

REGION OF DURHAM

**REGIONAL DEVELOPMENT CHARGE
BACKGROUND STUDY**

Prepared by:

THE REGIONAL MUNICIPALITY OF DURHAM

AND

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Executive Summary

1. Purpose of this Background Study

- 1.1 This Background Study has been prepared pursuant to Section 10 of the *Development Charges Act, 1997* (DCA). Together with the proposed by-law, these documents are being made available to the public, as required by Section 12 of the DCA, more than two weeks prior to the public meeting of Council which is to be held April 11, 2018 and 60 days prior to the passage of the By-law, which is to be at the June 13, 2018 Regional Council Meeting.
- 1.2 The development charges calculated represent those which can be recovered under the DCA, based on the Region's capital spending plans and other assumptions which are responsive to the requirements of the DCA. After receiving input at the public meeting of Council on April 11, 2018 and other consultation sessions, the completed study and by-law will be received by Council for its meeting on June 13, 2018. At that time, Council will decide as to the magnitude of the charges it wishes to establish for residential, commercial, industrial and institutional development. Property tax, user rate or other funding will be required to finance any potential development charge-recoverable capital costs if those costs are not covered in the development charges being recommended.
- 1.3 Other decisions are also required to finalize the development charge policies and the by-law, including indexing, phasing, applicability to the redevelopment of land, exemptions, and the schedule of charges by type of land use and by area.
- 1.4 The purpose of the public meeting and consultation activity is to obtain input on all of these matters.
- 1.5 The purpose of this Background Study is to propose the replacement of By-law No. 16-2013 "Regional Municipality of Durham Development Charges By-law, 2013" with the proposed by-law herein.
- 1.6 It should be noted that the Regional Official Plan (ROP) is based on population and employment forecasts set out in Schedule 3 of the Growth Plan for the Greater Golden Horseshoe. To meet the 2031 forecasts in the Growth Plan, the Region has planned for a total of 872,350 people and 312,480 jobs by 2028.
- 1.7 This Study and the proposed by-law do not include GO Transit servicing requirements. The Region imposes a development charge for GO Transit purposes pursuant to By-law 86-2001, commencing December 5, 2001. This by-law has been extended by Provincial Legislation/Regulation four times, most recently to December 31, 2019.

- 1.8 This Study and the proposed by-law also does not include Regional transit servicing requirements. The Region imposed a development charge for Durham Region transit purposes pursuant to By-law 81-2017, effective January 1, 2018. The Transit Development Charge (DC) By-law establishes development charge rates (Region-wide including Seaton), subject to annual indexing in accordance with the Statistics Canada Construction Price Index.
- 1.9 In addition to By-law 16-2013, the Region imposes Development Charges under five other by-laws:
- By-law No. 18-2013 – Area specific development charges for water supply works for the Carruthers Creek Development Area;
 - By-law No. 17-2013 – Area specific development charges for sanitary sewerage services for the Carruthers Creek Development Area;
 - By-law No.19-2013 – Area specific development charges for the Seaton Community for the Water Supply and Sanitary Sewerage Services
 - By-law No. 86-2001 – Region-wide residential development charge for GO Transit Services; and
 - By-law No.81-2017 – Region-wide development charges for Regional Transit Services.

2. Bill 73 – Changes to the Development Charges Act

- 2.1 The provincial government enacted changes to the DCA through Bill 73, which came into effect January 2016, with direct implications on the preparation of this Development Charges Background Study. Moreover, in addition to the amendments regarding transit services (and addressed in the Regional Transit Development Charges By-law) the DCA was amended to:
- Require all Development Charge Background Studies to include an asset management plan that deals with all assets whose capital costs are proposed to be funded under the Development Charges By-law and demonstrate that the assets are financially sustainable over their full lifecycle (Addressed in Section 7.3 and Appendix I of the Background Study);
 - Give consideration for the use of more than one development charge by-law to reflect different needs for services in different areas;
 - Restrict the requirement for capital levies to the DCA or other Act; and,
 - Release the Development Charges Background Study 60 days prior to the approval of the new Development Charges By-law by Regional Council.

3. Region-wide vs Area-specific Development Charges

- 3.1 Most municipalities in Ontario have established uniform, municipal-wide development charges. This has been Durham's approach since 1991, with the exception of its approach to development in the areas generally known as Carruthers Creek (in the Town of Ajax) and the Seaton community (in the City of Pickering).

- 3.2 The Region implemented area-specific development charges for water supply and sanitary sewerage services for the Seaton Community. Through a separate background study and by-law, development in Seaton is subject to the area-specific development charges for water supply and sanitary sewerage. An area specific development charge by-law in Seaton was used in conjunction with a front-ending agreement in order to advance the water supply and sanitary sewerage services necessary to accommodate the Seaton development and to facilitate the provision of development charge credits.
- 3.3 The rationale for separate area-specific development charges for water supply and sanitary sewerage in Carruthers Creek reflects long-standing historical financing arrangements, which facilitated the front-ending of capital works by landowners in return for development charge credits and for the Region to collect DCs from non-participating benefitting landowners to be transferred to the landowners who upfronted the capital works. The Carruthers Creek water supply area specific development charge by-law expires on June 30, 2018 and is not being renewed as the capital works required for the Carruthers Creek water service area are completed and the costs have been fully recovered. The sanitary sewerage area specific development charge by-law expires on June 30, 2018 and is being renewed to August 31, 2019, to coincide with the expiry date of the front-ending agreement.
- 3.4 The establishment of additional area-specific development charges is not recommended. The Region will continue to apply Region-wide development charges. Section 6.11 of the Detailed Report provides additional background on the use of area-specific development charges.

4. The 2018 Development Charge Calculation and Proposed Rates

- 4.1 An annualized cash flow method was undertaken to calculate the development charges. This method considers project costs adjusted for inflation, development charge credits, outstanding (unfunded) capital costs, available development charge reserve fund balances, historic oversizing costs and financing costs associated with expenditure timing and anticipated development charge revenues. This also includes indexing over the planning horizon. In addition, the cash flow analysis provides for interest earnings on positive reserve fund balances and interest expenses on negative balances. Details of the development charge calculation and the cash flow methodology for Regional capital costs are included in Appendices E, F, G and H.
- 4.2 In consideration of the recommendations from the Region's 2017 Task Force on Seniors' and Affordable Housing, to consider ways to support the Region's role as a catalyst and facilitator in the creation of affordable rental and seniors' housing, Housing Services has been introduced as a new service category to collect development charges. These Development Charges will be used to fund capital costs for new social and affordable housing development owned by the Region or by a third-party developer in receipt of federal or provincial affordable housing funding.

4.3 The results of the calculation, in terms of the full charges involved, are summarized in Table ES-1 and ES-2 based on the costing and related assumptions contained in Appendices A to H. Further, Tables ES-3 and ES-4 compare the proposed rates to the current development charge rates as of January 1, 2018.

**Table ES-1
Proposed Residential Development Charges
For July 1, 2018
(per unit)**

	Single and Semi Detached \$	Medium Density Multiples \$	2 Bedroom Apartments and Larger \$	1 Bedroom Apartments and Smaller \$
Water Supply ⁽¹⁾⁽²⁾	9,420	7,569	5,472	3,566
Sanitary Sewerage ⁽¹⁾⁽²⁾	9,171	7,369	5,327	3,472
Regional Roads	9,250	7,432	5,373	3,502
Regional Police Services	715	575	416	271
Long Term Care	19	15	11	7
Paramedic Services	170	137	99	64
Health and Social Services	123	99	72	47
Housing Services	387	311	225	147
Development Related Studies	<u>19</u>	<u>15</u>	<u>11</u>	<u>7</u>
Total – Proposed By-Law ⁽³⁾	<u>29,274</u>	<u>23,522</u>	<u>17,006</u>	<u>11,083</u>
Notes:				
(1) These charges are payable only in areas where the services are, or will be, available in an area designated for the particular service in the Region's Official Plan.				
(2) Not applicable to the Seaton area as defined in Appendix A of the Background Study and Schedule F of the proposed by-law.				
(3) Additional Regional development charges exist for GO Transit and Regional Transit under By-law 86-2001 and By-law 81-2017 respectively.				

Table ES-2
Proposed Non-Residential Development Charges
For July 1, 2018
(\$ per square foot of Gross Floor Area)

	Commercial	Industrial	Institutional
Water Supply ^{(1) (2)}	3.51	2.80	0.86
Sanitary Sewerage ^{(1) (2)}	5.88	3.38	1.05
Regional Roads	8.54	3.24	7.18
Total⁽³⁾	<u>17.93</u>	<u>9.42</u>	<u>9.09</u>
<p>Notes:</p> <p>(1) These charges are payable only in areas where the services are, or will be, available in an area designated for the particular service in the Region's Official Plan.</p> <p>(2) Not applicable to the Seaton Area as defined in Appendix A of the Background Study and Schedule F of the proposed by-law.</p> <p>(3) Additional Regional development charges exist for Regional Transit under By-law No. 81-2017.</p>			

**Table ES-3
Changes in Residential Development Charges
(per Single Detached/Semi Unit)**

Service Category	Current Rate as of January 1, 2018	New Proposed Rate for July 1, 2018	\$ Increase/ (Decrease)
Water Supply ⁽¹⁾⁽²⁾	\$7,873	\$9,420	\$1,547
Sanitary Sewerage ⁽¹⁾⁽²⁾	9,087	9,171	84
Regional Roads	8,590	9,250	660
Regional Police Services	656	715	59
Long Term Care	32	19	(13)
Paramedic Services	150	170	20
Health and Social Services	102	123	21
Housing Services	-	387	387
Development Related Studies	25	19	(6)
Subtotal	\$ 26,515	\$29,274	\$2,759
GO Transit ⁽³⁾	702	702	-
Regional Transit ⁽³⁾	1,143	1,143	-
Total	<u>\$ 28,360</u>	<u>\$31,119</u>	<u>\$2,759</u>

Notes:

- (1) These charges are payable only in areas where the services are, or will be, available in an area designated for the particular service in the Region's Official Plan.
- (2) Not applicable to the Seaton Area as defined in Appendix A of the Background Study and Schedule F of the proposed by-law.
- (3) These charges are imposed under separate Development Charge by-laws but are shown in this table for the purposes of presenting a total quantum of Development Charges.

Table ES-4
Changes in Non-Residential Development Charges
(\$ per square foot of Gross Floor Area)

	Rate as of January 1, 2018			Proposed Rate July 1, 2018			\$ Increase / (Decrease) per sq. ft.		
	<u>Commercial</u>	<u>Industrial</u>	<u>Institutional</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Institutional</u>	<u>Comm.</u>	<u>Ind.</u>	<u>Instit.</u>
Water Supply (2)(3)	2.03	2.41	0.77	3.51	2.80	0.86	1.48	0.39	0.09
Sanitary Sewerage (2)(3)	5.67	5.04	1.58	5.88	3.38	1.05	0.21	(1.66)	(0.53)
Regional Roads	6.04	3.62	6.37	8.54	3.24	7.18	2.50	(0.38)	0.81
Subtotal	13.74	11.07	8.72	17.93	9.42	9.09	4.19	(1.65)	0.37
Regional Transit ⁽¹⁾	0.54	0.54	0.54	0.54	0.54	0.54	-	-	-
	<u>14.28</u>	<u>11.61</u>	<u>9.26</u>	<u>18.47</u>	<u>9.96</u>	<u>9.63</u>	<u>4.19</u>	<u>(1.65)</u>	<u>0.37</u>

Notes:

- (1) These charges are imposed under a separate Development Charge By-law 81-2017.
- (2) These charges are payable only in areas where the services are, or will be, available in an area designated for the particular service in the Region's Official Plan.
- (3) Not applicable to the Seaton Area as defined in Appendix A of the Background Study and Schedule F of the proposed by-law.

