

# DEVELOPMENT CHARGES BACKGROUND STUDY

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City of Clarence-Rockland



Version for Public Consultation

**HEMSON** Consulting Ltd.

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## EXECUTIVE SUMMARY

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The following summarizes the findings of the City of Clarence-Rockland's 2019 Development Charges Background Study.

### A. STUDY CONSISTENT WITH DEVELOPMENT CHARGES LEGISLATION

- This study calculates development charges for the City of Clarence-Rockland in compliance with the provisions of the *Development Charges Act, 1997 (DCA)* and its associated regulation (*Ontario Regulation 82/98*).
- On January 26, 2015, the Council of the City of Clarence-Rockland passed Development Charges By-law 2015-13. Council must pass a new by-law in advance of the expiry of By-law 2015-13 in order to continue collecting development charges.
- The City needs to continue implementing DCs to fund capital projects throughout Clarence-Rockland so that new development pays for its capital requirements to the extent allowed by the *DCA* and so that new services required by growth are provided in a fiscally responsible manner.
- The *DCA* and *O. Reg. 82/98* require that a development charges background study be prepared in which development charges are determined with reference to:
  - a forecast of the amount, type and location of residential and non-residential development anticipated in the City;
  - a review of future capital projects, including an analysis of gross expenditures, funding sources and net expenditures incurred or to be incurred by the City to provide for the expected development, including the determination of the development 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 development charges by-laws would relate.
- This report identifies the development-related net capital costs attributable to development that is forecast to occur in the City. These costs are apportioned

to types of development (residential, non-residential) in a manner that reflects the increase in the need for each service.

- The capital programs contained in this report form the basis of the calculation of the proposed development charges for the City of Clarence-Rockland.

**B. ALL SERVICES WITH DEVELOPMENT-RELATED COSTS INCLUDED IN THE ANALYSIS**

The following City services have been included in the development charge analysis:

- Fire Services;
- Public Works;
- Roads and Related;
- Waterworks; and
- Sanitary Sewage.

It should be noted that the services included for development charges recovery in this study relate solely to non-discounted services. Discounted services such as Library, Parks and Recreation, By-law Enforcement and General Government, for which development charges are currently collected for, will continue to be in force at the existing rates until the earlier of the prescribed date (currently proposed to be January 1, 2021 under draft regulation) or until the City implements a Community Benefits Charges By-law. Although a development charge is not being recalculated for discounted services at this time, the development charges at the existing rates are included in a summary of the total charges for illustration purposes in this study. A community benefits charge strategy, under separate cover, will need to be prepared in order to implement a Community Benefits Charge by-law under the provisions of the *Planning Act* by January 1 2021 as identified by draft regulations.

For Transit Services, the City of Clarence-Rockland will no longer be administering a commuter bus system due to declining ridership and high costs. A private company will continue to operate the route, therefore no additional transit capital costs are anticipated in this planning period, as such, no development charge is calculated for this service.

**C. APPROACH USED TO CALCULATE DEVELOPMENT CHARGES**

- Development charge rates have been established under the parameters and limitations of the *DCA*. This study provides the rationale and basis for the calculated rates.
- A City-wide average cost approach is used to calculate development charges for all services. This approach results in uniform charges levied throughout the City.
- The calculated charges are the maximum charges the City may adopt. Lower charges may be approved; however, this will require a reduction in the capital plan and reduced service levels, or financing from other sources, likely property taxes or utility rates.

**D. DEVELOPMENT FORECAST**

- A forecast of the amount, type and location of residential and non-residential development anticipated in the City to 2028 is included in this report and was informed by City planning staff. For the purposes of the development charges calculations, a 10-year planning period from 2019 to 2028 was used for all services.
- A development forecast for the 10-year study period, 2019-2028, estimates that the City's population will grow by 4,313 people.
- About 1,810 households are forecast to be built between 2019 and 2028. Population growth in new housing units is expected to add 4,507 people over the 2019-2028 period.
- Employment in Clarence-Rockland is forecast to grow by 610 employees over the next 10 years. This employment growth is projected to generate about 30,500 square metres of new, non-residential building space between 2019 and 2028.
- The following is a summary of the projected growth for the City:

City-wide Development Forecast	2018 Estimate	10-Year Planning Period 2019 - 2028	
		Growth	Total at 2028
<b>Residential</b>			
Total Occupied Dwellings	9,711	1,806	11,517
Total Population			
Census	25,516	4,313	29,829
Population In New Dwellings		4,507	
<b>Non-Residential</b>			
Employment	5,293	610	5,903
Non-Residential Building Space (sq.m.)		30,500	

**E. FUNDING ENVELOPE BASED ON “NET” GROWTH**

- In accordance with the *DCA*, development charges have been calculated (where applicable) at a level no higher than the average service level provided in the City over the 10-year period immediately preceding the preparation of the background study, on a service by service basis.
- The maximum permissible funding envelopes in this study are based on “net” population, employment and household growth.

**F. THE CITY HAS AN EXTENSIVE DEVELOPMENT-RELATED CAPITAL FORECAST FOR THE PROVISION OF ELIGIBLE SERVICES**

- City staff, in collaboration with Hemson Consulting and the City’s engineering consultants, has compiled a development-related capital forecast setting out projects that are required to service anticipated development. The capital programs for all services are based on a 10-year planning period. Details of the capital program for Fire Services is provided in Appendix B, Services Related to a Highway (Public Works and Roads & Related) can be found in Appendix C, while Engineered Services (Waterworks and Sanitary Sewage) can be found in Appendix D.

- The following is a summary of the development-related capital program for all services considered in this study:

<b>Summary of Development-Related Capital Program (2019-2028)</b>		
<b>Service</b>	<b>Gross Cost (\$000)</b>	<b>DC Eligible Cost (\$000)</b>
<b>Protection Services</b>		
Fire Services	\$12,370.4	\$1,553.1
<b>Services Related to a Highway</b>		
Public Works	\$4,430.8	\$1,446.2
Roads and Related	\$30,729.0	\$14,180.7
<b>Engineering</b>		
Waterworks	\$16,842.0	\$4,658.5
Sanitary Sewage	\$39,188.3	\$6,567.9
<b>Total</b>	<b>\$103,560.5</b>	<b>\$28,406.4</b>

**G. DEVELOPMENT CHARGES ARE CALCULATED WITH FULL REFERENCE TO THE *DCA***

- The following tables summarize the calculated residential and non-residential City-wide development charges:



Service	Residential Charges			Non-Residential Charge (\$/sq.m)
	Single & Semi-Detached	Rows & Other Multiples	Apartments	
<b>Discounted Services*</b>				
Library Services	\$228	\$154	\$135	\$0.00
General Government	\$212	\$143	\$125	\$1.45
Parks And Recreation	\$2,739	\$1,850	\$1,618	\$0.00
By-Law Enforcement	\$5	\$3	\$3	\$0.02
<b>Subtotal Discounted Services*</b>	<b>\$3,184</b>	<b>\$2,150</b>	<b>\$1,881</b>	<b>\$1.47</b>
<b>Transit and Protection Services</b>				
Transit	\$0	\$0	\$0	\$0.00
Fire Protection	\$1,016	\$782	\$544	\$7.15
<b>Subtotal Transit and Protection Services</b>	<b>\$1,016</b>	<b>\$782</b>	<b>\$544</b>	<b>\$7.15</b>
<b>Services Related to a Highway</b>				
Public Works	\$901	\$693	\$482	\$6.34
Roads And Related	\$8,384	\$6,449	\$4,485	\$58.92
<b>Services Rel. to a Highway Charge Per Unit</b>	<b>\$9,285</b>	<b>\$7,142</b>	<b>\$4,967</b>	<b>\$65.26</b>
<b>Engineered Services</b>				
Waterworks	\$2,608	\$2,006	\$1,395	\$18.35
Sanitary Sewage	\$3,818	\$2,937	\$2,042	\$26.85
<b>TOTAL RESIDENTIAL CHARGE BY UNIT TYPE (fully serviced)</b>	<b>\$19,911</b>	<b>\$15,017</b>	<b>\$10,829</b>	<b>\$119.08</b>
(1) Based on Persons Per Unit of:	2.86	2.20	1.53	

\* Development Charges for discounted services have not been recalculated under this study. The rates for these services as identified in By-law 2015-13 (indexed to current dollar) as permissible under Bill 108 will continue to be in force until prescribed by regulation.

## H. NEWLY CALCULATED DC RATES COMPARED WITH CURRENT RATES

- The fully calculated residential charge for a fully serviced single or semi-detached unit in Clarence-Rockland is \$19,911, which represents an increase of 24 per cent, or \$3,852 over the City's current charge of \$16,059.
- Discounted services such as Library, Parks and Recreation, By-law Enforcement and General Government, for which development charges are currently collected for, will continue to be in force at the existing rates until the City implements a Community Benefits Charges By-law as allowed for under the transition provision of Bill 108.
- The calculated non-residential charge of \$119.08 per square metre of gross floor area represents a \$30.27, or 34 per cent increase over the City's current non-residential charge of \$88.81 per square metre.

- The increases are largely due to the increased capital funding requirements for Roads and Related and Waterworks infrastructure.

**I. COST OF GROWTH ANALYSIS**

- Tax and rate supported funding of \$14.23 million will be required to support the development-related capital program.
- It is estimated that net operating costs will increase by about \$1.51 million by the year 2028 as the facilities and infrastructure included in the capital forecast are operated and maintained.
- By 2029, the City will need to fund an additional \$518,700 per annum in order to properly fund the full life cycle costs of the new City-wide assets supported under the proposed Development Charges By-Law.

## I INTRODUCTION

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The *Development Charges Act, 1997 (DCA)* and its associated *Ontario Regulation 82/98 (O. Reg. 82/98)* allow municipalities in Ontario to recover development-related capital costs from new development. The City of Clarence-Rockland Development Charges Background Study is presented as part of a process to lead to the approval of a new development charges by-law in compliance with this legislation.

The City of Clarence-Rockland is experiencing residential development pressure and is also an attractive location for a variety of non-residential development. The anticipated development in Clarence-Rockland will increase the demand on all City services. The City wishes to continue implementing DCs to fund development-related capital projects so that development continues to be serviced in a fiscally responsible manner.

The *DCA* and *O. Reg* require that a development charges background study be prepared in which development charges are determined with reference to:

- A forecast of the amount, type and location of development anticipated in the City;
- The average level of service provided by the City over the 10-year period immediately preceding the preparation of the background study for some services;
- 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-growth-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 development charges by-laws would relate.

This study presents the results of the review to determine the net capital costs attributable to new development that is forecast to occur in the City of Clarence-Rockland between 2019 and 2028. These development-related net capital costs are apportioned to various types of development (residential; non-residential) in a manner that reflects the increase in the need for each service.

The *DCA* provides for a period of public review and comment regarding the proposed development charges. Following completion of the consultation process and Council's review of this study, it is intended that Council will pass new development charges for the City.

The remainder of this study sets out the information and analysis upon which the proposed development charges are based.

Section II designates the services for which the development charges are proposed and the areas within the City to which the development charges will apply. It also briefly reviews the methodology that has been used in this background study.

Section III presents a summary of the forecast residential and non-residential development which is expected to occur within the City over the 2019-2028 period.

Section IV summarizes the historical 10-year average capital service levels that have been attained in the City and form the basis for the development charge calculations.

Section V summarizes the development-related capital forecast that have been developed by various City departments and the City's consulting engineers.

Section VI summarizes the calculation of applicable development charges and the resulting calculated development charges by class and type of development.

Section VII provides a comparison of existing development charge rates in the City with the rates calculated in this study.

Section VIII provides an examination of the asset management and long-term capital and operating costs for each service included in the development charge calculation.

Section IX provides a review of development charges administrative matters such as collection method and timing of payments, exemptions, etc.

## **II THE METHODOLOGY USES A CITY-WIDE APPROACH TO ALIGN DEVELOPMENT-RELATED COSTS AND BENEFITS**

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Several key steps are required when calculating any development charge. However, specific circumstances arise in each municipality that must be reflected in the calculation. Therefore, this study has been tailored specifically for the City of Clarence-Rockland. The approach to the proposed development charges is focused on providing a reasonable alignment of development-related costs with the development that necessitates them.

### **A. CITY-WIDE DEVELOPMENT CHARGES ARE PROPOSED**

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 the development charge by-laws, provided that the other provisions of the *Act* and its associated regulations are met. The *DCA* also requires that the by-laws designate the areas within which the by-laws shall be imposed. The development charges may apply to all lands in the municipality or to other designated development areas as specified in the by-laws.

#### **1. Services Based on a City-Wide Approach**

For all services that the City provides, a range of capital facilities, land, equipment and infrastructure is available throughout the City; fire stations, arterial roads, vehicles and so on. As new development occurs, new facilities will need to be added so that service levels in newly developing areas are provided at levels enjoyed in existing communities. A widely accepted method for sharing the development-related capital costs for such City services is to apportion them over all new development anticipated in the City.

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

- Fire Services;
- Public Works;
- Roads and Related;
- Waterworks; and
- Sanitary Sewage.

These services form a reasonable basis on which to plan and administer the development charges. It is noted that the analysis of each of these services examines the individual capital facilities and equipment currently in place. The resulting development charge for these services is to be imposed against all development anywhere in the City.

It should be noted that the services included for development charges recovery in this study relate solely to non-discounted services. Discounted services such as Library, Parks and Recreation, By-law Enforcement and General Government, for which development charges are currently collected for, will continue to be in force at the existing rates until the earlier of the prescribed date (currently proposed to be January 1, 2021 under draft regulation) or until the City implements a Community Benefits Charges By-law. A community benefits charge strategy, under separate cover, will need to be prepared in order to implement a Community Benefits Charge by-law under the provisions of the *Planning Act* by January 1 2021 as identified by draft regulations.

For Transit Services, the City of Clarence-Rockland will no longer be administering a commuter bus system due to declining ridership and high costs. A private company will continue to operate the route, therefore no additional transit capital costs are anticipated in this planning period, as such, no development charge is calculated for this service.

## **B. KEY STEPS IN DETERMINING DEVELOPMENT CHARGES FOR FUTURE DEVELOPMENT-RELATED PROJECTS**

Several key steps are required in calculating development charges for future development-related projects. These are summarized below.

### **1. Development Forecast**

The first step in the methodology requires a development forecast be prepared over the 10-year planning period, 2019-2028. The forecast of the future residential and non-residential development used in this study is based on information provided by City planning staff.

For the residential portion of the forecast, both the net (or Census) population growth and population growth in new units is estimated. The net 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.

The non-residential portion of the forecast estimates the Gross Floor Area (GFA) of building space to be developed over the 10-year period. The forecast of GFA is based on the employment forecast for the City. Factors for floor space per worker are used to convert the employment forecast into gross floor areas for the purposes of the development charges study.

## **2. 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 10-year period immediately preceding the preparation of the background study...(s. 5. (1) 4.)

Historic 10 year average service levels thus form the basis for development charges. A review of City's capital service levels for buildings, land, vehicles and so on, has therefore been prepared as a reference for the calculation, so that the portion of future capital projects that may be included in the development charge can be determined. The historical service levels used in this study have been calculated based on the period 2009-2018.

## **3. Development-Related Capital Forecast and Analysis of Net Capital Costs to be Included in the Development Charges**

A development-related capital forecast has been prepared by the City's departments 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 *Act* (*DCA*, s. 5. (2)). The capital forecast provides another cornerstone upon which development charges 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 *DCA*, s. 5. (1) 4. referenced above, these sections have the affect of requiring that the development charge be calculated on the lesser of the historic 10- year average service levels or the service levels embodied in future plans of the City. The development-related capital forecast prepared for this study ensures that development charges 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 development charges 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 forecast, 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-development charges 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.

There is also a requirement in the *DCA* to reduce the applicable development charge by the amount of any “uncommitted excess capacity” that is available for a service. Adjustments are made in the analysis to meet this requirement of the *Act*.

#### **4. Attribution to Types of Development**

The next step in the determination of development charges is the allocation of the development-related net capital costs between the residential and non-residential sectors. This is done using apportionments for different services in accordance with the demands placed on the various services and the benefits derived.

Where reasonable data exist, the apportionment is based on the expected demand for, and use of, the service by sector (e.g. shares of population in new units and employment).

Finally, the residential component of the City-wide development charge is applied to different housing types on the basis of average occupancy factors. The non-residential component is applied on the basis of gross building space in square metres.

#### **5. Final Adjustment**

The final determination of the development charge results from adjustments made to development-related net capital costs for each service and sector resulting from the application of any unallocated reserve fund balances available to finance the development-related capital costs in the capital forecast. 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 therefore accounted for in the calculation as allowed under the *DCA*.



### III DEVELOPMENT FORECAST

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This section provides the basis for the development forecasts used in calculating the development charges, as well as a summary of the forecast results. The City’s residential and non-residential development forecasts are based on forecast data provided by the City of Clarence-Rockland’s planning department staff. The tables take into consideration data from the 2016 Census, historical building permit and completion data and the current economic climate. A more detailed summary of the forecasts, including tables illustrating historical trends and forecast results is provided in Appendix A.

#### A. RESIDENTIAL FORECAST

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*<sup>1</sup> as well as the *population in new 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.

Table 1 provides a summary of the residential forecast for the 10-year planning period. The City’s Census population is expected to increase by about 4,313 people over the next 10 years. The population residing in new housing units is expected to increase by 4,507 people over the 10-year planning period. About 1,810 households are forecast to be built between 2019 and 2028.

#### B. NON-RESIDENTIAL FORECAST

Development charges are levied on non-residential development as a charge per square metre 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.

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<sup>1</sup> Commonly referred to as “net population growth” in the context of development charges.

The 10-year forecast projects an increase of approximately 610 employees, which will be accommodated in 30,500 square metres of new non-residential floor space.

TABLE 1

**CITY OF CLARENCE-ROCKLAND  
SUMMARY OF RESIDENTIAL AND NON-RESIDENTIAL  
DEVELOPMENT FORECAST**

City-wide Development Forecast	2018 Estimate	10-Year Planning Period 2019 - 2028	
		Growth	Total at 2028
<b>Residential</b>			
Total Occupied Dwellings	9,711	1,806	11,517
Total Population			
Census	25,516	4,313	29,829
<i>Population In New Dwellings</i>		4,507	
<b>Non-Residential</b>			
Employment	5,293	610	5,903
Non-Residential Building Space (sq.m.)		30,500	

## IV SUMMARY OF HISTORICAL CAPITAL SERVICE LEVELS

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The *DCA* and *Ontario Regulation 82/98* require that the development charges be set at a level no higher than the average service level provided in the municipality over the 10-year period immediately preceding the preparation of the background study, on a service by service basis.

For Fire Services and Services Related to a Highway: Public Works and Roads & Related, the legislative requirement is met by documenting historic service levels for the preceding 10 years, in this case, for the period 2009-2018.

*O. Reg. 82/98* requires that, 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 dollars 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 charged to new development 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 City staff, and is based on historical records and their experience with costs to acquire or construct similar facilities, equipment and infrastructure.

Table 2 summarizes service levels for all applicable services included in the development charge calculation. Appendices B and C provide detailed historical inventory data upon which the calculation of service levels is based.

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TABLE 2

**CITY OF CLARENCE-ROCKLAND  
SUMMARY OF AVERAGE HISTORICAL SERVICE LEVELS 2009 - 2018**

<b>Service</b>	<b>2009 - 2018 Service Level Indicator</b>
<b>1.0 FIRE SERVICES</b>	<b>\$315.45 per pop &amp; empl</b>
Buildings	\$90.04 per pop & empl
Land	\$9.70 per pop & empl
Furniture & Equipment At Stations	\$12.13 per pop & empl
Vehicles	\$169.62 per pop & empl
Equipment And Gear	\$33.96 per pop & empl
<b>2.0 PUBLIC WORKS</b>	<b>\$293.76 per pop &amp; empl</b>
Buildings	\$86.28 per pop & empl
Land	\$18.11 per pop & empl
Furniture And Equipment	\$4.01 per pop & empl
Small Tools	\$2.45 per pop & empl
Fleet	\$179.26 per pop & empl
Fleet Contracted Services	\$3.65 per pop & empl
<b>3.0 ROADS AND RELATED</b>	<b>\$6,346.76 per pop &amp; empl</b>
Roads	\$5,496.68 per pop & empl
Bridges & Culverts	\$390.94 per pop & empl
Streetlights	\$262.49 per pop & empl
Sidewalks	\$196.65 per pop & empl

## **V THE DEVELOPMENT-RELATED CAPITAL FORECAST**

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The *DCA* requires the Council of a municipality to express its intent to provide future capital facilities at the average historical service level incorporated in the development charges calculation. As noted above in Section II, *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.

### **A. A DEVELOPMENT-RELATED CAPITAL FORECAST IS PROVIDED FOR COUNCIL'S APPROVAL**

Based on the development forecasts summarized in Section III and detailed in Appendix A, City department staff, in collaboration with the consultants have created a development-related capital forecast setting out those projects that are required to service anticipated growth. For all eligible municipal services, the capital plan covers the 10-year period from 2019-2028. Furthermore, the City's engineering consultants have informed the list of capital projects related to roads and related, waterworks and sanitary sewage required to service growth.

One of the recommendations contained in this Background Study is for Council to adopt the capital forecast created for the purposes of the development charges 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 here may occur through the City's normal capital budget process.

### **B. THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR FIRE SERVICES**

A summary of the development-related capital forecast for Fire Services is presented in Table 3. Further details on the capital plan for Fire Services are available in Appendix B.

The development-related capital forecast estimates a total gross cost of \$12.37 million. No grants, subsidies or other funding sources are identified as available for

this program. Therefore, the net municipal cost of the capital program remains \$12.37 million.

This capital forecast incorporates those projects identified to be related to development anticipated in the next 10 years. It is not implied that all of these costs are to be recovered from new development by way of development charges (see the following Section VI for the method and determination of net capital costs attributable to growth). Portions of this capital forecast may relate to providing servicing for development which has occurred prior to 2019 (for which development charge reserve fund balances exist), for replacement of existing capital facilities or for growth anticipated to occur beyond the 2019-2028 planning period.

### **C. THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR SERVICES RELATED TO A HIGHWAY AND ENGINEERING SERVICES**

Table 4 provides the City-wide development-related capital recoveries for the services of Public Works, Roads and Related, Waterworks, and Sanitary Sewage. The City-wide capital program totals \$91.19 million and provides servicing for anticipated development over the 10-year planning period from 2019-2028.

The largest proportion of the capital program is associated with growth-related Sanitary Sewage projects. The various treatment plant improvements, pumping stations, linear infrastructure projects and studies total \$39.19 million, or 43 per cent of the total forecast.

The Roads and Related capital program includes bike and multi-use paths, roadworks, intersection improvements, and investments in sidewalks at a total cost of \$30.73 million, or 34 per cent.

Waterworks projects include investments in the treatment plant, as well as linear infrastructure and studies. The gross capital program totals \$16.84 million or 19 per cent of the total program.

The remainder of the capital forecast includes \$4.43 million (5 per cent) for Public Works projects, such as snow dumps, an expansion to the public works garage, and assorted fleet and equipment investments.

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TABLE 3

CITY OF CLARENCE-ROCKLAND  
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM  
FOR FIRE SERVICES 2019 - 2028  
(in \$000)

Service	Gross Cost	Grants/ Subsidies	Municipal Cost	Total Net Capital Program									
				2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>1.0 FIRE SERVICES</b>	<b>\$12,370.4</b>	<b>\$0.0</b>	<b>\$12,370.4</b>	<b>\$5,610.4</b>	<b>\$1,500.0</b>	<b>\$450.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$280.0</b>	<b>\$125.0</b>	<b>\$4,405.0</b>
1.1 Recovery of Negative Reserve Fund	\$813.9	\$0.0	\$813.9	\$813.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
1.2 Buildings, Land & Furnishings	\$9,831.5	\$0.0	\$9,831.5	\$4,731.5	\$1,500.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$3,600.0
1.3 Vehicles	\$1,395.0	\$0.0	\$1,395.0	\$65.0	\$0.0	\$450.0	\$0.0	\$0.0	\$0.0	\$0.0	\$280.0	\$0.0	\$600.0
1.4 Equipment & Studies	\$330.0	\$0.0	\$330.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$125.0	\$205.0
<b>TOTAL - FIRE SERVICES</b>	<b>\$12,370.4</b>	<b>\$0.0</b>	<b>\$12,370.4</b>	<b>\$5,610.4</b>	<b>\$1,500.0</b>	<b>\$450.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$280.0</b>	<b>\$125.0</b>	<b>\$4,405.0</b>



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TABLE 4

CITY OF CLARENCE-ROCKLAND  
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM  
FOR SERVICES RELATED TO A HIGHWAY AND ENGINEERED SERVICES 2019 - 2028  
(in \$000)

Service	Gross Cost	Grants / Subsidies	Net Municipal	Total Net Capital Program									
				2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
SERVICES RELATED TO A HIGHWAY													
1.0 PUBLIC WORKS	\$4,430.8	\$0.0	\$4,430.8	\$1,567.3	\$651.5	\$1,501.5	\$51.5	\$401.5	\$51.5	\$51.5	\$51.5	\$51.5	\$51.5
1.1 Buildings	\$3,359.8	\$0.0	\$3,359.8	\$1,459.8	\$600.0	\$1,300.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
1.2 Fleet & Equipment	\$1,071.0	\$0.0	\$1,071.0	\$107.5	\$51.5	\$201.5	\$51.5	\$401.5	\$51.5	\$51.5	\$51.5	\$51.5	\$51.5
2.0 ROADS AND RELATED	\$30,729.0	\$0.0	\$30,729.0	\$6,489.8	\$4,889.8	\$5,439.8	\$4,989.8	\$5,139.8	\$756.0	\$756.0	\$756.0	\$756.0	\$756.0
1.1 City-Wide Roads Projects	\$30,729.0	\$0.0	\$30,729.0	\$6,489.8	\$4,889.8	\$5,439.8	\$4,989.8	\$5,139.8	\$756.0	\$756.0	\$756.0	\$756.0	\$756.0
ENGINEERING: WATERWORKS AND SANITARY SEWAGE													
3.0 WATERWORKS	\$16,842.0	\$0.0	\$16,842.0	\$4,604.0	\$165.0	\$15.0	\$45.0	\$25.0	\$25.0	\$1,202.0	\$10,711.0	\$25.0	\$25.0
2.1 City-wide Water Projects	\$11,714.0	\$0.0	\$11,714.0	\$713.0	\$165.0	\$15.0	\$45.0	\$15.0	\$15.0	\$15.0	\$10,701.0	\$15.0	\$15.0
2.2 Pressure Zone-Specific Water Projects	\$5,128.0	\$0.0	\$5,128.0	\$3,891.0	\$0.0	\$0.0	\$0.0	\$10.0	\$10.0	\$1,187.0	\$10.0	\$10.0	\$10.0
4.0 SANITARY SEWAGE	\$39,188.3	\$0.0	\$39,188.3	\$11,213.3	\$11,648.0	\$365.0	\$95.0	\$13,373.0	\$2,434.0	\$15.0	\$15.0	\$15.0	\$15.0
3.1 City-wide Sanitary Sewer Projects	\$39,188.3	\$0.0	\$39,188.3	\$11,213.3	\$11,648.0	\$365.0	\$95.0	\$13,373.0	\$2,434.0	\$15.0	\$15.0	\$15.0	\$15.0
TOTAL - 10-YEAR PROGRAM	\$91,190.1	\$0.0	\$91,190.1	\$23,874.4	\$17,354.3	\$7,321.3	\$5,181.3	\$18,939.3	\$3,266.5	\$2,024.5	\$11,533.5	\$847.5	\$847.5

## **VI PROPOSED DEVELOPMENT CHARGES ARE CALCULATED IN ACCORDANCE WITH THE *DCA***

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This section summarizes the calculation of development charges for each service category and the resulting total charges by sector. For all municipal services, the calculation of the “unadjusted” per capita (residential) and per square metre (non-residential) charges is reviewed. Adjustments to these amounts resulting from a cash flow analysis that takes interest earnings and borrowing costs into account are also discussed.

