBELT RESIDENTIAL DEVELOPMENT CHARGE
INSIDE THE GREENBELT
(in \$000)

SANITARY (WASTE WATER)	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$4,868.36	\$11,864.84	\$10,648.74	\$9,349.00	\$7,961.69	\$5,153.44	\$3,538.70	\$1,822.43	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Sanitary (Waste Water): Non Inflated	\$948.3	\$9,186.6	\$9,186.6	\$9,186.6	\$10,338.8	\$9,186.6	\$9,186.6	\$9,186.6	\$66,406.4
- Sanitary (Waste Water): Inflated	\$948.3	\$9,462.1	\$9,746.0	\$10,038.4	\$11,636.4	\$10,649.7	\$10,969.2	\$11,298.3	\$74,748.5
- Sanitary (Waste Water) Infrastructure: Debenture Finance Interest (1)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Sanitary (Waste Water) (Inflation + Debenture Financed)	\$948.3	\$9,462.1	\$9,746.0	\$10,038.4	\$11,636.4	\$10,649.7	\$10,969.2	\$11,298.3	\$74,748.5
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	64,001
REVENUE									
- DC Receipts: Inflated	\$7,697.5	\$7,928.4	\$8,166.3	\$8,411.3	\$8,663.6	\$8,923.5	\$9,191.2	\$9,467.0	\$68,448.9
INTEREST									
- Interest on Opening Balance	\$146.1	\$355.9	\$319.5	\$280.5	\$238.9	\$154.6	\$106.2	\$54.7	\$1,656.2
- Interest on In-year Transactions	\$101.2	(\$38.3)	(\$39.5)	(\$40.7)	(\$74.3)	(\$43.2)	(\$44.4)	(\$45.8)	(\$225.0)
TOTAL REVENUE	\$7,944.8	\$8,246.0	\$8,446.3	\$8,651.1	\$8,828.2	\$9,035.0	\$9,253.0	\$9,475.9	\$69,880.2
CLOSING CASH BALANCE	\$11,864.8	\$10,648.7	\$9,349.0	\$7,961.7	\$5,153.4	\$3,538.7	\$1,822.4	\$0.0	

2024 Principle Repayment Charge (2)	\$ -
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$ 962.17
Total Charge per Capita	\$ 962.17

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

APPENDIX E.2
TABLE E.2-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SANITARY (WASTE WATER)

OUTSIDE THE GREENBELT RESIDENTIAL DEVELOPMENT CHARGE
OUTSIDE THE GREENBELT
(in \$000)

SANITARY (WASTE WATER)	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$447.72	(\$12,397.96)	(\$8,337.65)	(\$4,278.45)	\$145.08	\$4,953.09	\$10,076.54	(\$7,987.05)	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Sanitary (Waste Water): Non Inflated	\$26,383.0	\$9,376.3	\$9,376.3	\$9,376.3	\$9,376.3	\$9,376.3	\$28,632.6	\$502.6	\$102,399.8
- Sanitary (Waste Water): Inflated	\$26,383.0	\$9,657.6	\$9,947.3	\$10,245.8	\$10,553.1	\$10,869.7	\$34,188.8	\$618.1	\$112,463.5
- Sanitary (Waste Water) Infrastructure: Debenture Finance Interest (1)	\$533.9	\$533.9	\$889.4	\$889.4	\$889.4	\$889.4	\$889.4	\$8,794.5	\$14,309.1
- Sanitary (Waste Water) (Inflation + Debenture Financed)	\$26,916.9	\$10,191.5	\$10,836.7	\$11,135.1	\$11,442.5	\$11,759.1	\$35,078.2	\$9,412.6	\$126,772.6
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units	11,531	11,531	11,531	11,531	11,531	11,531	11,531	11,531	92,249
REVENUE									
- DC Receipts: Inflated	\$14,371.4	\$14,802.6	\$15,246.7	\$15,704.0	\$16,175.2	\$16,660.4	\$17,160.2	\$17,675.0	\$127,795.6
INTEREST									
- Interest on Opening Balance	\$13.4	(\$619.9)	(\$416.9)	(\$213.9)	\$4.4	\$148.6	\$302.3	(\$399.4)	(\$1,181.4)
- Interest on In-year Transactions	(\$313.6)	\$69.2	\$66.1	\$68.5	\$71.0	\$73.5	(\$447.9)	\$123.9	(\$289.3)
TOTAL REVENUE	\$14,071.2	\$14,251.8	\$14,895.9	\$15,558.7	\$16,250.5	\$16,882.5	\$17,014.6	\$17,399.6	\$126,324.9
CLOSING CASH BALANCE	(\$12,398.0)	(\$8,337.7)	(\$4,278.4)	\$145.1	\$4,953.1	\$10,076.5	(\$7,987.0)	\$0.0	

2024 Principle Repayment Charge (2)	\$ 51.24
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$ 1,246.32
Total Charge per Capita	\$ 1,297.56

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes
(1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

APPENDIX E.2
TABLE E.2-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SANITARY (WASTE WATER)

CITY-WIDE NON-RESIDENTIAL DEVELOPMENT CHARGE
INDUSTRIAL
(in \$000)

SANITARY (WASTE WATER)	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$4,922.68	\$4,301.19	\$1,729.54	\$1,514.59	\$1,425.03	\$1,263.33	\$1,162.58	\$448.48	
2024-2031 NON-RESIDENTIAL FUNDING REQUIREMENTS									
- Sanitary (Waste Water): Non Inflated	\$1,257.0	\$3,066.6	\$750.2	\$627.4	\$686.0	\$627.4	\$1,124.5	\$512.6	\$8,651.8
- Sanitary (Waste Water): Inflated	\$1,257.0	\$3,158.6	\$795.9	\$685.6	\$772.1	\$727.3	\$1,342.7	\$630.4	\$9,369.7
- Sanitary (Waste Water) Infrastructure: Debenture Finance Interest (1)	\$67.2	\$67.2	\$73.1	\$73.1	\$73.1	\$73.1	\$73.1	\$525.9	\$1,025.8
- Sanitary (Waste Water) (Inflation + Debenture Financed)	\$1,324.2	\$3,225.8	\$869.0	\$758.7	\$845.2	\$800.4	\$1,415.8	\$1,156.3	\$10,395.5
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Non-Res Non-Industrial GFA	43,876	43,876	43,876	43,876	43,876	43,876	43,876	43,876	351,010
REVENUE									
- DC Receipts: Inflated	\$573.8	\$591.0	\$608.7	\$627.0	\$645.8	\$665.2	\$685.1	\$705.7	\$5,102.1
INTEREST									
- Interest on Opening Balance	\$147.7	\$129.0	\$51.9	\$45.4	\$42.8	\$37.9	\$34.9	\$13.5	\$503.0
- Interest on In-year Transactions	(\$18.8)	(\$65.9)	(\$6.5)	(\$3.3)	(\$5.0)	(\$3.4)	(\$18.3)	(\$11.3)	(\$132.3)
TOTAL REVENUE	\$702.7	\$654.1	\$654.1	\$669.1	\$683.5	\$699.7	\$701.7	\$707.9	\$5,472.8
CLOSING CASH BALANCE	\$4,301.2	\$1,729.5	\$1,514.6	\$1,425.0	\$1,263.3	\$1,162.6	\$448.5	\$0.0	

2024 Principle Repayment Charge (2)	\$	0.47
2024 Adjusted Capital Cost & Finance Interest Charge Per M2	\$	13.08
Total Charge per m2	\$	13.54

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

APPENDIX E.2
TABLE E.2-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SANITARY (WASTE WATER)

CITY-WIDE NON-RESIDENTIAL DEVELOPMENT CHARGE
NON-INDUSTRIAL
(in \$000)

SANITARY (WASTE WATER)	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$37,320.50	\$32,608.73	\$13,112.19	\$11,482.61	\$10,803.63	\$9,577.73	\$8,813.89	\$3,400.04	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Sanitary (Waste Water): Non Inflated	\$9,530.0	\$23,249.3	\$5,687.7	\$4,756.4	\$5,201.0	\$4,756.4	\$8,525.1	\$3,886.1	\$65,591.9
- Sanitary (Waste Water): Inflated	\$9,530.0	\$23,946.7	\$6,034.1	\$5,197.4	\$5,853.7	\$5,513.9	\$10,179.4	\$4,779.5	\$71,034.8
- Sanitary (Waste Water) Infrastructure: Debenture Finance Interest (1)	\$509.1	\$509.1	\$554.4	\$554.4	\$554.4	\$554.4	\$554.4	\$3,987.0	\$7,777.1
- Sanitary (Waste Water) (Inflation + Debenture Financed)	\$10,039.1	\$24,455.8	\$6,588.4	\$5,751.8	\$6,408.1	\$6,068.3	\$10,733.8	\$8,766.5	\$78,811.8
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Non-Res Non-Industrial GFA	156,634	156,634	156,634	156,634	156,634	156,634	156,634	156,634	1,253,070
REVENUE									
- DC Receipts: Inflated	\$4,349.9	\$4,480.4	\$4,614.8	\$4,753.3	\$4,895.9	\$5,042.8	\$5,194.0	\$5,349.9	\$38,681.0
INTEREST									
- Interest on Opening Balance	\$1,119.6	\$978.3	\$393.4	\$344.5	\$324.1	\$287.3	\$264.4	\$102.0	\$3,813.6
- Interest on In-year Transactions	(\$142.2)	(\$499.4)	(\$49.3)	(\$25.0)	(\$37.8)	(\$25.6)	(\$138.5)	(\$85.4)	(\$1,003.3)
TOTAL REVENUE	\$5,327.3	\$4,959.3	\$4,958.9	\$5,072.8	\$5,182.2	\$5,304.5	\$5,320.0	\$5,366.5	\$41,491.3
CLOSING CASH BALANCE	\$32,608.7	\$13,112.2	\$11,482.6	\$10,803.6	\$9,577.7	\$8,813.9	\$3,400.0	\$0.0	

2024 Principle Repayment Charge (2)	\$	1.00
2024 Adjusted Capital Cost & Finance Interest Charge Per M2	\$	27.77
Total Charge per m2	\$	28.77

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

Appendix E.3

Water

Appendix E.3 – Water Technical Appendix

Capital infrastructure contained in the Water service category includes plant expansions and upgrades of linear Water infrastructure.