5. Proposed Implementation of Development Charges

Residential Development Charge

- 5.1 It is recommended that the full calculated residential development charge rates as outlined in Table ES-1 be implemented on July 1, 2018, including a new service category for Housing Services, to fund social and government assisted affordable housing.

Commercial Development Charge

- 5.2 It is recommended that the full calculated commercial development charge for water supply, sanitary sewerage and Regional roads (\$17.93 / sq. ft.) be implemented on July 1, 2018.

Industrial Development Charge

- 5.3 It is recommended the full calculated industrial development charge for water supply, sanitary sewerage and Regional roads (\$9.42/sq.ft.) be implemented on July 1, 2018.

Institutional Development Charge

- 5.4 It is recommended that the full calculated institutional development charge for water supply, sanitary sewerage and Regional roads (\$9.09/sq.ft.) be implemented on July 1, 2018.

6. Anticipated Development

- 6.1 The DCA requires that the “anticipated amount, type and location of development, for which development charges can be imposed, must be estimated”.
- 6.2 Accordingly, staff have prepared estimates of residential and non-residential development by population, dwelling unit type (e.g. single detached, apartment), employment and floor space by sector (e.g. commercial) for each service. Anticipated development forecasts reflect the growth forecasts as approved in ROPA 128. The forecasts assume growth will occur in the manner contemplated in the Regional Official Plan (ROP), with development concentrated primarily within the designated Urban Areas. A small allowance for rural growth was also included.
- 6.3 The development anticipated by the ROP over the ten year time period of July 1, 2018 – June 30, 2028 inclusive, including the Seaton area (which is detailed in Appendix A), is highlighted in Table ES-5:

TABLE ES-5
REGION OF DURHAM
GROWTH FORECASTS
July 1, 2018- June 30, 2028

TYPE OF GROWTH	INCREMENTAL AMOUNT	REFERENCE
Population Growth	182,955 Persons	Table A-3
Household Unit Growth	86,435 Households	Table A-3
Employment Growth	77,230 Employees	Table A-14
Additional Non-Residential Floor Space	6,722,700 Square Metres	Table A-14

7. Summary of the Capital Costs and Deductions

- 7.1 As part of the analysis required by the DCA, the capital forecasts providing the eligible growth related capital costs required for the anticipated development have been prepared for each service and are detailed in Appendices E to H.
- 7.2 The capital costs eligible for Development Charge recoveries for other Services (Long Term Care, Development Related Studies, Regional Police, Health and Social Services, Housing Services and Paramedic Services) and for Water Supply, Sanitary Sewerage and Regional Roads are considered over the ten year period from 2018 to 2027. These are summarized in Table ES-6 below:

Table ES-6
Summary of Capital Costs for all Eligible Programs
(\$2018, \$millions)

Services	Gross Cost \$	Less:					Net Growth		
		Ineligible (Level of Service) \$	Benefit to Existing Development \$	Subsidy Developer Contribution/ Other ⁽¹⁾ \$	Post Period Capacity \$	10% Statutory Deduction \$	Total \$	Res \$	Non-res \$
Hard Services (2018-2027):									
Water Supply	1,023.9	-	52.7	64.0	77.7	-	829.5	670.6	158.9
Sanitary Sewer	1,071.3	-	33.0	11.7	340.7	-	685.9	491.7	194.2
Regional Roads	1,251.6	-	129.8	-	118.4	-	1,003.4	701.7	301.7
Subtotal	3,346.8	-	215.5	75.7	536.8	-	2,518.8	1,864.0	654.8
Other Services (2018-2027):									
Regional Police Services	72.0	-	-	-	-	-	72.0	50.4	21.6
Paramedic Services	15.7	0.1	0.6	-	-	1.5	13.5	11.9	1.6
Long Term Care	1.3	-	-	-	-	-	1.3	1.3	-
Health & Social Services	18.3	7.2	0.6	-	-	1.0	9.5	9.5	-
Housing Services	62.4	-	31.2	-	-	3.1	28.1	28.1	-
Development Related Studies	2.0	-	-	-	-	0.1	1.9	1.3	0.6
Subtotal	171.7	7.3	32.4	-	-	5.7	126.3	102.5	23.8
Total⁽²⁾	<u>3,518.5</u>	<u>7.3</u>	<u>247.9</u>	<u>75.7</u>	<u>536.8</u>	<u>5.7</u>	<u>2,645.1</u>	<u>1,966.5</u>	<u>678.6</u>
Notes:									
(1) Includes Capital Cost Allocations to Seaton and Federal Lands in Pickering.									
(2) May not add due to rounding.									

7.3 The Region intends to implement the projects set out in this Study through its usual practice of preparing financial plans through annual water supply, sanitary sewerage, transportation and social housing servicing and financing studies during the annual business planning and budget process. Accordingly, the timing of some of the projects which are to be development charge funded may be modified in subsequent business plans and budgets.

8. Development Charge Recovery of the Proposed Capital Programs

8.1 Table ES-6 summarizes the total capital program considered, and the statutorily required deductions which form part of the calculation of the development charges. This leaves the remaining portion of the growth-related capital that is eligible for development charges recovery. Under this Background Study, the total capital program of \$3.5 billion includes \$2.6 billion which is eligible for development charge recovery over the 10 year planning period. The balance of the program (\$0.9 billion) would be recovered from future development charges, property taxes, user rates and other financing.

9. Proposed Changes to Development Charges Policies

9.1 The rules for exemptions, relief and adjustments for the charge are detailed in Section 6 and are included in the proposed by-law in Appendix K. The main proposed changes include the following:

- Broadening the development charges credit for redevelopment to include exempt buildings (see section 6.2);
- Broadening of the statutory Industrial Expansion Exemption (see section 6.3.2);
- Modifications to encourage the development of social and affordable housing including payment deferral (see section 6.14.2), secondary unit exemptions (6.3.3) and the treatment of units built in mixed-use developments that do not currently qualify as apartments (see section 6.6);
- New Development Charge Service for Social and Government Assisted Affordable Housing (see section 6.6); and
- Intensification Servicing Policy maintained and updated (see section 6.10).

Further, a number of changes have been made within the by-law to clarify the Region's position on the treatment of non-residential structures including air-supported structures, agricultural bunkhouses, hospices, and parking structures (see section 6.3). Clarification for select residential definitions including dens and apartment units is provided in section 6.4.

A summary of all policy change recommendations is included in Table ES-7 which follows.

**Table ES-7
Summary of Policy Change Recommendations**

Policy	Current Treatment	Proposed Treatment
New Regional Residential Development Charge to fund new social and government assisted affordable housing projects	No charge	Introduction of a Regional development charge for growth related social and government assisted affordable housing projects.
Development Charge Payment Collection Policy for Residential Subdivisions	Under the existing collection policy, Development Charges for Water, Sewer and Roads are collected at subdivision agreement, or 50% at subdivision agreement and balance at 1st year anniversary of the agreement or as building permits are issued if sooner.	No change
Development Charge Payment Collection Policy for Social and Government Assisted Affordable Housing units	Generally due at building permit.	Deferral of Regional Development Charges until first occupancy for social and government assisted affordable housing units.
Secondary Units	<p>Development Charge exemption for up to two new units in existing residential units (not applicable if secondary unit was not attached to existing unit).</p> <p>Garden suites charged the one-bedroom apartment DC rate. Refund DCs levied on garden suites, provided they are demolished within 10 years of the building permit being issued.</p>	<p>Expand the definition of secondary units to include units built separate from the primary residence, but on the same site.</p> <p>Garden suites will now be exempt if they qualify as a second unit.</p> <p>Development Charges will be due if the units are severed from the main property within ten years of the building permit issuance.</p>
Definition of apartment	Apartment is defined as a dwelling unit in an apartment	The definition of apartment is proposed to be expanded to include

	<p>building.</p> <p>Apartment building consists of more than 3 dwelling units, in which dwelling units have a common entrance to grade.</p>	<p>a single storey dwelling unit located within a garage or commercial use which addresses affordability of infill apartment developments that would otherwise be charged at the higher medium density multiple rate.</p>
<p>50 per cent Industrial Expansion Exemption</p>	<p>Development Charge exemption based on the gross floor area of the original building, prior to any subsequent expansion and must be directly attached to the original building.</p>	<p>Reset the existing square footage of the building as that at the date of the by-law and include square footage on all industrial use buildings on the same site.</p> <p>Do not require expansion to be attached to the original building as long as it is on the same site.</p> <p>Will require a deferral payment agreement for the collection of Development Charges to ensure collection if the land is severed within ten years of building permit issuance.</p>
<p>Intensification Policy</p>	<p>A policy to fund specified site specific sanitary sewerage requirements related to residential intensification development within built-up areas.</p> <p>Would be triggered by developments providing new housing for at least 1,000 people.</p>	<p>Eliminate the minimum 1,000 people threshold in order to allow a wider range of intensification projects to be considered.</p>
<p>Well Interference Policy</p>	<p>Provides relief to residents in situations where their private well has potentially been negatively impacted by the construction of Regional services.</p>	<p>In the event that the resident is unwilling to cooperate with the Region's investigation into the well interference claim, as determined by the Commissioner of Works, the during construction provisions of the Well Interference Policy will no longer be available to provide relief to the subject property.</p>

Redevelopment Credit	10 years from the date the first demolition permit was issued. A redevelopment credit is not issued if the building being demolished or redeveloped would be exempt from Development Charges under the current by-law.	No change to 10 year timeframe. Issue a redevelopment credit at the institutional rate if the building being demolished or redeveloped would be exempt from Development Charges under the current by-law (e.g. schools, places of worship and government buildings).
Treatment of Air-Supported Structure	Not referenced in current by-law.	Include a definition for air-supported structure and charge at the rate of use through a modified definition of building or structure and gross floor area.
Treatment of Agriculture Bunkhouses	No reference. Unclear if they qualify for agricultural use exemption.	Exempt under a modified definition of farm building.
Treatment of Dens	Unclear when a den qualified as a bedroom.	Dens to be treated as bedrooms under a modified definition of bedroom.
Treatment of Parking Structures	Currently exempt under the Region's D.C. by-law.	Continue to be exempt. Modification to the by-law to explicitly exclude parking spaces for display of motor vehicles for sale or lease or parking spaces associated with the servicing of motor vehicles from the exemption.