For residential development, the adjusted 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 charges are based on gross floor area (GFA) of building space.

It is noted that the calculation of the City-wide development charges does not include any provision for exemptions required under the *DCA*, such as the exemption for enlargements of up to 50 per cent on existing industrial buildings. Such legislated exemptions, or other exemptions that Council may choose to provide, will result in loss of DC revenue for the affected types of development. However, any such revenue loss may not be made up by offsetting increases in other portions of the calculated charge.

### **A. DEVELOPMENT CHARGES CALCULATION**

A summary of the “unadjusted” residential and non-residential development charges is presented in Tables 5 and 6 for fire and services related to a highway/engineered services, respectively. Further details of the calculations for each individual City service category are available in Appendix B for Fire Services, Appendix C for Services Related to a Highway (includes public works as well as roads and related) and Appendix D for Engineered Services (includes waterworks and sanitary sewer).

#### **1. Fire Services**

A summary of the “unadjusted” residential and non-residential development charges for Fire Services is presented in Table 5.

The capital forecast for Fire Services incorporates those projects identified to be related to development anticipated in the next 10-years. However, not all of the capital costs are to be recovered from new development by way of development

charges. Table 5 shows that \$1.98 million of the capital forecast relates to replacement of existing capital facilities or for shares of projects that provide benefit to the existing community. These portions of capital costs will have to be funded from non-development charge revenue sources.

Another share of the forecast, \$8.84 million, is attributable to development beyond the 2028 period (and may therefore be recovered under future development charge studies).

The total costs eligible for recovery through development for Fire Services is \$1.55 million. This amount is allocated between the residential and non-residential sectors based on shares of population in new units and employment growth.

Approximately \$1.37 million of the Fire Services development charges eligible capital program is deemed to benefit residential development. When this amount is divided by the ten-year growth in population in new housing units an unadjusted charge of \$303.24 per capita is the result. The non-residential share of the capital program totals \$186,370 and when this amount is divided by the 10-year forecast of non-residential space growth, an unadjusted charge of \$6.11 per square metre is the result.

## **2. Services Related to a Highway and Engineering Services**

Table 6 describes the calculation of the unadjusted rates for the services of Public Works, Roads and Related, Waterworks, and Sanitary Sewage.

Not all of the net municipal costs are to be recovered from new development by way of development charges. Table 6 shows that \$12.25 million of the capital program relates to replacement of existing capital works or for shares of projects that provide benefit to the existing community. This amount has been netted off the chargeable capital cost. Other costs not included in the development charges calculation include \$6.95 million in direct developer contributions and \$4.92 million in available reserve fund balances. Post-period shares in the amount of \$40.22 million have also been netted out.

The remaining \$26.85 million is related to development in the 2019-2028 planning period and has been included in the development charge calculation.

The capital program eligible for recovery through development charges is allocated to the residential and non-residential sectors based on future shares of population in new units and employment growth over the planning period to 2028. On this basis, the allocation to the residential and non-residential sectors is also calculated at 88 per cent and 12 per cent, respectively.

As a result, \$23.63 million of the engineered services capital program is deemed to benefit residential development. When this amount is divided by the 10-year growth in population in new housing units an unadjusted charge of \$5,243.16 per capita is

the result. The non-residential share totals \$3.22 million and, when this amount is divided by the 10-year forecast of non-residential space growth an unadjusted charge of \$105.65 per square metre is the result.

### **3. Adjusted Residential and Non-Residential Development Charges**

Final adjustments to the “unadjusted” development charge rates summarized above are made through a cash flow analysis. The analysis, details of which are included in the Appendices, considers the borrowing cost and interest earnings associated with the timing of expenditures and development charge receipts for each service category.

Table 7 summarizes the results of the cash flow adjustments for the residential development charges rates. The adjusted per capita rate increases from \$5,546.40 per capita to \$5,848.86 per capita after the cash flow analysis for the residential charge.

Table 7 also provides the calculated rates by residential unit with the total charge per fully serviced unit. The charge for a fully serviced single or semi-detached unit is \$19,911 per unit, \$15,017 for a row or other type of multiple unit, and \$10,829 for an apartment unit.

Table 8 shows the non-residential uniform charge also experiences an increase after cash flow considerations, from \$111.76 to \$119.08 per square metre.

Although a development charge is not being recalculated for discounted services at this time, the development charges at the existing rates are included in the total charges for illustration purposes and reflected in Tables 7 through 10.

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TABLE 5

**CITY OF CLARENCE-ROCKLAND  
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES  
10-YEAR CAPITAL PROGRAM FOR FIRE SERVICES**

10 Year Growth in Population in New l	4,507
10 Year Growth in Square Metres	30,500

Service	Development-Related Capital Program (2019 - 2028)									
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Required Service Discount (\$000)	Available DC Reserves (\$000)	Post-2028 Benefit (\$000)	Total DC Eligible Costs for Recovery (\$000)	Residential Share		Non-Residential Share	
							%	(\$000)	%	(\$000)
1.0 FIRE SERVICES	\$12,370.4	\$1,980.2	\$0.0	\$0.0	\$8,837.1	\$1,553.1	88%	\$1,366.7	12%	\$186.37
								\$303.24		\$6.11
<b>TOTAL 10-YEAR FIRE SERVICES</b>	<b>\$12,370.4</b>	<b>\$1,980.2</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$8,837.1</b>	<b>\$1,553.1</b>		<b>\$1,366.7</b>		<b>\$186.4</b>

CITY OF CLARENCE-ROCKLAND  
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES  
CAPITAL PROGRAM FOR SERVICES RELATED TO A HIGHWAY AND ENGINEERING SERVICES

10 Year Growth in Population in New Units	4,507
Employment Growth	610
10 Year Growth in Square Meters	30,500

Service	Development-Related Capital Program (2019 - 2028)									
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Direct Developer Contributions (\$000)	Available DC Reserves (\$000)	Post-Period Benefit (\$000)	Total DC Eligible Costs for Recovery (\$000)				
							Residential Share		Non-Residential Share	
							%	(\$000)	%	(\$000)
SERVICES RELATED TO A HIGHWAY										
1.0 PUBLIC WORKS	\$4,430.8	\$1,697.9	\$0.0	\$175.3	\$1,111.4	\$1,446.2	88%	\$1,272.7	12%	\$173.55
Unadjusted Development Charge Per Capita								\$282.38		
Unadjusted Development Charge Per Sq.M										\$5.69
2.0 ROADS AND RELATED	\$30,729.0	\$1,376.5	\$0.0	\$1,380.0	\$13,791.8	\$14,180.7	88%	\$12,479.0	12%	\$1,701.68
Unadjusted Development Charge Per Capita								\$2,768.81		
Unadjusted Development Charge Per Sq.M										\$55.79
ENGINEERING: WATERWORKS AND SANITARY SEWAGE										
3.0 WATERWORKS	\$16,842.0	\$1,437.2	\$0.0	\$448.0	\$10,298.4	\$4,658.5	88%	\$4,099.4	12%	\$559.02
Unadjusted Development Charge Per Capita								\$909.57		
Unadjusted Development Charge Per Sq.M										\$18.33
4.0 SANITARY SEWAGE	\$39,188.3	\$7,739.8	\$6,945.3	\$2,915.0	\$15,020.3	\$6,567.9	88%	\$5,779.8	12%	\$788.15
Unadjusted Development Charge Per Capita								\$1,282.40		
Unadjusted Development Charge Per Sq.M										\$25.84
TOTAL 10-YEAR PROGRAM	\$91,190.1	\$12,251.4	\$6,945.3	\$4,918.3	\$40,221.8	\$26,853.3		\$23,630.9		\$3,222.4
Unadjusted Development Charge Per Capita								\$5,243.16		
Unadjusted Development Charge Per Sq.M										\$105.65

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TABLE 7

CITY OF CLARENCE-ROCKLAND  
CITY-WIDE DEVELOPMENT CHARGES  
RESIDENTIAL DEVELOPMENT CHARGES

Service	Unadjusted Charge Per Capita	Adjusted Charge After Cashflow Per Capita	Charge By Unit Type (1)		
			Single & Semi-Detached	Rows & Other Multiples	Apartments
<b>Discounted Services*</b>					
Library Services	-	-	\$228	\$154	\$135
General Government	-	-	\$212	\$143	\$125
Parks And Recreation	-	-	\$2,739	\$1,850	\$1,618
By-Law Enforcement	-	-	\$5	\$3	\$3
<b>Subtotal Discounted Services*</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$3,184</b>	<b>\$2,150</b>	<b>\$1,881</b>
<b>Transit and Protection Services</b>					
Transit	\$0.00	\$0.00	\$0	\$0	\$0
Fire Protection	\$303.24	\$355.27	\$1,016	\$782	\$544
<b>Subtotal Transit and Protection Services</b>	<b>\$303.24</b>	<b>\$355.27</b>	<b>\$1,016</b>	<b>\$782</b>	<b>\$544</b>
<b>Services Related to a Highway</b>					
Public Works	\$282.38	\$315.09	\$901	\$693	\$482
Roads And Related	\$2,768.81	\$2,931.59	\$8,384	\$6,449	\$4,485
<b>Services Rel. to a Highway Charge Per Unit</b>	<b>\$3,051.19</b>	<b>\$3,246.67</b>	<b>\$9,285</b>	<b>\$7,142</b>	<b>\$4,967</b>
<b>Engineered Services</b>					
Waterworks	\$909.57	\$911.97	\$2,608	\$2,006	\$1,395
Sanitary Sewage	\$1,282.40	\$1,334.94	\$3,818	\$2,937	\$2,042
<b>TOTAL RESIDENTIAL CHARGE BY UNIT TYPE (fully serviced)</b>	<b>\$5,546.40</b>	<b>\$5,848.86</b>	<b>\$19,911</b>	<b>\$15,017</b>	<b>\$10,829</b>
(1) Based on Persons Per Unit of:			2.86	2.20	1.53

\* Development Charges for discounted services have not been recalculated under this study. The rates for these services as identified in By-law 2015-13 (indexed to current dollar) as permissible under Bill 108 will continue to be in force until prescribed by regulation.

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TABLE 8

**CITY OF CLARENCE-ROCKLAND  
CITY-WIDE DEVELOPMENT CHARGES  
NON-RESIDENTIAL DEVELOPMENT CHARGES**

<b>Service</b>	<b>Unadjusted Charge (\$/sq.m)</b>	<b>Adjusted Charge After Cashflow (\$/sq.m)</b>
<b>Discounted Services*</b>		
Library Services	-	\$0.00
General Government	-	\$1.45
Parks And Recreation	-	\$0.00
By-Law Enforcement	-	\$0.02
<b>Discounted Services Charge Per sq.m*</b>	<b>\$0.00</b>	<b>\$1.47</b>
<b>Transit and Protection Services</b>		
Transit	\$0.00	\$0.00
Fire Protection	\$6.11	\$7.15
<b>Subtotal Transit and Protection Services</b>	<b>\$6.11</b>	<b>\$7.15</b>
<b>Services Related to a Highway</b>		
Public Works	\$5.69	\$6.34
Roads And Related	\$55.79	\$58.92
<b>Services Rel. to a Highway Charge Per sq.m</b>	<b>\$61.48</b>	<b>\$65.26</b>
<b>Engineered Services</b>		
Waterworks	\$18.33	\$18.35
Sanitary Sewage	\$25.84	\$26.85
<b>TOTAL NON-RESIDENTIAL CHARGE PER SQ M (fully serviced)</b>	<b>\$111.76</b>	<b>\$119.08</b>

\* Development Charges for discounted services have not been recalculated under this study.  
The rates for these services as identified in By-law 2015-13 (indexed to current dollar)  
as permissible under Bill 108 will continue to be in force until prescribed by regulation.



## VII COMPARISON OF CALCULATED AND CURRENT DEVELOPMENT CHARGES

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Tables 9 and 10 present a comparison of the newly calculated residential and non-residential development charges with currently imposed development charge rates. It illustrates that the residential development charge for a fully serviced single- or semi-detached unit increases by \$3,852 per unit, or 24 per cent.

The current development charge rate for fully serviced non-residential development also increases, from \$88.81 per square metre to \$119.08 per square metre (34 per cent).

It should be noted that the services included for development charges recovery in this study relate solely to non-discounted services. Discounted services such as Library, Parks and Recreation, By-law Enforcement and General Government, for which development charges are currently collected for, will continue to be in force at the existing rates until the earlier of the prescribed date (currently proposed to be January 1, 2021 under draft regulation) or until the City implements a Community Benefits Charges By-law. Although a development charge is not being recalculated for discounted services at this time, the development charges at the existing rates are included in a summary of the total charges for illustration purposes in this study. A community benefits charge strategy, under separate cover, will need to be prepared in order to implement a Community Benefits Charge by-law under the provisions of the *Planning Act* by January 1 2021 as identified by draft regulations.

For Transit Services, the City of Clarence-Rockland will no longer be administering a commuter bus system due to declining ridership and high costs. A private company will continue to operate the route, therefore no additional transit capital costs are anticipated in this planning period, as such, no development charge is calculated for this service.

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TABLE 9

CITY OF CLARENCE-ROCKLAND  
COMPARISON OF CURRENT AND CALCULATED  
RESIDENTIAL DEVELOPMENT CHARGES

Service	Current Residential Charge / SDU	Calculated Residential Charge / SDU	Difference in Charge	
<b>Discounted Services*</b>				
Library Services	\$228	\$228	\$0	0%
General Government	\$212	\$212	\$0	0%
Parks And Recreation	\$2,739	\$2,739	\$0	0%
By-Law Enforcement	\$5	\$5	\$0	0%
<b>Subtotal Discounted Services*</b>	<b>\$3,184</b>	<b>\$3,184</b>	<b>\$0</b>	<b>0%</b>
<b>Transit and Protection Services</b>				
Transit	\$135	\$0	(\$135)	(100%)
Fire Protection	\$944	\$1,016	\$72	8%
<b>Subtotal Transit and Protection Services</b>	<b>\$1,079</b>	<b>\$1,016</b>	<b>(\$63)</b>	<b>(6%)</b>
<b>Services Related to a Highway</b>				
Public Works	\$861	\$901	\$40	5%
Roads And Related	\$3,920	\$8,384	\$4,464	114%
<b>Services Rel. to a Highway Charge Per Unit</b>	<b>\$4,781</b>	<b>\$9,285</b>	<b>\$4,504</b>	<b>94%</b>
<b>Engineered Services</b>				
Waterworks	\$1,048	\$2,608	\$1,560	149%
Sanitary Sewage	\$5,967	\$3,818	(\$2,149)	-36%
<b>TOTAL RESIDENTIAL CHARGE BY UNIT TYPE (fully serviced)</b>	<b>\$16,059</b>	<b>\$19,911</b>	<b>\$3,852</b>	<b>24%</b>

\* Development Charges for discounted services have not been recalculated under this study. The rates for these services as identified in By-law 2015-13 (indexed to current dollar) as permissible under Bill 108 will continue to be in force until prescribed by regulation.

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TABLE 10

CITY OF CLARENCE-ROCKLAND  
COMPARISON OF CURRENT AND CALCULATED  
NON-RESIDENTIAL DEVELOPMENT CHARGES

Service	Current Non-Residential Charge / Sq.m	Calculated Non-Residential Charge / Sq.m	Difference in Charge	
<b>Discounted Services*</b>				
Library Services	\$0.00	\$0.00	\$0.00	0%
General Government	\$1.45	\$1.45	\$0.00	0%
Parks And Recreation	\$0.00	\$0.00	\$0.00	0%
By-Law Enforcement	\$0.02	\$0.02	\$0.00	0%
<b>Subtotal Discounted Services*</b>	<b>\$1.47</b>	<b>\$1.47</b>	<b>\$0.00</b>	<b>0%</b>
<b>Transit and Protection Services</b>				
Transit	\$0.91	\$0.00	(\$0.91)	(100%)
Fire Protection	\$6.41	\$7.15	\$0.74	12%
<b>Subtotal Transit and Protection Services</b>	<b>\$7.33</b>	<b>\$7.15</b>	<b>(\$0.18)</b>	<b>(2%)</b>
<b>Services Related to a Highway</b>				
Public Works	\$5.85	\$6.34	\$0.49	8%
Roads And Related	\$26.60	\$58.92	\$32.32	122%
<b>Services Rel. to a Highway Charge Per sq.m</b>	<b>\$32.45</b>	<b>\$65.26</b>	<b>\$32.81</b>	<b>101%</b>
<b>Engineered Services</b>				
Waterworks	\$7.12	\$18.35	\$11.23	158%
Sanitary Sewage	\$40.44	\$26.85	(\$13.59)	-34%
<b>TOTAL NON-RESIDENTIAL CHARGE PER SQ M (fully serviced)</b>	<b>\$88.81</b>	<b>\$119.08</b>	<b>\$30.27</b>	<b>34%</b>

\* Development Charges for discounted services have not been recalculated under this study. The rates for these services as identified in By-law 2015-13 (indexed to current dollar) as permissible under Bill 108 will continue to be in force until prescribed by regulation.

## VIII COST OF GROWTH ANALYSIS

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This section provides a brief examination of the long-term capital and operating costs for the capital facilities and infrastructure to be included in the Development Charges By-law. This examination is required as one of the features of the *Development Charges Act, 1997*.

### 1. Net Operating Costs for the City's Services are Estimated to Increase Over the Forecast Period

Table 11 summarizes the estimated increase in net operating costs that the City will experience for additions associated with the planned capital program. Additional details are included in Appendix F.

As shown in Table 11, by 2028, the City's net operating costs are estimated to increase by \$1.51 million. The most significant portion of this increase relates to the Fire Services and Public Works capital programs.

### 2. Long-Term Capital Financing from Non-Development Charge Sources Totals \$21.18 Million

Table 11 also summarizes the components of the development-related capital program that will require funding from non-development charge sources as discussed in Section VI. In total \$21.18 million will need to be financed from non-development charge sources over the next ten years. This includes about \$6.95 million that will be financed by direct developer contributions, and about \$14.23 million for shares of projects related to capital replacement and for non-growth shares of projects that provide benefit to the existing community. In addition, \$49.06 million in interim financing may be required for projects related to growth in the post-2028 period. It is likely that most of these monies could be recovered from future development charges as the by-laws are revisited at least every five years.

### A. ASSET MANAGEMENT PLAN

The *Development Charges Act* now requires that municipalities complete an Asset Management Plan before the passing of a development charges by-law. A key function of the Asset Management Plan is to demonstrate that all assets proposed to be funded under the development charges by-law are financially sustainable over their full life cycle. Further details relating to the Asset Management Plan are discussed in Appendix F.

**CITY OF CLARENCE-ROCKLAND  
SUMMARY OF LONG TERM CAPITAL AND  
OPERATING COST IMPACTS FOR TAX SUPPORTED SERVICES  
(in thousands of constant dollars)**

<b>2028</b>	
<b>Net Operating Impacts (1)</b>	
Fire Protection	\$702.6
Public Works	\$443.1
Roads and Related	\$361.2
Waterworks	\$0.0
Sanitary Sewage	\$0.0
<b>NET OPERATING IMPACTS</b>	<b>\$1,506.9</b>

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
<b>Long-term Capital Impact (1)</b>											
Total Net Cost	\$29,484.8	\$18,854.3	\$7,771.3	\$5,181.3	\$18,939.3	\$3,266.5	\$2,024.5	\$11,813.5	\$972.5	\$5,252.5	\$103,560.5
Net Cost From Development Charges	\$5,915.4	\$3,172.6	\$2,864.8	\$2,692.4	\$7,660.5	\$696.4	\$759.9	\$3,636.3	\$504.1	\$504.1	\$28,406.4
Prior Growth Share from DC Reserve Balances (2)	\$4,918.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4,918.3
Portion for Post-2028 Development (3)	\$9,201.7	\$8,767.0	\$3,418.5	\$2,335.9	\$9,505.7	\$1,664.3	\$1,181.3	\$7,924.3	\$390.1	\$4,670.1	\$49,058.9
<b>Funding From Non-DC Sources</b>											
Other Contributions (4)	\$6,945.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$6,945.3
Replacement	\$4,881.6	\$4,997.2	\$1,028.0	\$153.0	\$1,773.1	\$905.8	\$83.3	\$252.9	\$78.3	\$78.3	\$14,231.6
<b>FUNDING FROM NON-DC SOURCES</b>	<b>\$11,827.0</b>	<b>\$4,997.2</b>	<b>\$1,028.0</b>	<b>\$153.0</b>	<b>\$1,773.1</b>	<b>\$905.8</b>	<b>\$83.3</b>	<b>\$252.9</b>	<b>\$78.3</b>	<b>\$78.3</b>	<b>\$21,176.9</b>

Notes:

(1) See Appendix F

(2) Existing development charge reserve fund balances collected from growth prior to 2019 are applied to fund initial projects in development-related capital forecast

(3) Post 2028 development-related net capital costs may be eligible for development charge funding in future DC by-laws

(4) Other Contributions shown for engineered services includes Direct Developer Contributions.

### 1. Annual Capital Provisions for Tax and Rate Supported Assets

Table 12 shows the annual capital provisions required to replace the development eligible and ineligible costs associated with the capital infrastructure identified in the DC Background Study. This estimate is based on information obtained through discussions with municipal staff regarding useful life assumptions and the capital cost of acquiring and/or emplacing each asset.

Table 12 illustrates that, by 2029, the City will need to fund an additional \$518,700 per annum in order to properly fund the full life cycle costs of the new City-wide assets supported under the proposed Development Charges By-Law

### 2. Future Revenue Growth

The calculated annual funding provision should be considered within the context of the City's projected growth. Over the next ten years the City is projected to increase by approximately 1,810 households. In addition, the City will also add 610 new employees that will result in approximately 30,500 square metres of additional non-residential building space.

This growth will have the effect of increasing the overall assessment base and additional user fee and charges revenue to offset the capital asset provisions required to replace the infrastructure proposed to be funded under the Development Charges By-law.

### 3. Assets are Deemed to be Financially Sustainable

In summary, the asset management plan and long-term capital and operating analysis included in this appendix demonstrates that the City can afford to invest and operate the identified services infrastructure over the 10-year planning period. Importantly, the City's annual budget review allows staff to continue to monitor and implement mitigating measures should the program become less sustainable.

Table 12				
Calculated Annual AMP Provisions				
Services	2019-2028 Capital Program		Annual AMP Provision by 2029	
	DC-Eligible	Non DC-Eligible	DC-Related	Non DC-Related
FIRE SERVICES	\$1,553,000	\$10,817,000	\$14,700	\$251,800
PUBLIC WORKS	\$1,622,000	\$2,809,000	\$61,000	\$102,200
ROADS AND RELATED	\$15,560,000	\$5,106,000	\$388,400	\$315,100
WATERWORKS	\$5,106,000	\$11,736,000	\$5,600	\$15,000
SANITARY SEWAGE	\$9,483,000	\$29,705,000	\$49,000	\$1,000,000
<b>TOTAL</b>	<b>\$33,324,000</b>	<b>\$60,173,000</b>	<b>\$518,700</b>	<b>\$1,684,100</b>

Note: DC Eligible funding includes 10-year period funding from DCs and DC Reserve Funding

## **IX DEVELOPMENT CHARGES ADMINISTRATION**

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### **A. DEVELOPMENT CHARGES ADMINISTRATION**

No significant changes are recommended to the City's current policies and practices regarding development charge administration. In this regard:

- It is recommended that practices regarding collection of development charges and by-law administration continue to the extent possible.
- As required under the *DCA*, the City should codify any rules regarding application of the by-laws and exemptions within the development charges by-laws proposed for adoption.
- It is recommended that Council adopt the development-related capital forecast included in this background study, subject to annual review through the City's normal capital budget process.
- It is recommended that limited exemptions, other than those required in the *DCA*, be formally adopted in the by-laws.

### **B. CONSIDERATION FOR AREA RATING**

In accordance with the *DCA*, Council must give consideration to the use of area rating, also known as area-specific development charges, as part of the DC Background Study. As part of the City's 2019 DC update, the appropriateness of implementing area-specific development charges for the various City services was examined.

The *DCA* permits the City to designate, in its DC by-law, the areas where development charges shall be imposed. The charges may apply to all lands in the City or to other designated development areas as specified in the DC by-law.

Most municipalities in the province have adopted uniform, municipal-wide DCs, as has the City of Clarence-Rockland since at least 2009. Based on discussions with staff, and the analysis of the delivery of services, it is proposed that the City continue to calculate and collect DCs on a uniform, City-wide basis. The rationale for maintaining a uniform City-wide approach is based primarily on the fact that 10-year historical service levels can be calculated on a City-wide basis to ensure the emplacement of a service or infrastructure in one particular area of the City does not exceed the service level of that specific community. As well, City-wide DCs ensure a

consistent approach to financing the cost of development-related projects, from both a DC and non-DC revenue source perspective. Finally, an attempt to impose area-specific DCs to a DC regime which has imposed City-wide DCs for a long length of time would cause equity issues during transitions.