This appendix provides a brief outline of historical service levels for Water services, the projects that will benefit development occurring over the mid-2024 to mid-2031 development-related capital forecast. The cost, quantum and timing of the projects identified in the forecast have been provided by City staff and are generally based on the capital projects identified in the City’s existing Infrastructure Master Plan and the 2014 DC Background Study and 2019 Interim DC Background Study and adjusted to account for recent expenditures and indexing.

Table E.3-1 Forecast Wastewater Demand by Area

Table E.3-2 2024-2031 Development-Related Capital Forecast and Calculation of the Discounted Growth-Related Net Capital Costs

Table E.3-3: Development Charge Calculation: Cash Flow Analysis for Water Area-Specific Development Charges

A. Benefitting Area

The City’s Water development charges is calculated on both a City-wide and area-specific basis. The smaller benefitting areas are defined as: Inside the Greenbelt, Outside the Greenbelt and Rural area.

B. Historical Service Level Analysis

Water facilities included in the DC capital forecast are required to achieve health and safety standards as identified in relevant legislation including Provincial regulations, other relevant legislation as well as Ottawa Water and standards. As such, in accordance with section 4(3) of O.Reg. 82/98, the 15-year historical service level does not apply.

C. Forecast Water Demand by Area

Consistent with the approach included in the 2014 DC Background Study and 2019 Interim DC Background Study, the residential and non-residential allocations have been based on average flows required by these types of development (shown in Table E.3-1).

Water supply and treatment facilities are based on the allocations (by servicing area) shown in Table E.3-1. City-wide projects are based on the total average flow for residential and non-residential development. This results in an allocation of 78% residential and 22% non-residential.

D. Development-Related Capital Forecast

The development-related capital forecast that will benefit development occurring over the 2024 to 2031 period includes a variety of projects for the provision of Water services in the City and amounts to a total gross cost of \$371.5 million, as shown in Table E.3-2.

The following summarizes the city-wide and area-specific capital programs:

- **City-wide Capital Program** – The development-related capital forecast that will benefit development occurring over the 2024 to 2031 period includes expansions and upgrades at the Lemieux and Britannia Water Purification Plants. The total gross cost of the capital program amounts to \$144.2 million, as shown in Table E.3-2.

- **Inside the Greenbelt Capital Program** – The gross capital program for IGB Water totals \$3.2 million and includes the recovery of debenture costs for Brittany, Hurdman Bridge/Billings Bridge Pumping Stations and other debt.
- **Outside the Greenbelt Capital Program** – The total gross capital program related to development OGB totals \$224.1 million. The program includes the recovery of outstanding principal and interest debenture payments and various expansion and upgrade projects.
- **Rural** – there are no capital projects identified for Water in the Rural area of the City.

E. Calculation of Discounted Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Water Services. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for the reductions. The identified benefit to existing shares includes costs that meet the needs of existing development, including past development. Decisions were based on a variety of factors including the population and employment growth over the planning period, rehabilitation costs and input from City staff.

New projects are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost. For projects that were identified in the 2014 DC Study and 2019 Interim DC Study, the prior benefit to existing shares have remained constant.

In total, \$92.2 million is identified as the replacement and benefit to existing share over the planning period.

iii. Prior DC Funding / Available DC Reserve Funds

Prior DC funding relates to portions of projects which have had DCs collected and applied against a portion of the DC eligible project costs. These amounts are removed from the capital forecast and not brought forward into the development charge calculation. Table E.2-2 provides details on the available DC reserve fund balance by benefitting area.

In total, the \$8.4 million identified in the City-wide Water reserve fund has been reduced from the total City-wide DC eligible capital costs. Outside the Greenbelt reserve fund balance at year-end 2023 was \$15.2 million.

The City's DC reserve funds for Inside the Greenbelt (\$1.2 million) and Rural (\$404,900) area are in a negative position. As such, these costs have been included in the DC eligible costs as it relates to committed excess capacity that will benefit growth over the identified planning period.

iv. Post-2031 Benefit

Approximately \$97.6 million in post-period DC shares has been identified and are reduced from the total DC eligible costs. These shares of projects will be considered for recovery as part of subsequent development charges studies.

v. 2024-2031 DC Eligible Development Related Costs

The total in-period DC eligible costs shown in Table E.3-2 amounts to \$181.8 million after adjustments for benefit to existing and post-period benefits. After deductions for available DC reserve fund balances the in-period DC eligible cost is reduced to \$159.8 million (shown in the DC cost allocation summary at the bottom of Table E.3-2). The reduction is the result of the positive DC reserve fund balances.

F. Calculation of Residential and Non-Residential Discounted Development-Related Capital Costs

The discounted development-related costs have been allocated based on shares of forecast demand for each area over the 2024-2031 benefitting period.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring City-wide, IGB, OGB and Rural areas. The “residual” shown in the area-specific non-residential summary represents the sum of the costs remaining once the residential allocations have been made for IGB, OGB and Rural area.

These costs allocations and DC rate calculations are presented in Table E.3-2. The total costs shown below reflect the total costs brought forward to the DC calculation after adjusting for DC reserve funds.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
Inside the Greenbelt	5%	\$3,049,957
Outside the Greenbelt	69%	\$132,049,861
Rural	78%	\$315,548
City-Wide	78%	\$9,045,130
Subtotal Residential		\$144,460,496
Non-Residential --Industrial		
Area-Specific	Residual	\$1,518,353
City-wide	3%	\$305,210
Non-Residential – Non-Industrial		
Area-Specific	Residual	\$11,219,550
City-wide	19%	\$2,255,287
Subtotal Non-Residential		\$15,298,401
TOTAL		\$159,758,896

G. Development Charge Calculation

The Water DC rates include financing costs through a cash flow analysis. A cash flow analysis is undertaken to account for the timing of projects and receipt of DCs. It is particularly applicable where the timing of the forecast capital expenditures is significantly front-ended or back ended over the planning period. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the DCA. Based on the development forecast, the analysis calculates the DC rate required to finance the discounted development-related capital spending plan including provisions for any borrowing costs or interest earnings on the reserve funds. The cash flow analysis is designed so that the closing cash balance at the end of the planning period is as close to nil as possible.

In order to determine appropriate DC rates reflecting borrowing and earnings necessary to support the discounted development-related funding requirement, assumptions are used for the inflation and interest rates. An inflation rate of 3.0% is used for the funding requirements, an interest rate of 3.0% is used for positive opening balances, and a rate of 5.0% is used for negative opening balances.

Table E.3-3 displays the results of the cash flow analysis and provides the adjusted or final per capita residential and per employees in new non-residential DCs. For residential development charges a per capita amount has been calculated for development occurring IGB, OGB and the Rural area. A city-wide charge has been calculated for the residual industrial and non-industrial shares of the program. Debenture interest is not inflated in the cash flow analysis and the principal repayment component of the charge continues to be not indexed as has been the case since 2014.

The following table provides a summary of the calculated per capita and per square metre of industrial and non-industrial space City-wide.

Summary of Adjusted Area-Specific Water Cash Flow Analysis

Benefitting Area	Adjusted Charge
Residential City-wide (\$/capita) Inside the Greenbelt (\$/capita) Outside the Greenbelt (\$/capita) Rural (\$/capita)	\$54.48 \$45.27 \$1,474.51 \$34.55
Non-Residential - Industrial City-wide (\$/m ²)	\$5.04
Non-Residential – Non-Industrial City-wide (\$/m ²)	\$10.67

**APPENDIX E.3
TABLE E.3-1**

**CITY OF OTTAWA
WATER DEMAND BY AREA**

Residential no Outdoor Water Demand (OWD)											
Water		Residential - Mld		ICI Mld		Total - Mld		Growth in Demand	Res Growth	Non-Res Growth	Res Component of Growth
		2019	2031	2019	2031	2019	2031	Mld	Mld	Mld	%
Inside the Greenbelt	igb	115.0	126.8	67.4	72.5	182.4	199.4	17.0	11.8	5.2	69.60%
Outside the Greenbelt	ogb	63.5	76.6	9.4	11.3	73.0	87.9	14.9	13.1	1.9	87.40%
West Urban Community	wuc	22.6	27.8	5.1	5.6	27.7	33.4	5.7	5.2	0.5	91.23%
South Urban Community	suc	20.3	24.7	2.0	2.7	22.3	27.5	5.1	4.4	0.7	86.51%
East Urban Community	euc	20.7	24.0	2.3	3.0	23.0	27.0	4.1	3.4	0.7	83.13%
Total	Total	178.6	203.4	76.8	83.8	255.3	287.3	31.9	24.9	7.0	77.94%
Pressure Zone E1	1e	19.1	22.6	10.5	11.6	29.7	34.2	4.5	3.5	1.0	76.98%
Pressure Zone 2C	2c	30.6	33.8	30.4	32.0	61.0	65.7	4.7	3.1	1.6	66.63%
leirim with Russell	leirim with Russ	4.6	5.7	0.5	0.6	5.1	6.3	1.2	1.1	0.1	88.70%
manotick	manotick	1.0	1.5	0.1	0.2	1.2	1.8	0.6	0.5	0.1	86.38%
Montreal Rd	Montreal Rd	2.9	5.2	0.8	1.0	3.7	6.2	2.5	2.3	0.2	91.33%

APPENDIX E.3
TABLE E.3-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
WATER