The following policies are unchanged:

- Provisions in the Development Charges Act that specifically exempt schools and municipal facilities from paying development charges, discretionary exemptions for places of worship, public hospitals, roof-like structures and canopies that do not have walls and agriculture use.
- The Region Share Policy for Residential Development (Appendix B).
- Mobile homes will continue to be charged the two-bedroom apartment development charges rate. The development charges will be refunded if the mobile home is removed within ten years of the issuance of the building permit.
- Region will continue to collect 50 per cent of water, sewer and roads residential development charge at the execution of the subdivision agreement with the remaining 50 per cent collected at the one year anniversary or at building permit if sooner.

10. Indexing

10.1 Under the DCA, the Region "...may also provide for the indexing of development charges based on the prescribed index" (s.s.5 (1)10). Section 6, paragraph 2 requires that a development charge by-law must set out an express statement indicating how, if at all, the rules provide for the indexing of development charges.

10.2 The "prescribed index" is defined in O.Reg. 82/98 s.7 as, "The Statistics Quarterly, Construction Price Statistics, catalogue number 62-007 as the index for the purposes of paragraph of subsection 5(1) of the Act."

10.3 It is recommended that the Regional Residential and Non-residential Development Charge rates continue to be indexed annually as of July 1st of each year, in accordance with the change in the prescribed index for the most recently available annual period, ending March 31. The first indexing will occur on July 1, 2019 in order to preserve the purchasing power of the charges.

11. Consultation and Subsequent Council Approval

11.1 At this stage in the process, the Background Study and proposed Development Charge By-law are being provided for information purposes, as part of the consultation process. At such time as that process is complete and final Development Charge recommendations are made to Council, approval will be sought for:

- the 2018 Development Charge By-law; and
- the Background Study, including the growth projections, the development-related capital program, the Development Charge calculation and associated material, subject to any Addendum which may be produced prior to by-law adoption.

11.2 Consultations with the building and development industry have occurred in February and a subsequent meeting has been scheduled for April 6, 2018. The Boards of Trade and Chambers of Commerce and other business associations have been notified of the pending Background Study and offered contact information for any further discussion. Numerous meetings were held with local area municipal staff from various departments on specific issues, as well, area municipal staff were briefed on the draft development, capital and policy provisions in early March.

11.3 As summarized below, the public meeting of Regional Council is to be held April 11, 2018 as required by Section 12 of the DCA. Council is expected to consider approval of the by-law on June 13, 2018.

Process	Date
1. Outreach to the development community, business associations and Area Municipal Staff	February- April 2018
2. Meeting Notice ad placed in newspaper(s)	By March 22, 2018
3. Proposed By-law and Background Study Available to public	March 27, 2018
4. Statutory Public Meeting	April 11, 2018
5. By-law Revisions (if necessary)	April-mid May, 2018
6. Last day for public comments	May 21, 2018
7. Committee of the Whole considers background study and passage of by-law.	June 6, 2018
8. Council considers adoption of background study and passage of by-law.	June 13, 2018
9. Newspaper notice given of by-law amendment passage	By 20 days after passage
10. Last day for by-law appeal	40 days after passage
11. Region makes the pamphlet available	by 60 days after in force date

11.4 The proposed by-law will come into force on July 1, 2018.

1.0 INTRODUCTION

1.1 Background

- 1.1.1 The Region of Durham is updating its Development Charge Background Study and By-law pending the expiry of By-law No. 16-2013 on July 1, 2018.
- 1.1.2 The purpose of the Development Charge Background Study is to establish the components of the Region's future capital expenditures which are attributable to new development and to calculate the development charge required to fund them. Growth-related capital expenditures represent the capital costs necessary to provide the increase in need for municipal services attributable to the anticipated development over the planning period (in this case the next 10 years), net of several statutory expenditure exclusions, for which development charges cannot be imposed. These development-related capital components are distinguished from replacement, upgrade or "state of good repair" items which are almost exclusively the funding responsibility of existing development, population and employment through property taxes and user rates.
- 1.1.3 Development-related expenditures are established herein in terms of the provisions of the *Development Charges Act, 1997* (DCA), including the changes which came into effect January 2016, which define a general form of calculation methodology which must be followed. Once that has been done, Council is then in a position to determine whether it wishes to impose some or all of the calculated development charges, on some or all of the development uses and geographic areas of the Region.
- 1.1.4 Thus, this Development Charge Background Study calculates the cost of new infrastructure required by the Region as a result of the increase in need for services to accommodate new development. The resultant charge is expressed as a dollar amount per residential unit by type and per square foot of non-residential gross floor area (GFA) by type.
- 1.1.5 This report has been prepared, in the first instance, to meet the statutory requirements applicable to the Region's Development Charge Background Study, as summarized below. In so doing, it addresses the requirement for "rules" (Section 6) as part of the proposed by-law, which has been included as part of this Background Study (Appendix K).

In addition, the study is designed to set out sufficient background on the legislation (Section 1.3), current Region DC policy (Section 2) and the basis for the calculations underlying the proposed charge, to make the exercise understandable to those who are involved.

Finally, it addresses post-adoption implementation requirements (Section 7) which are critical to the successful application of the new policy (Appendix E-H).

- 1.1.6 The Sections in the report are further supported by Appendices containing the data required to explain and substantiate the calculation of the charge.
- 1.1.7 Figure 1-1 outlines the proposed schedule to be followed with respect to the development charge by-law adoption process.
- 1.1.8 The DCA requires that a development charge background study must be completed by a municipal council before passing a development charge by-law. The mandatory inclusions in such a study are set out in s.10 of the DCA and in s.8 of O.Reg. 82/98, as follows:
 - a) the estimates under paragraph 1 of subsection 5(1) of the anticipated amount, type and location of development; [addressed in Section 3 of this report]
 - b) the calculations under paragraphs 2 to 8 of subsection 5(1) for each service to which the development charge by-law would relate; [addressed in Sections 4 and 5 of this report]
 - c) consideration of the use of more than one development charge by-law to reflect different needs for services in different areas; [addressed in Section 6.11 of this report]
 - d) an examination, for each service to which the development charge by-law would relate, of the long term capital and operating costs for capital infrastructure required for the service; [addressed in Appendix I of this report]
 - e) an asset management plan prepared in accordance with subsection 10(3); of the DCA and [addressed in Appendix I of this report]
 - f) the following for each service to which the development charge relates:
 - 1. The total of the estimated capital costs relating to the service.
 - 2. The allocation of the costs referred to in paragraph 1 between costs that would benefit new development and costs that would benefit existing development.

3. The total of the estimated capital costs relating to the service that will be incurred during the term of the proposed development charge by-law.
4. The allocation of the costs referred to in paragraph 3 between costs that would benefit new development and costs that would benefit existing development.
5. The estimated and actual value of credits that are being carried forward relating to the service. (O.Reg. 82/98 s.8) [addressed in Section 6 of this report]

**FIGURE 1-1
SCHEDULE OF KEY DEVELOPMENT CHARGE PROCESS DATES
FOR THE REGION OF DURHAM**

Process	Date
1. Outreach to the development community, business associations and Area Municipal Staff	February- April 2018
2. Meeting Notice ad placed in newspaper(s)	By March 22, 2018
3. Proposed By-law and Background Study Available to public	March 27, 2018
4. Statutory Public Meeting	April 11, 2018
5. By-law Revisions (if necessary)	April-mid May, 2018
6. Last day for public comments	May 21, 2018
7. Committee of the Whole considers background study and passage of by-law	June 6, 2018
8. Council considers adoption of background study and passage of by-law	June 13, 2018
9. Newspaper notice given of by-law amendment passage	By 20 days after passage
10. Last day for by-law appeal	40 days after passage
11. Region makes the pamphlet available	by 60 days after in force date

1.2 Conformity with Applicable Legislation and Regional Policy

- 1.2.1 The Regional Development Charge By-law has been prepared in conformity with the provisions of the Development Charges Act, 1997, The Provincial Policy Statement, 2014, the Growth Plan for the Greater Golden Horseshoe and the Durham Regional Official Plan.

1.3 Development Charges Act Requirements

1.3.1 Introduction

1. Development charges (DCs) are payments made by new development in Durham (and other municipalities) normally as part of the building permit approval and/or the subdivision/severance agreement process. These payments are made by all such new development, unless specifically exempt by the *Development Charges Act* or the Region's Development Charges by-law.
2. These payments are made for the initial capital requirements of providing services to new development anticipated over the next ten years. All Region-funded services are eligible for DC funding, except those specifically excluded via the *Development Charges Act*.
3. "Capital" is defined in the DCA to include the municipal cost to acquire, lease, construct or improve land or facilities, including rolling stock (with a 7+ year useful life), furniture and equipment (other than computer equipment), library materials, as well as related study and financing costs.
4. The Region of Durham has imposed DCs throughout its amalgamated history and currently does so via By-law No. 16-2013 passed April, 2013, with a maximum lifetime of five years from its July 1, 2013 in force date.
5. This by-law provides for DC payments which vary with the amount and type of new development, as detailed in Section 3.
6. These charges are indexed for inflation as of July 1 each year, based on the prescribed Statistics Canada Quarterly *Construction Price Statistics* and By-law No. 16-2013.
7. The monies collected under By-law No. 16-2013 are maintained in eight separate reserve funds, one for each of the services involved. Most of the collections are for Water Supply, Sanitary Sewerage and Regional Roads. Small development charge components are also collected for Paramedic Services, Long Term Care, Regional Police, Health and Social Services and Development-Related Studies.
8. Each development charge paid is allocated, as a statutory requirement, to those reserve funds. It is also required that the monies only be expended for the purposes for which the DC was calculated.

9. In calculating the charge, it is necessary to:
 - establish a new development forecast for population and housing, and for employees and floor area;
 - determine and cost the additional services that such new development will require and ensure that the capital program has Council approval;
 - make the cost deductions required by the Act with respect to service level, benefit to existing development, excess capacity, grants and contributions, the statutory 10 percent deduction for soft services, etc.;
 - calculate development charges by type of use and document this in a background study and by-law along with associated policies; and,
 - take the study and proposed by-law through a public process, seeking Council approval thereof.

10. Development charges represent a significant capital funding source for many services and serve to provide a significant portion of funding for designated projects. The current by-law updating process is designed to identify full DC coverage for Regional services.

1.3.2 Development Charge Prerequisites

As per the *Development Charges Act, 1997*, the Region can impose development charges for:

1. A Regional service and funding responsibility other than (O.Reg 82/98, s.s. 2(4)):
 - cultural or entertainment facilities such as museums, theatres and art galleries but not including public libraries;
 - tourism facilities, including convention centres;
 - parkland acquisition;
 - hospital provision;
 - landfill sites and services; and
 - Municipal/local board general administration headquarters.

2. A service which will experience an increase in capital needs at least partially attributable to residential and/or non-residential growth in Durham from July 1, 2018 to June 30, 2028.

3. A service for which Regional Council has or will (as part of the DC process) approve(d) a capital forecast, which includes capital capacity expansion projects as per paragraph 2.