## **APPENDIX A**

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### ***DEVELOPMENT FORECAST***

## APPENDIX A

### DEVELOPMENT FORECAST

This appendix provides details of the development forecast used to prepare the 2019 Development Charges Background Study for the City of Clarence-Rockland. Forecasts of population, households, employment and non-residential building space were prepared by Hemson with information provided by City planning staff. The tables take into consideration data from the 2016 Census, historical building permit and completion data and the current economic climate. The forecast results are provided in a series of tables.

Table 1	Historical Population, Occupied Households and Employment Summary
Table 2	Historical Annual Housing Completions by Type
Table 3	Historical Households by Period of Construction Showing Household Size
Table 4	Population, Household & Employment Forecast Summary
Table 5	Forecast of Household Growth by Unit Type
Table 6	Forecast of Population Growth in New Households by Unit Type
Table 7	Non-Residential Space Forecast

#### A. FORECAST APPROACH AND KEY ASSUMPTIONS

The *Development Charges Act (DCA)* requires the City, as part of its development charge background study, to estimate “the anticipated amount, type and location of development” for which development charges may be imposed. The forecast must cover both residential and non-residential development and be specific enough with regards to the quantum, type, location and timing of such development to allow the City to prepare a reasonable development-related capital program.

In this study, a ten year planning period from 2019-2028 has been used to calculate development charges for all eligible services provided by the City.

#### B. HISTORICAL DEVELOPMENT IN THE CITY OF CLARENCE-ROCKLAND

The City of Clarence-Rockland has experienced steady household and employment growth over the last ten years. Historical growth and development figures presented here are based on Statistics Canada Census data. A “Census-based” definition of population is used for the purpose of the development charges study. This definition

does not include the Census net undercoverage, which is typically included in the definition of “total” population commonly used in municipal planning documents. For development charges purposes, a 10-year historical period of 2009 to 2018 is used for calculating historical service levels. Since 2016 was the last year of the Census, figures for 2017 and 2018 are estimated.

Table 1 shows that over the historical period from 2009 to 2018, the City’s Census population increased by 3,800 people (or 17%) to approximately 25,520 people by 2018. The number of occupied household units in the City increased at a higher rate than population (22% or 1,780 units) over the same period. This difference is the result of a decline in the average number of persons residing in household units.

Total employment numbers shown in Table 1 are based on Statistics Canada place of work data. Place of work employment figures record where people work rather than place of residence. The employment figures shown in this table include workers with no fixed address. However, work-at-home employment is excluded from the figures, for development charge purposes, as this type of employment does not require building floorspace for its activities. Table 1 shows that the City’s employment grew over the last decade, from about 4,800 jobs in 2008 to 5,290 jobs in 2018. The rate of employment growth was slower than both the population and household growth trends over the same period, in part because of the 2008 financial crisis and subsequent recession. The City’s activity rate (the ratio of employment to population) has declined over the historical 10-year period.

Table 2 provides historical annual housing completions from the Canada mortgage and Housing Corporation between 2009 and 2018. The number of completions by household unit type is shown along with the resulting percentages. The vast majority, 69 per cent, of all housing completion over the historical period were for single and semi-detached units. Apartment units accounted for 17 per cent of the unit mix and the remaining 14 per cent were for rows and other multiple unit types.

Table 3 provides details on historical occupancy patterns for permanently occupied dwelling units in the City. The overall average occupancy level in the City for single and semi-detached units is 2.54 persons per housing unit (PPU). Occupancy levels for recently constructed units, between 2006 and 2016, are used in the development charges calculation for single/semi detached units since they better reflect the number of people that are likely to reside in new development. The average PPU of permanent single and semi-detached units built in the City in the period 2006 to 2016 is 2.86. As the sample size for newly constructed units for multiples and

apartments is more limited relative to single and semi-detached new unit construction data, the total PPU of 2.20 for rows and 1.53 for apartment housing is used in the calculation.

### **C. FORECAST METHOD AND RESULTS**

The forecast described herein is consistent with governing legislation and represents a best estimate of the amount and type of development that is likely to occur. Population, household unit and employment forecast numbers are presented in Table 4.

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*<sup>1</sup> as well as the *population in new housing* 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 occupies new household 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). The non-residential forecast includes both a projection of *employment growth* as well as a projection of the *employment growth associated with new floorspace* in the City.

#### **1. Residential Forecast**

The residential forecast is based on a forecast of population and household unit growth, as well as population in new units in the City. The allocation of development-related capital costs between the residential and non-residential sector is based on forecasts of population in new housing units and employment.

As detailed in Tables 4 and 5, the City's Census population is forecast to rise from 25,516 in 2018 to 29,829 in 2028 – this represents an increase of approximately 4,310 persons in the 10-year forecast period.

Over the 10-year planning period from 2019-2028, the total number of occupied household units is forecast to increase from 9,711 in 2018 to 11,517 in 2028 – this

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<sup>1</sup> Commonly referred to as “net population growth” in the context of development charges.

represents increases approximately 1,810 units. Of the total household unit growth, approximately 65% of the units will be of single and semi-detached unit form, about 20% of units will be apartment units and the remaining will be related to rows & other multiple units (Table 5).

In addition to the Census population forecast, a forecast of “population in new units” that will result from the addition of new housing units has been made. The population growth in new units is estimated by applying the following PPU’s to the dwelling unit forecast: 2.86 for single and semi-detached units; 2.20 for rows and other multiples; and 1.53 for apartments. The per capita residential development charge rates are calculated based on these estimates. As indicated in Table 6, the forecasted population growth in the new household units is anticipated at 4,507 persons over the 10-year period.

## **2. Non-Residential Forecast**

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 floor space in the City. As with the residential forecast, the GFA forecast covers the 10-year period from 2019 to 2028 for all DC eligible services.

The floor space assumptions are based on historical floor space trends and averages. An assumed Floor Space per Worker (FSW) is applied to forecast employment numbers in order to estimate the growth in non-residential building space across the City of Clarence-Rockland. The FSW assumption used herein is 50 m<sup>2</sup> per employee. The employment and floor space forecasts for the City are summarized in Table 7.

Total employment is forecast to grow by 610 employees over the ten-year forecast period from 2019 to 2028. The total floor space growth is forecast at 30,500 square metres over the 10-year planning period.

## APPENDIX A - TABLE 1

CITY OF CLARENCE-ROCKLAND  
HISTORICAL POPULATION, OCCUPIED HOUSEHOLDS & EMPLOYMENT SUMMARY

Mid-Year	Census Population	Growth	Occupied Households	Household Growth	PPU	Employment by Place of Work	Growth	Activity Rate
2009	22,195	479	8,161	230	2.72	5,115	311	23.0%
2010	22,684	489	8,397	236	2.70	5,446	331	24.0%
<b>2011</b>	<b>23,185</b>	<b>501</b>	<b>8,641</b>	<b>244</b>	<b>2.68</b>	<b>5,799</b>	<b>353</b>	<b>25.0%</b>
2012	23,445	260	8,774	133	2.67	5,667	-132	24.2%
2013	23,707	262	8,909	135	2.66	5,539	-128	23.4%
2014	23,972	265	9,047	138	2.65	5,413	-126	22.6%
2015	24,240	268	9,187	140	2.64	5,290	-123	21.8%
<b>2016</b>	<b>24,512</b>	<b>272</b>	<b>9,329</b>	<b>142</b>	<b>2.63</b>	<b>5,171</b>	<b>-119</b>	<b>21.1%</b>
2017	24,859	347	9,461	132	2.63	5,232	61	21.0%
2018	25,516	657	9,711	250	2.63	5,293	61	20.7%
2019	25,976	460	9,886	175	2.62	5,354	61	20.6%
Growth 2009-2018		3,800		1,780			489	

Source: Statistics Canada, Census of Canada

## APPENDIX A - TABLE 2

**CITY OF CLARENCE-ROCKLAND  
HISTORICAL ANNUAL HOUSING COMPLETIONS (CMHC)**

Year	CMHC Annual Housing Completions - Units				Completions - Shares By Unit Type			
	Singles & Semis	Rows	Apts.	Total	Singles & Semis	Rows	Apts.	Total
2009	127	7	0	134	95%	5%	0%	100%
2010	198	37	46	281	70%	13%	16%	100%
2011	172	18	80	270	64%	7%	30%	100%
2012	145	23	24	192	76%	12%	13%	100%
2013	124	37	48	209	59%	18%	23%	100%
2014	87	43	0	130	67%	33%	0%	100%
2015	84	11	12	107	79%	10%	11%	100%
2016	85	9	20	114	75%	8%	18%	100%
2017	88	20	24	132	67%	15%	18%	100%
2018	144	46	60	250	58%	18%	24%	100%
<b>Growth 2009 - 2018</b>	<b>1,254</b>	<b>251</b>	<b>314</b>	<b>1,819</b>	<b>69%</b>	<b>14%</b>	<b>17%</b>	<b>100%</b>
<i>5 Year Avg.</i>	98	26	23	147				

Source: Canada Mortgage and Housing Corporation (CMHC), Housing Market Information

## APPENDIX A - TABLE 3

CITY OF CLARENCE-ROCKLAND  
HISTORICAL HOUSEHOLDS BY PERIOD OF CONSTRUCTION SHOWING HOUSEHOLD SIZE

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	Pre 2006	2006-2016	Total
<b><i>Singles and Semis</i></b>													
Household Population	1,670	605	875	2,675	4,655	2,230	1,150	2,285	2,275	1,790	16,145	4,065	20,210
Households	645	285	365	1,060	1,685	800	415	765	805	615	6,020	1,420	7,440
Household Size	2.59	2.12	2.40	2.52	2.76	2.79	2.77	2.99	2.83	2.91	2.68	2.86	2.72
<b><i>Rows</i></b>													
Household Population	0	0	75	0	165	130	60	80	205	275	510	480	990
Households	0	10	30	10	75	60	20	50	90	105	255	195	450
Household Size	0.00	0.00	2.50	0.00	2.20	2.17	3.00	1.60	2.28	2.62	2.00	2.46	2.20
<b><i>Apartments (excl. Duplexes)</i></b>													
Household Population	180	60	115	145	205	95	60	205	210	275	1,065	485	1,550
Households	90	45	90	105	155	75	30	130	120	170	720	290	1,010
Household Size	2.00	1.33	1.28	1.38	1.32	1.27	2.00	1.58	1.75	1.62	1.48	1.67	1.53
<b><i>Duplexes</i></b>													
Household Population	50	80	170	270	215	60	70	0	35	0	915	35	950
Households	30	50	55	120	90	20	30	10	15	15	405	30	435
Household Size	1.67	1.60	3.09	2.25	2.39	3.00	2.33	0.00	2.33	0.00	2.26	1.17	2.18
<b><i>All Units</i></b>													
Household Population	1,900	745	1,235	3,090	5,240	2,515	1,340	2,570	2,725	2,340	18,635	5,065	23,700
Households	765	390	540	1,295	2,005	955	495	955	1,030	905	7,400	1,935	9,335
Household Size	2.48	1.91	2.29	2.39	2.61	2.63	2.71	2.69	2.65	2.59	2.52	2.62	2.54

Source: Statistics Canada, 2016 National Household Survey Special Run.



## APPENDIX A - TABLE 4

CITY OF CLARENCE-ROCKLAND  
POPULATION, HOUSEHOLD & EMPLOYMENT FORECAST SUMMARY

Mid-Year	Census Population	Census Pop'n Growth	Occupied Households	Total Household Growth	Household Size	Employment by POW	Employment by POW Growth	Activity Rate
2018	25,516	657	9,711	250	2.63	5,293	61	21%
2019	25,976	460	9,886	175	2.63	5,354	61	21%
2020	26,435	460	10,061	175	2.63	5,415	61	20%
<b>2021</b>	<b>26,895</b>	<b>460</b>	<b>10,236</b>	<b>175</b>	<b>2.61</b>	<b>5,476</b>	<b>61</b>	<b>20%</b>
2022	27,178	283	10,413	177	2.61	5,537	61	20%
2023	27,645	467	10,592	179	2.61	5,598	61	20%
2024	28,118	472	10,773	181	2.61	5,659	61	20%
2025	28,595	478	10,956	183	2.61	5,720	61	20%
<b>2026</b>	<b>29,078</b>	<b>483</b>	<b>11,141</b>	<b>185</b>	<b>2.59</b>	<b>5,781</b>	<b>61</b>	<b>20%</b>
2027	29,340	262	11,328	187	2.59	5,842	61	20%
2028	29,829	490	11,517	189	2.59	5,903	61	20%
2019-2028		4,313		1,806			610	

Source: City of Clarence-Rockland and Hemson Consulting, 2018

## APPENDIX A - TABLE 5

CITY OF CLARENCE-ROCKLAND  
FORECAST OF HOUSEHOLD GROWTH BY UNIT TYPE

Mid-Year	Annual Growth in Total Occupied Households				Shares By Unit Type			
	Singles & Semis	Rows & Other Multiples	Apartments	Total New Households	Singles & Semis	Rows & Other Multiples	Apartments	Total
2019	114	26	35	175	65%	15%	20%	100%
2020	114	26	35	175	65%	15%	20%	100%
<b>2021</b>	<b>114</b>	<b>26</b>	<b>35</b>	<b>175</b>	<b>65%</b>	<b>15%</b>	<b>20%</b>	<b>100%</b>
2022	115	27	35	177	65%	15%	20%	100%
2023	116	27	36	179	65%	15%	20%	100%
2024	118	27	36	181	65%	15%	20%	100%
2025	119	27	37	183	65%	15%	20%	100%
<b>2026</b>	<b>120</b>	<b>28</b>	<b>37</b>	<b>185</b>	<b>65%</b>	<b>15%</b>	<b>20%</b>	<b>100%</b>
2027	122	28	37	187	65%	15%	20%	100%
2028	123	28	38	189	65%	15%	20%	100%
2019-2028	1,174	271	361	1,806	65%	15%	20%	100%

Source: Hemson Consulting Ltd. 2018

## APPENDIX A - TABLE 6

CITY OF CLARENCE-ROCKLAND  
FORECAST POPULATION GROWTH IN NEW HOUSEHOLDS BY UNIT TYPE\*

Mid-Year	Singles & Semis	Rows & Other Multiples	Apartments	Total Population in New Households
2019	325	58	54	437
2020	325	58	54	437
<b>2021</b>	<b>325</b>	<b>58</b>	<b>54</b>	<b>437</b>
2022	329	58	54	441
2023	333	59	55	447
2024	337	60	55	452
2025	340	60	56	456
<b>2026</b>	<b>344</b>	<b>61</b>	<b>57</b>	<b>462</b>
2027	348	62	57	467
2028	351	62	58	471
2019-2028	3,357	596	554	4,507

\*Based on PPUs

2.86

2.20

1.53

Source: Hemson Consulting Ltd., 2018

## APPENDIX A - TABLE 7

CITY OF CLARENCE-ROCKLAND  
NON-RESIDENTIAL SPACE FORECAST

Average Sq.M. Per Employee

50.0 m<sup>2</sup> per employee

Mid-Year	Place of Work Employment	Annual Growth	Growth in Space (m <sup>2</sup> )
2019	5,354	61	3,050
2020	5,415	61	3,050
<b>2021</b>	<b>5,476</b>	<b>61</b>	<b>3,050</b>
2022	5,537	61	3,050
2023	5,598	61	3,050
2024	5,659	61	3,050
2025	5,720	61	3,050
<b>2026</b>	<b>5,781</b>	<b>61</b>	<b>3,050</b>
2027	5,842	61	3,050
2028	5,903	61	3,050
2019-2028		610	30,500

Source: Hemson Consulting, 2018

## APPENDIX B

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### *FIRE SERVICES TECHNICAL APPENDIX*

## APPENDIX B

### FIRE SERVICES TECHNICAL APPENDIX

This appendix provides the detailed analysis undertaken to establish the development charge rates for Fire Services provided by the City of Clarence-Rockland. The appendix contains a set of three tables. The tables provide the background data and analysis undertaken to arrive at the calculated development charge rates. An overview of the content and purpose of each of the tables is given below.

#### TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 presents the data used to determine the 10-year historical service level. The *DCA* and *Ontario Regulation 82/98* require that development charges be set at a level no higher than the average service level provided in a municipality over the 10-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 is defined as 2009–2018.

*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 would be 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 municipality in the past. Both the quantitative and qualitative aspects of service levels used in the current analysis are based on information provided by City staff in consultation with Hemson. This information is generally based on historical records and experience with costs to acquire or construct similar facilities, equipment and infrastructure.

Table 1 also shows the calculation of the maximum allowable funding envelope and net of uncommitted excess capacity. The maximum allowable funding envelope is defined as the 10-year historical service level (expressed as \$/capita or \$/population and employment) multiplied by the forecast increase in net population and employment over the future planning period. The resulting figure is the value of capital

infrastructure that would have to be constructed for that particular service so that the 10-year historical service level is maintained.

There is also a requirement in the *DCA* to consider “excess capacity” within the City’s existing infrastructure that may be available to partially meet future servicing requirements. If Council has expressed its intent, before or at the time the capacity was created, to recoup the cost of providing the capacity from new development, it is considered “committed excess capacity” under the *DCA*, and the associated capital cost is eligible for recovery. Should notional “uncommitted excess capacity” exist, and is determined to be available to service new development, appropriate adjustments are made to the calculations.

**TABLE 2      2019 – 2028 DEVELOPMENT-RELATED CAPITAL PROGRAM AND  
CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES**

The *DCA* requires that Council express its intent to provide capital facilities to support future development. Based on the development forecasts presented in Appendix A, City staff in collaboration with consultants, have created a development-related capital forecast that sets out the projects required to service anticipated growth for the 10-year period from 2019–2028.

To determine the share of the program that is eligible for recovery through development charges, the project costs are reduced by any anticipated grants, subsidies or other recoveries and “replacement” shares and benefit to existing shares.

A benefit to existing share represents the portion of a capital project that will benefit the existing community. It could, for example, represent a portion of a new facility that will, at least in part, replace a facility that is demolished, redeployed or will otherwise not be available to serve its former function. The replacement share of the capital program is deemed not 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 shares 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 period from 2019–2028. For some services, reserve fund balances may be available to fund a share of the program. In addition, for some services, a portion of the capital program may service growth occurring after 2028. This portion of the capital program is deemed “pre-built” service capacity and is considered as committed

excess capacity to be recovered under future development charges. The capital costs associated with pre-built service capacity are also removed from the development charge calculation.

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 at the end of Table 1. The result is the discounted development-related net capital costs eligible for recovery against growth over the forecast period from 2019–2028.

### **Calculation of the Unadjusted Development Charges Rates**

The section below the capital program displays the calculation of the “unadjusted” development charge rates. The term “unadjusted” development charge is used to distinguish the charge that is calculated prior to cash flow financing considerations. The cash flow analysis is shown in Table 3.

The first step in determining the unadjusted development charge rate is to allocate the development-related net capital cost between the residential and non-residential sectors. For all services, the development-related costs have been apportioned as 88 per cent residential and 12 per cent non-residential. This apportionment is based on the anticipated shares of population and employment growth over the 10-year forecast period.

The residential share of the 2019–2028 DC eligible costs are then divided by the forecasted population growth in new housing units. This gives the unadjusted residential development charge per capita. The non-residential development-related net capital costs are divided by the forecasted increase in non-residential gross floor area (GFA). This yields a charge per square metre of new non-residential development.

### **TABLE 3 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 DC rate 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 charge 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 2 per cent is used for the funding requirements, an interest rate of 5.5 per cent is used for borrowing on the funds and an interest rate of 3.5 per cent is applied to positive balances.

Table 3 displays the results of the cash flow analysis and provides the adjusted or final per capita residential and per square metre (of GFA) non-residential development charges.

## FIRE SERVICES

The Clarence-Rockland Fire Services protects the lives, property and environment of the people who live, work and visit the City. The department is responsible for fire prevention, public education and emergency preparedness programs.

**TABLE 1        HISTORICAL SERVICE LEVELS**

Table 1 displays the 10-year historical inventory for buildings, land, vehicles and equipment for Fire Services. The City of Clarence-Rockland Fire Department operates out of three fire stations with a total building area of approximately 8,760 square feet. The total replacement value of the stations is \$2.63 million. The land associated with all three fire stations totals 0.76 hectares and is valued at \$400,900. Station equipment, such as tools, pumps and gas detectors totals \$449,500. The 2018 Fire Department fleet totals 15 vehicles with a replacement value of \$5.14 million. Finally, personal equipment and gear, such as protective clothing, communications equipment and breathing apparatus' are valued at \$1.10 million.

The 2018 combined replacement value of the inventory of capital assets for Fire services is \$9.72 million, resulting in a 10-year historical average service level of \$315.45 per population and employment. The historical service level, multiplied by the ten-year net growth in population and employment (4,923), results in a ten-year maximum allowable funding envelope of \$1.55 million. The DCA does not require a 10 per cent statutory discount for fire and rescue services. In addition, there is no excess capacity identified for this service and, as such, the full maximum allowable funding envelope is brought forward to the development charges calculation.

**TABLE 2        2019–2028    DEVELOPMENT-RELATED    CAPITAL    PROGRAM    &  
CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES**

The 2019 to 2028 development-related capital program recovers for various building projects, vehicle and equipment acquisitions, as well as the recovery of a negative reserve fund balance (\$813,888).

Development-related building projects include the expansion of the Rockland Fire Station, replacement and expansion of the Bourget station, and the construction of a new fire station later in the planning period. Costs associated with the design, land acquisition and construction of these four projects total \$9.83 million.

During the planning period, the department anticipates purchasing four vehicles including a command vehicle, one pumper, one tanker and one rehabilitation and contamination unit. The new vehicles add \$1.40 million to the capital program.

New equipment acquisitions required to service the expanded stations and Station #4 as well as a Fire Master Plan Study in the ten-year planning period total \$330,000.

Altogether, the ten-year capital program for Fire Services amounts to \$12.37 million. Non-growth shares relating to replacement and benefit to existing shares of various projects total \$1.98 million – this amount is solely attributable to replacement shares on the station expansions.

The DC eligible costs exceed the funding envelope by \$8.84 million, which is deemed to provide benefit to development beyond 2028. This share will be eligible for funding under subsequent development charges studies. The remaining \$1.55 million is related to development in the 2019–2028 planning period and is eligible for DC recovery. The development-related net capital cost is allocated 88 per cent to residential development (\$1.37 million) and 12 per cent to non-residential development (\$186,367). The residential share of the net development-related capital cost is divided by the 10-year growth in population in new housing units to derive an unadjusted charge of \$303.24 per capita. The non-residential share of the net growth related capital cost is divided by the 10-year forecast growth in floor space, resulting in an unadjusted charge of \$6.11 per square metre.