Project Description	Item Number	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area	% City-Wid	Other Benefiting Area Costs	DC Eligible Costs		
						BTE Share (%)	Replacement & BTE Shares					Prior Growth	2024 - 2031	Post 2031
3.0 WATER: CITY-WIDE														
3.1 WPP Development														
3.1.1 WPP Development Plan Winter Capacity Expansion (Lemieux)	11.02440	2024 - 2024	\$ 78,958,575	\$ -	\$ 78,958,575	25%	\$ 20,002,839	\$ 58,955,736	City-wide	100%	\$ 58,955,736	\$ -	\$ 6,552,345	\$ 52,403,391
3.1.2 WPP Development Plan Winter Capacity Expansion (Britannia)	11.13440	2025 - 2031	\$ 64,510,022	\$ -	\$ 64,510,022	35%	\$ 22,285,280	\$ 42,224,742	City-wide	100%	\$ 42,224,742	\$ -	\$ 13,321,992	\$ 28,902,750
3.1.3 Britannia WPP Discharge Valving Upgrade	11.00240	2024 - 2024	\$ 744,919	\$ -	\$ 744,919	49%	\$ 366,062	\$ 378,857	City-wide	100%	\$ 378,857	\$ -	\$ 129,351	\$ 249,506
Subtotal WPP Development			\$ 144,213,516	\$ -	\$ 144,213,516		\$ 42,654,181	\$ 101,559,335			\$ 101,559,335	\$ -	\$ 20,003,688	\$ 81,555,647
TOTAL WATER: CITY-WIDE			\$ 144,213,516	\$ -	\$ 144,213,516		\$ 42,654,181	\$ 101,559,335				\$ -	\$ 20,003,688	\$ 81,555,647

APPENDIX E.3
TABLE E.3-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
WATER

Project Description	Item Number	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area	% City-Wid	Other Benefitting Area Costs	DC Eligible Costs			
						BTE Share (%)	Replacement & BTE Shares					Prior Growth	2024 - 2031	Post 2031	
3.0 WATER: INSIDE THE GREENBELT															
3.2 Debt Payments															
3.2.1	Brittany Pumping Station - Principal	11.24IGD1	2024 - 2031	\$ 265,390	\$ -	\$ 265,390	0%	\$ -	\$ 265,390	OGB	100%	\$ 265,390	\$ -	\$ 265,390	\$ -
3.2.1	Brittany Pumping Station - Principal	11.24IGD1	2024 - 2031	\$ 378,448	\$ -	\$ 378,448	0%	\$ -	\$ 378,448	OGB	100%	\$ 378,448	\$ -	\$ 378,448	\$ -
3.2.2	Hurdman Bridge/Billings BridgePS Upgrade - Principal	11.24IGD2	2024 - 2031	\$ 112,521	\$ -	\$ 112,521	0%	\$ -	\$ 112,521	OGB	100%	\$ 112,521	\$ -	\$ 112,521	\$ -
3.2.2	Hurdman Bridge/Billings BridgePS Upgrade - Principal	11.24IGD2	2024 - 2031	\$ 160,456	\$ -	\$ 160,456	0%	\$ -	\$ 160,456	OGB	100%	\$ 160,456	\$ -	\$ 160,456	\$ -
3.2.2	Inside Greenbelt Debt - Principal - Post 2031 Payments		2031 - 2031	\$ 952,624	\$ -	\$ 952,624	0%	\$ -	\$ 952,624	OGB	100%	\$ 952,624	\$ -	\$ 952,624	\$ -
3.2.2	Inside Greenebelt Debt - Interest - Post 2031 Payments		2031 - 2031	\$ 1,358,450	\$ -	\$ 1,358,450	0%	\$ -	\$ 1,358,450	OGB	100%	\$ 1,358,450	\$ -	\$ 1,358,450	\$ -
	Subtotal Debt Payments			\$ 3,227,889	\$ -	\$ 3,227,889		\$ -	\$ 3,227,889			\$ 3,227,889	\$ -	\$ 3,227,889	\$ -
TOTAL WATER: INSIDE THE GREENBELT				\$ 3,227,889	\$ -	\$ 3,227,889		\$ -	\$ 3,227,889				\$ -	\$ 3,227,889	\$ -

APPENDIX E.3

TABLE E.3-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
WATER

Project Description	Item Number	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area	% City-Wid	Other Benefiting Area Costs	DC Eligible Costs			
						BTE Share (%)	Replacement & BTE Shares					Prior Growth	2024 - 2031	Post 2031	
3.0 WATER: OUTSIDE THE GREENBELT															
3.3 Expansion & Upgrade Projects															
3.3.1	Greenbank Road Watermain	11.0194	2024 - 2024	\$ 11,272,000	\$ -	\$ 11,272,000	10%	\$ 1,127,200	\$ 10,144,800	OGB	100%	\$ 10,144,800	\$ -	\$ 9,130,320	\$ 1,014,480
3.3.2	March Road Pipe Upgrade (Zone 2W West Feedermain)	11.0494	2025 - 2029	\$ 1,874,000	\$ -	\$ 1,874,000	10%	\$ 187,400	\$ 1,686,600	OGB	100%	\$ 1,686,600	\$ -	\$ 1,517,940	\$ 168,660
3.3.3	Limebank Road Feedermain	11.0894	2024 - 2024	\$ 17,037,000	\$ -	\$ 17,037,000	10%	\$ 1,703,700	\$ 15,333,300	OGB	100%	\$ 15,333,300	\$ -	\$ 13,799,970	\$ 1,533,330
3.3.4	Ottawa South Reservoir Expansion	11.1894	2024 - 2024	\$ 49,232,000	\$ -	\$ 49,232,000	49%	\$ 24,123,680	\$ 25,108,320	OGB	100%	\$ 25,108,320	\$ -	\$ 22,597,488	\$ 2,510,832
3.3.5	Glen Cairn Reservoir Expansion	11.1994	2025 - 2029	\$ 80,506,000	\$ -	\$ 80,506,000	10%	\$ 8,050,600	\$ 72,455,400	OGB	100%	\$ 72,455,400	\$ -	\$ 65,209,860	\$ 7,245,540
3.3.6	New Riverside South Elevated Tank (River Ridge)	11.2594	2024 - 2024	\$ 30,409,000	\$ -	\$ 30,409,000	10%	\$ 3,040,900	\$ 27,368,100	OGB	100%	\$ 27,368,100	\$ -	\$ 24,631,290	\$ 2,736,810
3.3.7	Off-site Reliability Links O/S	11.1244	2024 - 2031	\$ 1,424,445	\$ -	\$ 1,424,445	10%	\$ 142,445	\$ 1,282,000	OGB	100%	\$ 1,282,000	\$ -	\$ 1,153,800	\$ 128,200
3.3.8	Kanata West Transmission Mains O/S	11.2944	2024 - 2024	\$ 317,336	\$ -	\$ 317,336	10%	\$ 31,734	\$ 285,602	OGB	100%	\$ 285,602	\$ -	\$ 257,042	\$ 28,560
3.3.9	Palladium to Hazeldean Watermain	11.00Y4	2024 - 2024	\$ 17,631,000	\$ -	\$ 17,631,000	63%	\$ 11,107,530	\$ 6,523,470	OGB	100%	\$ 6,523,470	\$ -	\$ 5,871,123	\$ 652,347
	Subtotal Expansion & Upgrade Projects			\$ 209,702,781	\$ -	\$ 209,702,781		\$ 49,515,189	\$ 160,187,592			\$ 160,187,592	\$ -	\$ 144,168,833	\$ 16,018,759
3.4 Debt Payments															
3.4.1	2W/3W Pumping Station - Principal	11.240GD1	2024 - 2031	\$ 924,016	\$ -	\$ 924,016	0%	\$ -	\$ 924,016	OGB	100%	\$ 924,016	\$ -	\$ 924,016	\$ -
3.4.1	2W/3W Pumping Station - Interest	11.240GD1	2024 - 2031	\$ 476,960	\$ -	\$ 476,960	0%	\$ -	\$ 476,960	OGB	100%	\$ 476,960	\$ -	\$ 476,960	\$ -
3.4.2	Barrhaven PS Conversion to 3C & Orleans Transmission Main - Principal	11.240GD2	2024 - 2031	\$ 366,443	\$ -	\$ 366,443	0%	\$ -	\$ 366,443	OGB	100%	\$ 366,443	\$ -	\$ 366,443	\$ -
3.4.2	Barrhaven PS Conversion to 3C & Orleans Transmission Main - Interest	11.240GD2	2024 - 2031	\$ 546,974	\$ -	\$ 546,974	0%	\$ -	\$ 546,974	OGB	100%	\$ 546,974	\$ -	\$ 546,974	\$ -
3.4.3	Barrhaven PS Conversion, Leirtrim Supply Watermain, Orleans TM, - Principal	11.240GD3	2024 - 2031	\$ 298,143	\$ -	\$ 298,143	0%	\$ -	\$ 298,143	OGB	100%	\$ 298,143	\$ -	\$ 298,143	\$ -
3.4.3	Barrhaven PS Conversion, Leirtrim Supply Watermain, Orleans TM, - Interest	11.240GD3	2024 - 2031	\$ 445,026	\$ -	\$ 445,026	0%	\$ -	\$ 445,026	OGB	100%	\$ 445,026	\$ -	\$ 445,026	\$ -
3.4.4	Orléans Transmission Main - Principal	11.240GD4	2024 - 2031	\$ 6,087	\$ -	\$ 6,087	0%	\$ -	\$ 6,087	OGB	100%	\$ 6,087	\$ -	\$ 6,087	\$ -
3.4.4	Orléans Transmission Main - Interest	11.240GD4	2024 - 2031	\$ 8,680	\$ -	\$ 8,680	0%	\$ -	\$ 8,680	OGB	100%	\$ 8,680	\$ -	\$ 8,680	\$ -
3.4.5	Barrhaven PS Conversion to 3C - Principal	11.240GD5	2024 - 2031	\$ 201,390	\$ -	\$ 201,390	0%	\$ -	\$ 201,390	OGB	100%	\$ 201,390	\$ -	\$ 201,390	\$ -
3.4.5	Barrhaven PS Conversion to 3C - Interest	11.240GD5	2024 - 2031	\$ 287,184	\$ -	\$ 287,184	0%	\$ -	\$ 287,184	OGB	100%	\$ 287,184	\$ -	\$ 287,184	\$ -
3.4.6	Fallowfield Rd (Reservoir to Cedarview) - Principal	11.240GD6	2024 - 2031	\$ 37,043	\$ -	\$ 37,043	0%	\$ -	\$ 37,043	OGB	100%	\$ 37,043	\$ -	\$ 37,043	\$ -
3.4.6	Fallowfield Rd (Reservoir to Cedarview) - Interest	11.240GD6	2024 - 2031	\$ 52,824	\$ -	\$ 52,824	0%	\$ -	\$ 52,824	OGB	100%	\$ 52,824	\$ -	\$ 52,824	\$ -
3.4.7	DCA-Mer Bleue Rd Reliability Links - Principal	11.240GD7	2024 - 2031	\$ 41,391	\$ -	\$ 41,391	0%	\$ -	\$ 41,391	OGB	100%	\$ 41,391	\$ -	\$ 41,391	\$ -
3.4.7	DCA-Mer Bleue Rd Reliability Links - Interest	11.240GD7	2024 - 2031	\$ 59,024	\$ -	\$ 59,024	0%	\$ -	\$ 59,024	OGB	100%	\$ 59,024	\$ -	\$ 59,024	\$ -
3.4.8	Barrhaven Res Pump Upgrades - Principal	11.240GD8	2024 - 2031	\$ 79,374	\$ -	\$ 79,374	0%	\$ -	\$ 79,374	OGB	100%	\$ 79,374	\$ -	\$ 79,374	\$ -
3.4.8	Barrhaven Res Pump Upgrades - Interest	11.240GD8	2024 - 2031	\$ 63,076	\$ -	\$ 63,076	0%	\$ -	\$ 63,076	OGB	100%	\$ 63,076	\$ -	\$ 63,076	\$ -
3.4.9	3C/2W Pressure Zone Separation - Principal	11.240GD9	2024 - 2031	\$ 565,618	\$ -	\$ 565,618	0%	\$ -	\$ 565,618	OGB	100%	\$ 565,618	\$ -	\$ 565,618	\$ -
3.4.9	3C/2W Pressure Zone Separation - Interest	11.240GD9	2024 - 2031	\$ 449,480	\$ -	\$ 449,480	0%	\$ -	\$ 449,480	OGB	100%	\$ 449,480	\$ -	\$ 449,480	\$ -
3.4.9	Outside Greenbelt Debt - Principal - Post 2031 Payments		2031 - 2031	\$ 4,555,827	\$ -	\$ 4,555,827	0%	\$ -	\$ 4,555,827	OGB	100%	\$ 4,555,827	\$ -	\$ 4,555,827	\$ -
3.4.9	Outside Greenbelt Debt - Interest - Post 2031 Payments		2031 - 2031	\$ 4,932,712	\$ -	\$ 4,932,712	0%	\$ -	\$ 4,932,712	OGB	100%	\$ 4,932,712	\$ -	\$ 4,932,712	\$ -
	Subtotal Debt Payments			\$ 14,397,272	\$ -	\$ 14,397,272		\$ -	\$ 14,397,272			\$ 14,397,272	\$ -	\$ 14,397,272	\$ -
TOTAL WATER: OUTSIDE THE GREENBELT				\$ 224,100,053	\$ -	\$ 224,100,053		\$ 49,515,189	\$ 174,584,864			\$ 174,584,864	\$ -	\$ 158,566,105	\$ 16,018,759
TOTAL WATER				\$ 371,541,458	\$ -	\$ 371,541,458		\$ 92,169,370	\$ 279,372,088			\$ 174,584,864	\$ -	\$ 181,797,682	\$ 97,574,406