4. Such capital capacity expansion projects are not fully funded by grants, subsidies or developer contributions.

5. Such capital projects involve the acquisition, lease, construction or improvement of land, buildings, including furniture and equipment, studies and borrowing costs (as well as library materials).
6. Such capital projects do not include computer equipment and rolling stock with an estimated useful life of less than 7 years.
7. Capital costs for “soft services” don’t relate to a time beyond the end of the 10-year planning period.
8. Such capital costs don’t serve to increase the future (per capita/employee) level of service beyond the historical average attained in Durham over the 2008-2017 period.

1.3.3 The following tabular text (Figure 1-2) sets out the method that must be used to determine development charges. The underlining has been added to the quotations for clarification/emphasis and is not part of the statute or regulation quoted on the left side of the page. The DC calculation process is also summarized schematically in Figure 1-3 which follows.

Figure 1-2 SUMMARY OF STATUTORY DEVELOPMENT CHARGE CALCULATION REQUIREMENTS

s.s.5(1) of the DCA (and associated Regulations) Para- graph	Commentary
<p>1. "The anticipated amount, type and location of development, <u>for which development charges can be imposed</u>, must be estimated."</p> <p style="text-align: center;">S.10(2)(c.1) requires Council to consider the use of more than one DC By-law to reflect different needs from services in different area</p>	<p>Virtually all municipalities forecast <u>all</u> development (including DC-ineligible) in the first instance. That development is used as the denominator in the DC calculation with the <u>full</u> eligible cost of servicing all such development used as the numerator. That way, growth-related servicing costs are equitably spread over <u>all</u> benefiting development, the municipality does not recover DCs from exempt development and this would ensure that the requirements of s.s.5(6)3 have been met. That is, capital costs have not been offloaded from one type of development to another.</p> <p>While consideration of the use of area-rating is a mandatory requirement of the DCA, the adoption of area specific By-laws is a choice to be made by Council.</p>
<p>2. "The increase in the need for service <u>attributable to the anticipated development</u> must be estimated for each service to which the development charge by-law would relate."</p>	<p>This step involves estimating the additional service requirement, individually for water, wastewater, roads, etc., that is needed by the development increment in paragraph 1.</p> <p>The anticipated development in para. 1 must correspond to the service attribution in para. 2.</p> <p>This involves removing statutorily ineligible development (i.e. municipalities, schools, specified industrial expansions, specified residential intensification and other statutorily exempt public uses) and the servicing cost thereof. However, this would be very difficult to accomplish, because numerous unspecified geographic locations are involved for such development, which makes the servicing cost difficult to identify.</p> <p>As a result, the total cost/total development approach outlined above is used and has the same effect on the DC quantum.</p>

s.s.5(1) of the DCA (and associated Regulations)	Commentary
<p>3. "The estimate under paragraph 2 may include an increase in need only if the <u>council</u> of the municipality <u>has indicated that it intends to ensure that such an increase in need will be met.</u>"¹</p> <p>O.Reg. 82/98 s.3. "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 <u>if the increase in service forms part of an official plan, capital forecast or similar expression of the intention of the council</u> and the plan, forecast or similar expression of the intention of the council has been approved by the council."</p>	<p>The capital forecast underpinning the DC calculation must be formally approved by Council in one of the ways indicated in the Regulation.</p>
<p>4. "The estimate under paragraph 2 must not include an increase that would result in <u>the level of service exceeding the average level of that service provided in the municipality</u> over the 10-year period immediately preceding the preparation of the background study required under section 10.¹ The estimate also must not include an increase in the need for service that relates to a time after the 10-year period immediately following the preparation of the background study unless the service is set out in subsection (5)."</p> <p>O.Reg. 82/98 s.4(1) "For the purposes of paragraph 4 of subsection 5(1) of the Act, both the quantity and quality of a service shall be taken into account in determining the level of service and the average level of service."</p> <p>s.s.4(2) addresses the service level in an excluded geographic area where a service is not provided.</p> <p>s.s.4(4) limits the service level in part of a municipality to the level otherwise applicable to the full municipality.</p> <p>s.s.4(3) modifies the service level cap where a higher level is required by another Act.</p>	<p>This provision creates a "service level cap" equal to the cost of providing service to the "anticipated development," consistent with the 10-year historical average level of service.</p> <p>In accordance with s.s.5(1)4, services such as Paramedic Services, are restricted to a maximum 10-year planning horizon.</p> <p>s.s.5(5) lists water, wastewater, storm water, road, police and fire services. They are not subject to a 10 year planning period cap.</p> <p>Services other than those excluded in s.s.2(4), may be defined by the municipality and, in some cases, grouped into "service categories" for purposes of reserve funds and credits (as per s.7).</p> <p>Two "level of service" considerations must be taken into account in satisfying compliance re the 10-year historical average level of service cap. These considerations involve "quantity" (e.g. floor space/capita) and "quality" (e.g. cost per sq ft of floor space).</p> <p>This provision potentially affects area-specific charges.</p>

¹ The Act notes that the provisions may be further governed by regulations.

s.s.5(1) of the DCA (and associated Regulations)	Commentary
<p>O.Reg. 206/04 amended s.4 of O.Reg. 82/98 by adding the following subsection:</p> <p>“(1.1) In determining the <u>quality</u> of a service under subsection (1), the <u>replacement cost</u> of municipal capital works, exclusive of any allowance for depreciation, shall be the amount used.</p>	<p>The Regulation clarifies that the quality level of service measure is to be based on the undepreciated replacement cost of municipal capital works.</p>
<p>5. “The increase in the need for service attributable to the anticipated development must be <u>reduced</u> by the part of that increase that can be met <u>using the municipality’s excess capacity, other than</u> excess capacity that the council of the municipality has indicated an intention would be paid for by new development.”¹</p> <p>O.Reg. 82/98 s.5. “For the purposes of paragraph 5 of subsection 5(1) of the Act, excess capacity is uncommitted excess capacity unless, either before or at the time the excess capacity was created, the <u>council</u> of the municipality <u>expressed a clear intention that the excess capacity would be paid for by development charges or other similar charges.</u>”</p>	<p>“Uncommitted excess capacity” is available capacity that obviates (part of) the need for new projects. It is different than “Post Period Capacity,” which is <u>not</u> needed by development during the planning period and is provided for the use of subsequent, i.e. post-2028 development, which can be required to fund it through future DCs.</p> <p>The Regulation explains the circumstances under which (part of) the cost of “committed excess capacity,” (i.e. infrastructure in the ground from prior DC by-laws or otherwise), can be recovered via future DCs.</p>
<p>6. “The increase in the need for service must be reduced by the extent to which an increase in service to meet the increased need would <u>benefit existing development.</u>”¹</p> <p>Note: no regulatory clarification has been provided.</p>	<p>Existing development benefits from:</p> <ul style="list-style-type: none"> • the repair or unexpanded replacement of existing assets; • an increase in average service level or existing operational efficiency; • the elimination of a chronic servicing problem not created by growth; • providing services where none previously existed (e.g. water service).
<p>7. “The <u>capital costs</u> necessary to provide the increased services must be estimated. The capital costs <u>must be reduced by the reductions set out in subsection (2).</u> What is included as a capital cost is set out in subsection (3).”¹</p> <p>O.Reg. 82/98 s. 6 indicates that: Unless the person making the grant, subsidy, etc., was specific as to how it is to be applied, the contribution is to be shared between growth and non-growth project components in proportion to the way in which the costs</p>	<p>s.s.5(2) refers to capital grants, subsidies and other contributions made to a municipality <u>or that Council anticipates</u> will be made in <u>respect of the capital costs.</u></p>

s.s.5(1) of the DCA (and associated Regulations)	Commentary
<p>were allocated in s.s.5(1)6.</p> <p>s.s.5(3) defines capital costs to include:</p> <ul style="list-style-type: none"> • the acquisition or lease of (an interest in) land; • construction, improvement, acquisition or lease (capital component only) costs for buildings/structures/facilities; • 7+ year useful life rolling stock; • FFE, other than computer equipment; • library materials; • studies re above; • DC Background Studies; and • interest on related borrowings. 	<p>These costs exclude “local services” related to a plan of subdivision or a consent approval, to be installed or paid for by the owner (s.s.2(5)).</p> <p>Includes debt payments related to previously constructed growth-related works.</p>
<p>8. “The capital cost must be reduced by 10 per cent. This paragraph does not apply to services set out in subsection (5).”</p>	<p>For example, the 10 percent reduction <u>does</u> apply to:</p> <ul style="list-style-type: none"> • Paramedic Services • Long Term Care • Studies <p>The purpose of this reduction is undefined, beyond the Province’s expressed wish in 1997 to moderate development charge quantum. The exclusion of various services under s.s.2(4) serves a similar purpose. (i.e. Cultural/entertainment facilities, including museums, theatres and art galleries; tourism facilities, including convention centres; parkland acquisition; public hospitals; landfill sites; and general administration headquarters for municipalities/local boards).</p>
<p>9. “Rules <u>must be</u> developed to determine if a development charge is payable in any particular case and to determine the amount of the charge, subject to the limitations set out in subsection (6).”</p> <p>s.s.5(6):</p> <p>“The rules developed under paragraph 9 of subsection (1) to determine if a development charge is payable in any particular case and to determine <u>the amount of the charge are subject to the following restrictions:</u></p> <ol style="list-style-type: none"> 1. The rules must be such that the total of the development charges that would be imposed upon the anticipated development is less than or equal to the capital costs determined under paragraphs 2 to 8 of subsection (1) <u>for all the services to which the development charge by-law relates.</u> 	<p>These are mandatory DC by-law inclusions as to how the charge is to be applied to development types and circumstances.</p> <p>There are three over-riding tests to be met by the DC by-law.</p> <p>A municipality cannot collect more than the calculated cost for each service (if the amount of development and resultant revenue outpaces the forecast, it is addressed via a reserve fund deduction in the DC calculation in the next round or other appropriate means).</p>

s.s.5(1) of the DCA (and associated Regulations)	Commentary
<p>2. If the rules expressly identify a type of development <u>they must not provide for the type of development to pay development charges that exceed the capital costs, determined under paragraphs 2 to 8 of subsection (1), that arise from the increase in the need for services attributable to the type of development.</u></p> <p>However, it is <u>not necessary that the amount of the development charge for a particular development be limited to the increase in capital costs, if any, that are attributable to that particular development.</u></p> <p>3. If the development charge by-law will exempt a type of development, phase in a development charge, or otherwise provide for a type of development to have a lower development charge than is allowed, <u>the rules for determining development charges may not provide for any resulting shortfall to be made up through higher development charges for other development.</u>”</p>	<p>A municipality cannot offload the cost of servicing one type of development onto another type. e.g. Industrial servicing costs cannot be transferred to residential development and single detached unit servicing costs cannot be transferred to apartments.</p> <p>It is not necessary that the <u>average</u> municipal-wide per unit servicing costs funded by the DC reflect the needs of any <u>particular</u> development project.</p> <p>This provision provides further clarification on the inability of the by-law to offload cost recovery from one type of development to another, in this case from exempt or discounted development to non-exempt development.</p>
<p>10. “The rules <u>may provide</u> for full or partial exemptions for types of development and for the phasing in of development charges. The rules <u>may also provide</u> for the indexing of development charges based on the prescribed index.”</p>	<p>There are optional by-law inclusions such as authority to set rules on discretionary exemptions, phasing in of DCs and indexing of DCs.</p>

2.0 CURRENT REGION OF DURHAM POLICY

2.1 Introduction

This section summarizes the Region's current development charge policy set out in Region-wide development charge by-law No. 16-2013.