**TABLE 3      CASH FLOW ANALYSIS**

After cash flow consideration, both the residential and non-residential calculated charges increase to \$355.27 per capita and \$7.15 per square metre. This increase reflects the front-ended nature of the timing of anticipated capital projects. The following table summarizes the calculation of the Fire Services development charge:

FIRE SERVICES SUMMARY						
10-year Hist.	2019 - 2028		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per pop & emp	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$315.45	\$12,370,357	\$1,553,062	\$303.24	\$6.11	\$355.27	\$7.15

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TABLE 1

CITY OF CLARENCE-ROCKLAND  
INVENTORY OF CAPITAL ASSETS  
FIRE SERVICES

BUILDINGS Station Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Bourget (#1)	2,331	2,331	2,331	2,331	2,331	2,331	2,331	2,331	2,331	2,331	\$300
Clarence Creek (#2)	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	\$300
Rockland (#3)	4,032	4,032	4,032	4,032	4,032	4,032	4,032	4,032	4,032	4,032	\$300
<b>Total (sq.ft.)</b>	<b>8,763</b>	<b>8,763</b>	<b>8,763</b>	<b>8,763</b>	<b>8,763</b>	<b>8,763</b>	<b>8,763</b>	<b>8,763</b>	<b>8,763</b>	<b>8,763</b>	
<b>Total (\$000)</b>	<b>\$2,628.9</b>	<b>\$2,628.9</b>	<b>\$2,628.9</b>	<b>\$2,628.9</b>	<b>\$2,628.9</b>	<b>\$2,628.9</b>	<b>\$2,628.9</b>	<b>\$2,628.9</b>	<b>\$2,628.9</b>	<b>\$2,628.9</b>	

LAND Station Name	# of Hectares										UNIT COST (\$/ha)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Bourget (#1)	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	\$235,000
Clarence Creek (#2)	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	\$235,000
Rockland (#3)	0.14	0.14	0.14	0.14	0.14	0.21	0.21	0.35	0.35	0.35	\$870,000
<b>Total (ha)</b>	<b>0.55</b>	<b>0.55</b>	<b>0.55</b>	<b>0.55</b>	<b>0.55</b>	<b>0.62</b>	<b>0.62</b>	<b>0.76</b>	<b>0.76</b>	<b>0.76</b>	
<b>Total (\$000)</b>	<b>\$218.2</b>	<b>\$218.2</b>	<b>\$218.2</b>	<b>\$218.2</b>	<b>\$218.2</b>	<b>\$279.1</b>	<b>\$279.1</b>	<b>\$400.9</b>	<b>\$400.9</b>	<b>\$400.9</b>	

FURNITURE & EQUIPMENT AT STATIONS Station Name	# of Pieces of Equipment										UNIT COST (\$/unit)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Heavy Hydraulics	2	2	2	2	2	2	3	3	3	3	\$40,000
Other tools	1	1	1	1	1	1	1	1	1	1	\$40,000
Miscellaneous	1	1	1	1	1	1	1	1	1	1	\$105,000
Portable Pumps	2	2	2	2	2	2	2	2	2	2	\$3,000
Generators	7	8	8	8	8	6	6	6	6	6	\$2,000
Power tools	1	1	1	1	1	1	1	1	2	2	\$2,000
Thermal Imager	3	3	3	3	3	3	3	3	3	4	\$13,000
Gas detectors	4	4	4	4	4	4	4	4	4	4	\$1,000
Small tools	1	1	1	1	1	1	1	1	1	3	\$4,000
First aid equip	4	4	4	4	4	4	4	4	11	11	\$6,000
Forcible entry tool	-	-	-	-	-	-	1	1	1	1	\$10,000
Fire extinguisher training simulator	-	-	-	-	-	-	1	1	1	1	\$12,000
Spare portable tank	-	-	-	-	-	1	1	1	1	1	\$2,000
Container for storage	-	-	-	-	-	-	-	-	1	1	\$4,500
<b>Total (#)</b>	<b>26</b>	<b>27</b>	<b>27</b>	<b>27</b>	<b>27</b>	<b>26</b>	<b>29</b>	<b>29</b>	<b>38</b>	<b>41</b>	
<b>Total (\$000)</b>	<b>\$318.0</b>	<b>\$320.0</b>	<b>\$320.0</b>	<b>\$320.0</b>	<b>\$320.0</b>	<b>\$318.0</b>	<b>\$380.0</b>	<b>\$380.0</b>	<b>\$428.5</b>	<b>\$449.5</b>	

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TABLE 1

CITY OF CLARENCE-ROCKLAND  
INVENTORY OF CAPITAL ASSETS  
FIRE SERVICES

VEHICLES Vehicle Type	# of Vehicles										UNIT COST (\$/vehicle)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Triple Combo Pumper	4	4	4	4	4	4	4	4	4	4	\$600,000
Tanker	2	2	2	2	2	2	2	2	2	2	\$450,000
Service Vehicle	0	0	0	1	3	3	3	3	5	5	\$65,000
Rescue Van	1	1	1	1	1	1	1	1	1	1	\$450,000
Boat	1	1	1	1	1	1	1	1	1	1	\$75,000
Ladder Truck	1	1	1	1	1	1	1	1	1	1	\$950,000
Mobile air mangement trailer	0	0	1	1	1	1	1	1	1	1	\$40,000
<b>Total (#)</b>	<b>9</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>15</b>	<b>15</b>	
<b>Total (\$000)</b>	<b>\$4,775.0</b>	<b>\$4,775.0</b>	<b>\$4,815.0</b>	<b>\$4,880.0</b>	<b>\$5,010.0</b>	<b>\$5,010.0</b>	<b>\$5,010.0</b>	<b>\$5,010.0</b>	<b>\$5,140.0</b>	<b>\$5,140.0</b>	

EQUIPMENT AND GEAR Description	# of Pieces of Equipment and Gear										UNIT COST (\$/unit)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
<b>Fire Fighter Protective Clothing</b>											
PPE	80	80	80	80	80	80	80	80	80	90	\$3,000
Station Wear	70	70	70	70	70	70	70	70	70	80	\$600
<b>Communications Equipment</b>											
Pagers	70	70	70	70	70	70	70	70	80	80	\$550
Mobile Radios	12	12	12	12	12	12	12	12	14	14	\$1,000
Portable Radios	20	50	72	72	72	72	72	72	80	80	\$1,000
Base Station	5	5	5	5	5	5	5	5	5	5	\$2,000
<b>Breathing Apparatus</b>											
Harness & Regulator	30	30	30	40	40	40	40	40	40	40	\$4,000
Assembly w Cylinder	30	30	30	40	40	40	40	40	40	40	\$4,000
Face pieces	70	72	72	72	72	72	72	72	72	80	\$2,000
Extra SCBA bottle	60	60	60	80	80	65	65	65	65	65	\$1,000
RIT tool Bag	-	1	1	2	2	2	2	2	2	3	\$3,500
RIT Air pack	-	1	1	2	2	2	2	2	2	3	\$3,500
Air compressor (SCBA)	1	1	1	1	1	1	1	1	1	1	\$50,000
Extractor	-	-	-	-	-	-	-	-	1	1	\$2,000
Air Bags	-	-	-	-	-	2	2	2	2	2	\$10,000
<b>Total (#)</b>	<b>448</b>	<b>482</b>	<b>504</b>	<b>546</b>	<b>546</b>	<b>533</b>	<b>533</b>	<b>533</b>	<b>554</b>	<b>584</b>	
<b>Total (\$000)</b>	<b>\$852.5</b>	<b>\$893.5</b>	<b>\$915.5</b>	<b>\$1,022.5</b>	<b>\$1,022.5</b>	<b>\$1,027.5</b>	<b>\$1,027.5</b>	<b>\$1,027.5</b>	<b>\$1,045.0</b>	<b>\$1,104.0</b>	

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TABLE 1

CITY OF CLARENCE-ROCKLAND  
CALCULATION OF SERVICE LEVELS  
FIRE SERVICES

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Historical Population	22,195	22,684	23,185	23,445	23,707	23,972	24,240	24,512	24,859	25,516
Historical Employment	<u>5,115</u>	<u>5,446</u>	<u>5,799</u>	<u>5,667</u>	<u>5,539</u>	<u>5,413</u>	<u>5,290</u>	<u>5,171</u>	<u>5,232</u>	<u>5,293</u>
Total Historical Population & Employment	27,310	28,130	28,984	29,112	29,246	29,385	29,530	29,683	30,091	30,808

INVENTORY SUMMARY (\$000)

Buildings	\$2,628.9	\$2,628.9	\$2,628.9	\$2,628.9	\$2,628.9	\$2,628.9	\$2,628.9	\$2,628.9	\$2,628.9	\$2,628.9
Land	\$218.2	\$218.2	\$218.2	\$218.2	\$218.2	\$279.1	\$279.1	\$400.9	\$400.9	\$400.9
Furniture & Equipment At Stations	\$318.0	\$320.0	\$320.0	\$320.0	\$320.0	\$318.0	\$380.0	\$380.0	\$428.5	\$449.5
Vehicles	\$4,775.0	\$4,775.0	\$4,815.0	\$4,880.0	\$5,010.0	\$5,010.0	\$5,010.0	\$5,010.0	\$5,140.0	\$5,140.0
Equipment And Gear	\$852.5	\$893.5	\$915.5	\$1,022.5	\$1,022.5	\$1,027.5	\$1,027.5	\$1,027.5	\$1,045.0	\$1,104.0
<b>Total (\$000)</b>	<b>\$8,792.6</b>	<b>\$8,835.6</b>	<b>\$8,897.6</b>	<b>\$9,069.6</b>	<b>\$9,199.6</b>	<b>\$9,263.5</b>	<b>\$9,325.5</b>	<b>\$9,447.3</b>	<b>\$9,643.3</b>	<b>\$9,723.3</b>

SERVICE LEVEL (\$/pop & emp)

Average  
Service  
Level

Buildings	\$96.3	\$93.46	\$90.70	\$90.30	\$89.89	\$89.46	\$89.02	\$88.57	\$87.37	\$85.33	\$90.04
Land	\$7.99	\$7.76	\$7.53	\$7.49	\$7.46	\$9.50	\$9.45	\$13.50	\$13.32	\$13.01	\$9.70
Furniture & Equipment At Stations	\$11.64	\$11.38	\$11.04	\$10.99	\$10.94	\$10.82	\$12.87	\$12.80	\$14.24	\$14.59	\$12.13
Vehicles	\$174.84	\$169.75	\$166.13	\$167.63	\$171.31	\$170.50	\$169.66	\$168.79	\$170.82	\$166.84	\$169.62
Equipment And Gear	\$31.22	\$31.76	\$31.59	\$35.12	\$34.96	\$34.97	\$34.80	\$34.62	\$34.73	\$35.83	\$33.96
<b>Total (\$/pop &amp; emp)</b>	<b>\$321.95</b>	<b>\$314.10</b>	<b>\$306.98</b>	<b>\$311.54</b>	<b>\$314.56</b>	<b>\$315.24</b>	<b>\$315.80</b>	<b>\$318.27</b>	<b>\$320.47</b>	<b>\$315.60</b>	<b>\$315.45</b>

CITY OF CLARENCE-ROCKLAND  
CALCULATION OF MAXIMUM ALLOWABLE  
FIRE SERVICES

<b>10-Year Funding Envelope Calculation</b>	
10 Year Average Service Level 2009 - 2018	\$315.45
Net Population & Employment Growth 2019 - 2028	4,923
Maximum Allowable Funding Envelope	\$1,553,062
<b>Maximum Allowable Funding Envelope</b>	<b>\$1,553,062</b>

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TABLE 2**

**CITY OF CLARENCE-ROCKLAND  
DEVELOPMENT-RELATED CAPITAL PROGRAM  
FIRE SERVICES**

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs	Total DC Eligible Costs	DC Eligible Costs		
					Replacement & BTE Shares		Available DC Reserves	2019-2028	Post 2028
<b>1.0 FIRE SERVICES</b>									
<b>1.1 Recovery of Negative Reserve Fund</b>	2019	\$ 813,888	\$ -	\$ 813,888	\$ -	\$ 813,888	\$ -	\$ 813,888	\$ -
<b>1.2 Buildings, Land &amp; Furnishings</b>									
1.2.1 Rockland Expansion - Construction	2019	\$ 2,753,040	\$ -	\$ 2,753,040	\$ 715,790	\$ 2,037,250	\$ -	\$ 500,000	\$ 1,537,250
1.2.2 Bourget Replacement - Construction	2019	\$ 1,978,429	\$ -	\$ 1,978,429	\$ 514,392	\$ 1,464,037	\$ -	\$ 239,174	\$ 1,224,864
1.2.3 Bourget Training Centre	2020	\$ 1,500,000	\$ -	\$ 1,500,000	\$ 750,000	\$ 750,000	\$ -	\$ -	\$ 750,000
1.2.4 New Station 4 - Land Acquisition	2028	\$ 400,000	\$ -	\$ 400,000	\$ -	\$ 400,000	\$ -	\$ -	\$ 400,000
1.2.5 New Station 4 - Design	2028	\$ 200,000	\$ -	\$ 200,000	\$ -	\$ 200,000	\$ -	\$ -	\$ 200,000
1.2.6 New Station 4 - Construction	2028	\$ 3,000,000	\$ -	\$ 3,000,000	\$ -	\$ 3,000,000	\$ -	\$ -	\$ 3,000,000
Subtotal Buildings, Land & Furnishings		\$ 9,831,469	\$ -	\$ 9,831,469	\$ 1,980,182	\$ 7,851,287	\$ -	\$ 739,174	\$ 7,112,113
<b>1.3 Vehicles</b>									
1.3.1 Command Vehicle	2019	\$ 65,000	\$ -	\$ 65,000	\$ -	\$ 65,000	\$ -	\$ -	\$ 65,000
1.3.2 Rehab & Decontamination Unit	2021	\$ 450,000	\$ -	\$ 450,000	\$ -	\$ 450,000	\$ -	\$ -	\$ 450,000
1.3.3 Additional Tanker - Station 4	2026	\$ 280,000	\$ -	\$ 280,000	\$ -	\$ 280,000	\$ -	\$ -	\$ 280,000
1.3.4 Additional Pumper - Station 4	2028	\$ 600,000	\$ -	\$ 600,000	\$ -	\$ 600,000	\$ -	\$ -	\$ 600,000
Subtotal Vehicles		\$ 1,395,000	\$ -	\$ 1,395,000	\$ -	\$ 1,395,000	\$ -	\$ -	\$ 1,395,000
<b>1.4 Equipment &amp; Studies</b>									
1.4.1 SCBA - Station 4	2028	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ -	\$ 100,000
1.4.2 Extrication Tools - Station 4	2028	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ -	\$ 50,000
1.4.3 Compressor & Fill Station - Station 4	2028	\$ 55,000	\$ -	\$ 55,000	\$ -	\$ 55,000	\$ -	\$ -	\$ 55,000
1.4.4 Fire Master Plan	2027	\$ 125,000	\$ -	\$ 125,000	\$ -	\$ 125,000	\$ -	\$ -	\$ 125,000
Subtotal Equipment & Studies		\$ 330,000	\$ -	\$ 330,000	\$ -	\$ 330,000	\$ -	\$ -	\$ 330,000
<b>TOTAL FIRE SERVICES</b>		<b>\$ 12,370,357</b>	<b>\$ -</b>	<b>\$ 12,370,357</b>	<b>\$ 1,980,182</b>	<b>\$ 10,390,175</b>	<b>\$ -</b>	<b>\$ 1,553,062</b>	<b>\$ 8,837,113</b>

**Residential Development Charge Calculation**

Residential Share of 2019 - 2028 DC Eligible Costs	88%	\$1,366,695
10-Year Growth in Population in New Units		4,507
Unadjusted Development Charge Per Capita		<b>\$303.24</b>

**Non-Residential Development Charge Calculation**

Non-Residential Share of 2019 - 2028 DC Eligible Costs	12%	\$186,367
10-Year Growth in Square Metres		30,500
Unadjusted Development Charge Per Square Metre		<b>\$6.11</b>

2019 - 2028 Net Funding Envelope \$1,553,062

Reserve Fund Balance  
Balance as at December 31, 2018 (\$813,888)

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TABLE 3

CITY OF CLARENCE-ROCKLAND  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE  
FIRE SERVICES  
RESIDENTIAL DEVELOPMENT CHARGE  
(in \$000)

<b>FIRE SERVICES</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>TOTAL</b>
OPENING CASH BALANCE	\$0.0	(\$1,244.8)	(\$1,152.1)	(\$1,051.1)	(\$939.7)	(\$816.5)	(\$681.0)	(\$532.8)	(\$370.3)	(\$192.9)	
2019 - 2028 RESIDENTIAL FUNDING REQUIREMENTS											
- Fire Services: Non Inflated	\$1,366.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	<b>\$1,366.7</b>
- Fire Services: Inflated	\$1,366.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	<b>\$1,366.7</b>
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	437	437	437	441	447	452	456	462	467	471	<b>4,507</b>
REVENUE											
- DC Receipts: Inflated	\$155.3	\$158.4	\$161.5	\$166.3	\$171.9	\$177.3	\$182.4	\$188.5	\$194.4	\$200.0	<b>\$1,756.0</b>
INTEREST											
- Interest on Opening Balance	\$0.0	(\$68.5)	(\$63.4)	(\$57.8)	(\$51.7)	(\$44.9)	(\$37.5)	(\$29.3)	(\$20.4)	(\$10.6)	<b>(\$384.0)</b>
- Interest on In-year Transactions	(\$33.3)	\$2.8	\$2.8	\$2.9	\$3.0	\$3.1	\$3.2	\$3.3	\$3.4	\$3.5	<b>(\$5.3)</b>
TOTAL REVENUE	\$121.9	\$92.7	\$101.0	\$111.4	\$123.2	\$135.5	\$148.2	\$162.5	\$177.4	\$192.9	<b>\$1,366.7</b>
CLOSING CASH BALANCE	(\$1,244.8)	(\$1,152.1)	(\$1,051.1)	(\$939.7)	(\$816.5)	(\$681.0)	(\$532.8)	(\$370.3)	(\$192.9)	\$0.0	

**2019 Adjusted Charge Per Capita** **\$355.27**

**Allocation of Capital Program**

Residential Sector	88.0%
Non-Residential Sector	12.0%

**Rates for 2019**

Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



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TABLE 3

CITY OF CLARENCE-ROCKLAND  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE  
FIRE SERVICES  
NON-RESIDENTIAL DEVELOPMENT CHARGE  
(in \$000)

FIRE SERVICES	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	TOTAL
OPENING CASH BALANCE	\$0.00	(\$169.09)	(\$155.75)	(\$141.23)	(\$125.45)	(\$108.34)	(\$89.80)	(\$69.75)	(\$48.09)	(\$24.74)	
2019 - 2028 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Fire Services: Non Inflated	\$186.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	<b>\$186.4</b>
- Fire Services: Inflated	\$186.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	<b>\$186.4</b>
NEW NON-RESIDENTIAL DEVELOPMENT											
- Growth in Square Metres	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	<b>30,500</b>
REVENUE											
- DC Receipts: Inflated	\$21.8	\$22.2	\$22.7	\$23.1	\$23.6	\$24.1	\$24.6	\$25.0	\$25.6	\$26.1	<b>\$238.8</b>
INTEREST											
- Interest on Opening Balance	\$0.0	(\$9.3)	(\$8.6)	(\$7.8)	(\$6.9)	(\$6.0)	(\$4.9)	(\$3.8)	(\$2.6)	(\$1.4)	<b>(\$51.3)</b>
- Interest on In-year Transactions	(\$4.5)	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.5	<b>(\$0.7)</b>
TOTAL REVENUE	\$17.3	\$13.3	\$14.5	\$15.8	\$17.1	\$18.5	\$20.0	\$21.7	\$23.4	\$25.2	<b>\$186.8</b>
CLOSING CASH BALANCE	(\$169.1)	(\$155.8)	(\$141.2)	(\$125.5)	(\$108.3)	(\$89.8)	(\$69.7)	(\$48.1)	(\$24.7)	\$0.4	

2019 Adjusted Charge Per Square Metre

**\$7.15**

**Allocation of Capital Program**

Residential Sector	88.0%
Non-Residential Sector	12.0%

**Rates for 2019**

Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

## **APPENDIX C**

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### ***SERVICES RELATED TO A HIGHWAY TECHNICAL APPENDIX***

## APPENDIX C

### SERVICES RELATED TO A HIGHWAY TECHNICAL APPENDIX

The Clarence-Rockland Infrastructure and Engineering Department provides public works and engineered infrastructure to the City. The department is responsible for the services of roads, sidewalks, municipal drains, sanitary sewers, environmental protection, engineering and waterworks. This appendix provides the detailed analysis undertaken to establish the development charge rates for municipal-wide services related to a highway. There are two subservices: Public Works and Roads and Related.

The following tables set out the 2019 to 2028 development-related capital forecast and the calculation of the development charges for services related to a highway. Descriptions of the contents of the three tables in each services can be found in Appendix C. The basis of the development-related capital program is primarily based on input from the City's consulting engineers, City's capital budget and detailed discussions with City staff. The projects identified in the capital program are required to service the demands of new development between 2019 and 2028, subject to annual capital budget reviews. It should be noted that detailed information on all projects identified in this section were circulated to the development industry for review and comment in advance of the preparation of this study.

## **APPENDIX C.1**

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### ***PUBLIC WORKS***

## APPENDIX C.1

### PUBLIC WORKS

The Clarence-Rockland Infrastructure and Engineering Department provides Public Works servicing to the City. The department is responsible for maintaining and repairing municipal roads, sidewalks, shoulders, bridges, culverts, and drainage ditches. Another key component of the department is the maintenance of municipal drains. It is also responsible for winter maintenance such as salting, plowing, and removing snow. Only Public Works fleet is included in the inventory and capital program.

#### TABLE 1 HISTORICAL SERVICE LEVELS

The current inventory of capital assets for Public Works includes approximately 22,180 square feet of building space with a total replacement value of \$2.62 million. The 2.25 hectares of land associated with Public Works buildings are valued at \$528,800. Furniture and equipment, excluding computers, totals \$117,100. Tools required to provide the municipal services are worth approximately \$143,100. The 46 vehicles in the Public Works fleet add an additional \$5.77 million to the value of capital assets. Additional fleet contracted services add \$126,000.

The total value of the Public Works capital inventory is \$9.31 million. The 10-year historical average service level is \$293.75 per population and employment, and this, multiplied by the 10-year net growth in population and employment, results in a maximum allowable funding envelope of \$1.45 million. Under the *Development Charges Act, 1997*, services related to a highway as defined in subsection 1(1) of the *Municipal Act, 2001*, need not to be reduced by the legislated 10 per cent. As such, the maximum allowable funding envelope is carried over and is valued at \$1.45 million.

#### TABLE 2 2019 – 2028 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The 10-year development-related capital program for Public Works totals \$4.43 million. This provides for an expansion of the municipal public works garage, two snow dumps, and various fleet and equipment acquisitions.

Replacement shares in the amount of \$1.70 million have been identified and netted off the capital program. These shares comprise 50 per cent of the project costs for the

public work garage expansion's land acquisition, the new snow dumps, and a line-painting machine. The eligible DC reserve fund balance of \$175,317 has been applied to the capital program. A portion of the program totalling \$1.11 million cannot be funded through this development charges by-law due to funding envelope restrictions and will be considered in future studies.

The remaining \$1.45 million is related to development in the 2019 to 2028 planning period and is eligible for DC recovery in this period. This development related cost is allocated 88 per cent or \$1.27 million against new residential development, and 12 per cent or \$173,547 against new non-residential development. This yields an unadjusted residential development charge of \$282.38 per capita and \$5.69 per square metre of new non-residential development.

### **TABLE 3      CASH FLOW ANALYSIS**

After cash flow consideration, both the residential and non-residential calculated charges increase to \$315.09 per capita and \$6.34 per square metre, respectively.

The following table summarizes the calculation of the Public Works development charge:

<b>PUBLIC WORKS SUMMARY</b>						
10-year Hist.	2019 - 2028		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per pop & emp	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$293.75	\$4,430,835	\$1,446,226	\$282.38	\$5.69	<b>\$315.09</b>	<b>\$6.34</b>

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TABLE 1

**CITY OF CLARENCE-ROCKLAND  
INVENTORY OF CAPITAL ASSETS  
PUBLIC WORKS**

<b>BUILDINGS</b> <b>Facility Name</b>	<b># of Square Feet</b>										<b>UNIT COST (\$/sq.ft.)</b>
	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	
Garage Lemay St.	6,780	6,780	6,780	6,780	6,780	6,780	6,780	6,780	6,780	6,780	\$235
Garage Lemay St. Office & Lunch room	620	620	620	620	620	620	620	620	620	620	\$235
Clarence Creek Container	320	320	320	320	320	320	320	320	320	320	\$25
Town Hall Container	110	110	110	110	110	110	110	110	110	110	\$25
Sewage Plant (PW Storage)	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	\$235
Salt Dome	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	\$30
Sand Dome	-	-	-	-	-	-	-	-	4,200	4,200	\$30
<b>Total (#)</b>	<b>17,980</b>	<b>17,980</b>	<b>17,980</b>	<b>17,980</b>	<b>17,980</b>	<b>17,980</b>	<b>17,980</b>	<b>17,980</b>	<b>22,180</b>	<b>22,180</b>	
<b>Total (\$000)</b>	<b>\$2,495.0</b>	<b>\$2,495.0</b>	<b>\$2,495.0</b>	<b>\$2,495.0</b>	<b>\$2,495.0</b>	<b>\$2,495.0</b>	<b>\$2,495.0</b>	<b>\$2,495.0</b>	<b>\$2,621.0</b>	<b>\$2,621.0</b>	

<b>LAND</b> <b>Facility Name</b>	<b># of Hectares</b>										<b>UNIT COST (\$/ha)</b>
	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	
Garage Lemay St. Office & Lunch room	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	\$235,000
Sewage Plant (PW Storage)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	\$235,000
<b>Total (ha)</b>	<b>2.25</b>	<b>2.25</b>	<b>2.25</b>	<b>2.25</b>	<b>2.25</b>	<b>2.25</b>	<b>2.25</b>	<b>2.25</b>	<b>2.25</b>	<b>2.25</b>	
<b>Total (\$000)</b>	<b>\$528.8</b>	<b>\$528.8</b>	<b>\$528.8</b>	<b>\$528.8</b>	<b>\$528.8</b>	<b>\$528.8</b>	<b>\$528.8</b>	<b>\$528.8</b>	<b>\$528.8</b>	<b>\$528.8</b>	

<b>FURNITURE AND EQUIPMENT</b> <b>Description</b>	<b>Total Value of Furniture &amp; Equipment (\$)</b>									
	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Garage Lemay Street	\$6,600	\$6,600	\$6,600	\$6,600	\$6,600	\$6,600	\$6,600	\$6,600	\$6,600	\$6,600
Garage Laurier	\$110,500	\$110,500	\$110,500	\$110,500	\$110,500	\$110,500	\$110,500	\$110,500	\$110,500	\$110,500
<b>Total (\$000)</b>	<b>\$117.1</b>	<b>\$117.1</b>	<b>\$117.1</b>	<b>\$117.1</b>	<b>\$117.1</b>	<b>\$117.1</b>	<b>\$117.1</b>	<b>\$117.1</b>	<b>\$117.1</b>	<b>\$117.1</b>

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APPENDIX C.1  
TABLE 1

CITY OF CLARENCE-ROCKLAND  
INVENTORY OF CAPITAL ASSETS  
PUBLIC WORKS

SMALL TOOLS Description	# of Tools										UNIT COST (\$/unit)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Quick Saw	2	1	1	1	1	1	1	1	1	1	\$1,100
Chain Saw	3	4	4	4	4	4	4	4	4	4	\$720
Compactor	3	2	2	2	2	1	1	1	1	1	\$2,800
Weed Eater	4	5	5	6	6	3	3	3	3	3	\$350
Generator	3	3	3	3	3	3	3	3	4	4	\$1,220
Water Pump Gas	2	2	2	2	2	1	1	1	1	1	\$5,000
Water Pump Electric	2	2	3	3	3	-	-	-	-	-	\$330
Lawn Mower	2	2	2	2	2	1	1	1	1	1	\$720
Crack Sealer	1	-	-	-	-	-	-	-	-	-	\$1,600
Pole Saw	1	1	2	2	2	2	3	3	3	3	\$550
Gas Boom	1	1	1	1	1	1	1	1	1	1	\$500
Traffic Counter	3	3	2	2	2	2	2	4	4	4	\$2,430
GPS	27	27	30	32	32	23	25	27	28	32	\$480
Light Tower	-	-	1	1	1	1	1	1	1	1	\$11,050
ASP Cutting Saw	-	-	-	1	1	1	2	2	2	2	\$2,210
Hydraulic Jack Hammer	-	-	1	1	1	1	1	1	1	1	\$8,840
Jumping Jack	-	1	1	1	1	1	1	1	1	1	\$1,660
Pressure Washer	-	-	-	-	-	-	-	-	-	1	\$8,000
Electronic Speed controller	-	-	-	-	-	-	-	-	-	1	\$3,000
Wood Chipper	-	-	-	-	-	-	-	-	-	1	\$55,000
Diesel Welder	-	-	-	-	-	-	-	-	-	1	\$5,500
<b>Total (#)</b>	<b>54</b>	<b>54</b>	<b>60</b>	<b>64</b>	<b>64</b>	<b>46</b>	<b>50</b>	<b>54</b>	<b>56</b>	<b>64</b>	
<b>Total (\$000)</b>	<b>\$52.8</b>	<b>\$50.1</b>	<b>\$69.8</b>	<b>\$73.4</b>	<b>\$73.4</b>	<b>\$58.5</b>	<b>\$62.2</b>	<b>\$68.0</b>	<b>\$69.7</b>	<b>\$143.1</b>	