APPENDIX E.3
TABLE E.3-2

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
WATER

Project Description	Item Number	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area % City-Wid	Other Benefiting Area Costs	DC Eligible Costs			
						BTE Share (%)	Replacement & BTE Shares				Prior Growth	2024 - 2031	Post 2031	
Residential Cost Allocation By Benefiting Area											Reserve Fund Balance			
Inside the Greenbelt Residential Calculation											Total	Residential	Non-Res.	
Residential Share of Eligible Costs*		5%	\$ 2,246,683			Reserve Adjs (\$803,274)	DC Rate \$3,049,957			City-wide	\$8,398,061	\$6,545,234	\$1,852,827	
8-Year Population Growth			64,001				64,001			IGB	(\$1,154,092)	(\$803,274)	(\$350,818)	
Unadjusted Per Charge per Capita			\$35.10				\$47.65			OBG	\$15,199,690	\$13,999,910	\$1,199,780	
Outside the Greenbelt Residential Calculation											Rural	(\$404,873)	(\$315,548)	(\$89,325)
Residential Share of Eligible Costs*		70%	\$ 146,049,771			\$13,999,910	\$132,049,861							
8-Year Population Growth			92,249				92,249							
Unadjusted Per Charge per Capita			\$1,583.21				\$1,431.45							
Rural Residential Calculation														
Residential Share of Eligible Costs*		0%	\$ -			(\$315,548)	\$315,548							
8-Year Population Growth			9,132				9,132							
Unadjusted Per Charge per Capita			\$0.00				\$34.55							
Non-Residential Calculation														
Non-Residential Share of Eligible Costs			\$13,497,540			\$759,637	\$12,737,903							
Industrial														
Non-Residential Share of Eligible Costs			\$1,608,902			\$90,548	\$1,518,353							
8-Year Non-Residential Growth in GFA (m2)			351,010				351,010							
Charge per Square Metre			\$4.58				\$4.33							
Non-Industrial														
Non-Residential Share of Eligible Costs			\$11,888,638			\$669,088	\$11,219,550							
8-Year Non-Residential Growth in GFA (m2)			1,253,070				1,253,070							
Charge per Square Metre			\$9.49				\$8.95							
<i>*Residential share of costs are based on forecast demand for each area</i>														
City-wide Cost Allocations														
Residential Calculation														
Residential Share of Eligible Costs		78%	\$ 15,590,364			\$6,545,234	\$9,045,130							
8-Year Population Growth			165,452				165,452							
Unadjusted Per Charge per Capita			\$94.23				\$54.67							
Non-Residential Calculation														
Non-Residential Share of Eligible Costs		22%	\$4,413,324			\$1,852,827	\$2,560,498							
Industrial														
Non-Residential Share of Eligible Costs		3%	\$526,067			\$220,856	\$305,210							
8-Year Non-Residential Growth in GFA (m2)			351,010				351,010							
Charge per Square Metre			\$1.50				\$0.87							
Non-Industrial														
Non-Residential Share of Eligible Costs		19%	\$3,887,257			\$1,631,970	\$2,255,287							
8-Year Non-Residential Growth in GFA (m2)			1,253,070				1,253,070							
Charge per Square Metre			\$3.10				\$1.80							
TOTAL DC ELIGIBLE COSTS 2024-2031 AFTER ADJUSTMENT FOR AVAILABLE DC RESERVE FUNDS														
											\$	159,758,896		



APPENDIX E.3
TABLE E.3-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER

CITY-WIDE RESIDENTIAL DEVELOPMENT CHARGE
CITY-WIDE
(in \$000)

WATER	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$6,545.23	\$2,558.68	\$2,258.95	\$1,938.93	\$1,597.68	\$1,234.21	\$847.49	\$436.46	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Water: Non Inflated	\$5,207.5	\$1,483.3	\$1,483.3	\$1,483.3	\$1,483.3	\$1,483.3	\$1,483.3	\$1,483.3	\$15,590.4
- Water: Inflated	\$5,207.5	\$1,527.8	\$1,573.6	\$1,620.8	\$1,669.4	\$1,719.5	\$1,771.1	\$1,824.2	\$16,913.9
- Water Infrastructure: Debenture Finance Interest (1)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Water (Inflation + Debenture Financed)	\$5,207.5	\$1,527.8	\$1,573.6	\$1,620.8	\$1,669.4	\$1,719.5	\$1,771.1	\$1,824.2	\$16,913.9
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units - City-Wide	47,426	47,426	47,426	47,426	47,426	47,426	47,426	47,426	379,410
REVENUE									
- DC Receipts: Inflated	\$1,126.7	\$1,160.4	\$1,195.3	\$1,231.1	\$1,268.1	\$1,306.1	\$1,345.3	\$1,385.6	\$10,018.6
INTEREST									
- Interest on Opening Balance	\$196.4	\$76.8	\$67.8	\$58.2	\$47.9	\$37.0	\$25.4	\$13.1	\$522.5
- Interest on In-year Transactions	(\$102.0)	(\$9.2)	(\$9.5)	(\$9.7)	(\$10.0)	(\$10.3)	(\$10.6)	(\$11.0)	(\$172.4)
TOTAL REVENUE	\$1,221.0	\$1,228.0	\$1,253.6	\$1,279.5	\$1,306.0	\$1,332.8	\$1,360.1	\$1,387.8	\$10,368.7
CLOSING CASH BALANCE	\$2,558.7	\$2,258.9	\$1,938.9	\$1,597.7	\$1,234.2	\$847.5	\$436.5	(\$0.0)	

2024 Principle Repayment Charge (2)	\$	-
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$	23.76
Total Charge per Capita	\$	23.76

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

APPENDIX E.3
TABLE E.3-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER

INSIDE THE GREENBELT RESIDENTIAL DEVELOPMENT CHARGE
INSIDE THE GREENBELT
(in \$000)