2.2 Summary of By-law No. 16-2013

- 2.2.1 Regional Council passed by By-law No. 16-2013 on April 24, 2013. This by-law imposed development charges for eight services against four types of residential development (single / semi-detached, medium density multiples, 2 bedroom + apartments and one bedroom or smaller apartments) and three non-residential uses (commercial, institutional and industrial).
- 2.2.2 The by-law established a full recovery rate for commercial and institutional development. The by-law also established a full recovery rate for industrial development, phased in over four time periods (beginning July 1 2013, beginning July 1, 2014, beginning July 1, 2015 and beginning July 1, 2016).
- 2.2.3 The initial charge in 2013 and the current charges as of January 1, 2018, are shown on Tables 2-1, 2-2 and 2-3.
- 2.2.4 Residential and non-residential development charges were indexed annually on July 1 of each year based on the changes in the Statistics Canada Quarterly, Construction Price Statistics, Catalogue Number 62-007 (s.24).
- 2.2.5 This by-law applies to all lands in Durham except for the Seaton lands (for water and sewerage services only), subject to a number of exemptions both statutory and voluntary. The statutory exemptions are standard and relate to residential intensification, industrial expansion and defined institutional uses.

The voluntary exemptions established by the Region include:

- a) agricultural uses and farm buildings;
- b) places of worship;
- c) public hospitals;
- d) free standing roof-like structures and canopies that do not have exterior walls;
- e) parking structures; and
- f) mobile homes and garden suites if removed within ten years (eligible for DC refund).

**Table 2-1
Region of Durham Residential Development Charges
Per Single Detached Unit – By-law 16-2013**

	July 1, 2013 Rate \$/Single Detached Unit	January 1, 2018 Rate \$/Single Detached Unit
Water Supply ⁽¹⁾⁽²⁾	\$7,246	\$7,873
Sanitary Sewerage ⁽¹⁾⁽²⁾	8,365	9,087
Regional Roads	7,908	8,590
Regional Police Services	603	656
Long Term Care	29	32
Paramedic Services	138	150
Health and Social Services	93	102
Development Related Studies	24	25
Subtotal	<u>\$24,406</u>	<u>\$26,515</u>
GO Transit ⁽³⁾	652	702
Regional Transit ⁽³⁾	519	1,143
Total	<u>\$25,577</u>	<u>\$28,360</u>
Notes:		
(1) These charges are only payable in areas where the services are, or will be, available in an area designated for the particular service in the Region's Official Plan.		
(2) Not applicable to the Seaton Area as defined in Appendix A of the Background Study and schedule F of the proposed by-law.		
(3) Additional Regional development charges exist for GO Transit and Regional Transit under By-law #86-2001 and By-law #81-2017 respectively.		

**Table 2-2
Region of Durham Residential Development Charges
per Unit Type – By-law 16-2013**

<u>Service Category</u>	<u>July 1 2013⁽¹⁾</u>	<u>January 1 2018⁽²⁾</u>
	\$	\$
Single / Semi Detached	25,577	28,360
Low Density Multiple	20,605	22,842
2 Bedroom Apt and Larger	14,887	16,505
1 Bedroom Apt and Smaller	9,678	10,728
Notes:		
(1) Includes Regional development charges for GO Transit and Regional Transit under By-law 86-2001 and 47-2012 respectively.		
(2) Includes Regional development charges for GO Transit and Regional Transit under By-law 86-2001 and 81-2017 respectively.		

**Table 2-3
Region of Durham Non - Residential Development Charges
\$ per square foot of Gross Floor Area– By-law 16-2013**

Commercial		
<u>Service Category</u>	<u>July 1 2013</u>	<u>Jan. 1 2018</u>
Water Supply ⁽¹⁾⁽²⁾	\$1.87	\$2.03
Sanitary Sewerage ⁽¹⁾⁽²⁾	5.22	5.67
Regional Roads	5.56	6.04
Regional Transit	0.31 ⁽⁴⁾	0.54 ⁽⁵⁾
Total	<u>\$12.96</u>	<u>\$14.28</u>
Industrial ⁽³⁾		
<u>Service Category</u>	<u>July 1 2013</u>	<u>Jan. 1 2018</u>
Water Supply ⁽¹⁾⁽²⁾	\$1.10	\$2.41
Sanitary Sewerage ⁽¹⁾⁽²⁾	2.32	5.04
Regional Roads	1.67	3.62
Regional Transit	0.31 ⁽⁴⁾	0.54 ⁽⁵⁾
Total	<u>\$5.40</u>	<u>\$11.61</u>
Institutional		
<u>Service Category</u>	<u>July 1 2013</u>	<u>Jan. 1 2018</u>
Water Supply ⁽¹⁾⁽²⁾	\$0.70	\$0.77
Sanitary Sewerage ⁽¹⁾⁽²⁾	1.45	1.58
Regional Roads	5.87	6.37
Regional Transit	0.31 ⁽⁴⁾	0.54 ⁽⁵⁾
Total	<u>\$8.33</u>	<u>\$9.26</u>

2.2.6 Development charges are payable at the time of building permit issuance with two exceptions. The first exception applies to the water supply, sanitary sewerage and Regional roads DC components which are payable immediately upon the parties entering into a subdivision agreement based on the proposed number and type of dwelling units in the plan. This exception does not apply to high density or condominium block within a plan. The by-law provides that an owner, who is required to pay the water supply, sanitary sewerage and Regional roads charges at the time of subdivision agreement, may enter into an agreement with the Region to pay 50 percent of the applicable charge at

execution of subdivision agreement and the remaining 50 percent at the execution of the subdivision agreement and the remaining 50 per cent on the earlier of the one year anniversary of the execution of the subdivision agreement or at building permit (s.20 (3)).

The other exception applies in instances where, other than described above, the Region and landowner enter into an agreement specifying a different payment schedule (s.20(5)).

2.2.7 s.18 of the by-law sets out the Region's development charge policy with respect to redevelopment. Where a demolition permit has been or will be issued within ten years prior to the date of payment of development charges or converted from one principal use to another, the DCs otherwise payable will be reduced as follows:

- a) in the case of residential building or the residential portion of a mixed use building, by the number and type of dwelling uses to be demolished or converted times the applicable charge;
- b) in the case of a non-residential building or the non-residential portion of a mixed use building, by the gross floor area to be demolished or converted times the applicable charge;

2.3 Summary of Other Regional Development Charge By-laws

In addition to By-law 16-2013, the Region also imposes Development Charges under five other by-laws:

- By-law No.18-2013 – Area specific development charges for water supply works for the Carruthers Creek Development Area;
- By-law No.17-2013 – Area specific development charges for sanitary sewerage services for the Carruthers Creek Development Area;
- By-law No.19-2013 – Area specific development charges for the Seaton Community for the Water Supply and Sanitary Sewerage Services
- By-law No. 86-2001 – Region-wide residential development charge for GO Transit Services;
- By-law No. 81-2017 – Region-wide development charges for Regional Transit Services.

It is not intended that these by-laws be amended or repealed as part of this Background Study. However, By-laws No. 81-2017 and No. 86-2001 will be amended in order to ensure that the policies within these by-laws align with the new development charge by-law. The public meeting dealing with the amendments will be held on May 9, 2018 with Council approval on June 13, 2018. Separate DC Background Study for the sanitary sewerage area specific development charge for the Carruthers Creek Development Area is being submitted concurrently with this Background Study. The area specific development charges for water supply works for the Carruthers Creek Development Area is not being renewed as all the capital works for this servicing

area have been completed under the area specific DC by-law and costs have been fully recovered.

The Seaton Development Charge By-law does not expire until November 25, 2020 and will be renewed at a future date.

3.0 DURHAM'S DEVELOPMENT FORECAST 2018-2028

3.1 Requirements of the Act

Subsection 5(1) of the DCA sets out the method that must be used to determine development charges. The first step states that:

“The anticipated amount, type and location of development, for which development charges can be imposed, must be estimated.”

Steps 2 and 5 go on to refer to “the increase in need for service attributable to the anticipated development ...”. Thus, the estimate of anticipated development is an important starting point to the DC calculation process.

The requirement of the Act is for a development forecast, which refers to residential, commercial, industrial and institutional development. Such development generates increased service needs, via its occupancy and use, which is measured in terms of households, population, employment and visitors (tourists, customers, patrons and suppliers). This chapter therefore addresses both the anticipated increase in development and the users thereof. It covers all forms of development, whether or not they are included in the schedule of development charges, in order to avoid transferring the servicing cost responsibility of exempt development to non-exempt development.

The Act requires that the amount, type and location of development be estimated. “Timing” is not referenced, other than indirectly, in section 8 para. 3 of O.Reg. 82/98, where capital costs to be incurred during the term of the proposed development charge by-law, must be set out. The development forecast period was established as mid-2018 to mid-2028.

Also, s.s.5(1)4 of the Act restricts the estimate of the increase in the need for services other than roads, water supply, sanitary sewerage, storm water drainage and control, police and fire protection and transit to a maximum of 10 years following the preparation of the background study. The development charge for all services including water supply, sanitary sewerage and Regional roads, in this background study was calculated based on a ten year planning period.

3.2 Summary of the Development Anticipated 2018-2028

3.2.1 Appendix A provides the growth forecast and its basis in detail. This chapter provides a summary thereof, as follows:

**Table 3-1
Anticipated Residential Development Growth**

	Mid-year 2018-2023			Mid-year 2018-2028		
	Seaton	Balance of Region Without Seaton	Regional Total	Seaton	Balance of Region without Seaton	Regional Total
Population Growth	28,380	74,460	102,840	50,360	132,595	182,955
Unit Growth						
Total Dwelling Unit Growth	9,595	38,430	48,025	17,570	68,865	86,435
Single and Semi Detached	5,009	20,060	25,069	9,174	35,945	45,119
Medium Density Multiple	2,447	9,800	12,246	4,487	17,554	22,041
Bachelor and 1 Bedroom Apartment	748	2,998	3,746	1,371	5,371	6,742
2 Bedroom Plus Apartment	1,392	5,572	6,964	2,548	9,985	12,533

Source: Table A3 & Table A5 in Appendix A

3.2.2 Residential development is expected to be approximately 9,605 units for each year from 2018 to 2023. The unit forecast is expected to remain at approximately 7,680 units per year from 2023 to 2028.

3.2.3 Based on Census tabulations, the average occupancy of new housing units in Durham during the first fifteen years of existence is expected to average 3.46 persons per unit for single and semi-detached dwellings, 2.78 for attached/ multiples and 1.31-2.01 for small and large apartment units, respectively (See Table A-10 in Appendix A).