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APPENDIX C.1  
TABLE 1

CITY OF CLARENCE-ROCKLAND  
INVENTORY OF CAPITAL ASSETS  
PUBLIC WORKS

FLEET Description	# of Vehicles										UNIT COST (\$/unit)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Pick ups	13	13	13	13	14	14	14	14	14	14	\$39,000
Tandem Axel Trucks	6	6	6	6	6	7	7	8	8	8	\$305,000
Back Hoe	1	1	1	1	1	1	1	1	1	1	\$110,000
Front End Loader	2	2	2	2	2	2	2	2	2	2	\$250,000
Grader	1	2	2	2	2	2	2	2	2	2	\$310,000
Steamer	2	2	2	2	2	2	2	2	2	2	\$66,300
Sewer Cleaner Flusher	1	1	1	1	1	-	-	-	-	-	\$110,500
Snow Machine Trackless & Equip.	1	1	1	2	2	2	2	2	2	2	\$116,000
Tractor	2	2	2	2	2	3	3	3	3	3	\$78,000
Bomag	1	1	1	1	1	1	1	1	1	1	\$560,000
Cube Van	1	1	1	1	1	1	1	1	1	1	\$72,000
Excavator	1	1	1	-	-	-	-	-	-	-	\$235,000
4 Wheeler	1	1	1	1	1	-	-	-	-	-	\$20,000
Enclosed Trailer	-	1	1	1	1	1	1	1	1	1	\$2,200
Boom flail	-	-	1	1	1	1	1	1	1	1	\$43,000
SUV	-	-	-	-	1	1	2	2	2	2	\$30,000
Service Van	-	-	-	-	-	-	-	-	2	2	\$55,000
Line Painter	1	1	1	1	1	1	1	1	1	1	\$36,000
Plow & Salt Spreader	-	-	-	1	1	1	1	1	1	1	\$15,000
Tilt Truck Bed	-	-	-	-	-	-	-	1	1	1	\$10,000
Hot Box	-	-	-	-	-	-	-	-	1	1	\$50,000
<b>Total (#)</b>	<b>34</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>40</b>	<b>40</b>	<b>41</b>	<b>43</b>	<b>46</b>	<b>46</b>	
<b>Total (\$000)</b>	<b>\$4,695.1</b>	<b>\$5,007.3</b>	<b>\$5,050.3</b>	<b>\$4,946.3</b>	<b>\$5,015.3</b>	<b>\$5,267.8</b>	<b>\$5,297.8</b>	<b>\$5,612.8</b>	<b>\$5,772.8</b>	<b>\$5,772.8</b>	

FLEET CONTRACTED SERVICES Description	# of Vehicles and Equipment										UNIT COST (\$/unit)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Grader	2	1	1	1	1	1	1	1	1	1	\$90,000
Snow Clearing	-	-	-	-	-	-	-	-	1	1	\$36,000
<b>Total (#)</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	
<b>Total (\$000)</b>	<b>\$180.0</b>	<b>\$90.0</b>	<b>\$90.0</b>	<b>\$90.0</b>	<b>\$90.0</b>	<b>\$90.0</b>	<b>\$90.0</b>	<b>\$90.0</b>	<b>\$126.0</b>	<b>\$126.0</b>	

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APPENDIX C.1  
TABLE 1

**CITY OF CLARENCE-ROCKLAND  
CALCULATION OF SERVICE LEVELS  
PUBLIC WORKS**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Historic Population	22,195	22,684	23,185	23,445	23,707	23,972	24,240	24,512	24,859	25,516
Historic Employment	<u>5,115</u>	<u>5,446</u>	<u>5,799</u>	<u>5,667</u>	<u>5,539</u>	<u>5,413</u>	<u>5,290</u>	<u>5,171</u>	<u>5,232</u>	<u>5,293</u>
Total Historic Population & Employment	27,310	28,130	28,984	29,112	29,246	29,385	29,530	29,683	30,091	30,808

**INVENTORY SUMMARY (\$000)**

Buildings	\$2,495.0	\$2,495.0	\$2,495.0	\$2,495.0	\$2,495.0	\$2,495.0	\$2,495.0	\$2,495.0	\$2,621.0	\$2,621.0
Land	\$528.8	\$528.8	\$528.8	\$528.8	\$528.8	\$528.8	\$528.8	\$528.8	\$528.8	\$528.8
Furniture And Equipment	\$117.1	\$117.1	\$117.1	\$117.1	\$117.1	\$117.1	\$117.1	\$117.1	\$117.1	\$117.1
Small Tools	\$52.8	\$50.1	\$69.8	\$73.4	\$73.4	\$58.5	\$62.2	\$68.0	\$69.7	\$143.1
Fleet	\$4,695.1	\$5,007.3	\$5,050.3	\$4,946.3	\$5,015.3	\$5,267.8	\$5,297.8	\$5,612.8	\$5,772.8	\$5,772.8
Fleet Contracted Services	\$180.0	\$90.0	\$90.0	\$90.0	\$90.0	\$90.0	\$90.0	\$90.0	\$126.0	\$126.0
<b>Total (\$000)</b>	<b>\$8,068.8</b>	<b>\$8,288.2</b>	<b>\$8,351.0</b>	<b>\$8,250.5</b>	<b>\$8,319.5</b>	<b>\$8,557.1</b>	<b>\$8,590.8</b>	<b>\$8,911.7</b>	<b>\$9,235.4</b>	<b>\$9,308.8</b>

SERVICE LEVEL (\$/pop & emp)											Average Service Level
Buildings	\$91.36	\$88.70	\$86.08	\$85.70	\$85.31	\$84.91	\$84.49	\$84.06	\$87.10	\$85.07	\$86.28
Land	\$19.36	\$18.80	\$18.24	\$18.16	\$18.08	\$17.99	\$17.91	\$17.81	\$17.57	\$17.16	\$18.11
Furniture And Equipment	\$4.29	\$4.16	\$4.04	\$4.02	\$4.00	\$3.99	\$3.97	\$3.95	\$3.89	\$3.80	\$4.01
Small Tools	\$1.93	\$1.78	\$2.41	\$2.52	\$2.51	\$1.99	\$2.11	\$2.29	\$2.32	\$4.65	\$2.45
Fleet	\$171.92	\$178.01	\$174.25	\$169.91	\$171.49	\$179.27	\$179.40	\$189.09	\$191.85	\$187.38	\$179.26
Fleet Contracted Services	\$6.59	\$3.20	\$3.11	\$3.09	\$3.08	\$3.06	\$3.05	\$3.03	\$4.19	\$4.09	\$3.65
Total (\$/pop & emp)	\$295.45	\$294.64	\$288.13	\$283.41	\$284.47	\$291.21	\$290.92	\$300.23	\$306.92	\$302.15	\$293.75

**CITY OF CLARENCE-ROCKLAND  
CALCULATION OF MAXIMUM ALLOWABLE  
PUBLIC WORKS**

<b>10-Year Funding Envelope Calculation</b>	
10 Year Average Service Level 2009 - 2018	\$293.75
Net Population & Employment Growth 2019 - 2028	4,923
Maximum Allowable Funding Envelope	\$1,446,226
<b>Maximum Allowable Funding Envelope</b>	<b>\$1,446,226</b>

APPENDIX C.1  
TABLE 2CITY OF CLARENCE-ROCKLAND  
DEVELOPMENT-RELATED CAPITAL PROGRAM  
PUBLIC WORKS

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2019-2028	Post 2028
<b>1.0 PUBLIC WORKS</b>										
<b>1.1 Buildings</b>										
1.1.1 Snow Dump (including Land) - Rockland	2019	\$ 1,459,835	\$ -	\$ 1,459,835	50%	\$ 729,918	\$ 729,918	\$ 137,317	\$ 592,601	\$ -
1.1.2 Snow Dump (including Land) - Bourget	2020	\$ 600,000	\$ -	\$ 600,000	50%	\$ 300,000	\$ 300,000	\$ -	\$ 300,000	\$ -
1.1.3 Garage Renovation and Expansion	2021	\$ 1,300,000	\$ -	\$ 1,300,000	50%	\$ 650,000	\$ 650,000	\$ -	\$ 146,125	\$ 503,875
Subtotal Buildings		\$ 3,359,835	\$ -	\$ 3,359,835		\$ 1,679,918	\$ 1,679,918	\$ 137,317	\$ 1,038,726	\$ 503,875
<b>1.2 Fleet &amp; Equipment</b>										
1.2.1 Compactor	2019	\$ 20,000	\$ -	\$ 20,000	0%	\$ -	\$ 20,000	\$ 20,000	\$ -	\$ -
1.2.2 Line Painting Machine	2019	\$ 36,000	\$ -	\$ 36,000	50%	\$ 18,000	\$ 18,000	\$ 18,000	\$ -	\$ -
1.2.3 Sidewalk Machine	2021	\$ 150,000	\$ -	\$ 150,000	0%	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
1.2.4 Tandem	2023	\$ 350,000	\$ -	\$ 350,000	0%	\$ -	\$ 350,000	\$ -	\$ -	\$ 350,000
1.2.5 Maintenance Equipment	Various	\$ 225,000	\$ -	\$ 225,000	0%	\$ -	\$ 225,000	\$ -	\$ 112,500	\$ 112,500
1.2.6 Support Vehicles	Various	\$ 290,000	\$ -	\$ 290,000	0%	\$ -	\$ 290,000	\$ -	\$ 145,000	\$ 145,000
Subtotal Fleet & Equipment		\$ 1,071,000	\$ -	\$ 1,071,000		\$ 18,000	\$ 1,053,000	\$ 38,000	\$ 407,500	\$ 607,500
<b>TOTAL PUBLIC WORKS</b>		<b>\$ 4,430,835</b>	<b>\$ -</b>	<b>\$ 4,430,835</b>		<b>\$ 1,697,918</b>	<b>\$ 2,732,918</b>	<b>\$ 175,317</b>	<b>\$ 1,446,226</b>	<b>\$ 1,111,375</b>

**Residential Development Charge Calculation**

Residential Share of 2019 - 2028 DC Eligible Costs	88%	\$1,272,679
10-Year Growth in Population in New Units		4,507
Unadjusted Development Charge Per Capita		<b>\$282.38</b>

**Non-Residential Development Charge Calculation**

Non-Residential Share of 2019 - 2028 DC Eligible Costs	12%	\$173,547
10-Year Growth in Square Metres		30,500
Unadjusted Development Charge Per Square Metre		<b>\$5.69</b>

2019 - 2028 Net Funding Envelope	\$1,446,226
Reserve Fund Balance	
Balance as at December 31, 2018	\$175,317

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APPENDIX C.1  
TABLE 3

CITY OF CLARENCE-ROCKLAND  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE  
PUBLIC WORKS  
RESIDENTIAL DEVELOPMENT CHARGE  
(in \$000)

PUBLIC WORKS	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	TOTAL
OPENING CASH BALANCE	\$0.00	(\$417.63)	(\$596.73)	(\$785.15)	(\$702.76)	(\$611.25)	(\$510.33)	(\$399.72)	(\$278.05)	(\$144.94)	
2019 - 2028 RESIDENTIAL FUNDING REQUIREMENTS											
- Public Works: Non Inflated	\$544.1	\$286.7	\$283.3	\$22.7	\$22.7	\$22.7	\$22.7	\$22.7	\$22.7	\$22.7	\$1,272.7
- Public Works: Inflated	\$544.1	\$292.4	\$294.7	\$24.0	\$24.5	\$25.0	\$25.5	\$26.0	\$26.5	\$27.1	\$1,310.0
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	437	437	437	441	447	452	456	462	467	471	4,507
REVENUE											
- DC Receipts: Inflated	\$137.7	\$140.4	\$143.3	\$147.5	\$152.5	\$157.2	\$161.8	\$167.2	\$172.4	\$177.4	\$1,557.3
INTEREST											
- Interest on Opening Balance	\$0.0	(\$23.0)	(\$32.8)	(\$43.2)	(\$38.7)	(\$33.6)	(\$28.1)	(\$22.0)	(\$15.3)	(\$8.0)	(\$244.6)
- Interest on In-year Transactions	(\$11.2)	(\$4.2)	(\$4.2)	\$2.2	\$2.2	\$2.3	\$2.4	\$2.5	\$2.6	\$2.6	(\$2.8)
TOTAL REVENUE	\$126.5	\$113.3	\$106.3	\$106.4	\$116.0	\$125.9	\$136.1	\$147.7	\$159.7	\$172.0	\$1,310.0
CLOSING CASH BALANCE	(\$417.6)	(\$596.7)	(\$785.1)	(\$702.8)	(\$611.2)	(\$510.3)	(\$399.7)	(\$278.1)	(\$144.9)	\$0.0	

2019 Adjusted Charge Per Capita **\$315.09**

**Allocation of Capital Program**

Residential Sector	88.0%
Non-Residential Sector	12.0%

**Rates for 2019**

Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX C.1  
TABLE 3

CITY OF CLARENCE-ROCKLAND  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE  
PUBLIC WORKS  
NON-RESIDENTIAL DEVELOPMENT CHARGE  
(in \$000)

PUBLIC WORKS	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	TOTAL
OPENING CASH BALANCE	\$0.00	(\$56.37)	(\$80.18)	(\$105.21)	(\$93.45)	(\$80.69)	(\$66.88)	(\$51.94)	(\$35.81)	(\$18.41)	
2019 - 2028 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Public Works: Non Inflated	\$74.2	\$39.1	\$38.6	\$3.1	\$3.1	\$3.1	\$3.1	\$3.1	\$3.1	\$3.1	<b>\$173.5</b>
- Public Works: Inflated	\$74.2	\$39.9	\$40.2	\$3.3	\$3.3	\$3.4	\$3.5	\$3.5	\$3.6	\$3.7	<b>\$178.6</b>
NON-RESIDENTIAL SPACE GROWTH											
- Growth in Square Metres	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	<b>30,500</b>
REVENUE											
- DC Receipts: Inflated	\$19.3	\$19.7	\$20.1	\$20.5	\$20.9	\$21.3	\$21.8	\$22.2	\$22.7	\$23.1	<b>\$211.7</b>
INTEREST											
- Interest on Opening Balance	\$0.0	(\$3.1)	(\$4.4)	(\$5.8)	(\$5.1)	(\$4.4)	(\$3.7)	(\$2.9)	(\$2.0)	(\$1.0)	<b>(\$32.4)</b>
- Interest on In-year Transactions	(\$1.5)	(\$0.6)	(\$0.6)	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	<b>(\$0.4)</b>
TOTAL REVENUE	\$17.8	\$16.1	\$15.2	\$15.0	\$16.1	\$17.2	\$18.4	\$19.7	\$21.0	\$22.4	<b>\$179.0</b>
CLOSING CASH BALANCE	(\$56.4)	(\$80.2)	(\$105.2)	(\$93.4)	(\$80.7)	(\$66.9)	(\$51.9)	(\$35.8)	(\$18.4)	\$0.3	

**2019 Adjusted Charge Per Square Metre** **\$6.34**

**Allocation of Capital Program**

Residential Sector	88.0%
Non-Residential Sector	12.0%

**Rates for 2019**

Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

## **APPENDIX C.2**

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### ***ROADS AND RELATED SERVICES***

## APPENDIX C.2

### ROADS AND RELATED SERVICES

The Infrastructure and Engineering Department, maintains approximately 250 kilometres of road surfaces, and maintains the sidewalks, shoulders, bridges, culverts, surface drainage ditches and winter maintenance each year in the City of Clarence-Rockland. The capital program contained herein was largely prepared by City's engineering consultants based on the transportation master plan and is designed to serve the population and employment growth between 2019 and 2028.

**TABLE 1      HISTORICAL SERVICE LEVELS**

The City has 252 kilometers of roads valued at \$204.00 million, as well as 26 bridges and culverts worth \$16.40 million. Streetlights have a replacement cost of \$9.44 million, while the 38 kilometers of sidewalks are valued at \$7.29 million.

The total 2018 value of the Roads and Related inventory is \$237.13 million, which provides a 10-year average service level of \$6,346.76 per population and employment. When multiplied by the expected net population and employment growth between 2019 and 2028, this results in a maximum allowable funding envelope of \$31.25 million. Under the *Development Charges Act, 1997*, services related to a highway as defined in subsection 1(1) of the *Municipal Act, 2001*, need not to be reduced by the legislated 10 per cent (as with other general services). As such, the maximum allowable funding envelope is carried over and is valued at \$31.25 million.

**TABLE 2      2019 – 2028 DEVELOPMENT-RELATED CAPITAL PROGRAM &  
CALCULATION OF THE "UNADJUSTED" DEVELOPMENT CHARGES**

The 2019-2028 Roads and Related capital program totals \$30.73 million and provides for various cycling and multi-use paths, roadway improvements, sidewalk projects, intersection improvements and development-related studies. The details and timing of each road project and the cost breakdown are shown on Table 2. A map has been provided by City Engineering Staff to complement the development charges capital program, and highlights the location of several project contained therein. Those projects shown on the map are indicated in the project description portion of the program list.

Replacement and benefit to existing shares been identified and total \$1.38 million. This includes 50 per cent shares for the Caron and Laurier street bike lanes, as well as 25 per cent for the Clarence Crossing Multi Use Path, 50 per cent for sidewalks on Laurier Street and Sterling Avenue and a traffic light at De la Berge Street/Laurier/Chemin de Comte, and 20 per cent reductions to the costs of a Servicing Study update and a Master Transportation Study.

Finally, a share of \$13.79 million is deemed to benefit growth beyond 2028. The remaining net capital costs eligible for DC recovery between 2019 and 2028 total \$15.56 million (prior to reserve fund adjustments).

Table 3 summarizes the Roads and Related capital program and the various deductions made. As shown on Table 3, an amount of \$1.38 million has been identified in the Roads DC reserve fund and is available to fund a portion of the program. Once this share has been netted out, the DC eligible share is reduced to 14.18 million.

The DC eligible shares have been allocated 88 per cent to new residential development and 12 per cent to non-residential development. The allocation of costs is based on the future shares of population in new units and employment growth to 2028. The residential share of the capital program totals \$12.48 million and, when divided by the forecast growth in population in new units (4,507), an unadjusted charge of \$2,768.81 per capita results. The non-residential share of \$1.70 million is applied against the forecast increase in square metres of non-residential floor space (30,500), yielding an unadjusted charge of \$55.79 per square metre.

#### **TABLE 4 CASH FLOW ANALYSIS**

The cash flow analysis is shown on Table 4. The analysis takes into consideration expenditure timing and DC revenue projections. After cash flow considerations, both the residential and non-residential charges increase to \$2,931.59 per capita and \$58.92 per square metre, respectively.

<b>ROADS AND RELATED SUMMARY</b>					
2019 - 2028		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$30,729,000	\$14,180,706	\$2,768.81	\$55.79	\$2,931.59	\$58.92



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TABLE 1

CITY OF CLARENCE-ROCKLAND  
INVENTORY OF CAPITAL ASSETS  
ROADS AND RELATED

ROADS Type of Road	# of Kilometres										UNIT COST (\$/km)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Gravel Roads	39	41	95	96	101	108	101	99	89	81	\$407,000
Asphalt Roads	51	54	126	127	134	143	151	153	164	171	\$1,000,000
<b>Total (km)</b>	<b>90</b>	<b>95</b>	<b>221</b>	<b>223</b>	<b>235</b>	<b>251</b>	<b>252</b>	<b>252</b>	<b>252</b>	<b>252</b>	
<b>Total (\$000)</b>	<b>\$66,873.0</b>	<b>\$70,687.0</b>	<b>\$164,665.0</b>	<b>\$166,072.0</b>	<b>\$175,107.0</b>	<b>\$186,956.0</b>	<b>\$192,107.0</b>	<b>\$193,293.0</b>	<b>\$199,519.5</b>	<b>\$204,002.0</b>	

BRIDGES & CULVERTS Description	# of Bridges & Culverts										UNIT COST (\$/unit)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Bridges	4	4	10	10	10	11	11	11	11	11	\$1,000,000
Culverts	2	2	4	4	5	5	5	5	15	15	\$360,000
<b>Total (#)</b>	<b>6</b>	<b>6</b>	<b>14</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>26</b>	<b>26</b>	
<b>Total (\$000)</b>	<b>\$4,720.0</b>	<b>\$4,720.0</b>	<b>\$11,440.0</b>	<b>\$11,440.0</b>	<b>\$11,800.0</b>	<b>\$12,800.0</b>	<b>\$12,800.0</b>	<b>\$12,800.0</b>	<b>\$16,400.0</b>	<b>\$16,400.0</b>	

STREETLIGHTS Description	# of Units										UNIT COST (\$/unit)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Streetlights	476	507	1,171	1,186	1,244	1,332	1,332	1,352	1,355	1,363	\$6,000
Traffic Lights	4	4	4	4	4	5	6	7	7	7	\$180,000
<b>Total (#)</b>	<b>480</b>	<b>511</b>	<b>1,175</b>	<b>1,190</b>	<b>1,248</b>	<b>1,337</b>	<b>1,338</b>	<b>1,359</b>	<b>1,362</b>	<b>1,370</b>	
<b>Total (\$000)</b>	<b>\$3,576.0</b>	<b>\$3,762.0</b>	<b>\$7,746.0</b>	<b>\$7,836.0</b>	<b>\$8,184.0</b>	<b>\$8,892.0</b>	<b>\$9,072.0</b>	<b>\$9,372.0</b>	<b>\$9,390.0</b>	<b>\$9,438.0</b>	

SIDEWALKS Description	# of Kilometres										UNIT COST (\$/km)
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Sidewalk	12.6	13.5	31.1	31.9	32.4	34.3	36.1	36.6	37.9	38.4	\$190,000
<b>Total (km)</b>	<b>12.6</b>	<b>13.5</b>	<b>31.1</b>	<b>31.9</b>	<b>32.4</b>	<b>34.3</b>	<b>36.1</b>	<b>36.6</b>	<b>37.9</b>	<b>38.4</b>	
<b>Total (\$000)</b>	<b>\$2,394.0</b>	<b>\$2,565.0</b>	<b>\$5,913.4</b>	<b>\$6,061.2</b>	<b>\$6,162.7</b>	<b>\$6,510.0</b>	<b>\$6,867.4</b>	<b>\$6,955.9</b>	<b>\$7,208.2</b>	<b>\$7,293.7</b>	

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APPENDIX C.2  
TABLE 1

CITY OF CLARENCE-ROCKLAND  
CALCULATION OF SERVICE LEVELS  
ROADS AND RELATED

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Historical Population	22,195	22,684	23,185	23,445	23,707	23,972	24,240	24,512	24,859	25,516
Historical Employment	5,115	5,446	5,799	5,667	5,539	5,413	5,290	5,171	5,232	5,293
Total Historical Pop. & Emp.	27,310	28,130	28,984	29,112	29,246	29,385	29,530	29,683	30,091	30,808

INVENTORY SUMMARY (\$000)

Roads	\$66,873.0	\$70,687.0	\$164,665.0	\$166,072.0	\$175,107.0	\$186,956.0	\$192,107.0	\$193,293.0	\$199,519.5	\$204,002.0
Bridges & Culverts	\$4,720.0	\$4,720.0	\$11,440.0	\$11,440.0	\$11,800.0	\$12,800.0	\$12,800.0	\$12,800.0	\$16,400.0	\$16,400.0
Streetlights	\$3,576.0	\$3,762.0	\$7,746.0	\$7,836.0	\$8,184.0	\$8,892.0	\$9,072.0	\$9,372.0	\$9,390.0	\$9,438.0
Sidewalks	\$2,394.0	\$2,565.0	\$5,913.4	\$6,061.2	\$6,162.7	\$6,510.0	\$6,867.4	\$6,955.9	\$7,208.2	\$7,293.7
<b>Total (\$000)</b>	<b>\$77,563.0</b>	<b>\$81,734.0</b>	<b>\$189,764.4</b>	<b>\$191,409.2</b>	<b>\$201,253.7</b>	<b>\$215,158.0</b>	<b>\$220,846.4</b>	<b>\$222,420.9</b>	<b>\$232,517.7</b>	<b>\$237,133.7</b>

SERVICE LEVEL (\$/pop & emp)

Average  
Service  
Level

Roads	\$2,448.66	\$2,512.87	\$5,681.27	\$5,704.59	\$5,987.38	\$6,362.29	\$6,505.49	\$6,511.98	\$6,630.65	\$6,621.64	\$5,496.68
Bridges & Culverts	\$172.8	\$167.8	\$394.7	\$393.0	\$403.5	\$435.6	\$433.5	\$431.2	\$545.0	\$532.3	\$390.94
Streetlights	\$130.9	\$133.7	\$267.3	\$269.2	\$279.8	\$302.6	\$307.2	\$315.7	\$312.1	\$306.3	\$262.49
Sidewalks	\$87.7	\$91.2	\$204.0	\$208.2	\$210.7	\$221.5	\$232.6	\$234.3	\$239.6	\$236.7	\$196.65
<b>Total (\$/pop &amp; emp)</b>	<b>\$2,840.10</b>	<b>\$2,905.58</b>	<b>\$6,547.25</b>	<b>\$6,574.92</b>	<b>\$6,881.41</b>	<b>\$7,322.03</b>	<b>\$7,478.71</b>	<b>\$7,493.29</b>	<b>\$7,727.28</b>	<b>\$7,697.05</b>	<b>\$6,346.76</b>

CITY OF CLARENCE-ROCKLAND  
CALCULATION OF MAXIMUM ALLOWABLE  
ROADS AND RELATED

<b>10-Year Funding Envelope Calculation</b>	
10 Year Average Service Level 2009 - 2018	\$6,346.76
Net Population & Employment Growth 2019 - 2028	4,923
Maximum Allowable Funding Envelope	\$31,247,149
<b>Discounted Maximum Allowable Funding Envelope</b>	<b>\$31,247,149</b>