WATER	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	(\$863.92)	(\$743.99)	(\$611.73)	(\$466.35)	(\$307.00)	(\$132.77)	\$57.29	\$263.03	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Water: Non Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Water: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Water Infrastructure: Debenture Finance Interest (1)	\$46.9	\$46.9	\$46.9	\$46.9	\$46.9	\$46.9	\$46.9	\$519.6	\$847.8
- Water (Inflation + Debenture Financed)	\$46.9	\$46.9	\$46.9	\$46.9	\$46.9	\$46.9	\$46.9	\$519.6	\$847.8
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	64,001
REVENUE									
- DC Receipts: Inflated	\$207.6	\$213.8	\$220.3	\$226.9	\$233.7	\$240.7	\$247.9	\$255.3	\$1,846.1
INTEREST									
- Interest on Opening Balance	(\$43.2)	(\$37.2)	(\$30.6)	(\$23.3)	(\$15.3)	(\$6.6)	\$1.7	\$7.9	(\$146.7)
- Interest on In-year Transactions	\$2.4	\$2.5	\$2.6	\$2.7	\$2.8	\$2.9	\$3.0	(\$6.6)	\$12.3
TOTAL REVENUE	\$166.8	\$179.1	\$192.3	\$206.2	\$221.1	\$236.9	\$252.6	\$256.6	\$1,711.8
CLOSING CASH BALANCE	(\$744.0)	(\$611.7)	(\$466.4)	(\$307.0)	(\$132.8)	\$57.3	\$263.0	\$0.0	

2024 Principle Repayment Charge (2)	\$	4.51
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$	<u>25.95</u>
Total Charge per Capita	\$	30.46

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

APPENDIX E.3
TABLE E.3-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER

OUTSIDE THE GREENBELT RESIDENTIAL DEVELOPMENT CHARGE
OUTSIDE THE GREENBELT
(in \$000)

WATER	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$10,443.59	(\$45,015.44)	(\$43,580.02)	(\$41,960.89)	(\$40,145.50)	(\$38,120.58)	(\$35,872.09)	(\$17,814.73)	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Water: Non Inflated	\$71,236.4	\$13,299.7	\$13,299.7	\$13,299.7	\$13,299.7	\$13,299.7	\$452.4	\$452.4	\$138,639.9
- Water: Inflated	\$71,236.4	\$13,698.7	\$14,109.7	\$14,533.0	\$14,969.0	\$15,418.0	\$540.2	\$556.4	\$145,061.4
- Water Infrastructure: Debenture Finance Interest (1)	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$1,761.2	\$2,073.4
- Water (Inflation + Debenture Financed)	\$71,281.0	\$13,743.3	\$14,154.3	\$14,577.6	\$15,013.5	\$15,462.6	\$584.8	\$2,317.7	\$147,134.8
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units	11,531	11,531	11,531	11,531	11,531	11,531	11,531	11,531	92,249
REVENUE									
- DC Receipts: Inflated	\$16,869.0	\$17,375.0	\$17,896.3	\$18,433.2	\$18,986.2	\$19,555.7	\$20,142.4	\$20,746.7	\$150,004.4
INTEREST									
- Interest on Opening Balance	\$313.3	(\$2,250.8)	(\$2,179.0)	(\$2,098.0)	(\$2,007.3)	(\$1,906.0)	(\$1,793.6)	(\$890.7)	(\$12,812.2)
- Interest on In-year Transactions	(\$1,360.3)	\$54.5	\$56.1	\$57.8	\$59.6	\$61.4	\$293.4	\$276.4	(\$501.1)
TOTAL REVENUE	\$15,822.0	\$15,178.7	\$15,773.4	\$16,392.9	\$17,038.5	\$17,711.1	\$18,642.2	\$20,132.4	\$136,691.2
CLOSING CASH BALANCE	(\$45,015.4)	(\$43,580.0)	(\$41,960.9)	(\$40,145.5)	(\$38,120.6)	(\$35,872.1)	(\$17,814.7)	\$0.0	

2024 Principle Repayment Charge (2)	\$	9.06
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$	<u>1,462.91</u>
Total Charge per Capita	\$	1,471.96

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

APPENDIX E.3
TABLE E.3-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER

CITY-WIDE NON-RESIDENTIAL DEVELOPMENT CHARGE
INDUSTRIAL
(in \$000)

WATER	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$742.5	\$29.78	\$22.15	\$14.19	\$5.87	(\$2.82)	(\$11.95)	\$48.80	
2024-2031 NON-RESIDENTIAL FUNDING REQUIREMENTS									
- Water: Non Inflated	\$835.8	\$126.8	\$126.8	\$126.8	\$126.8	\$126.8	\$68.8	\$68.8	\$1,607.5
- Water: Inflated	\$835.8	\$130.6	\$134.6	\$138.6	\$142.8	\$147.0	\$82.1	\$84.6	\$1,696.1
- Water Infrastructure: Debenture Finance Interest (1)	\$4.7	\$4.7	\$4.7	\$4.7	\$4.7	\$4.7	\$4.7	\$116.1	\$148.7
- Water (Inflation + Debenture Financed)	\$840.4	\$135.3	\$139.2	\$143.3	\$147.4	\$151.7	\$86.8	\$200.7	\$1,844.7
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Non-Res Non-Industrial GFA	43,876	43,876	43,876	43,876	43,876	43,876	43,876	43,876	351,010
REVENUE									
- DC Receipts: Inflated	\$123.3	\$127.0	\$130.8	\$134.7	\$138.8	\$142.9	\$147.2	\$151.6	\$1,096.4
INTEREST									
- Interest on Opening Balance	\$22.3	\$0.9	\$0.7	\$0.4	\$0.2	(\$0.1)	(\$0.6)	\$1.5	\$25.2
- Interest on In-year Transactions	(\$17.9)	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.2)	\$0.9	(\$1.2)	(\$19.3)
TOTAL REVENUE	\$127.6	\$127.7	\$131.3	\$134.9	\$138.7	\$142.6	\$147.5	\$151.9	\$1,102.2
CLOSING CASH BALANCE	\$29.8	\$22.2	\$14.2	\$5.9	(\$2.8)	(\$12.0)	\$48.8	\$0.0	

2024 Principle Repayment Charge (2)	\$	0.12
2024 Adjusted Capital Cost & Finance Interest Charge Per M2	\$	2.81
Total Charge per m2	\$	2.93

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

APPENDIX E.3
TABLE E.3-3

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER

CITY-WIDE NON-RESIDENTIAL DEVELOPMENT CHARGE
NON-INDUSTRIAL
(in \$000)

WATER	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$5,486.88	\$119.14	\$74.11	\$27.37	(\$21.16)	(\$71.96)	(\$125.72)	\$351.42	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Water: Non Inflated	\$6,302.4	\$952.0	\$952.0	\$952.0	\$952.0	\$952.0	\$511.8	\$511.8	\$12,086.0
- Water: Inflated	\$6,302.4	\$980.6	\$1,010.0	\$1,040.3	\$1,071.5	\$1,103.6	\$611.1	\$629.5	\$12,748.9
- Water Infrastructure: Debenture Finance Interest (1)	\$35.3	\$35.3	\$35.3	\$35.3	\$35.3	\$35.3	\$35.3	\$880.1	\$1,127.1
- Water (Inflation + Debenture Financed)	\$6,337.7	\$1,015.9	\$1,045.3	\$1,075.6	\$1,106.8	\$1,138.9	\$646.4	\$1,509.5	\$13,876.0
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Non-Res Non-Industrial GFA	478,984	478,984	478,984	478,984	478,984	478,984	478,984	478,984	3,831,874
REVENUE									
- DC Receipts: Inflated	\$940.2	\$968.4	\$997.5	\$1,027.4	\$1,058.3	\$1,090.0	\$1,122.7	\$1,156.4	\$8,360.9
INTEREST									
- Interest on Opening Balance	\$164.6	\$3.6	\$2.2	\$0.8	(\$1.1)	(\$3.6)	(\$6.3)	\$10.5	\$170.8
- Interest on In-year Transactions	(\$134.9)	(\$1.2)	(\$1.2)	(\$1.2)	(\$1.2)	(\$1.2)	\$7.1	(\$8.8)	(\$142.6)
TOTAL REVENUE	\$969.9	\$970.8	\$998.5	\$1,027.0	\$1,056.0	\$1,085.2	\$1,123.6	\$1,158.1	\$8,389.1
CLOSING CASH BALANCE	\$119.1	\$74.1	\$27.4	(\$21.2)	(\$72.0)	(\$125.7)	\$351.4	\$0.0	

2024 Principle Repayment Charge (2)	\$	0.26
2024 Adjusted Capital Cost & Finance Interest Charge Per M2	\$	1.96
Total Charge per m2	\$	2.23

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

Appendix E.4

Stormwater Drainage

Appendix E.4 – Stormwater Drainage

Technical Appendix

Capital infrastructure contained in the Stormwater Drainage service category includes plant expansions and expansion and upgrades of linear Stormwater Drainage infrastructure.

This appendix provides a brief outline of historical service levels for Stormwater Drainage services, the projects that will benefit development occurring over the mid-2024 to mid-2031 development-related capital forecast. The cost, quantum and timing of the projects identified in the forecast have been provided by City staff and are generally based on the capital projects identified in the City's existing Infrastructure Master Plan, the 2014 DC Study and interim 2019 DC Study update and adjusted to account for recent expenditures and indexing. The analysis is set-out in the following tables.

Table E.4-1 2024-2031 Development-Related Capital Forecast and Calculation of the Discounted Growth-Related Net Capital Costs

Table E.4-2 Development Charge Calculation: Cash Flow Analysis for Water Area-Specific Development Charges

A. Benefitting Area

The Stormwater Drainage infrastructure identified in the 2024 city-wide DC Study is intended to be provide a city-wide benefit and is therefore recovered on that basis. Infrastructure that benefits site-specific stormwater management is discussed in the 2024 SWM ASDC Background Study.

B. Historical Service Level Analysis

Stormwater Drainage facilities included in the DC capital forecast are required to achieve health and safety standards as identified in relevant legislation including Provincial and Conservation Authority regulations, the Planning Act, the Ontario Water Resources Act and the Municipal Act. As such, in accordance with section 4(3) of O.Reg. 82/98, the 15-year historical service level does not apply.