3.2.4 When the increase in housing units over the two planning periods is converted to standard (single detached) equivalent (SDE) units, the following totals result:

**Table 3-2
Anticipated SDE Unit Increase**

Purpose	Mid-year 2018-2023 # of SDE units			Mid-year 2018-2028 # of SDE units		
	Seaton	Balance of Region without Seaton	Regional Total	Seaton	Balance of Region without Seaton	Regional Total
Roads and General	8,067	32,307	40,374	14,783	57,884	72,667
Water and Sewer	7,889	31,585	39,474	14,497	56,759	71,256

Source: Table A-11 in Appendix A

3.2.5 Employment growth in the Region is anticipated as follows:

**Table 3-3
Anticipated Employment Growth
(excluding primary, work at home & no fixed place of work)**

Category	Mid-year 2018-2023 # of Jobs			Mid-year 2018-2028 # of Jobs		
	Seaton	Balance of Region without Seaton	Regional Total	Seaton	Balance of Region without Seaton	Regional Total
Industrial	5,850	18,780	24,630	11,880	36,230	48,110
Commercial	2,760	8,090	10,850	4,610	15,460	20,070
Institutional	970	1,740	2,710	1,350	2,750	4,100
Total	9,580	28,610	38,190	17,840	54,440	72,280

Source: Table A-14 in Appendix A

3.2.6 Non-residential floor area (in m²) in the Region is expected to increase as follows:

**Table 3-4
Anticipated Non-residential Floor Space Increase (m²)**

Category	2018-2023 m ²			2018-2028 m ²		
	Seaton	Balance of Region without Seaton	Regional Total	Seaton	Balance of Region without Seaton	Regional Total
Industrial	638,200	2,262,000	2,900,200	1,297,000	4,381,300	5,678,300
Commercial	99,900	323,700	423,600	167,200	619,300	786,500
Institutional	61,200	109,800	171,000	84,800	173,100	257,900
Total	799,300	2,695,500	3,494,800	1,549,000	5,173,700	6,722,700

Source: Table A-14 in Appendix A

3.2.7 The growth in non-residential floor space in the Region is forecast to occur at a gradually increasing annual rate, as follows:

- 2018-2023 – 698,960m²/year
- 2023-2028 – 645,580m²/year

Source: Table A-18 in Appendix A

4.0 THE RESULTANT INCREASE IN THE NEED FOR SERVICE

4.1 Introduction

This chapter addresses the requirements of s.s.5(1) of the DCA with respect to the establishment of the need for service which underpins the development charge calculation, in accordance with the broad requirements set out in section 1.3.

4.2 Services Involved

- 4.2.1 Table 4-1 lists the full range of service categories which are municipally provided. A number of these services are defined in s.s.2(4) of the DCA as being ineligible for inclusion in development charges. These are shown as “ineligible” on Table 4-1. Local roads, water, sanitary sewerage services are covered separately under subdivision agreements and related means (as are other local services). Services which are potentially eligible for inclusion in the Regional development charge are indicated with a “✓”.

4.3 The Increase in the Need for Service

- 4.3.1 The development charge calculation commences with an estimate of “the increase in the need for service attributable to the anticipated development” for each service to be covered by the by-law. There must be some form of link or attribution between the anticipated development and the estimated increase in the need for service. While the need could conceivably be expressed generally in terms of units of capacity, s.s.5(1)3, which requires that Regional Council indicate that it intends to ensure that such an increase in need will be met, suggests that a project-specific expression of need would be most appropriate.
- 4.3.2 Some of the need for services generated by additional development consists of local services related to a plan of subdivision, a consent, site plan or other form of development approval. As such, it will be provided as a condition of such development approvals, rather than as part of the development charge program.

TABLE 4-1
CATEGORIES OF MUNICIPAL SERVICES
TO BE ADDRESSED AS PART OF THE CALCULATION

CATEGORIES OF MUNICIPAL SERVICES	ELIGIBILITY FOR INCLUSION IN THE DC CALCULATION (✓=Upper Tier)	SERVICE COMPONENTS	MAXIMUM POTENTIAL DC RECOVERY %
1. Services Related to a Highway	✓/Lower Tier Dev. Agreements Lower Tier ✓/Lower Tier Lower Tier/Dev. Agreements	1.1 Arterial roads 1.2 Collector roads 1.3 Local roads 1.4 Traffic signals 1.5 Sidewalks and streetlights	100 100 0 100 0-100
2. Other Transportation Services	✓ ✓ Lower Tier Lower Tier ✓ ✓ n/a n/a	2.1 Transit vehicles 2.2 Other transit infrastructure 2.3 Municipal parking spaces - indoor 2.4 Municipal parking spaces - outdoor 2.5 Works Yards 2.6 Rolling stock ¹ 2.7 Ferries 2.8 Airport facilities	100 100 90 90 100 100 90 90
3. Storm Water Drainage and Control Services	Lower Tier/Municipal Act Dev. Agreements Dev. Agreements	3.1 Main channels and drainage trunks 3.2 Channel connections 3.3 Retention/detention ponds	0-100 0 0
4. Fire Protection Services	Lower Tier Lower Tier Lower Tier	4.1 Fire stations 4.2 Fire pumpers, aerials and rescue vehicles 4.3 Small equipment and gear	100 100 100
5. Outdoor Recreation Services (i.e. Parks and Open Space)	Ineligible Lower Tier Lower Tier Lower Tier Lower Tier Lower Tier	5.1 Acquisition of land for parks, woodlots and ESAs 5.2 Development of local parks 5.3 Development of district parks 5.4 Development of municipal-wide parks 5.5 Development of special purpose parks 5.6 Parks rolling stock ¹ and yards	0 90 90 90 90 90
6. Indoor Recreation Services	Lower Tier Lower Tier	6.1 Arenas, indoor pools, fitness facilities, community centres, etc. (including land) 6.2 Recreation vehicles and equipment ¹	90 90
7. Library Services	Lower Tier Lower Tier	7.1 Public library space (incl. furniture and equipment) 7.2 Library materials	90 90
8. Electrical Power Services	Ineligible Ineligible Ineligible	8.1 Electrical substations 8.2 Electrical distribution system 8.3 Electrical system rolling stock	0 0 0
9. Provision of Cultural, Entertainment and Tourism Facilities and Convention Centres	Ineligible Ineligible	9.1 Cultural space (e.g. art galleries, museums and theatres) 9.2 Tourism facilities and convention centres	0 0

¹with 7+ year life time
computer equipment excluded throughout

CATEGORIES OF MUNICIPAL SERVICES	ELIGIBILITY FOR INCLUSION IN THE DC CALCULATION (✓=Upper Tier)	SERVICE COMPONENTS	MAXIMUM POTENTIAL DC RECOVERY %
10. Waste Water Services	✓ ✓ ✓/Dev. Agreements ✓	10.1 Treatment plants 10.2 Sewage trunks 10.3 Local systems 10.4 Vehicles and equipment ¹	100 100 100 100
11. Water Supply Services	✓ ✓ ✓/Dev. Agreements ✓	11.1 Treatment plants 11.2 Distribution systems 11.3 Local systems 11.4 Vehicles and equipment ¹	100 100 100 100
12. Waste Management Services	Ineligible Ineligible Eligible	12.1 Collection, transfer vehicles ¹ and equipment 12.2 Landfills and other disposal facilities 12.3 Waste diversion facilities	0 0 90
13. Police Services	✓ ✓ ✓	13.1 Police detachments 13.2 Police rolling stock ¹ 13.3 Small equipment and gear	100 100 100
14. Homes for the Aged	✓	14.1 Homes for the aged space	90
15. Day Care	✓	15.1 Child care space	90
16. Health	✓	16.1 Health department operating space	90
17. Social Services	✓	17.1 Social service operating space 17.2 Social and government assisted affordable housing	90
18. Ambulance	✓ ✓	18.1 Ambulance station space 18.2 Vehicles ¹	90 90
19. Hospital Provision	Ineligible	19.1 Hospital capital contributions	0
20. Provision of Headquarters for the General Administration of Municipalities and Local Boards	Ineligible Ineligible Ineligible	20.1 Office space (all services) 20.2 Office furniture 20.3 Computer equipment	0 0 0
21. Other Services	✓ ✓	21.1 Studies in connection with acquiring buildings, rolling stock, materials and equipment, and improving land ² and facilities, including the DC background study cost 21.2 Interest on money borrowed to pay for growth-related capital ²	0-100 0-100

¹ with a 7+ year life time

² same percentage as service component to which it pertains. 3.3

4.3.3 The Region has established specific policy guidelines concerning the Regional share of local services, in terms of which development-related requirements are incorporated in the development charge calculation vs. being a separate and independent requirement of development agreements, over and above the payment of the development charge. Guidelines as to the developer's local servicing requirements outside of development charges are set out in Appendix B.

4.4 Capital Cost Estimates

4.4.1 These estimates involve capital costing of the increased services discussed above. This entails costing actual projects or the provision of service units, depending on how each service has been addressed.

4.4.3 Potential capital costs are set out in s.s.5 (3) of the DCA.

4.4.3 In addition, the development charge background study is required to present the following cost allocation for each service involved: costs benefiting new development vs. existing development, with respect to costs incurred during the term of the by-law vs. the balance of the planning period. This information is provided on a project and service-specific basis in Appendices E to H.

4.4.4 The capital costs determined in Appendices E to H in accordance with s.s.5(1) of the *Development Charges Act, 1997*, reference projects as part of defining the increase in the need for service. It is anticipated that a number of such projects will evolve over time in response to the specific needs of new development. As a result, the cost, timing and nature of such projects may be altered as part of the Region's annual capital budget process. It is intended that development charge draws will be made for such projects, based on the development-related percentages which have been identified. In some instances, an allowance for unallocated improvements has been made where the total capital program could not be accurately identified.

4.4.5 Growth-related costs which are specifically designated as benefiting development beyond 2028 are expected to be recovered in subsequent DC by-laws, once the DC planning period extends beyond 2028, based on Council's approval of the 2018 Background Study and this recommendation which forms part of it.

4.5 Credits Carried Forward

4.5.1 Section 8 para. 5 of O.Reg. 82/98 indicates that a development charge background study must set out, "the estimated value of credits that are being carried forward relating to the service." As a result, this provision should be made in the calculation, in order to avoid a funding shortfall with respect to future service needs. The Region of Durham has made agreements with respect to sanitary sewerage works with the West Whitby Landowners Group only and the outstanding credits totalling \$40.1 million have been accounted in the Sanitary Sewerage ten year capital program in Appendix G.

4.6 Eligible Debt and Committed Excess Capacity

- 4.6.1 Section 66 of the DCA states that for the purposes of establishing a development charge by-law, a debt incurred with respect to an eligible service may be included as a capital cost, subject to any limitations or reductions in the Act.
- 4.6.2 In order for such costs to be eligible, two conditions must apply. First, they must have funded excess capacity which is able to meet service needs attributable to the anticipated development. Second, the excess capacity must be “committed,” that is, either before or at the time it was created, Regional Council must have expressed a clear intention that it would be paid for by development charges or other similar charges. The primary focus of this development charge calculation is on capital costs yet to be incurred. However, there are a number of instances where the cost of projects not yet fully funded have been included. Provision has been made in the calculation for financing costs to be incurred by the Region for development charge cost components as part of the cash flow calculation methodology which was used.