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TABLE 2

CITY OF CLARENCE-ROCKLAND  
DEVELOPMENT-RELATED CAPITAL PROGRAM  
ROADS AND RELATED

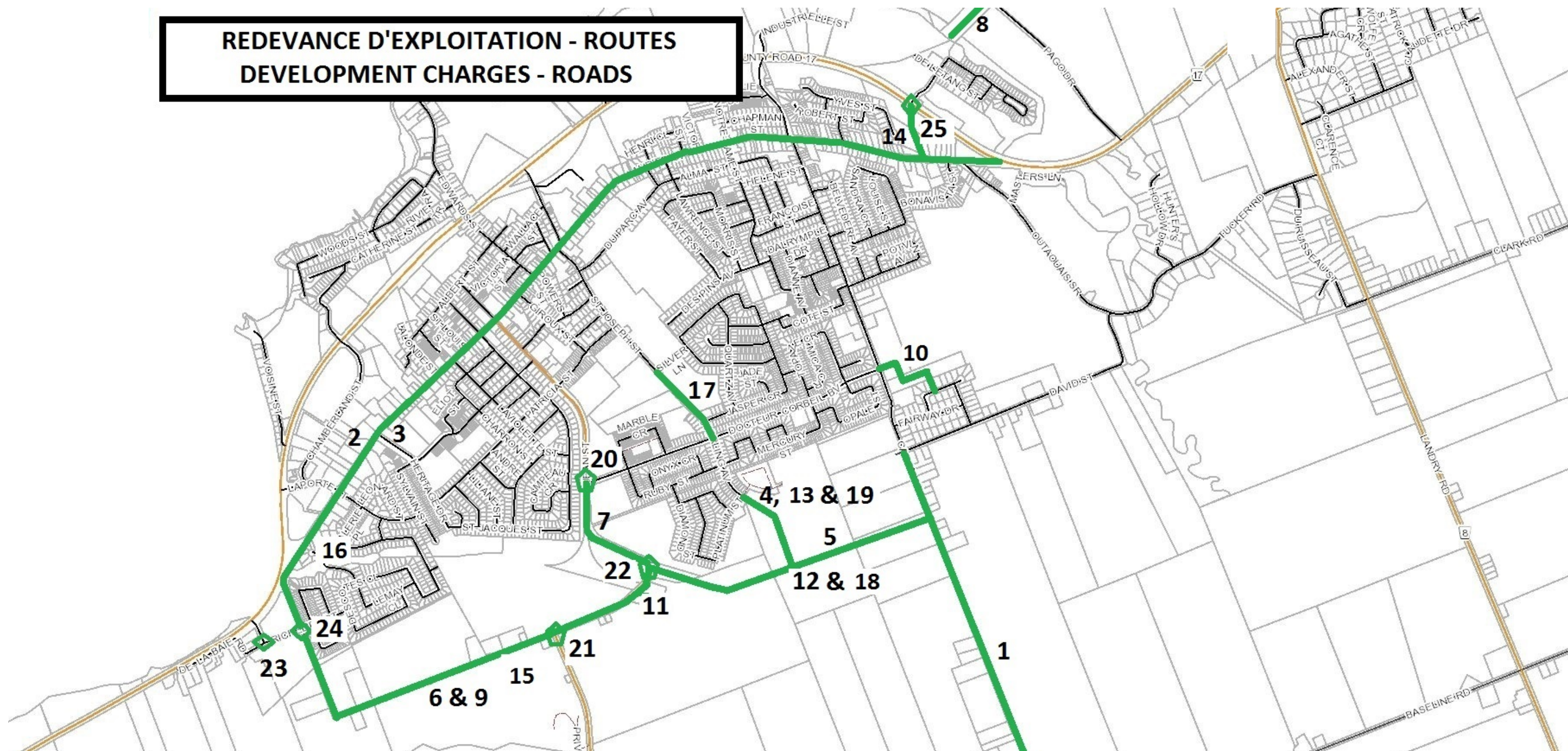
NO.	Infrastructure Requirement	Description / Remarks	Limits	Term	Timing		Estimated Project Costs					
					From	To	Gross Cost	Benefit to Existing Share	Other Contributions	Post Period Allocation <sup>1</sup>	Net Growth-Related	
City-Wide Roads Projects												
Cycling												
1	Caron Street	Buffered Paved shoulder with signage on both sides of the roadway.	Between the David Street in the north and Baseline Road in the south.	Mid-Term	2024	- 2028	\$583,000	50%	\$291,500	\$0	\$291,500	
2	Laurier Street	Buffered bike lane with flex bollards with signage and cycling lane markings both directions.	Between Richelieu Street in the west, and Heritage Drive in the east	Short-Term	2019	- 2023	\$616,000	50%	\$308,000	\$0	\$308,000	
3	Laurier Street	Painted bike lane with signage and cycling lane markings both directions.	Between Heritage Drive in the west and County Road 17 in the east	Short-Term	2019	- 2023	\$408,000	50%	\$204,000	\$0	\$204,000	
4	Sterling Avenue Extension	Painted bike lane with signage and cycling lane markings both directions.	Between Platinum Drive in the north and Poupart Road Extension in the south.	Short-Term	2019	- 2023	\$347,000	0%	\$0	\$0	\$347,000	
Multi-Use Path												
5	New Roadway	Multi-Use pathway built on the north side of the roadway as part of the construction of the New east-west roadway to service a new subdivision in south Rockland.	Between Caron Street in the east and St. Jean Street in the west.	Short-Term	2019	- 2023	\$612,000	0%	\$0	\$0	\$612,000	
6	Poupart Road	New multi-use path on the north side of Poupart Road built as part of the Poupart Road widening.	Between Richelieu Street in the north and St. Jean Street in the east.	Short-Term	2019	- 2023	\$744,000	0%	\$0	\$0	\$744,000	
7	St. Jean Street	New multi-use path on the east side of St. Jean Street built as part of development.	Between Docteur Corbeil Boulevard in the north and Poupart Road in the south on the east side of the roadway.	Short-Term	2019	- 2023	\$262,000	0%	\$0	\$0	\$262,000	
8	Bridewater Pedestrian Bridge				2019	- 2019	\$1,600,000	0%	\$0	\$915,485	\$684,515	
9	Clarence Crossing Multi Use Path				2021	- 2026	\$600,000	25%	\$150,000	\$0	\$450,000	
Roadway												
10	Green Avenue	Extension of Green Avenue to Caron Street.	Between existing extent of Green Avenue in the east to connect with the Docteru Corbeil Boulevard / Caron Street intersection in the west.	Mid-Term	2024	- 2028	\$942,000	0%	\$0	\$0	\$538,992	\$403,008
11	Poupart Road & St. Jean Street	Road widening from two lanes to four. Will include a multi-use pathway on the north side of the roadway.	Between Laurier Street in the north and St. Jean Street in the east.	Short-Term	2019	- 2023	\$9,900,000	0%	\$0	\$0	\$5,664,565	\$4,235,435
12	New Roadway	New Roadway Construction. Will include will include a multi-use pathway on the north side of the roadway and a pedestrian sidewalk on the south side.	Between Caron Street in the east and St. Jean Street in the west.	Short-Term	2019	- 2023	\$5,293,000	0%	\$0	\$0	\$3,028,540	\$2,264,460
13	Sterling Avenue Extension	Extension of Sterling Avenue with painted bike lanes and sidewalks on boths sides of the road.	Between Platinum Drive in the north and Poupart Road Extension in the south.	Short-Term	2019	- 2023	\$1,884,000	0%	\$0	\$0	\$1,077,984	\$806,016
14	Est Rockland East (Laurier - County Rd. 17)			Short-Term	2019	- 2023	\$120,000	0%	\$0	\$0	\$68,661	\$51,339
Pedestrian (Sidewalk)												
15	Poupart Road	Sidewalk on one side of the street.	Between St Jean Street In The East To Richelieu Street In The West	Mid-Term	2024	- 2028	\$530,000	0%	\$0	\$0	\$0	\$530,000
16	Laurier Street	Add sidewalk on the other side of the street so that both sides of the road have a sidewalk.	Between Clarence Rockland Veterinary Hospital On The East To Poupart Road In The West	Short-Term	2019	- 2023	\$112,000	50%	\$56,000	\$0	\$0	\$56,000
17	Sterling Avenue	Add sidewalk on the other side of the street so that both sides of the road have a sidewalk.	Between Silver Lane In The North To Docteur Corbeil Boulevard In The South	Short-Term	2019	- 2023	\$144,000	50%	\$72,000	\$0	\$0	\$72,000
18	New Roadway	Sidewalk on one side of the street.	Between St. Jean Street in the West and Caron Street in the East on the south side of the roadway.	Short-Term	2019	- 2023	\$525,000	0%	\$0	\$0	\$0	\$525,000
19	Sterling Avenue Extension	Sidewalk on both sides of the street.	Between Platinum Drive In The North And Poupart Road Extension In The South.	Short-Term	2019	- 2023	\$417,000	0%	\$0	\$0	\$0	\$417,000

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TABLE 2

CITY OF CLARENCE-ROCKLAND  
DEVELOPMENT-RELATED CAPITAL PROGRAM  
ROADS AND RELATED

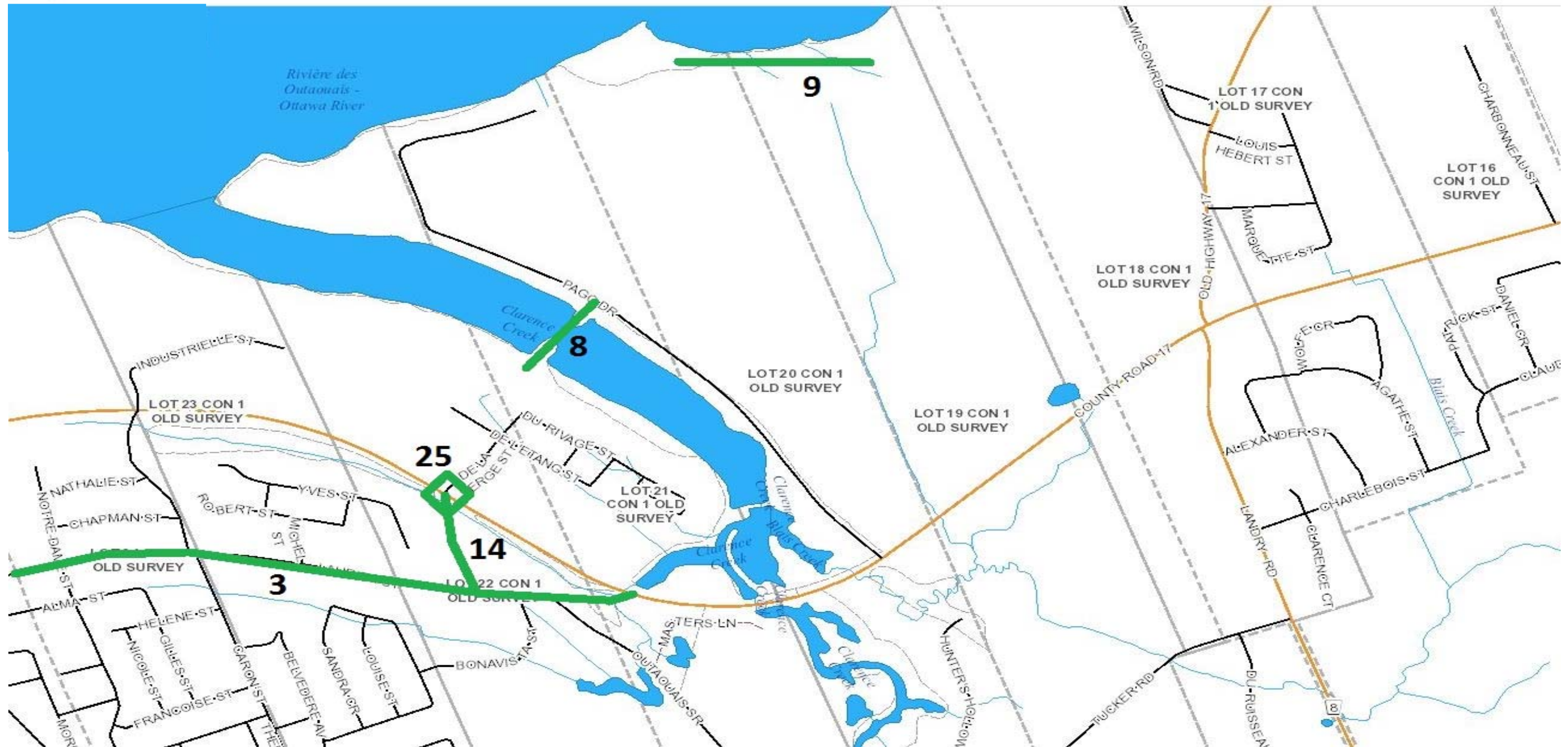
NO.	Infrastructure Requirement	Description / Remarks	Limits	Term	Timing		Estimated Project Costs					
					From	To	Gross Cost	Benefit to Existing Share	Other Contributions	Post Period Allocation <sup>1</sup>	Net Growth-Related	
City-Wide Roads Projects												
Intersection												
20	Poupart Road	Planned Roundabout	At St. Jean Street and Docteur Corbeil Boulevard.	Mid-Term	2024	- 2028	\$1,150,000	0%	\$0	\$0	\$658,005	\$491,995
21	Poupart Road	Planned Roundabout	At the intersection of Poupart Road and St. Jean Street.	Short-Term	2019	- 2023	\$1,150,000	0%	\$0	\$0	\$658,005	\$491,995
22	Poupart Road	Planned Roundabout	At the future intersection of St. Jean and the new east-west roadway servicing the new subdivision.	Short-Term	2019	- 2023	\$1,150,000	0%	\$0	\$0	\$658,005	\$491,995
23	Carmen Bergeron Street	Upgrade existing stop-controlled intersection to a Signalized Intersection.	At Carmen Bergeron Street and Richelieu Street.	Short-Term	2019	- 2023	\$345,000	0%	\$0	\$0	\$197,402	\$147,598
24	Richelieu Street	Upgrade existing stop-controlled intersection to a Signalized Intersection.	At Richelieu Street and Poupart Road.	Short-Term	2019	- 2023	\$345,000	0%	\$0	\$0	\$197,402	\$147,598
25	Traffic Light	De la Berge street /Laurier/chemin de comté			2021	- 2021	\$450,000	50%	\$225,000	\$0	\$128,740	\$96,260
Studies												
26	Servicing Study Update				2023	- 2023	\$150,000	20%	\$30,000	\$0	\$0	\$120,000
27	Master Transportation Study				2027	- 2028	\$200,000	20%	\$40,000	\$0	\$0	\$160,000
28	Provision for other Development-Related Studies				2019	- 2028	\$150,000	0%	\$0	\$0	\$0	\$150,000
Total Roads Projects: 2019-2028							\$30,729,000	\$1,376,500	\$0	\$13,791,785	\$15,560,715	

Notes											
1) The post period allocation are based on share of household growth to 2041. The post-period share is:											57%
2) Available DC Reserve Funds have been accounted for through the cash flow analysis											





## REDEVANCE D'EXPLOITATION - ROUTE (CLARENCE CROSSING) DEVELOPEMENT CHARGES - ROADS (CLARENCE CROSSING)



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TABLE 3

CITY OF CLARENCE-ROCKLAND  
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES  
ROADS AND RELATED 2019-2028

10-Year Growth in Population in New Units	4,507
Employment Growth	610
10-Year Growth in Square Meters	30,500

	Development-Related Capital Forecast									
	Gross Project Cost (\$000)	Benefit to Existing Share (\$000)	Other Contributions (\$000)	Available DC Reserves (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs After Discount (\$000)	Residential Share		Non-Residential Share	
							%	\$000	%	\$000
<b>ROADS AND RELATED 2019-2028</b>										
City-Wide Roads Projects	\$30,729.00	\$1,376.50	\$0.00	\$1,380.01	\$13,791.79	\$14,180.71	88%	\$12,479.02	12%	\$1,701.68
<b>TOTAL ROADS AND RELATED 2019-2028</b>	<b>\$30,729.00</b>	<b>\$1,376.50</b>	<b>\$0.00</b>	<b>\$1,380.01</b>	<b>\$13,791.79</b>	<b>\$14,180.71</b>		<b>\$12,479.02</b>		<b>\$1,701.68</b>
Unadjusted Development Charge Per Capita (\$)								<b>\$2,768.81</b>		
Unadjusted Development Charge Per Sq. M. (\$)										<b>\$55.79</b>

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TABLE 4

**CITY OF CLARENCE-ROCKLAND  
ROADS AND RELATED 2019-2028  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

<b>ROADS: RESIDENTIAL</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>TOTAL</b>
OPENING CASH BALANCE (\$000)	\$1,214.4	(\$262.5)	(\$1,195.4)	(\$2,359.2)	(\$3,503.7)	(\$4,829.4)	(\$4,034.7)	(\$3,161.8)	(\$2,198.3)	(\$1,146.9)	
<b>2019 - 2028 RESIDENTIAL FUNDING REQUIREMENTS</b>											
Roads: Residential: Non Inflated	\$2,759.9	\$2,157.5	\$2,308.2	\$2,223.5	\$2,329.1	\$381.3	\$381.3	\$381.3	\$385.7	\$385.7	<b>\$13,693.4</b>
Roads: Residential: Inflated	\$2,759.9	\$2,200.6	\$2,401.4	\$2,359.6	\$2,521.1	\$421.0	\$429.4	\$438.0	\$451.9	\$461.0	<b>\$14,443.9</b>
<b>NEW RESIDENTIAL DEVELOPMENT</b>											
- Population Growth in New Units	437	437	437	441	447	452	456	462	467	471	<b>4,507</b>
<b>REVENUE</b>											
- DC Receipts: Inflated	\$1,281.1	\$1,306.7	\$1,332.9	\$1,372.0	\$1,418.4	\$1,463.0	\$1,505.5	\$1,555.8	\$1,604.1	\$1,650.2	<b>\$14,489.5</b>
<b>INTEREST</b>											
- Interest on Opening Balance	\$42.5	(\$14.4)	(\$65.7)	(\$129.8)	(\$192.7)	(\$265.6)	(\$221.9)	(\$173.9)	(\$120.9)	(\$63.1)	<b>(\$1,205.6)</b>
- Interest on In-year Transactions	(\$40.7)	(\$24.6)	(\$29.4)	(\$27.2)	(\$30.3)	\$18.2	\$18.8	\$19.6	\$20.2	\$20.8	<b>(\$54.5)</b>
<b>TOTAL REVENUE</b>	<b>\$1,282.9</b>	<b>\$1,267.7</b>	<b>\$1,237.7</b>	<b>\$1,215.0</b>	<b>\$1,195.4</b>	<b>\$1,215.6</b>	<b>\$1,302.4</b>	<b>\$1,401.4</b>	<b>\$1,503.3</b>	<b>\$1,607.9</b>	<b>\$13,229.5</b>
CLOSING CASH BALANCE	(\$262.5)	(\$1,195.4)	(\$2,359.2)	(\$3,503.7)	(\$4,829.4)	(\$4,034.7)	(\$3,161.8)	(\$2,198.3)	(\$1,146.9)	\$0.0	

**2019 Adjusted Charge Per Capita** **\$2,931.59**

**Allocation of Capital Program**

Residential Sector 88.0%  
Non-Residential Sector 12.0%

**Rates for 2019**

Inflation Rate 2.0%  
Interest Rate on Positive Balances 3.5%  
Interest Rate on Negative Balances 5.5%



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APPENDIX C.2  
TABLE 4

**CITY OF CLARENCE-ROCKLAND  
ROADS AND RELATED 2019-2028  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

<b>ROADS: NON-RESIDENTIAL</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>TOTAL</b>
OPENING CASH BALANCE (\$000)	\$165.6	(\$30.6)	(\$152.3)	(\$305.1)	(\$456.5)	(\$635.0)	(\$526.4)	(\$409.1)	(\$282.3)	(\$146.3)	
2019 - 2028 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Roads: Non-Residential: Non: Inflated	\$376.3	\$294.2	\$314.8	\$303.2	\$317.6	\$52.0	\$52.0	\$52.0	\$52.6	\$52.6	<b>\$1,867.3</b>
Roads: Non-Residential: Inflated	\$376.3	\$300.1	\$327.5	\$321.8	\$343.8	\$57.4	\$58.6	\$59.7	\$61.6	\$62.9	<b>\$1,969.6</b>
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Building GFA - square metres	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	<b>30,500</b>
REVENUE											
- DC Receipts: Inflated	\$179.7	\$183.3	\$187.0	\$190.7	\$194.5	\$198.4	\$202.4	\$206.4	\$210.6	\$214.8	<b>\$1,967.7</b>
INTEREST											
- Interest on Opening Balance	\$5.8	(\$1.7)	(\$8.4)	(\$16.8)	(\$25.1)	(\$34.9)	(\$29.0)	(\$22.5)	(\$15.5)	(\$8.0)	<b>(\$156.1)</b>
- Interest on In-year Transactions	(\$5.4)	(\$3.2)	(\$3.9)	(\$3.6)	(\$4.1)	\$2.5	\$2.5	\$2.6	\$2.6	\$2.7	<b>(\$7.4)</b>
TOTAL REVENUE	\$180.1	\$178.4	\$174.7	\$170.3	\$165.3	\$166.0	\$175.9	\$186.5	\$197.6	\$209.4	<b>\$1,804.2</b>
CLOSING CASH BALANCE	(\$30.6)	(\$152.3)	(\$305.1)	(\$456.5)	(\$635.0)	(\$526.4)	(\$409.1)	(\$282.3)	(\$146.3)	\$0.2	

**2019 Adjusted Charge Per Square Metre**

**\$58.92**

**Allocation of Capital Program**

Residential Sector	88.0%
Non-Residential Sector	12.0%

**Rates for 2019**

Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

## **APPENDIX D**

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### ***WATERWORKS AND SANITARY SEWER TECHNICAL APPENDIX***

## APPENDIX D

### WATERWORKS AND SANITARY SEWER TECHNICAL APPENDIX

The Clarence-Rockland Infrastructure and Engineering Department provides public works and engineered infrastructure to the City. The department is responsible for the services of roads, sidewalks, municipal drains, sanitary sewers, environmental protection and waterworks. This appendix provides the detailed analysis undertaken to establish the development charge rates for the eligible municipal-wide engineered services of waterworks and sanitary sewerage for the City of Clarence-Rockland. Maps are included, where available, showing the location of certain projects included in the development charges capital programs.

The following tables set out the 2019 to 2028 development-related capital forecast and the calculation of the development charges for City-wide Waterworks and Sanitary Sewer services. The basis of the development-related capital program is the City's capital budget, detailed discussions with City staff and the results of master servicing studies prepared by the City's engineering consultants. The projects identified in the capital program are required to service the demands of new development between 2019 and 2028 and beyond, subject to annual capital budget reviews. It should be noted that detailed information on all projects identified in this section were circulated to the development industry for review and comment in advance of the preparation of this study.

## **APPENDIX D.1**

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### ***WATERWORKS***

## APPENDIX D.1

### WATERWORKS SERVICES

The capital program contained herein was assembled by the City's engineering staff as well as the City's engineering consultants and is designed to serve the population and employment growth between 2019 and 2028. The following tables provide details of the projects included in the City-wide Waterworks development charges calculation.

Waterworks 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 fire standards. As such, in accordance with section 4(3) of O.Reg. 82/98, the 10-year historical service level does not apply.

**TABLE 1      2019 – 2028 DEVELOPMENT-RELATED CAPITAL PROGRAM**

The 2019-2028 Waterworks capital program totals \$16.84 million and includes \$11.71 million in water projects and development-related studies. The largest project is the Rockland Water Treatment Plant capacity expansion that is estimated to cost \$10.17 million. In addition, Pressure Zone-specific projects for Zone 1 (Rockland) and Zone 2 (Villages) total \$110,000 and \$5.02 million, respectively.

A benefit to existing share of 33 per cent has been applied to the replacement of a transmission main in Pressure Zone 1, as well as to the new transmission main project for the Caron Booster Station. This proportion has been determined in consultation with City staff and the City's engineering consultants and is based on flow data. As a result, \$1.44 million has been removed from the calculation. There are no contributions or grants expected.

**TABLE 2      CALCULATION OF THE "UNADJUSTED" DEVELOPMENT CHARGES**

Table 2 shows that the available DC reserve fund balance of \$448,010 has been removed from the calculation. As many of the works are being designed to benefit growth both in this period and beyond the 10-year planning period, a share of the costs, \$10.30 million, will be considered for recovery under future by-laws. The remaining net DC costs eligible for recovery in 2019-2028 total \$4.66 million, and are allocated 88 per cent residential and 12 per cent non-residential. The allocation of costs is based on the future shares of population in new units and employment growth to 2028.

The residential share of the capital program totals \$4.10 million and, when divided by the forecast growth in population in new units (4,507), an unadjusted charge of \$909.57 per capita results. The non-residential share of \$559,020 is applied against the forecast increase in square metres of non-residential floor space (30,500), yielding an unadjusted charge of \$18.33 per square metre.

**TABLE 3      CASH FLOW ANALYSIS**

The cash flow analysis is shown on Table 3. The analysis takes into consideration expenditure timing and DC revenue projections.

After cash flow considerations, both the residential and non-residential charges increase to \$991.97 per capita and \$18.35 per square metre, respectively.