C. Development-Related Capital Forecast

The development-related capital forecast that will benefit development occurring over the 2024 to 2031 period includes a variety of projects for the provision of Stormwater Drainage services in the City and amounts to a total gross cost of \$6.7 million, as shown in Table E.4-1.

D. Calculation of Discounted Development-Related Capital Costs

i. Grants, Subsidies and Other Recoveries

No grants, subsidies or other recoveries have been identified for Stormwater Drainage. Therefore, no deduction is made to the DC eligible costs.

ii. Replacement and Benefit to Existing Shares

The replacement and benefit to existing shares have been examined on a project-by-project basis and the nature of each project determined the rationale for the reductions. The identified benefit to exiting shares includes costs that meet the needs of existing development, including past development. Decisions were based on a variety of factors including the population and employment growth over the 10-year base, rehabilitation costs and input from City staff.

New projects are deemed to be entirely growth-related and no replacement shares have been deducted from the net cost. For projects that were identified in the 2014 and 2019 DC Background Studies, the prior benefit to existing shares have largely been maintained.

In total, \$5.0 million is identified as the replacement and benefit to existing share over the planning period.

iii. Prior DC Funding / Available DC Reserve Funds

Prior DC funding relates to portions of projects which have had DCs collected and applied against a portion of the DC eligible project costs. These amounts are removed from the capital forecast and not brought forward into the development charge calculation. Table E.4-1 provides details on the available DC reserve fund balance by benefitting area.

The City's Stormwater Drainage DC reserve fund is in a deficit position, as such, this cost has been included for recovery in the DC calculation.

iv. Post-2031 Benefit

The DC eligible costs identified in the capital program are intended to benefit growth occurring over the 2024 to 2031 planning period. As such, no post-period benefit adjustments are made.

v. 2024-2031 DC Eligible Development Related Costs

The total in-period DC eligible costs shown in Table E.4-1 amounts to \$1.7 million after adjustments for benefit to existing and post-period benefits. After accounting for available DC reserve fund balances the in-period DC eligible cost is increased to \$3.1 million (shown in the DC cost allocation summary at the bottom of Table E.4-1). The increase is the result of the negative DC reserve fund balance.

E. Calculation of Residential and Non-Residential Discounted Development-Related Capital Costs

The discounted development-related costs have been allocated based on shares of city-wide population and employment growth over the 2024-2031 benefitting period.

The table below provides a summary of the DC eligible costs that are deemed to benefit development occurring city-wide. The costs allocations and DC rate calculations are presented in Table E.4-1. The total costs shown below reflect the total costs brought forward to the DC calculation after adjusting for DC reserves.

Residential and Non-Residential Cost Allocations

Benefitting Area	% Allocation	Total Cost (\$)
Residential		
City-Wide	80%	\$3,852,078
Subtotal Residential		\$3,852,078
Non-Residential --Industrial		
City-wide	2%	\$113,179
Non-Residential – Non-Industrial		
City-wide	18%	\$858,050
Subtotal Non-Residential		\$971,229
TOTAL		\$4,823,307

F. Development Charge Calculation

The Stormwater Drainage DC rates include financing costs through a cash flow analysis. A cash flow analysis is undertaken to account for the timing of projects and receipt of DCs. It is particularly applicable where the timing of the forecast capital expenditures is significantly front-ended or back ended over the planning period. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the DCA. Based on the

development forecast, the analysis calculates the DC rate required to finance the discounted development-related capital spending plan including provisions for any borrowing costs or interest earnings on the reserve funds. The cash flow analysis is designed so that the closing cash balance at the end of the planning period is as close to nil as possible.

In order to determine appropriate DC rates reflecting borrowing and earnings necessary to support the discounted development-related funding requirement, assumptions are used for the inflation and interest rates. An inflation rate of 3.0% is used for the funding requirements, an interest rate of 3.0% is used for positive opening balances, and a rate of 5.0% is used for negative opening balances.

Table E.4-2 displays the results of the cash flow analysis and provides the adjusted or final per capita residential and per employees in new non-residential DCs. For residential development charges a per capita amount has been calculated for development occurring city-wide. Similarly, city-wide charge has been calculated for the residual industrial and non-industrial shares of the program. Debenture interest is not inflated in the cash flow analysis and the principal repayment component of the charge continues to be not indexed as has been the case since 2014.

The following table provides a summary of the calculated per capita and per square metre of industrial and non-industrial space city-wide.

Summary of Adjusted Area-Specific Water Cash Flow Analysis

Benefitting Area	Adjusted Charge
Residential City-wide (\$/capita)	\$23.81
Non-Residential - Industrial Area-Specific (\$/m ²)	\$0.29
Non-Residential – Non-Industrial Area-Specific (\$/m ²)	\$0.73

APPENDIX E.4
TABLE E.4-1

CITY OF OTTAWA
DEVELOPMENT-RELATED CAPITAL PROGRAM
STORMWATER DRAINAGE

Project Description	Item Number	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Benefiting Area	% City-Wid	Other Benefiting Area Costs	DC Eligible Costs			
						BTE Share (%)	Replacement & BTE Shares					Prior Growth	2024 - 2031	Post 2031	
4.0 STORMWATER DRAINAGE: CITY-WIDE															
4.1 Buildings and Facilities															
4.1.1 Stormwater Management Facilities - Environmental Compliance - 905757	3.0544	2024 - 2031	\$ 6,723,500	\$ -	\$ 6,723,500	75%	\$ 5,042,625	\$ 1,680,875	City-wide	100%	\$ 1,680,875	\$ -	\$ 1,680,875	\$ -	
Subtotal Buildings and Facilities			\$ 6,723,500	\$ -	\$ 6,723,500		\$ 5,042,625	\$ 1,680,875			\$ 1,680,875	\$ -	\$ 1,680,875	\$ -	
TOTAL STORMWATER DRAINAGE: CITY-WIDE			\$ 6,723,500	\$ -	\$ 6,723,500		\$ 5,042,625	\$ 1,680,875			\$ 1,680,875	\$ -	\$ 1,680,875	\$ -	

City-wide Cost Allocations					
Residential Calculation			Reserve Adjs	DC Rate	
Residential Share of Eligible Costs	80%	\$1,342,411	(\$2,509,667)	\$3,852,078	
8-Year Population Growth		145,185		145,185	
Unadjusted Per Charge per Capita		\$9.25		\$26.53	
Non-Residential Calculation					
Non-Residential Share of Eligible Costs	20%	\$338,464	(\$632,765)	\$971,229	
Industrial					
Non-Residential Share of Eligible Costs	2%	\$39,442	(\$73,737)	\$113,179	
8-Year Non-Residential Growth in GFA (m2)		421,960		1,304,050	
Charge per Square Metre		\$0.09		\$0.09	
Non-Industrial					
Non-Residential Share of Eligible Costs	18%	\$299,022	(\$559,028)	\$858,050	
8-Year Non-Residential Growth in GFA (m2)		1,264,620		1,264,620	
Charge per Square Metre		\$0.24		\$0.68	

Reserve Fund Balance			
	Total	Residential	Non-Residential
City-wide	(\$3,142,432)	(\$2,509,667)	(\$632,765)
IGB	\$0	\$0	\$0
OBG	\$0	\$0	\$0
Rural	\$0	\$0	\$0

TOTAL DC ELIGIBLE COSTS 2024-2031 AFTER ADJUSTMENT FOR AVAILABLE DC RESERVE FUNDS \$ 4,823,307



APPENDIX E.4
TABLE E.4-2

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
STORMWATER DRAINAGE

CITY-WIDE RESIDENTIAL DEVELOPMENT CHARGE
CITY-WIDE
(in \$000)

STORMWATER DRAINAGE	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	(\$2,509.67)	(\$2,283.16)	(\$2,034.78)	(\$1,763.09)	(\$1,466.62)	(\$1,143.79)	(\$792.93)	(\$412.28)	
2024-2031 RESIDENTIAL FUNDING REQUIREMENTS									
- Stormwater Drainage: Non Inflated	\$167.8	\$167.8	\$167.8	\$167.8	\$167.8	\$167.8	\$167.8	\$167.8	\$1,342.4
- Stormwater Drainage: Inflated	\$167.8	\$172.8	\$178.0	\$183.4	\$188.9	\$194.5	\$200.4	\$206.4	\$1,492.1
- Stormwater Drainage Infrastructure: Debenture Finance Interest (1)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Stormwater Drainage (Inflation + Debenture Financed)	\$167.8	\$172.8	\$178.0	\$183.4	\$188.9	\$194.5	\$200.4	\$206.4	\$1,492.1
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Population in New Units - City-Wide	18,148	18,148	18,148	18,148	18,148	18,148	18,148	18,148	145,185
REVENUE									
- DC Receipts: Inflated	\$514.6	\$530.0	\$545.9	\$562.3	\$579.2	\$596.5	\$614.4	\$632.9	\$4,575.9
INTEREST									
- Interest on Opening Balance	(\$125.5)	(\$114.2)	(\$101.7)	(\$88.2)	(\$73.3)	(\$57.2)	(\$39.6)	(\$20.6)	(\$620.3)
- Interest on In-year Transactions	\$5.2	\$5.4	\$5.5	\$5.7	\$5.9	\$6.0	\$6.2	\$6.4	\$46.3
TOTAL REVENUE	\$394.3	\$421.2	\$449.7	\$479.8	\$511.7	\$545.4	\$581.0	\$618.7	\$4,001.8
CLOSING CASH BALANCE	(\$2,283.2)	(\$2,034.8)	(\$1,763.1)	(\$1,466.6)	(\$1,143.8)	(\$792.9)	(\$412.3)	\$0.0	

2024 Principle Repayment Charge (2)	\$ -
2024 Adjusted Capital Cost & Finance Interest Charge Per Capita	\$ 28.35
Total Charge per Capita	\$ 28.35

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

- (1) Debenture finance interest are not inflated
(2) Principle Repayment Charge will not be indexed