4.7 Council’s Assurance

- 4.7.1 In order for an increase in need for service to be included in the DC calculation, Regional Council must indicate “... that it intends to ensure that such an increase in need will be met” (s.s.5(1)3). This can be done if the increase in service forms part of a Council-approved Official Plan, capital forecast or similar expression of the intention of Council (O.Reg. 82/98 s.3).
- 4.7.2 The Region prepares capital plans for Transportation and Water Supply and Sanitary Sewerage as part of its annual Ten Year Servicing and Financing Study process, which requires Council approval. In addition, Council approval is sought for the full capital program requirement in this Background Study.

5.0 DCA CALCULATION REQUIREMENTS

5.1 Introduction

5.1.1 Subsection 5(1) of the DCA sets out the method that must be used to determine development charges. This method specifically calls for five different types of deductions to be made from municipal servicing costs which relate to the need for eligible services attributable to new development anticipated over the planning period. These are:

- level of service cap;
- uncommitted excess capacity;
- benefit to existing development;
- grants, subsidies and other contributions; and
- the 10 percent statutory deduction for “soft services.”

5.1.2 Two other calculation deductions are addressed herein as being implicit requirements. These are:

- post-period capacity;
- uncommitted DC reserve fund balances.

The basis for, and nature of, each of these DC calculation deductions is outlined below.

5.2 Level of Service Cap

5.2.1 Paragraph 4 of subsection 5(1) of the DCA states that the estimate of the increase in the need for service attributable to the anticipated development, made under paragraph 2 must not include an increase that would result in the level of service exceeding the average level provided in the Region over the 10 year period preceding the preparation of the background study.

5.2.2 s.s.4(3) of O.Reg. 82/98 provides for an exception, such that:

“If the average level of service determined is lower than the standard level of service required under another Act, the standard level of service required under the other Act may be deemed ... to be the average level of service.”

Section 4 of the Regulation also provides that:

- both the quantity and quality of a service shall be taken into account in determining the average level of service.

- 5.2.3 A commonly-used quantity measure is units per capita (e.g. lane kms, square feet, m³ capacity, hectares, etc.), while quality is to be primarily measured in terms of replacement costs or cost per unit.

These level of service calculations are referenced in Appendices E to H. They are based on a variety of measures, reflecting the nature of the service involved. In most cases, these measures incorporate a quantity (inputs) level of service measure, relating to service provided per development unit benefiting. The “development units benefiting” from the capital expenditures are sometimes the blended numbers of population, employees, etc.

- 5.2.4 This approach has the advantage of enabling an increase in development (population and/or employees) to be translated directly into the additional service requirement and the cost associated therewith. In this regard, employment represents one part of the non-residential requirement and further represents a surrogate for the servicing needs of customers, visitors and suppliers.

Population alone is used as the denominator in the case of services which are exclusively or almost entirely of benefit to residential development.

- 5.2.5 Variations on this theme are employed in the case of engineered services which are more highly subject to statutory and Ministry of Environment controls and to costs which vary with the physical engineered requirements of individual development and servicing circumstances.

5.3 Uncommitted Excess Capacity

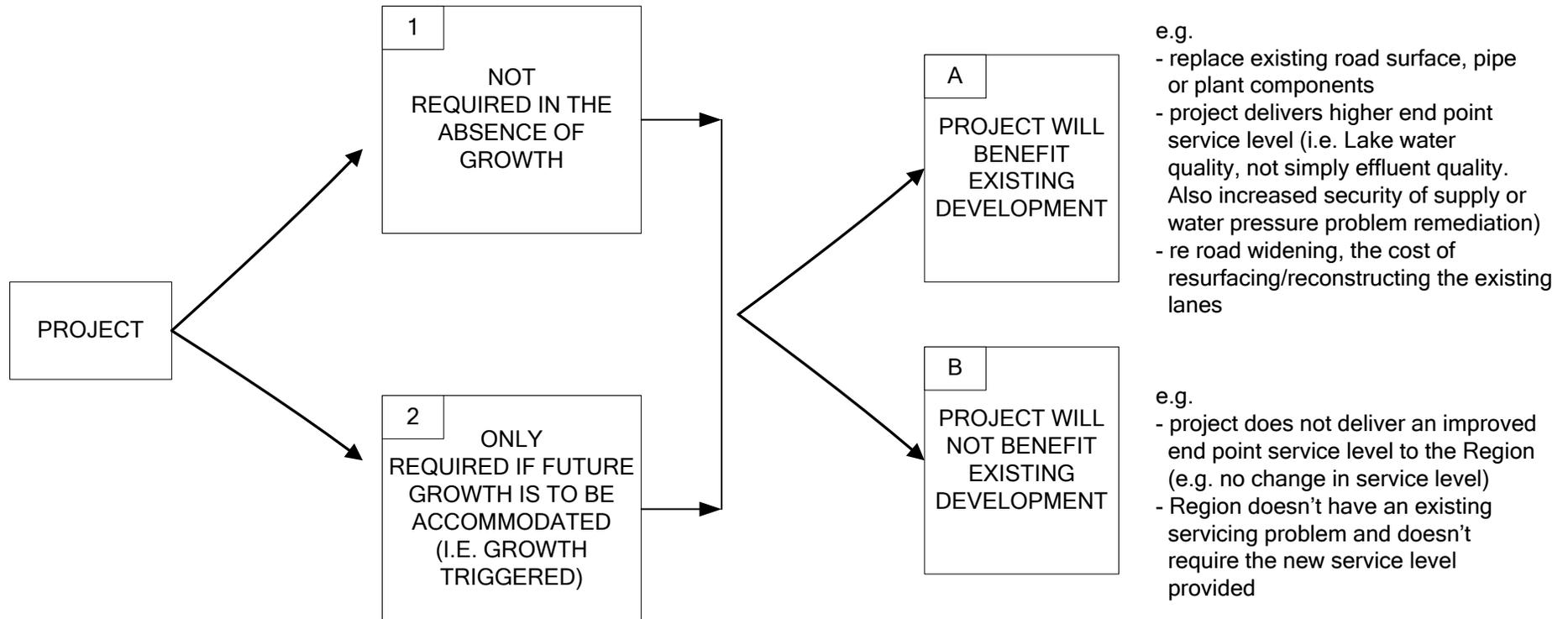
- 5.3.1 Paragraph 5 of s.s.5(1) of the DCA requires a deduction from the increase in the need for service attributable to the anticipated development that can be met using the Region’s “excess capacity”, other than excess capacity which is “committed”, i.e. where Council has previously indicated a clear intention that it would be paid for by DCs or other similar charges, before or at the time it was created (s.5 of O.Reg. 82/98).

- 5.3.2 “Excess capacity” is undefined in the Act, but in this case must be able to meet some or all of the increase in need for service, in order to potentially represent a deduction. The deduction of “excess capacity” from the future increase in the need for service, occurs as part of the conceptual planning and feasibility work associated with justifying and sizing new facilities, e.g. if a road widening to accommodate increased traffic is not required because sufficient capacity is already available, then that widening would not be included as an increase in need, in the first instance. Another potential consideration is the relationship between the 2017 actual level of service and the ten year historical average and/or an operational review of the capacity functioning of a particular facility or service.

5.4 Benefit to Existing Development

- 5.4.1 Within a municipal-wide DC regime, benefit to existing development is typically established on a municipal-wide basis, without reference to the nature of the servicing gains or losses on a finer geographic basis. For example, road service level is typically measured based on overall volume/capacity or overall lane km/capita, without detailed reference to service capacity improvements or deficiencies that may be produced in some areas.
- 5.4.2 Figure 5-1 provides a basic outline of the circumstances in which some form of benefit to existing development deduction is normally made.

FIGURE 5-1
BENEFIT TO EXISTING DEVELOPMENT OPTIONS



5.5 Grants, Subsidies and Other Contributions

- 5.5.1 s.s.5(1)7 of the DCA requires that the capital costs must be reduced by the reductions set out in subsection (2).

s.s.5(2) states that:

“The capital costs, determined under para. 7 of subsection (1), must be reduced, in accordance with the regulations, to adjust for capital grants, subsidies and other contributions made to a municipality or that the Council of the municipality anticipates will be made in respect of the capital costs.”

- 5.5.2 Section 6 of O.Reg. 82/98 indicates that any such grant, subsidy or other contribution (including developer contributions) must be used to reduce the s.s.5(1)7 capital costs in the same proportion as the increase in need was reduced under s.s.5(1), para. 6, unless at the time it was made, the person making it expressed a clear intention that all or part be used to benefit existing or new development. In the latter case, a deduction to capital costs must be made, but only to the extent that the funds were intended to benefit new development.
- 5.5.3 Any grants, subsidies, developer and other contributions anticipated have been reflected in Appendices E to H, in accordance with the provisions of the Act and Regulation.

5.6 10% Statutory Deduction for “Soft Services”

s.s.5(1)8 of the DCA requires that the capital cost calculation must be reduced by 10 percent for services other than water, sanitary sewerage, storm water management, roads, fire police and transit.

5.7 Post-period Capacity

- 5.7.1 This is a term and a concept which is not specifically referenced in the DCA. It refers to development-related servicing capacity which has been added to a project and is not required by development anticipated over the Region’s planning period, which will clearly benefit development in a subsequent planning period and should therefore be (partially) funded by such development, in this case post July 1, 2028 development.

5.7.2 For example if a sewage treatment plant is specifically sized to accommodate development beyond July 1, 2028, then the DC recovery of an appropriate portion of that cost should be deferred, such that it is funded by the development that ultimately benefits from it. This requirement is implicit in s.s.5(1)2 of the DCA, which requires the charge to be based on “the increase in the need for service attributable to the anticipated development...”, in this case development July 1, 2018 – June 30, 2028. However, in the case of facilities which have not been significantly and explicitly oversized, no post-period capacity deduction is provided. Also, any deduction that is made is generally calculated on an incremental rather than average cost basis.

5.8 DC Reserve Fund Balances

5.8.1 There is no explicit requirement under the DCA calculation method set out in s.s.5(1) to net the outstanding reserve fund balance as part of making the DC calculation; however, s.35 does restrict the way in which the funds are used in future, i.e.

“The money in a reserve fund established for a service may be spent only for capital costs determined under paragraphs 2 to 8 of subsection 5(1).”

5.8.2 For services which are subject to a per capita-based, service level “cap,” the reserve fund balance should be applied against the development-related costs for which the charge was imposed, once the project is constructed (i.e. the needs of recent, but previous, growth). This cost component is distinct from the development-related costs for the next 10 year period, which underlie the DC calculation herein.

5.8.3 The uncommitted balance of the Region’s DC reserve fund (as of January 1, 2018) for roads, water, sanitary sewerage, health and social services and long-term care, is to be applied against future spending requirements. Accordingly, these reserve fund amounts have been netted from the cash flow calculations for these services. For police and paramedic services, the reserve fund balances have been committed to future capital projects.

5.8.4 This deduction is made in the case of these services, in that the DC calculation is geared to funding a large group of development-related works that are being implemented over the long term. While these works are also broadly subject to service level caps, each DC calculation is designed to fund an appropriate share of the overall program of works, over a “moving” long term period. Previous DC collections are, in effect, applicable only to projects they have been applied against. The calculation involves updating cost estimates and project descriptions, removing completed works and netting reserve fund balances, each time a new DC is established. This makes netting the reserve fund balance an appropriate and necessary part of the calculation for these kinds of services.