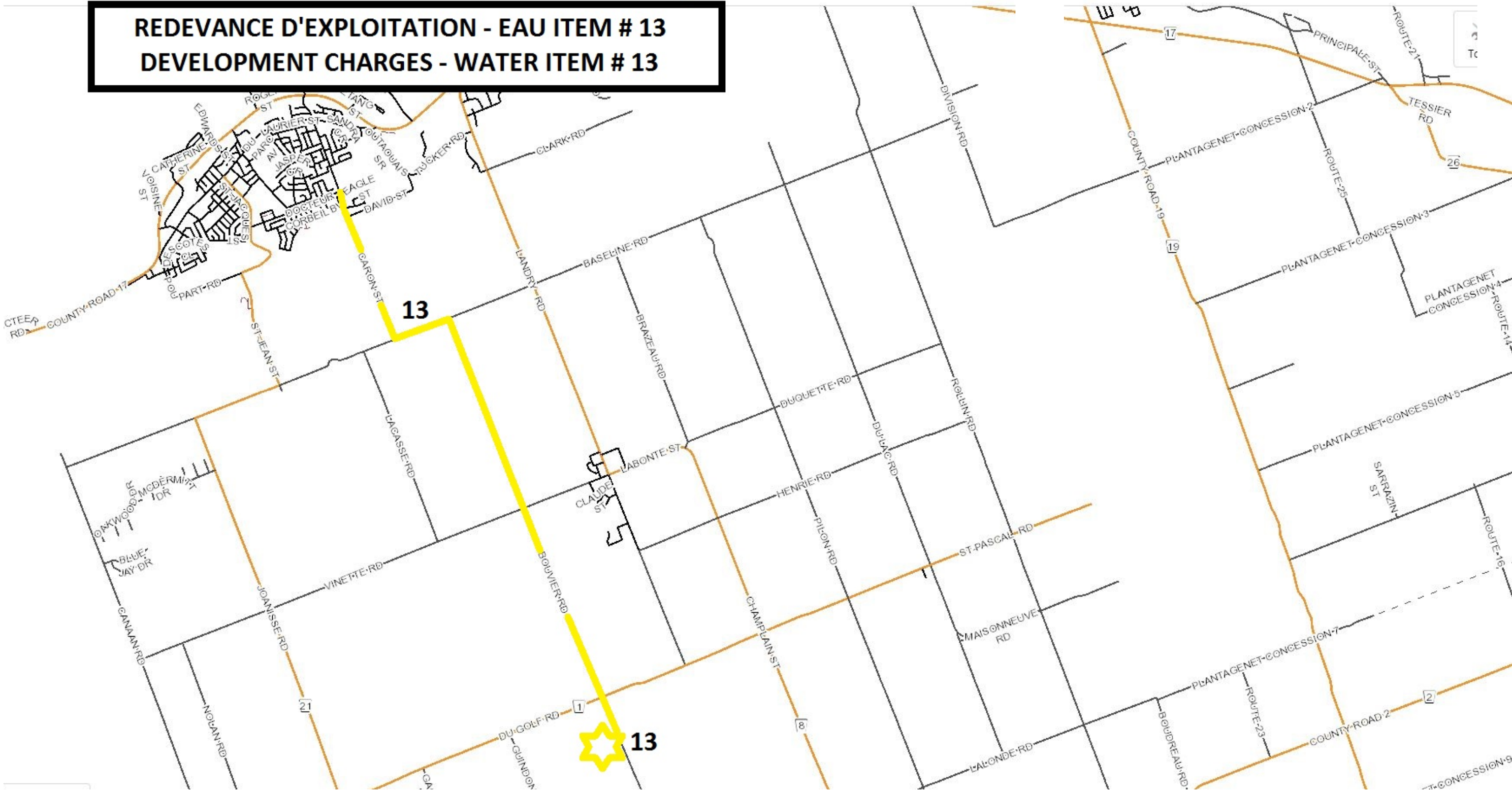
<b>WATERWORKS SUMMARY</b>					
2019 - 2028		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$16,842,000	\$4,658,460	\$909.57	\$18.33	\$911.97	\$18.35

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TABLE 1

CITY OF CLARENCE-ROCKLAND  
DEVELOPMENT-RELATED CAPITAL PROGRAM  
WATERWORKS

NO.	Infrastructure Requirement	Timing	Estimated Project Costs					
		From   -   To	Gross Cost	Benefit to Existing Share	Direct Developer Contribution	Post Period Allocation	Net Growth-Related	
City-wide Water Projects								
1	Rockland WTP Capacity Expansion	2026   -   2026	\$10,172,000	0%	\$0	\$0	\$7,137,501	\$3,034,499
2	Replace Transmission Main - Pressure Zone 1 - WTP Discharge	2026   -   2026	\$514,000	33%	\$169,620	\$0	\$241,645	\$102,735
3	Mtée Poupart (St-Jean - End) Asphalt Wal-Mart	2019   -   2019	\$125,000	0%	\$0	\$0	\$0	\$125,000
4	St-Jean (Patricia-Jérôme Corbeil loop)	2019   -   2019	\$43,000	0%	\$0	\$0	\$0	\$43,000
5	Est-Ouest/East-West Corridor (Caron - St-Jean)	2020   -   2020	\$150,000	0%	\$0	\$0	\$0	\$150,000
6	Est-Ouest/East-West Corridor (Caron - 400m East)	2022   -   2022	\$30,000	0%	\$0	\$0	\$0	\$30,000
7	Rockland East (Laurier - County Road 17)	2019   -   2019	\$30,000	0%	\$0	\$0	\$0	\$30,000
Studies								
8	Water Treatment Plant Capacity Study	2019   -   2019	\$500,000	0%	\$0	\$0	\$0	\$500,000
9	Provison for other Development-Related Studies	2019   -   2028	\$150,000	0%	\$0	\$0	\$0	\$150,000
Subtotal City-wide Water Projects			\$11,714,000		\$169,620	\$0	\$7,379,146	\$4,165,234
Pressure Zone-Specific Water Projects								
Pressure Zone 1 (Rockland) - Water Projects								
10	Honeywell Sub (Water Plant to 17) Oversizing	2023   -   2028	\$60,000	0%	\$0	\$0	\$0	\$60,000
11	New Watermain - Pressure Zone 1 - St. Jean St.	2019   -   2019	\$50,000	0%	\$0	\$0	\$0	\$50,000
Pressure Zone 2 (Villages) - Water Projects								
12	Caron Booster Station Capacity Expansion	2025   -   2025	\$   1,177,000	0%	\$0	\$0	\$916,135	\$260,865
13	New Transmission Mains - Pressure Zones 1 and 2 - Caron Booster Station	2019   -   2019	\$   3,841,000	33%	\$1,267,530	\$0	\$2,003,097	\$570,373
Subtotal Pressure Zone-Specific Water Projects			\$5,128,000		\$1,267,530	\$0	\$2,919,231	\$941,239
Total Water Projects			\$16,842,000		\$1,437,150	\$0	\$10,298,377	\$5,106,473

Note:\* Available DC Reserve Funds have been accounted for through the cash flow analysis







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APPENDIX D.1  
TABLE 2

CITY OF CLARENCE-ROCKLAND  
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES  
WATERWORKS 2019-2028

10-Year Growth in Population in New Units	4,507
Employment Growth	610
10-Year Growth in Square Meters	30,500

	Development-Related Capital Forecast									
	Gross Project Cost (\$000)	Benefit to Existing Share (\$000)	Direct Developer Contributions (\$000)	Available DC Reserves (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs After Discount (\$000)	Residential Share		Non-Residential Share	
							%	\$000	%	\$000
<b>WATERWORKS 2019-2028</b>										
City-wide Water Projects	\$11,714.00	\$169.62	\$0.00	\$448.01	\$7,379.15	\$3,717.22	88%	\$3,271.15	12%	\$446.07
Pressure Zone-Specific Water Projects	\$5,128.00	\$1,267.53	\$0.00	\$0.00	\$2,919.23	\$941.24	88%	\$828.29	12%	\$112.95
<b>TOTAL WATERWORKS 2019-2028</b>	<b>\$16,842.00</b>	<b>\$1,437.15</b>	<b>\$0.00</b>	<b>\$448.01</b>	<b>\$10,298.38</b>	<b>\$4,658.46</b>		<b>\$4,099.45</b>		<b>\$559.02</b>
<b>Unadjusted Development Charge Per Capita (\$)</b>								<b>\$909.57</b>		
<b>Unadjusted Development Charge Per Sq. M. (\$)</b>										<b>\$18.33</b>

Note: As many of the works are being designed to benefit growth both in this period and beyond the 10-year planning period, a share of the costs are considered to be recovered from future DCs outside this planning period

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APPENDIX D.1  
TABLE 3

**CITY OF CLARENCE-ROCKLAND  
WATERWORKS 2019-2028  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

<b>WATER: RESIDENTIAL</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>TOTAL</b>
OPENING CASH BALANCE (\$000)	\$394.3	(\$388.1)	(\$146.5)	\$253.3	\$653.7	\$1,101.3	\$1,578.2	\$1,821.7	(\$901.6)	(\$469.7)	
2019 - 2028 RESIDENTIAL FUNDING REQUIREMENTS											
Water: Residential: Non Inflated	\$1,173.4	\$145.2	\$13.2	\$39.6	\$22.0	\$22.0	\$251.6	\$2,782.8	\$22.0	\$22.0	<b>\$4,493.7</b>
Water: Residential: Inflated	\$1,173.4	\$148.1	\$13.7	\$42.0	\$23.8	\$24.3	\$283.3	\$3,196.5	\$25.8	\$26.3	<b>\$4,957.2</b>
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	437	437	437	441	447	452	456	462	467	471	<b>4,507</b>
REVENUE											
- DC Receipts: Inflated	\$398.5	\$406.5	\$414.6	\$426.8	\$441.3	\$455.1	\$468.3	\$484.0	\$499.0	\$513.3	<b>\$4,507.5</b>
INTEREST											
- Interest on Opening Balance	\$13.8	(\$21.3)	(\$8.1)	\$8.9	\$22.9	\$38.5	\$55.2	\$63.8	(\$49.6)	(\$25.8)	<b>\$98.3</b>
- Interest on In-year Transactions	(\$21.3)	\$4.5	\$7.0	\$6.7	\$7.3	\$7.5	\$3.2	(\$74.6)	\$8.3	\$8.5	<b>(\$42.7)</b>
TOTAL REVENUE	\$391.0	\$389.7	\$413.6	\$442.4	\$471.4	\$501.2	\$526.8	\$473.1	\$457.7	\$496.0	<b>\$4,563.0</b>
CLOSING CASH BALANCE	(\$388.1)	(\$146.5)	\$253.3	\$653.7	\$1,101.3	\$1,578.2	\$1,821.7	(\$901.6)	(\$469.7)	\$0.0	

**2019 Adjusted Charge Per Capita** **\$911.97**

**Allocation of Capital Program**

Residential Sector	88.0%
Non-Residential Sector	12.0%

**Rates for 2019**

Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX D.1  
TABLE 3

**CITY OF CLARENCE-ROCKLAND  
WATERWORKS 2019-2028  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

<b>WATER: NON-RESIDENTIAL</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>TOTAL</b>
OPENING CASH BALANCE (\$000)	\$53.8	(\$51.3)	(\$16.5)	\$39.9	\$95.9	\$157.6	\$222.6	\$255.2	(\$117.7)	(\$61.0)	
2019 - 2028 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Water: Non-Residential: Non: Inflated	\$160.0	\$19.8	\$1.8	\$5.4	\$3.0	\$3.0	\$34.3	\$379.5	\$3.0	\$3.0	<b>\$612.8</b>
Water: Non-Residential: Inflated	\$160.0	\$20.2	\$1.9	\$5.7	\$3.2	\$3.3	\$38.6	\$435.9	\$3.5	\$3.6	<b>\$676.0</b>
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Building GFA - square metres	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	<b>30,500</b>
REVENUE											
- DC Receipts: Inflated	\$56.0	\$57.1	\$58.2	\$59.4	\$60.6	\$61.8	\$63.0	\$64.3	\$65.6	\$66.9	<b>\$612.8</b>
INTEREST											
- Interest on Opening Balance	\$1.9	(\$2.8)	(\$0.9)	\$1.4	\$3.4	\$5.5	\$7.8	\$8.9	(\$6.5)	(\$3.4)	<b>\$15.3</b>
- Interest on In-year Transactions	(\$2.9)	\$0.6	\$1.0	\$0.9	\$1.0	\$1.0	\$0.4	(\$10.2)	\$1.1	\$1.1	<b>(\$5.9)</b>
TOTAL REVENUE	\$55.0	\$54.9	\$58.3	\$61.7	\$64.9	\$68.3	\$71.2	\$63.0	\$60.2	\$64.6	<b>\$622.3</b>
CLOSING CASH BALANCE	(\$51.3)	(\$16.5)	\$39.9	\$95.9	\$157.6	\$222.6	\$255.2	(\$117.7)	(\$61.0)	\$0.1	

**2019 Adjusted Charge Per Square Metre** **\$18.35**

**Allocation of Capital Program**

Residential Sector	88.0%
Non-Residential Sector	12.0%

**Rates for 2019**

Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

## **APPENDIX D.2**

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### ***SANITARY SEWAGE***

## APPENDIX D.2

### SANITARY SEWAGE SERVICES

Sanitary sewage and wastewater treatment services are provided through 40 kilometres of sewer pipes and a central Wastewater Treatment Plant in Rockland. The capital program contained herein was assembled by the City's engineering staff as well as the City's engineering consultants and is designed to serve the population and employment growth between 2019 and 2028.

Sanitary Sewage works 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 ten-year historical service level does not apply.

**TABLE 1      2019 – 2028 DEVELOPMENT-RELATED CAPITAL PROGRAM**

The 2019-2028 Sanitary Sewage capital program totals \$39.19 million and provides for treatment plant capacity expansion, headworks upgrades, pumping station works, development-related studies and investments in linear infrastructure. The details and timing of each project, and the cost breakdown are shown on Table 1.

The total gross cost of the capital program is not to be entirely recovered through future development charges. Approximately \$7.74 million of the program has been identified as a benefit to existing, or non-growth share and has been removed from the calculation. The total non-growth shares relate to: 34 per cent of the Rockland Treatment Plant headworks upgrade and the Sanitary Pump Station 1 – the shares have based on future projected flows relative to present day flows. About 40 per cent of the Gestion Bio Solids Management project has been removed from the calculation in addition to a share of the Laurier Phase II projects are also considered a benefit to the existing community and removed from the calculation.

Lastly, it is expected that the construction of sanitary pump stations and sewers associated with pump stations #7 and #9 be paid for directly by the developers, therefore, \$6.95 million has been removed from the calculation.

**TABLE 2      CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES**

As shown in Table 2, an amount of \$2.91 million is available in DC reserve funds and has been identified to fund a portion of the program. In addition, another \$15.02 million has been identified to benefit development beyond 2028 and will be considered for recovery under future by-laws. The remaining net DC costs eligible for recovery over the 2019-2028 planning period total \$6.57 million, and are allocated 88 per cent residential growth and 12 per cent non-residential growth. The allocation of costs is based on the future shares of population in new units and employment growth to 2028.

The residential share of the capital program totals \$5.78 million and, when divided by the forecast growth in population in new units (4,507), an unadjusted charge of \$1,282.40 per capita results. The non-residential share of \$788,150 is applied against the forecast increase in square metres of non-residential floor space (30,500), yielding an unadjusted charge of \$25.84 per square metre.

**TABLE 3      CASH FLOW ANALYSIS**

After cash flow considerations, both the residential and non-residential charges increase to \$1,334.94 per capita and \$26.85 per square metre, respectively.

<b>SANITARY SEWAGE SUMMARY</b>					
2019 - 2028		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$39,188,302	\$6,567,935	\$1,282.40	\$25.84	\$1,334.94	\$26.85



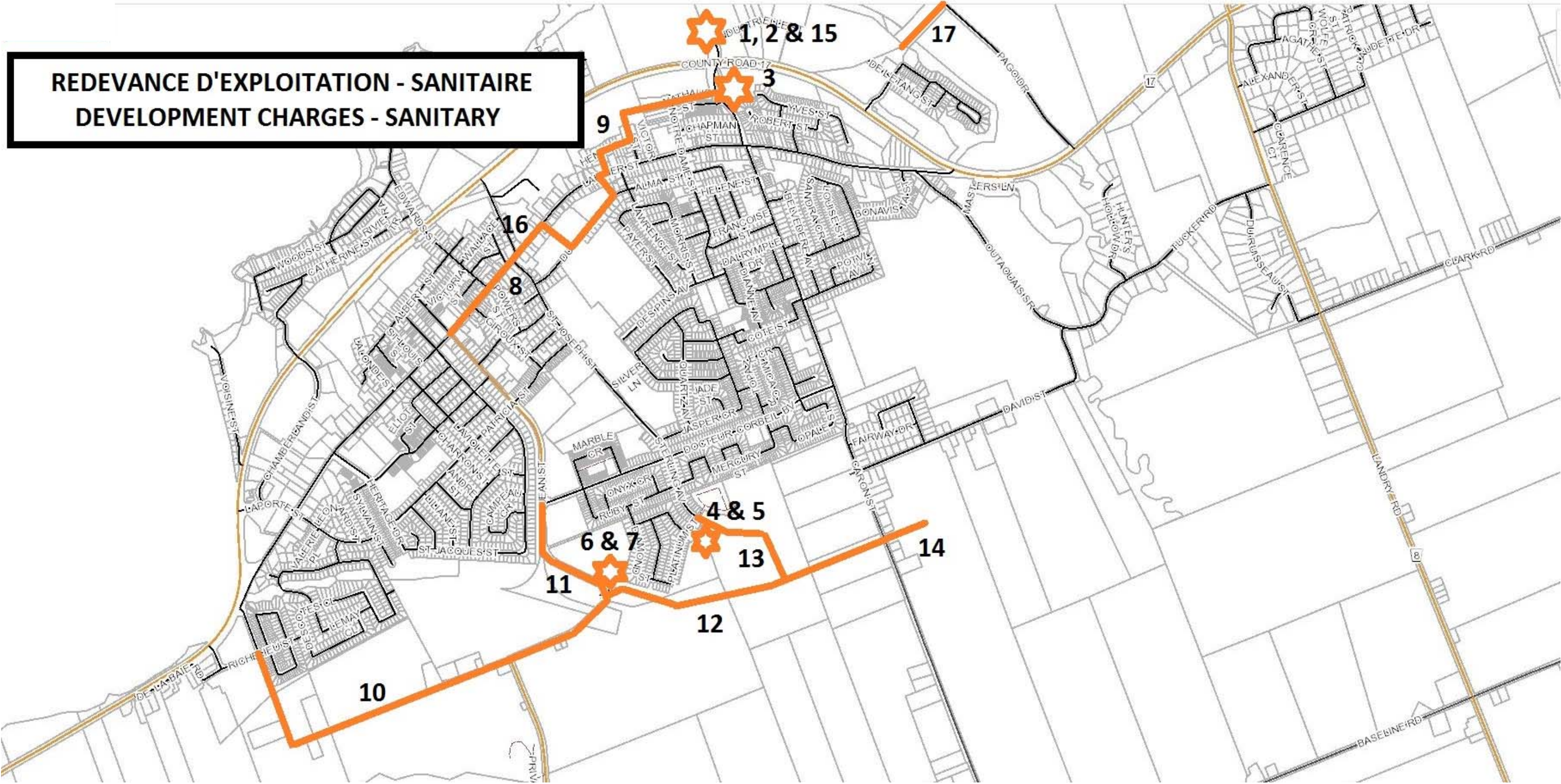
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TABLE 1

CITY OF CLARENCE-ROCKLAND  
DEVELOPMENT-RELATED CAPITAL PROGRAM  
SANITARY SEWAGE

NO.	Infrastructure Requirement	Timing	Estimated Project Costs					
		From    To	Gross Cost	Benefit to Existing Share	Direct Developer Contribution	Post Period Allocation	Net Growth-Related	
City-wide Sanitary Sewer Projects								
1	Rockland WPCP Capacity Expansion	2023    -    2023	\$9,660,000	0%	\$0	\$0	\$4,817,237	\$4,842,763
2	Rockland WPCP Headworks Upgrade	2020    -    2020	\$11,233,000	34%	\$3,819,220	\$0	\$5,681,138	\$1,732,642
3	Sanitary Pump Station #1 Expansion	2024    -    2024	\$2,419,000	34%	\$822,460	\$0	\$1,399,200	\$197,340
4	New Sanitary Pump Station #7 Construction	2019    -    2019	\$1,100,736	0%	\$0	\$1,100,736	\$0	\$0
5	New Sanitary Sewer to Pump Station #7	2019    -    2019	\$141,780	0%	\$0	\$141,780	\$0	\$0
6	New Sanitary Pump Station #9	2019    -    2019	\$5,078,261	0%	\$0	\$5,078,261	\$0	\$0
7	New Sanitary Sewer to Pump Station #9	2019    -    2019	\$624,525	0%	\$0	\$624,525	\$0	\$0
8	Replace Sanitary Sewers - Laurier Trunk Sewers Phases 1 and 2	2019    -    2019	\$1,439,000	43%	\$618,770	\$0	\$779,263	\$40,967
9	Replace Sanitary Sewers - Laurier Trunk Sewer to Pump Station #1	2023    -    2023	\$3,698,000	43%	\$1,590,140	\$0	\$2,002,582	\$105,278
10	Mtée Poupart (St-Jean - End Asphalt W-Mart)	2019    -    2019	\$228,000	0%	\$0	\$0	\$0	\$228,000
11	St-Jean (Dr. Corbeil-Mtée Poupart)	2019    -    2019	\$207,000	0%	\$0	\$0	\$0	\$207,000
12	Est-Ouest Corridor East-West (Caron - St-Jean)	2020    -    2020	\$400,000	0%	\$0	\$0	\$0	\$400,000
13	Nord-sud/North South Collector (+-Sterling to East -West Collector)	2019    -    2019	\$104,000	0%	\$0	\$0	\$0	\$104,000
14	Est-Ouest Corridor EastWest (Caron - 400m East)	2022    -    2022	\$80,000	0%	\$0	\$0	\$0	\$80,000
15	Gestion Bio Solids Management	2019    -    2019	\$1,578,000	40%	\$631,200	\$0	\$340,848	\$605,952
16	Laurier Phase II	2019    -    2019	\$397,000	65%	\$258,050	\$0	\$0	\$138,950
17	Clarence Creek Sanitary Siphon Crossing	2021    -    2021	\$350,000	0%	\$0	\$0	\$0	\$350,000
Studies								
18	Sanitary System Master Plan	2019    -    2019	\$300,000	0%	\$0	\$0	\$0	\$300,000
19	Provison for other Development-Related Studies	2019    -    2028	\$150,000	0%	\$0	\$0	\$0	\$150,000
Subtotal City-wide Sanitary Sewer Projects			\$39,188,302		\$7,739,840	\$6,945,302	\$15,020,268	\$9,482,892

Note:\* Available DC Reserve Funds have been accounted for through the cash flow analysis





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TABLE 2

CITY OF CLARENCE-ROCKLAND  
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES  
SANITARY SEWAGE 2019-2028

10-Year Growth in Population in New Units	4,507
Employment Growth	610
10-Year Growth in Square Meters	30,500

	Development-Related Capital Forecast									
	Gross Project Cost (\$000)	Benefit to Existing Share (\$000)	Direct Developer Contributions (\$000)	Available DC Reserves (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs After Discount (\$000)	Residential Share		Non-Residential Share	
							%	\$000	%	\$000
<b>SANITARY SEWAGE 2019-2028</b>										
City-wide Sanitary Sewer Projects	\$39,188.30	\$7,739.84	\$6,945.30	\$2,914.96	\$15,020.27	\$6,567.93	88%	\$5,779.78	12%	\$788.15
<b>TOTAL SANITARY SEWAGE 2019-2028</b>	<b>\$39,188.30</b>	<b>\$7,739.84</b>	<b>\$6,945.30</b>	<b>\$2,914.96</b>	<b>\$15,020.27</b>	<b>\$6,567.93</b>		<b>\$5,779.78</b>		<b>\$788.15</b>
<b>Unadjusted Development Charge Per Capita (\$)</b>								<b>\$1,282.40</b>		
<b>Unadjusted Development Charge Per Sq. M. (\$)</b>										<b>\$25.84</b>

Note: As many of the works are being designed to benefit growth both in this period and beyond the 10-year planning period, a share of the costs are considered to be recovered from future DCs outside this planning period

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TABLE 3

**CITY OF CLARENCE-ROCKLAND  
SANITARY SEWAGE 2019-2028  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

<b>SEWAGE: RESIDENTIAL</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>TOTAL</b>
OPENING CASH BALANCE (\$000)	\$2,565.2	\$1,771.6	\$464.3	\$758.0	\$1,330.0	(\$2,817.3)	(\$2,504.3)	(\$1,959.7)	(\$1,362.0)	(\$709.5)	
<b>2019 - 2028 RESIDENTIAL FUNDING REQUIREMENTS</b>											
Sewage: Residential: Non Inflated	\$1,443.1	\$1,889.9	\$321.2	\$83.6	\$4,367.5	\$186.9	\$13.2	\$13.2	\$13.2	\$13.2	<b>\$8,344.9</b>
Sewage: Residential: Inflated	\$1,443.1	\$1,927.7	\$334.2	\$88.7	\$4,727.5	\$206.3	\$14.9	\$15.2	\$15.5	\$15.8	<b>\$8,788.8</b>
<b>NEW RESIDENTIAL DEVELOPMENT</b>											
- Population Growth in New Units	437	437	437	441	447	452	456	462	467	471	<b>4,507</b>
<b>REVENUE</b>											
- DC Receipts: Inflated	\$583.4	\$595.0	\$606.9	\$624.7	\$645.9	\$666.2	\$685.5	\$708.4	\$730.4	\$751.4	<b>\$6,598.0</b>
<b>INTEREST</b>											
- Interest on Opening Balance	\$89.8	\$62.0	\$16.2	\$26.5	\$46.5	(\$155.0)	(\$137.7)	(\$107.8)	(\$74.9)	(\$39.0)	<b>(\$273.3)</b>
- Interest on In-year Transactions	(\$23.6)	(\$36.6)	\$4.8	\$9.4	(\$112.2)	\$8.0	\$11.7	\$12.1	\$12.5	\$12.9	<b>(\$101.1)</b>
<b>TOTAL REVENUE</b>	<b>\$649.5</b>	<b>\$620.4</b>	<b>\$628.0</b>	<b>\$660.7</b>	<b>\$580.2</b>	<b>\$519.3</b>	<b>\$559.5</b>	<b>\$612.8</b>	<b>\$668.0</b>	<b>\$725.3</b>	<b>\$6,223.6</b>
CLOSING CASH BALANCE	\$1,771.6	\$464.3	\$758.0	\$1,330.0	(\$2,817.3)	(\$2,504.3)	(\$1,959.7)	(\$1,362.0)	(\$709.5)	\$0.0	

<b>2019 Adjusted Charge Per Capita</b>	<b>\$1,334.94</b>
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<b>Allocation of Capital Program</b>	
Residential Sector	88.0%
Non-Residential Sector	12.0%
<b>Rates for 2019</b>	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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TABLE 3

**CITY OF CLARENCE-ROCKLAND  
SANITARY SEWAGE 2019-2028  
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

<b>SEWAGE: NON-RESIDENTIAL</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>TOTAL</b>
OPENING CASH BALANCE (\$000)	\$349.8	\$244.0	\$68.3	\$111.0	\$191.0	(\$373.7)	(\$330.8)	(\$257.3)	(\$177.8)	(\$92.1)	
<b>2019 - 2028 NON-RESIDENTIAL FUNDING REQUIREMENTS</b>											
Sewage: Non-Residential: Non: Inflated	\$196.8	\$257.7	\$43.8	\$11.4	\$595.6	\$25.5	\$1.8	\$1.8	\$1.8	\$1.8	<b>\$1,137.9</b>
Sewage: Non-Residential: Inflated	\$196.8	\$262.9	\$45.6	\$12.1	\$644.7	\$28.1	\$2.0	\$2.1	\$2.1	\$2.2	<b>\$1,198.5</b>
<b>NEW NON-RESIDENTIAL DEVELOPMENT</b>											
- New Building GFA - square metres	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	<b>30,500</b>
<b>REVENUE</b>											
- DC Receipts: Inflated	\$81.9	\$83.5	\$85.2	\$86.9	\$88.6	\$90.4	\$92.2	\$94.1	\$96.0	\$97.9	<b>\$896.7</b>
<b>INTEREST</b>											
- Interest on Opening Balance	\$12.2	\$8.5	\$2.4	\$3.9	\$6.7	(\$20.6)	(\$18.2)	(\$14.1)	(\$9.8)	(\$5.1)	<b>(\$34.0)</b>
- Interest on In-year Transactions	(\$3.2)	(\$4.9)	\$0.7	\$1.3	(\$15.3)	\$1.1	\$1.6	\$1.6	\$1.6	\$1.7	<b>(\$13.8)</b>
<b>TOTAL REVENUE</b>	<b>\$91.0</b>	<b>\$87.1</b>	<b>\$88.3</b>	<b>\$92.1</b>	<b>\$80.0</b>	<b>\$71.0</b>	<b>\$75.6</b>	<b>\$81.5</b>	<b>\$87.8</b>	<b>\$94.5</b>	<b>\$848.9</b>
CLOSING CASH BALANCE	\$244.0	\$68.3	\$111.0	\$191.0	(\$373.7)	(\$330.8)	(\$257.3)	(\$177.8)	(\$92.1)	\$0.2	

**2019 Adjusted Charge Per Square Metre**

**\$26.85**

**Allocation of Capital Program**

Residential Sector	88.0%
Non-Residential Sector	12.0%

**Rates for 2019**

Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

## APPENDIX E

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### *RESERVE FUNDS*

## APPENDIX E

### DEVELOPMENT CHARGES RESERVE FUNDS

The *Development Charges Act* requires that a reserve fund be established for each service for which development charges are collected. Table 1 presents the uncommitted reserve fund balances, as at December 31, 2018, that are available to help fund the development-related net capital costs identified in this study.