APPENDIX E.4
TABLE E.4-2

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
STORMWATER DRAINAGE

CITY-WIDE NON-RESIDENTIAL DEVELOPMENT CHARGE
INDUSTRIAL
(in \$000)

STORMWATER DRAINAGE	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	(\$73.74)	(\$67.08)	(\$59.78)	(\$51.80)	(\$43.09)	(\$33.61)	(\$23.30)	(\$12.11)	
2024-2031 NON-RESIDENTIAL FUNDING REQUIREMENTS									
- Stormwater Drainage: Non Inflated	\$4.9	\$4.9	\$4.9	\$4.9	\$4.9	\$4.9	\$4.9	\$4.9	\$39.4
- Stormwater Drainage: Inflated	\$4.9	\$5.1	\$5.2	\$5.4	\$5.5	\$5.7	\$5.9	\$6.1	\$43.8
- Stormwater Drainage Infrastructure: Debenture Finance Interest (1)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Stormwater Drainage (Inflation + Debenture Financed)	\$4.9	\$5.1	\$5.2	\$5.4	\$5.5	\$5.7	\$5.9	\$6.1	\$43.8
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Non-Res Non-Industrial GFA	163,006	163,006	163,006	163,006	163,006	163,006	163,006	163,006	1,304,050
REVENUE									
- DC Receipts: Inflated	\$15.1	\$15.6	\$16.0	\$16.5	\$17.0	\$17.5	\$18.1	\$18.6	\$134.4
INTEREST									
- Interest on Opening Balance	(\$3.7)	(\$3.4)	(\$3.0)	(\$2.6)	(\$2.2)	(\$1.7)	(\$1.2)	(\$0.6)	(\$18.2)
- Interest on In-year Transactions	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$1.4
TOTAL REVENUE	\$11.6	\$12.4	\$13.2	\$14.1	\$15.0	\$16.0	\$17.1	\$18.2	\$117.6
CLOSING CASH BALANCE	(\$67.1)	(\$59.8)	(\$51.8)	(\$43.1)	(\$33.6)	(\$23.3)	(\$12.1)	\$0.0	

2024 Principle Repayment Charge (2)	\$	-
2024 Adjusted Capital Cost & Finance Interest Charge Per M2	\$	0.09
Total Charge per m2	\$	0.09

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

(1) Debenture finance interest are not inflated

(2) Principle Repayment Charge will not be indexed

APPENDIX E.4
TABLE E.4-2

CITY OF OTTAWA
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
STORMWATER DRAINAGE

CITY-WIDE NON-RESIDENTIAL DEVELOPMENT CHARGE
NON-INDUSTRIAL
(in \$000)

STORMWATER DRAINAGE	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	(\$559.03)	(\$508.57)	(\$453.25)	(\$392.73)	(\$326.69)	(\$254.78)	(\$176.62)	(\$91.84)	
2024-2031 NON-RESIDENTIAL FUNDING REQUIREMENTS									
- Stormwater Drainage: Non Inflated	\$37.4	\$37.4	\$37.4	\$37.4	\$37.4	\$37.4	\$37.4	\$37.4	\$299.0
- Stormwater Drainage: Inflated	\$37.4	\$38.5	\$39.7	\$40.8	\$42.1	\$43.3	\$44.6	\$46.0	\$332.4
- Stormwater Drainage Infrastructure: Debenture Finance Interest (1)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
- Stormwater Drainage (Inflation + Debenture Financed)	\$37.4	\$38.5	\$39.7	\$40.8	\$42.1	\$43.3	\$44.6	\$46.0	\$332.4
NEW NON-RESIDENTIAL DEVELOPMENT									
- Growth in Non-Res Non-Industrial GFA	158,078	158,078	158,078	158,078	158,078	158,078	158,078	158,078	1,264,620
REVENUE									
- DC Receipts: Inflated	\$114.6	\$118.1	\$121.6	\$125.3	\$129.0	\$132.9	\$136.9	\$141.0	\$1,019.3
INTEREST									
- Interest on Opening Balance	(\$28.0)	(\$25.4)	(\$22.7)	(\$19.6)	(\$16.3)	(\$12.7)	(\$8.8)	(\$4.6)	(\$138.2)
- Interest on In-year Transactions	\$1.2	\$1.2	\$1.2	\$1.3	\$1.3	\$1.3	\$1.4	\$1.4	\$10.3
TOTAL REVENUE	\$87.8	\$93.8	\$100.2	\$106.9	\$114.0	\$121.5	\$129.4	\$137.8	\$891.4
CLOSING CASH BALANCE	(\$508.6)	(\$453.2)	(\$392.7)	(\$326.7)	(\$254.8)	(\$176.6)	(\$91.8)	\$0.0	

2024 Principle Repayment Charge (2)	\$	-
2024 Adjusted Capital Cost & Finance Interest Charge Per M2	\$	0.73
Total Charge per m2	\$	0.73

Rates for 2024	
Inflation Rate	3.00%
Interest Rate on Positive Balances	3.00%
Interest Rate on Negative Balances	5.00%

Notes

(1) Debenture finance interest are not inflated

(2) Principle Repayment Charge will not be indexed

Appendix F

Reserve Fund Balances

Appendix F – Development Charges

Reserve Fund Unallocated Balances

The DCA requires that a reserve fund be established for each service for which development charges are collected. Tables F.1 through F.3 present the uncommitted reserve fund balances that are available to help fund the growth-related net capital costs identified in the 2024 DC Study. The balances of the development charges reserve funds as of December 31, 2023 have been adjusted to account for current commitments to reserve fund projects. All of the available reserve fund balances are therefore accounted for in the study.

The DC reserves are shown by benefitting area – City-wide, Inside the Greenbelt, Outside the Greenbelt and Rural. The column entitled “DC Reserve Fund Balance” is the cumulative total of these individual reserves. The application of the available uncommitted balance in each of the reserve funds is discussed in the appendix section related to each service. The funds are assigned to projects in the initial years of the capital program for each service. This has the effect of reducing and deferring capital costs brought forward to the development charges calculation and the cash flow analysis.

APPENDIX F

TABLE F.1

CITY OF OTTAWA
 DEVELOPMENT CHARGE RESERVE FUNDS
 ENGINEERING SERVICES & TRANSIT
 (in \$000)
 As of December 2023

Service	DC Reserve Fund Balance	City-wide	Inside Greenbelt	Outside Greenbelt	Rural
ROADS & RELATED SERVICES	\$ 94,303,475	\$ 80,348,699	\$ (13,999,631)	\$ 24,557,818	\$ 3,396,589
SANITARY (WASTE WATER)	\$ 122,554,119	\$ 96,224,411	\$ 25,110,676	\$ 1,196,010	\$ 23,022
WATER	\$ 22,038,786	\$ 8,398,061	\$ (1,154,092)	\$ 15,199,690	\$ (404,873)
STORMWATER DRAINAGE	\$ (3,137,631)	\$ (3,142,432)	\$ -	\$ -	\$ 4,801
PUBLIC TRANSIT	\$ (82,745,286)	\$ (82,745,286)	\$ -	\$ -	\$ -

APPENDIX F

TABLE F.2

CITY OF OTTAWA
DEVELOPMENT CHARGE RESERVE FUNDS
GENERAL SERVICES
(in \$000)
As of December 2023

Service	DC Reserve Fund Balance	City-wide	Inside Greenbelt	Outside Greenbelt	Rural
PROTECTION (POLICE)	\$ 21,866,048	\$ 21,866,048	\$ -	\$ -	\$ -
PROTECTION (FIRE)	\$ 5,240,408	\$ 9,196,405	\$ -	\$ (4,425,602)	\$ 469,605
PARKS DEVELOPMENT	\$ 14,725,975	\$ 10,454,788	\$ 4,271,187	\$ -	\$ -
RECREATION FACILITIES	\$ 97,591,485	\$ 12,174,997	\$ (9,191,041)	\$ 93,237,276	\$ 1,370,253
LIBRARIES	\$ 20,720,316	\$ 19,359,728	\$ -	\$ 1,273,349	\$ 87,239
AMBULANCE SERVICE	\$ 1,235,517	\$ 1,235,517	\$ -	\$ -	\$ -

APPENDIX F

TABLE F.3

CITY OF OTTAWA
 DEVELOPMENT CHARGE RESERVE FUNDS
 SPECIAL AREA CHARGES
 (in \$000)
 As of December 2023

Service	DC Reserve Fund Balance	City-wide	Inside GB	Outside GB	Rural
PARKS DEVELOPMENT - MILLENNIUM	\$ (1,113,102)	\$ -	\$ -	\$ -	\$ -
RICHMOND (SANITARY SEWER)	\$ (18,839,476)	\$ -	\$ -	\$ -	\$ -
PROVENCE AVENUE (ROADS AND RELATED)	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSIT TRILLIUM	\$ (1,234,641)	\$ -	\$ -	\$ -	\$ -
FLAG STATION RD (ROADS AND RELATED)	\$ -	\$ -	\$ -	\$ -	\$ -

Appendix G

Cost of Growth Analysis – All Services

Excluding Public Transit

Appendix G – Cost of Growth Analysis

All Services Excluding Public Transit

This appendix satisfies the long-term capital and operating costs and asset management plan requirements as required by subsections 10(1)(c) and 10(3) of the DCA for all services excluding transit.

The DCA requires an examination of the long-term capital and operating costs related to the capital infrastructure proposed to be funded from development charges. Furthermore, the DCA also requires that a DC Study include an asset management plan (AMP) for all assets proposed to be funded from development charges. The following appendix provides a discussion of the Cost of Growth (COG) analysis addressing these DCA requirements and includes all eligible services with the exception of transit services. The AMP requirement for transit, as set out in the regulations to the DCA, are more extensive than for other services, and as such, the Public Transit COG analysis has been undertaken separately and is included in Appendix B.3.

Section A provides an overview of the City’s approach to long-range financial planning and the comprehensive COG impact analysis undertaken. Section B addresses the AMP analysis, the results of which have been or will be incorporated into the City’s long-range financial plan analysis and annual budgets.