As shown in Table 1, the December 31, 2018 total reserve fund balance was \$3,988,432. Of this total, the DC reserve balance related to discounted services sits in a cumulative negative position of (\$115,974) while non-discounted services balance is about \$4.10 million. For the purposes of this study, the reserves for non-discounted services 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 charge calculation and the cash flow analysis.

DC reserve fund balances for Discounted Services such as Library, Daycare, Parks and Recreation, By-law, and General Government services will continue to be used for the purposes for which they were set up for and collected as regulated by the *DCA* and other related legislation.

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**TABLE 1**

**CITY OF CLARENCE-ROCKLAND**  
**DEVELOPMENT CHARGE RESERVE FUND BALANCE BY ACCOUNT**  
**YEAR ENDING DECEMBER 31, 2018**

<b>Service</b>	<b>Uncommitted Reserve Funds</b>
<b><u>Discounted Services</u></b>	
Library Services	\$51,137
Daycare Services	\$344,159
Parks And Recreation	(\$502,371)
By-Law Services	(\$26,759)
General Government	<u>\$17,859</u>
<b>Subtotal Discounted Services</b>	<b>(\$115,974)</b>
<b><u>Non-Discounted Services</u></b>	
<b>Protection and Transit Services</b>	
Fire Services	(\$813,888)
Transit*	\$0
<b>Services Related to a Highway</b>	
Public Works	\$175,317
Roads And Related*	\$1,380,008
<b>Engineering</b>	
Waterworks	\$448,012
Sanitary Sewage	<u>\$2,914,957</u>
<b>Subtotal Discounted Services</b>	<b>\$4,104,406</b>
<b>Total Development Charge Reserves</b>	<b>\$3,988,432</b>

*\* Transit reserve fund balance has been moved to Roads &  
Related as per Council resolution*

## **APPENDIX F**

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### ***COST OF GROWTH ANALYSIS***



## **APPENDIX F**

### **COST OF GROWTH ANALYSIS**

#### **ASSET MANAGEMENT PLAN**

The *DCA* now requires that municipalities complete an Asset Management Plan before passing a development charges by-law. A key function of the Asset Management Plan is to demonstrate that all assets funded under the development charges by-law are financially sustainable over their full life cycle.

#### **Asset Types**

A summary of the future municipal-owned assets and estimated useful life assumptions for eligible DC services considered as part of the study are outlined in Table 1. 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. Such assets are identified as “not a long-term asset” in the table.
- 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.
- For assets that have been constructed (i.e. recovery of past commitments) it is assumed that the related contribution is already included within the City’s annual provision. As such, these projects are identified as “not applicable” in the table.

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 1 – Summary of Municipal Assets City-wide Services	
Service and Amenities	Estimated Useful Life
<b>Fire Services</b> <ul style="list-style-type: none"> <li>• Reserve Fund Recovery</li> <li>• Buildings</li> <li>• Major Vehicles</li> <li>• Vehicles &amp; Equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Not Applicable</li> <li>• 50 years</li> <li>• 20 years</li> <li>• 10 years</li> </ul>
<b>Public Works</b> <ul style="list-style-type: none"> <li>• Snow Dump</li> <li>• Buildings</li> <li>• Fleet &amp; Equipment</li> </ul>	<ul style="list-style-type: none"> <li>• 75 years</li> <li>• 50 years</li> <li>• 10 years</li> </ul>
<b>Roads and Related</b> <ul style="list-style-type: none"> <li>• Bridges</li> <li>• Roadways</li> <li>• Multi-use Paths</li> <li>• Studies</li> </ul>	<ul style="list-style-type: none"> <li>• 75 years</li> <li>• 50 years</li> <li>• 25 years</li> <li>• Not Infrastructure</li> </ul>
<b>Waterworks</b> <ul style="list-style-type: none"> <li>• Waterworks Infrastructure</li> <li>• Studies</li> </ul>	<ul style="list-style-type: none"> <li>• 100 years</li> <li>• Not Infrastructure</li> </ul>
<b>Sanitary Sewage</b> <ul style="list-style-type: none"> <li>• Linear Infrastructure</li> <li>• Buildings &amp; Structures</li> <li>• Studies</li> </ul>	<ul style="list-style-type: none"> <li>• 50 years</li> <li>• 15 years</li> <li>• Not Infrastructure</li> </ul>

## 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 all services considered in this study. 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 (2.0 per cent) and interest (3.5 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 the benefit-to-existing and post-period benefit have also been calculated.

Table 2 provides the calculated annual asset management contribution for both the gross capital expenditures and the share related to the 2019-2028 DC recoverable portion. The year 2029 have been included to calculate the annual contribution for the 2019-2028 periods as the expenditures in 2028 will not trigger asset management contributions until 2029. As shown in Table 2, by 2029, the City will need to fund an additional \$518,700 per annum in order to properly fund the full life cycle costs of the new assets supported under the development charges by-law.

Table 2				
Calculated Annual AMP Provisions				
Services	2019-2028 Capital Program		Annual AMP Provision by 2029	
	DC-Eligible	Non DC-Eligible	DC-Related	Non DC-Related
FIRE SERVICES	\$1,553,000	\$10,817,000	\$14,700	\$251,800
PUBLIC WORKS	\$1,622,000	\$2,809,000	\$61,000	\$102,200
ROADS AND RELATED	\$15,560,000	\$5,106,000	\$388,400	\$315,100
WATERWORKS	\$5,106,000	\$11,736,000	\$5,600	\$15,000
SANITARY SEWAGE	\$9,483,000	\$29,705,000	\$49,000	\$1,000,000
<b>TOTAL</b>	<b>\$33,324,000</b>	<b>\$60,173,000</b>	<b>\$518,700</b>	<b>\$1,684,100</b>

## Financial Sustainability of the Program

### *Future Revenue Growth*

The calculated annual funding provision should be considered within the context of the City's projected growth. Over the next ten years (to 2028) the City is projected to increase by over 1,800 households, which represents nearly a 20 per cent increase over the existing base. In addition, the City will also add 610 new employees that will result in approximately 30,500 square metres of additional non-residential building space. This growth will have the effect of increasing the overall assessment base and additional user fee and charges revenues to offset the capital asset provisions required to replace the infrastructure proposed to be funded under the development charges by-law. The collection of these funds is intended to be allocated to the City's reserves for the future replacement of these assets.

## **LONG-TERM CAPITAL AND OPERATING IMPACT ANALYSIS**

As shown in Table 3, by 2028, the City's net operating costs are estimated to increase by \$1.51 million for property tax supported services. Increases in net operating costs will be experienced as new facilities such as fire station expansions are opened and as additions to the City's road network are made.

Watermains and Sanitary Sewer capital expenditures are expected to be offset by user fees and water/wastewater rates rather than property taxes and therefore no impact is reflected in the analysis. Capital costs related to studies are not expected to have an impact on property tax supported costs.

Table 4 summarizes the components of the development-related capital forecast that will require funding from non-DC sources. In total, \$21.18 million will need to be financed from non-DC sources over the 2019-2028 planning period. In addition, \$49.06 million in interim DC financing related to post-period shares of projects may be required. However, because DC by-laws must be revisited at least every five years, it is difficult to determine the quantum of interim financing that may be necessary.

The share of the development-related capital forecast requiring funding from non-DC sources consists of two components. The most significant, at \$14.23 million is related to replacement and benefit to existing shares of existing City infrastructure. Another \$6.95 million relates to contributions from other parties. Council is made aware of these factors so that they understand the operating and capital costs that will not be covered by DCs as it adopts the development-related capital forecast set out in the study.

## **THE PROGRAM IS DEEMED FINANCIALLY SUSTAINABLE**

In summary, the asset management plan and long-term capital and operating analysis included in this appendix demonstrates that the City can afford to invest and operate the identified services infrastructure over the ten-year planning period. Importantly, the City's annual budget review allows staff to continue to monitor and implement mitigating measures should the program become less sustainable.

## APPENDIX F

TABLE 3

**CITY OF CLARENCE-ROCKLAND**  
**ESTIMATED NET OPERATING COST OF THE PROPOSED**  
**DEVELOPMENT-RELATED CAPITAL PROGRAM**  
(in constant 2019 dollars)

		<b>Net Cost (in 2019\$)</b>	<b>Estimated Operating Costs (\$000) 2028</b>
<b>Fire Services</b>			<b>\$702.6</b>
- New Additional Space, Equipment and Vehicles	\$0.10	per \$1.00 of new infrastructure	\$702.6
<b>Public Works</b>			<b>\$443.1</b>
- New Additional Space, Equipment and Vehicles	\$0.10	per \$1.00 of new infrastructure	\$443.1
<b>Roads and Related</b>			<b>\$361.2</b>
- Development-Related Roads Infrastructure	\$200	per household	\$361.2
<b>Waterworks</b>			<b>\$0.0</b>
- Rate supported service - no additional op costs			\$0.0
<b>Sanitary Sewage</b>			<b>\$0.0</b>
- Rate supported service - no additional op costs			\$0.0
<b>TOTAL ESTIMATED OPERATING COSTS</b>			<b>\$1,506.9</b>

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APPENDIX F  
TABLE 4

**CITY OF CLARENCE-ROCKLAND  
SUMMARY OF TAX AND RATE SUPPORTED FUNDING REQUIREMENTS  
CAPITAL PROGRAM FOR NON-DISCOUNTED SERVICES**

Service	Development-Related Capital Program (2019 - 2028)					
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Direct Developer Contributions (\$000)	Available DC Reserves (\$000)	Post-Period Benefit (\$000)	Total DC Eligible Costs for Recovery (\$000)
<b>1.0 FIRE SERVICES</b>	\$12,370.4	\$1,980.2	\$0.0	\$0.0	\$8,837.1	\$1,553.1
<b>2.0 PUBLIC WORKS</b>	\$4,430.8	\$1,697.9	\$0.0	\$175.3	\$1,111.4	\$1,446.2
<b>3.0 ROADS AND RELATED</b>	\$30,729.0	\$1,376.5	\$0.0	\$1,380.0	\$13,791.8	\$14,180.7
<b>4.0 WATERWORKS</b>	\$16,842.0	\$1,437.2	\$0.0	\$448.0	\$10,298.4	\$4,658.5
<b>5.0 SANITARY SEWAGE</b>	\$39,188.3	\$7,739.8	\$6,945.3	\$2,915.0	\$15,020.3	\$6,567.9
<b>TOTAL 10 YEAR NON-DISCOUNTED SERVICES</b>	<b>\$103,560.5</b>	<b>\$14,231.6</b>	<b>\$6,945.3</b>	<b>\$4,918.3</b>	<b>\$49,058.9</b>	<b>\$28,406.4</b>

## **APPENDIX G**

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### ***LOCAL SERVICE POLICY***

**CITY OF CLARENCE-ROCKLAND****LOCAL SERVICE GUIDELINES****GENERAL POLICY GUIDELINES ON DEVELOPMENT CHARGES  
AND LOCAL SERVICE FUNDING FOR CITY-WIDE GROWTH-RELATED  
WORKS**

The following guidelines set out, in general terms, the size and nature of the engineered infrastructure that is included in the City of Clarence-Rockland Development Charges (DC) Background Study, which is eligible to be funded in part by DCs. In order for a project to be partially funded through DCs, the following will apply:

1. The project will be listed in the most current City of Clarence-Rockland Development Cost Background Study.
  - a. The City, at its sole discretion, may deem a project not listed in the most current DC Study to be development-related and potentially fundable, in whole or in part, from DCs. Inclusion of the new project may require the substitution (removal) of a similar project from the related service project list, as contained in the most current DC Study, or require consideration for future DC funding pending a DC Background Study update or amendment.
  - b. The City, at its sole discretion, may deem a project not specifically listed in the most recent DC Study to be part of the “unallocated improvements” referenced in the most current DC Study. Therefore, the project may be considered development related and potentially fundable, in whole or in part from DC’s.
2. The project will add additional capacity to the servicing network. If the proposed infrastructure does not add any additional capacity beyond the servicing requirement for a particular development, the projects are assumed the sole responsibility of the developer.
  - a. The City may require larger infrastructure than what may be necessitated by a given development in order to conform to the standard infrastructure sizes and capacity as per the City’s design criteria. This is not considered “excess” capacity and will be required at the direct expense of the developer and no share of the cost will be eligible for DC credits.



The following policy guidelines are general principles by which staff will be guided in considering development applications. However, each application will be considered on its own merits having regard to, among other factors, the nature, type and location of the development in any existing development and proposed development in its surrounding area these policy guidelines, the location and type of services required and their relationship to the proposed development and to existing and proposed development in the area, and subsection 59(2) of the *Development Charges Act, 1997*.

These local service policy guidelines are subject to review and amendment by the City, which may be independent of an amendment or update to the City's development charge by-law.

## DEFINITIONS

A local service is defined as an infrastructure service that is:

Internal to a development, or external to a development, in order to support a specific development or required to link with the area to which the plan relates.

"Local service" funding is specifically considered for the following services:

- 1.0 Water Services
- 2.0 Sanitary Sewer Services
- 3.0 Storm Sewer Services
- 4.0 Transportation

## 1.0 WATER

### 1.1 *Water Supply, Storage and Booster Pumping Stations*

- 1.1.1 All projects related to upgrading, expanding or constructing water supply and treatment facilities (plants and water conservation), storage facilities (storage tanks, etc.), and pumping stations, including costs to acquire/expropriate land, considered to be in whole or in part related to development, are considered to be a DC project.
- 1.1.2 New or expanded local pumping stations, including upgrades identified through a development proposal, servicing a localized area and needs (specific development) are a local service and a direct developer responsibility.
- 1.1.3 Upgrades to, or construction of, temporary water booster pumping stations and reservoir projects are considered to be the developer's responsibility.
- 1.1.4 Upgrades to, or construction of, permanent water booster pumping stations and reservoir projects may be considered development charge eligible projects.
- 1.1.5 Where a temporary facility precedes the construction of a permanent facility, the developer that requires the temporary facility will be required to also assist in making provision for the permanent facility (e.g. secure land for permanent facility) as a condition of approval for the temporary facility.

### 1.2 *Watermains*

- 1.2.1 Watermains that are required to service a specific development, either internal or external to the site, are considered to be the developer's responsibility.
- 1.2.2 Connections to transmission watermains and pumping stations to service specific areas are considered to be a direct developer responsibility.

- 1.2.3 Transmission watermain (generally located outside the development area) may be required to provide network integrity, security or reliability to the distribution system. Where such transmission watermain is identified by a Class Environmental Assessment, Servicing Study or listed in the City's most current DC Study, they are considered to be a DC project.
- 1.2.4 A developer-implemented infrastructure upgrade required to service the needs of a specific development will not be eligible for City reimbursement or DC credits when it provides some additional capacity as a by-product (i.e. due to the selection of standard pipe sizes).
- 1.2.5 Watermain within and external to the development that are larger than 300 mm and service other development areas are to be included in the development charge calculation. The amount of cost contribution for watermain within a development shall be calculated using tendered unit prices or the City's unit cost at the time of construction and shall be the difference between the cost of the actual pipe diameter and the cost of a 300 mm pipe diameter including a 12% engineering fee. Only watermain and valves will be included in the calculation. Any costs related to the depth of pipe are the responsibility of the developer.

<b>Watermain Size</b>	<b>Charged to DCs</b>
300 mm	NIL
405 mm	cost of 405 mm - cost of 300 mm
610 mm	cost of 610 mm – cost of 300 mm
750 mm	cost of 750 mm – cost of 300 mm
900 mm	cost of 900 mm – cost of 300 mm
1050 mm	cost of 1050 mm – cost of 300 mm
1200 mm	cost of 1200 mm – cost of 300mm

## **2.0 SANITARY SYSTEMS**

### *2.1 Wastewater Treatment*

- 2.1.1 All projects providing for the upgrading, improvement and/or expansion of existing wastewater treatment facilities, including the cost to acquire/convey land, are considered in whole or in part to be related to development are considered to be a DC project.

## 2.2 *Sanitary Sewers*

- 2.2.1 A developer will be solely responsible for the cost and implementation of new or upgraded sewer infrastructure, either internal or external, that are required to adequately service a specific development in accordance with applicable City policies, standards and criteria.
- 2.2.2 A developer-implemented infrastructure upgrade required to service the needs of a specific development will not be eligible for DC credits when it provides some additional capacity as a by-product (i.e. due to the selection of standard pipe sizes).
- 2.2.3 Sanitary sewers within and external to the development that are larger than 375 mm and service other development areas are to be included in the development charge calculation. The amount of cost contribution for Sanitary sewers within a development shall be calculated using tendered unit prices or the City's unit cost at the time of construction and shall be the difference between the cost of the actual pipe diameter and the cost of a 375 mm pipe diameter including a 12% engineering fee. Only Sanitary sewers, and appurtenances will be included in the calculation. Any costs related to the depth of pipe are the responsibility of the developer.
- 2.2.4 A sanitary or combined sewer, of any size, required to connect a specific development to a major pumping station to service development, is considered the sole responsibility of a developer.
- 2.2.5 Trunk sanitary sewers, external to the development, and major pumping stations serving more than one development are to be included in the development charge calculation. These services will be identified through a Class Environmental Assessment, Servicing Study or by City staff.

- 2.2.6 Development Charges funding will also extend to correct a health related and/or environmental concern with a growth-related component.
- 2.2.7 Over-depth costs for upstream lands and rock excavation will be considered a development charge eligible expense.

### *2.3 Pumping Stations*

- 2.3.1 New pumping stations or expansions of the existing major pumping stations are considered to be a DC project. Major pumping stations are those identified through the Class Environmental Assessment process or a Master Servicing Study. Such improvements will be identified in the City's most current DC Study.
- 2.3.2 New or expanded local pumping stations including upgrades identified through a development proposal, to service a specific development in addition to any existing service area, are a local service and a direct responsibility of the developer or developers on a flow area or proportional basis, or by agreement between the developers.
- 2.3.3 Connections to collectors and pumping stations to service specific areas are to be a direct developer responsibility.
- 2.3.4 Upgrades to, or construction of, temporary sanitary pumping stations are considered to be the developer's responsibility.

## **3.0 Stormwater**

### *3.1 Storm Sewers*

- 3.1.1 Storm sewers that are required for a development, either internal or external, are considered to be the developer's responsibility.
- 3.1.2 If a storm sewer upgrade is required based on existing flows from the storm sewer service area as well as proposed flows generated by the development according

to applicable City policies, guidelines and standard, the developer will be responsible for the cost of the sewer upgrade.

### *3.2 Stormwater Management Facilities*

3.2.1 Stormwater quality and quantity works required to service a specific development, either internal or external, are a direct developer responsibility.

3.2.2 Stormwater management facilities that benefit multiple developments will be subject to “collect back agreements” and will be detailed in conditions of subdivision approval.

## **4.0 TRANSPORTATION**

### *4.1 Overriding Principals*

4.1.1 Transportation infrastructure needs that are within, adjacent to, or related to, a specific development application, including rezonings, are considered to be a local service and direct responsibility of the developer as a condition of development approval process;

4.1.2 Transportation infrastructure needs that are driven by overall City wide development and are external to a development site will be considered as “non-local” and potentially funded by DCs.

### *4.2 Definitions*

Table 1 (see attached) provides a summary of the characteristics of local roadways; major and minor collectors; industrial and arterial roadways.

### *4.3 Arterial Roads*

4.3.1 New Arterial Roads:

The cost of constructing an arterial roadway beyond 11 m represents an eligible DC expenditure

When development proceeds construction of a new arterial road and the road is either adjacent to or runs through the development plans, the developer is responsible for the cost equivalent of a collector road [11 m pavement surface] which will include streetlights, landscaping elements, sidewalks etc.

The timing of the arterial road construction will be dependent on growth demands and may have to be included in a subsequent DC study.

#### 4.3.2 Widening of Existing Arterial Roads

For existing arterial roadways, the oversizing costs associated with any additional width beyond 11 m of pavement will be considered as a DC eligible expense.

### 4.4 *Collector Roads*

4.4.1 The cost of the first 11 m of asphalt for new major and minor collector roads is the financial responsibility of the developer(s).

4.4.2 For existing collector roadways, the oversizing cost associated with any additional width beyond 11 m of pavement width shall be deemed a DC eligible expense.

### 4.5 *Internal Roads*

4.5.1 All local and collector roads internal to a development (including road base and surface, street lighting, storm sewers, bridges, culverts, sidewalks, bike lanes, bike paths, noise walls, utilities, turning lanes, line painting, signage, etc.) – are the direct responsibility of the developer.

### 4.6 *Road Reconstruction*

4.6.1 Road reconstruction projects are projects that are intended to maintain the same number of basic lanes. However, if the existing roadway is required to be significantly rehabilitated [i.e. full depth granular replacement] in order to accommodate current and future transportation needs or requires upgrading such

as urbanization to engineering standards, the cost of these works shall be deemed to be a DC eligible expenditures. These projects may also include the construction of appropriate turning lanes as required to service future growth. The cost of these works again will be considered to be a DC related costs.

#### *4.7 Road Resurfacing*

- 4.7.1 Road resurfacing projects are those that are intended to maintain the same number of basic lanes. However, if the asphalt requires partial or full depth replacement in order to support growth related traffic, the cost of these works will be included in the Background Development Charge Study and will be considered as a DC eligible cost.

#### *4.8 Bridges*

- 4.8.1 New bridges that are required to service future growth [as identified in the city's Master Transportation Plan] are considered to be DC eligible expenditures.

#### *4.9 Traffic Signals and Intersection Improvements*

- 4.9.1 Traffic signals required for private site entrances and/or road intersections external to a development that are warranted due to the development are considered a direct developer responsibility.

Other traffic signals that are required on any type of roadway as a result of increasing growth related traffic volumes are considered to be DC eligible projects.

#### *4.10 Streetlights*

- 4.10.1 Streetlights on arterial roads and for the oversized portion of major collector roads are considered to be development charge projects.
- 4.10.2 Streetlights on all other roads are considered to be a developer financial responsibility.



#### *4.11 Sidewalks*

- 4.11.1 Sidewalks on arterial roads will be considered a development charge related expenditure.
- 4.11.2 Sidewalks on one or both sides of all other new roadways are not development charges projects and are considered to be the developers' financial responsibility.
- 4.11.3 Sidewalks that are external to a development and are necessary to connect the development to public spaces are considered to be the developers' financial responsibility.
- 4.11.4 The cost of sidewalks on arterial and collector roadways will be considered as an eligible expense for DC funding

#### *4.12 Cycling Facilities*

- 4.12.1 Bike lanes within the road allowance are considered to be part of the road construction and should follow the guidelines explained in the road construction section.
- 4.12.2 Bike paths outside of road allowances are considered to be the developers' financial responsibility if they are identified as part of a plan of subdivision.
- 4.12.3 Mixed use trails located outside of a road allowance and provide benefit to users beyond the development under consideration, may be considered as a DC eligible expense.

#### *4.13 Land Acquisition from Road Works*

- 4.13.1 Land acquisitions for Arterial or Major Collector roads that are to be constructed to approved engineering standard widths are primarily acquired by dedications under the Planning Act. In instances where limited or no development is anticipated and direct dedication is unlikely, the land acquisition is considered to be part of the capital cost of the related development charge project.

- 4.13.2 Land Acquisition for Grade Separations (beyond normal dedication requirements) is considered to be included in the capital cost of the related development charge project.

**TABLE 1**

City of Clarence-Rockland Roadway Classifications						
Characteristic	Local	Collector		Industrial		Arterial
		Minor	Major	Standard	Collector	
Traffic move / Property access	Primary – Property access	Property access & Traffic movement equal	Primary – Traffic movement	Primary – Property Access	Property Access / Traffic movement equal	Primary – Traffic movement
AADT	<1,000	1,000-5,000	>5,000	<1,000	1,000-12,000	5,000-30,000
Peak Period Lanes	2	2	2 – 4	2	2-4	4
Connections	Locals, collectors	Locals, collectors	Locals, collectors, and arterials	Locals, collectors	Locals, collectors, arterials	Collectors, arterials
Flow Character	Interrupted	Interrupted	Interrupted	Interrupted	Interrupted	Uninterrupted
Speed Limit (km/h)	40-50	40-50	50-80	40-50	40-50	80-100
Sidewalks	As required	One side	Both sides	As required	As required	As required
Cyclists	No Cycling lanes	Widen Curb Lanes	Widen Curb Lanes	No cycling Lanes	Cycling Lanes as required	Cycling Lanes as required
Transit	Generally not permitted	Permitted	Permitted	Generally not provided	Permitted	Permitted
Truck restrictions	Restrictions preferred	Restrictions permitted	Restrictions permitted	No restrictions	No restrictions	No restrictions
Row width (m)	15-22	40-50	40-60	20-30	40-60	>30

## **APPENDIX H**

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***PROPOSED DRAFT 2019 DC BY-LAW  
(AVAILABLE UNDER SEPARATE COVER)***