A. Cost of Growth Analysis

i. Long-Term Capital and Operating Impacts

The 2019 Interim DC Background Study provided an overview of the City’s recent long-range financial plans (LRFPs) for utility services, transit services and all other property tax supported services. These reports clearly identify

the fiscal impacts (operating, capital and state of good repair) of funding and operating City facilities and infrastructure, including infrastructure proposed to be funded, in whole or part, from development charges included in this DC Study. The additional details on this report, and other relevant plans and studies, can be found in Appendix H of the City's 2019 Interim DC Background Study (pages 344 to 347).

B. Asset Management Plan

The DCA requires that municipalities complete an AMP before passing a development charges by-law. A key function of the AMP is to demonstrate that all assets proposed to be funded under the development charges by-law are financially sustainable over their full life cycle. The AMP requirements discussed in this study are aligned with the City's ongoing policies and practices.

i. Relevant Analysis and City Documents

The City of Ottawa undertakes extensive evaluations of the fiscal impacts of capital works; these analyses include an examination of the full range of costs – initial capital, operating and the long-term repair, maintenance and replacement of infrastructure. The following are three key, and interrelated, documents central to the City's AMP fiscal evaluation:

- Comprehensive Asset Management (CAM) Policy
- 2017 State of Assets Report (SOAR)
- 2017 Strategic Asset Management Plan (SAMP)

The key objective of these studies is to ensure the City's financial sustainability. In addition, the City's annual budget process implements and manages the year-to-year expenditure needs and revenue requirements.

ii. Useful Life Assumptions

A summary of future City-owned assets and estimated useful life assumptions for eligible DC services considered as part of this study are outlined in Table G-1 and G-2 below. Where possible, useful life assumptions align with the City's AMP policies and practices.

Although all capital assets considered in the study have been identified, not all assets necessitate future replacement or ongoing maintenance activities. The exception and the justification is as follows:

- Some of the works identified may represent one-time expenditures and may be temporary in nature. Therefore, the assets would not be required to be replaced and no ongoing operation and maintenance costs exist.
- Some projects do not relate to the emplacement of a tangible capital asset— some examples include the acquisition of land or the undertaking of development-related studies. These projects/costs do not necessarily require future replacement or ongoing maintenance.
- For debenture payments where the assets have been constructed, it is assumed that the annual contribution associated with the ongoing repair and replacement of these assets is already included within the City's existing asset management policies.

It should be noted that the capital cost estimates prepared for each of the projects identified in this section include grouped costs of various individual elements, which, as a stand-alone item, may have its own useful life (ex. new buildings include HVAC, structural elements, roof, etc.). Accordingly, the average useful life assumptions noted below are applicable to all project components.

Table G-1 – Summary of Municipal Assets Considered City-wide General Services (Excluding Public Transit)

Service and Amenities	Estimated Useful Life
Protection (Police) Services ▪ Facilities	85 years
Protection (Fire) Services ▪ Vehicles & equipment, facilities	8-85 years
Parks Development ▪ Park amenities	20 years
Recreation Facilities ▪ Various indoor recreation facilities	85 years
Libraries ▪ Collection materials and buildings	7-85 years
Ambulance Service ▪ Equipment, vehicles and facilities	8-85 years

Table G-2 – Summary of Municipal Assets Considered Engineered Services

Capital Project Descriptions	Estimated Useful Life
Roads and Related ▪ Traffic control and signalization, road infrastructure, public works equipment and facilities, rail grade separations, buildings and works yards	8-85 years
Water ▪ Mains	85 years
Sanitary Sewer ▪ Mains, plant pumping stations and trunk infrastructure	50-85 years
Stormwater Management ▪ Management facilities	70 years

iii. Calculated Annual Provision

When assets require rehabilitation or are due for replacement, the source of funds is limited to reserves or contributions from operating. Capital expenditures to carry out the rehabilitation and replacement of aging infrastructure are not growth-related and are therefore not eligible for funding through development charge revenues or other developer contributions.

Based on the information obtained from City staff regarding useful life assumptions and the capital cost of acquiring and/or emplacing each asset, a provision for infrastructure replacement has been calculated for both the general and engineered services, excluding transit related infrastructure. Provisions for infrastructure replacement are initially calculated for each asset based on their useful life and the anticipated cost of replacement. The aggregate of all individual provisions form the required annual capital provision. In calculating the annual provisions, a number of assumptions are made to account for inflation (3.0 per cent) and interest (3.0 per cent).

Consistent with the requirements of the DCA, assets that are proposed to be funded under the development charges by-law have been included in the analysis. As a result, the total calculated annual provision for development charge related infrastructure has been netted down to consider the replacement of existing infrastructure or benefit-to-existing development. However, for reference, the annual replacement provisions associated with the non-development charge funded costs, including costs related to benefit-to-existing and post-period shares have also been calculated.

Tables G-3 to G-7 provide the calculated annual asset management contribution for both the gross capital expenditures and the share related to the DC recoverable portion. The years 2032 and 2034 have been included to calculate the annual contribution for the 2024-2031 and 2024-2033 periods as the expenditures in 2031 and 2033 and will not trigger asset management contributions until 2032 and 2034, respectively.

Table G-3 identifies that the City will need to fund an additional \$26.2 million per annum in order to properly fund the full life cycle costs of the new assets related to City-wide general services supported under the development charges by-law.

Table G-4 relates to the special area charge related to Millennium Park. As the program only includes the recovery of a negative reserve fund balance and debt, there is no associated annual asset management provision.

Table G-5 provides an analysis of the annual provisions required for the Roads & Related capital program to 2031. As shown in Table G-4, the annual provision in 2032 amounts to \$63.6 million.

Table G-6 provides an analysis of the annual provisions required for the City-wide engineered services capital program to 2031. As shown in Table G-5, the annual provision in 2032 amounts to \$37.5 million. Table G-7 provides the annual provision required for special area charges that have engineering infrastructure (e.g. Village of Manotick, Village of Richmond, Provence Avenue, Flag Station Road) that in 2034 would amount to \$198,000.

C. Financial Sustainability of the Program

The calculated annual provisions identified in Tables G-3 to G-7 are already or will be fully integrated in the ongoing City's Corporate Asset Management Planning and the LRFPs discussed above. The annual provisions are considered to be financially sustainable, as it is expected that the increased capital asset management requirements can be absorbed by the LRFPP forecasted tax and user increases over the planning periods. Importantly, the City's annual budget analysis will allow staff to continue to monitor and implement mitigating measures should the program become less sustainable.

**APPENDIX G
TABLE G-3**

**CITY OF OTTAWA
GENERAL SERVICES
CALCULATED ANNUAL PROVISION BY 2034**

Service	2024 - 2033 Capital Program		Calculated AMP Annual Provision by 2034	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Protection (Police)	\$ 71,800,000	\$ 39,000,000	\$ 824,000	\$ 1,236,000
Protection (Fire)	\$ 70,393,000	\$ 9,886,000	\$ 2,900,000	\$ 416,000
Parks Development	\$ 108,513,000	\$ 50,035,000	\$ 7,159,000	\$ 3,269,000
Recreation Facilities	\$ 420,656,000	\$ 253,035,000	\$ 11,773,000	\$ 8,054,000
Libraries	\$ 81,900,000	\$ 5,314,000	\$ 2,741,000	\$ 241,000
Ambulance Service	\$ 12,893,000	\$ 1,155,000	\$ 828,000	\$ 54,000
Total	\$ 766,155,000	\$ 358,425,000	\$ 26,225,000	\$ 13,270,000

*Transit analysis provided in a separate appendix

**APPENDIX G
TABLE G-4**

**CITY OF OTTAWA
GENERAL SERVICES - SPECIAL AREA CHARGES
CALCULATED ANNUAL PROVISION BY 2034**

Service	2024 - 2033 Capital Program		Calculated AMP Annual Provision by 2034	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Millenium Park (Parks)	\$ 3,277,000	\$ -	\$ -	\$ -
Total	\$ 3,277,000	\$ -	\$ -	\$ -

**APPENDIX G
TABLE G-5**

**CITY OF OTTAWA
ROADS & RELATED SERVICES
CALCULATED ANNUAL PROVISION BY 2032**

Service	2024 - 2031 Capital Program		Calculated AMP Annual Provision by 2032	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Roads & Related Services	\$ 1,260,341,000	\$ 250,078,000	\$ 63,584,000	\$ 11,220,000

**APPENDIX G
TABLE G-6**

**CITY OF OTTAWA
ENGINEERED SERVICES
CALCULATED ANNUAL PROVISION BY 2032**

Service	2024 - 2031 Capital Program		Calculated AMP Annual Provision by 2032	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Sanitary (Waste Water)	\$ 630,626,000	\$ 211,920,000	\$ 19,862,000	\$ 3,344,000
Water	\$ 522,604,000	\$ 26,156,000	\$ 17,582,000	\$ 749,000
Stormwater Drainage	\$ 3,000,000	\$ 9,000,000	\$ 100,000	\$ 300,000
Total	\$ 1,156,230,000	\$ 247,076,000	\$ 37,544,000	\$ 4,393,000

**APPENDIX G
TABLE G-7**

**CITY OF OTTAWA
ENGINEERED SERVICES - SPECIAL AREA CHARGES
CALCULATED ANNUAL PROVISION BY 2034**

Service	2024 - 2033 Capital Program		Calculated AMP Annual Provision by 2034	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Richmond (Sanitary Sewer)	\$ 48,689,000	\$ 9,950,000	\$ 170,000	\$ 57,000
Provence Avenue (Roads and Related)	\$ 1,214,000	\$ -	\$ 28,000	\$ -
Flag Station Rd (Roads and Related)	\$ 56,000	\$ -	\$ -	\$ -
Total	\$ 49,959,000	\$ 9,950,000	\$ 198,000	\$ 57,000

Appendix H
2024 DC By-laws
Available Under Separate Cover