5.9 DC Calculation Methodology

5.9.1 The most common method of calculating a development charge is simply to divide the net residential development-related cost by the gross increase in population or single detached equivalent housing units. “Gross population” is used, in that it relates directly to the number of new housing units that will be subject to the charge. This approach implicitly assumes that an appropriate match will occur over time between DC receipts and expenditure requirements.

5.9.2 A more technical calculation method involves a cash flow approach. This method annualizes the expenditures to be DC funded as well as the amount of development expected to be subject to the charge. A development charge is calculated, based on appropriate indexing and interest assumptions, which is just sufficient to fund the expenditure cash flow. This approach has been adopted in Appendices E to H and involved the following steps:

- (a) Calculate net growth-related capital costs as per s.s.5(1) of the DCA;
- (b) Divide those costs between those attributable to residential vs. non-residential development, service by service;
- (c) Where applicable, start the DC cash flow calculation with the most recently available residential DC reserve fund balance for the service involved;
- (d) Subtract the net growth-related capital expenditures expected to be incurred for that service, during the year involved;
- (e) Subtract any other costs to be incurred during that year, such as DC credits, unfunded capital, debt charges, etc.;
- (f) Calculate the number of single detached equivalent units (“SDU”) expected to pay DCs in that year (i.e. one apartment unit is less than one SDU because it has a lower occupancy and accordingly pays a lower DC);
- (g) Run the calculation model on an iterative basis, using different DC quantum assumptions until the closing reserve fund balance in the final year of the planning period is nil;
- (h) Calculate the expected DC revenues for that year (SDU’s multiplied by the DC) and add them to the balance. Add any other applicable revenues;
- (i) Calculate the DC reserve fund closing balance for that year before interest;

- (j) Calculate interest earnings/costs expected to be incurred during that year, as the average of the opening and closing reserve fund balances times an annual rate of interest;
- (k) Add the interest earned or subtract the interest cost, in order to arrive at the closing balance for that year and repeat the calculation for the next (and subsequent) years in sequence. However, for each new year, inflate the capital expenditures involved other than in the case of debenture debt or other payments which may be fixed;
- (l) Also inflate the development charge rate using the same index used for capital expenditure inflation; and,
- (m) Repeat with necessary adjustments for the non-residential DC calculation.

6.0 DEVELOPMENT CHARGE RULES

6.1 Introduction

6.1.1 s.s.5(1)9 of the DCA states that rules must be developed:

“... to determine if a development charge is payable in any particular case and to determine the amount of the charge, subject to the limitations set out in subsection 6.”

Paragraph 10 of the section goes on to state that the rules may provide for exemptions, phasing in and/or indexing of development charges.

6.1.2 s.s.5(6) establishes the following restrictions on the rules:

- the total of all DCs that would be imposed on anticipated development must not exceed the capital costs determined under 5(1) 2-8 for all services involved.
- if the rules expressly identify a type of development, they must not provide for it to pay DCs that exceed the capital costs that arise from the increase in the need for service for that type of development. However, this requirement does not relate to any particular development.

6.1.3 In order to address this requirement, the following conventions have been adopted:

1. The costs of residential uses have been assigned to different types of residential units based on the average occupancy for each housing type constructed during the first 15 years of occupancy.

2. Costs are allocated to residential uses (as opposed to non-residential uses) based upon a number of factors, as may be suited to the circumstances of each individual service.
 - if the rules provide for a type of development to have a lower development charge than is allowed, the rules for determining development charges may not provide for any resulting shortfall to be made up via other type of development.

6.1.4 With respect to “the rules”, Section 6 of the DCA states that a DC by-law must expressly address the matters referred to above re s.s.5(1) para. 9 and 10, as well as how the rules apply to the redevelopment of land.

6.2 Redevelopment Credits

6.2.1 Section 6, para. 3 of the DCA indicates that a development charge by-law must set out, “How the rules referred to in paragraph 1 [those for determining if a development charge is payable in any particular case and for determining the amount of the charge] apply to the redevelopment of land.”

6.2.2 In order to facilitate redevelopment, section 18 of By-law 16-2013 provides for a development charge credit to be applied in the amount of the applicable development charges within the current by-law. In the case of redevelopment to land, buildings or structures that are exempt under the current DC By-law (i.e. a former school property, government buildings or a place of worship), the existing approach has the result that no development charge reduction would be provided.

6.2.3 The proposed by-law includes a clause that extends a redevelopment credit if the redeveloped structure or building is not subject to development charges under the current by-law. Therefore, the credit would be extended to the redevelopment of schools, government buildings and places of worship and in calculating the credit, the institutional rate will be applied to the square footage of the building being demolished or redeveloped.

6.2.4 The proposed DC by-law maintains the 10-year redevelopment credit timeframe as being the timeframe from the date when a demolition permit is issued to the date when the subsequent redevelopment occurs.

6.3 Discretionary Exemptions

6.3.1 The proposed by-law maintains discretionary exemptions for non-residential development such as places of worship, agricultural uses, public hospitals, parking structures and roof-like and canopy structures. It also includes new extensions to exemptions beyond those required in the Development Charges Act, specifically for industrial development expansions and secondary units.

- 6.3.2 As per the requirement in the Development Charges Act (DCA), Durham currently applies a 50 per cent expansion exemption for industrial developments based on the original gross floor area of the building and only if the expansion is attached to the existing structure. The proposed by-law would reset the existing square footage of the building with the by-law date, apply the 50 per cent exemption to the total square footage of all industrial buildings on the property and would not require the expansion to be attached to an existing building on the same site. This would include the Region reserving the right to collect Development Charges if the building is severed from the land within ten years of building permit issuance, by requiring the land owner to enter into a DC deferral payment agreement.
- 6.3.3 The current statutory DC exemption for additional units in dwellings applies to existing residential units. The proposed by-law would extend secondary unit exemptions for units built either inside a primary residence or outside the residence in a separate structure. This would include the Region reserving the right to collect Development Charges if the building is severed from the land within ten years of building permit issuance, by requiring the land owner to enter into a DC deferral payment agreement.

6.4 Application of Non-Residential Development Charge

- 6.4.1 A number of refinements to definitions used in the proposed by-law will provide clarity in the application of the Region's Development Charge By-law; these include air-supported structures, agricultural uses and parking structures.
- 6.4.2 Air-Supported Structures: The current DC by-law requires walls for a gross floor area calculation and these domes do not have traditional walls. Recognizing that these facilities do draw on Regional road, water and sewer infrastructure and aligning with the practice of most municipalities, the Region should charge these structures according to their use. The proposed by-law clarifies the Region's intent to charge air-supported structures, at the rate of use, through a new definition of air supported structure and a modified definition of building or structure and gross floor area.
- 6.4.3 Agricultural Uses: Currently the Region's DC by-law provides a discretionary exemption for bona fide agricultural purposes, but does not address how to treat temporary shelter for seasonal workers. The proposed by-law includes provisions that treats temporary shelter as an agricultural use.
- 6.4.4 Parking Structures: The 2013 Development Charges by-law changed the treatment of parking structures, removing them from the inclusion of retail development to providing an exemption for parking structures for non-residential development (including at, above, and below grade parking). The rationale for this remains that it provides financial incentives for economic development, as well as intensification, as this type of structure is a more efficient use of land than surface parking lots. The proposed by-law has been updated to further clarify that parking structure exemptions do not apply to buildings used for the lease, sale or maintenance of vehicles.

6.5 Application of Residential Development Charge

- 6.5.1 The current practice of the Region is to consider most dens as bedrooms as per the definition of 'bedroom' in the by-law which means any room used or designed or intended for use as sleeping quarters. The proposed by-law further clarifies this interpretation with a clarification of what is considered a bedroom.
- 6.5.2 The current DC by-law defines an apartment as a unit within a building with more than three units and a common entrance at grade. This means that a unit built above a commercial space, that does not consist of more than three dwelling units, and does not have a common entrance at grade, would be charged a much higher medium density multiple Development Charges rate. In order to encourage affordable rental units, as per the recommendations of the Region's Seniors' and Affordable Housing Task Force, the proposed by-law expands the definition of apartment to allow the construction of single storey dwelling units within garages or commercial buildings to be treated as apartments.

6.6 New Social And Government Assistance Affordable Housing Service

- 6.6.1 The Region of Durham does not have any provisions for social or affordable housing in the current Development Charges by-law, but has been directed by Regional Council based on the recommendations of the 2017 Affordable and Seniors' Housing Task Force to review the DC by-law for opportunities to address affordable housing in Durham.

A key goal of *At Home in Durham, Durham Housing Plan 2014-2024*, is ensuring "affordable rent for everyone". Under the plan this would be achieved by pursuing:

- More affordable rental housing options in the private market for low and moderate income households.
- An increased supply of government-assisted rental housing options.
- Increased rental assistance for low-income households.
- Easier and more coordinated access to affordable housing options.

In addition, during the April 19, 2017 meeting of the Task Force, staff were requested to consider a Region-wide development charge for "social housing".

Building on the work of the Region's *At Home in Durham, Durham's Housing Plan* and the Report of the Affordable and Seniors' Housing Task Force, there is an identified need for affordable housing required to meet the needs of anticipated growth over the ten-year capital forecast period (2018 to 2027).

Staff reviewed the 10-year historical level of service for housing services and identified the historical level of service cap at 1,863 units, which establishes the maximum number of new units that could be included in the 10-year capital program (2018 to 2027). This is based on the following:

- Durham administers and provides funding to 44 social housing providers, who own approximately 6,374 rental units at 91 sites across the Region; and
- The Region has provided assistance for 389 units under Provincial-Federal programs to provide affordable units.

The DC capital forecast includes 416 housing units (Regional Social Housing and Government Assisted Affordable Housing) at a total capital cost investment of \$62.4 million between 2018 and 2027 which is within the service level cap of 1,863 units.

The new development charge service for which DCs will be collected if approved is called Housing Services which includes Social Housing and Government Assisted Affordable Housing. It is proposed that Development Charge revenue be applied to fund capital costs for Housing Services in the following manner:

- Social Housing which is rental housing provided by Durham Regional Local Housing Corporation (DRLHC) or by a non-profit housing provider that receives ongoing subsidy from the Region of Durham.
- Affordable Housing which are rental units provided by private or non-profit housing providers that receive funding through a federal or provincial government affordable housing program.
- New construction only, including additions and extensions resulting in additional rental units
- Applicants for eligible units must meet eligibility requirements for the Durham access to Social Housing (DASH) wait list.
- Projects to be approved by Regional Council on a case-by-case basis.

6.7 Region Share Policy

6.7.1 Residential Development

The Region Share Policy (Appendix B) provides the guidelines for the payment by the Region for capital works from development charges (not user rates or property taxes) where the capital works required by the Region are not of sole benefit to the landowner (e.g. internal Regional roads, a sanitary sewerage or a watermain which is oversized relative to that development's needs). These capital works are necessary to allow "upstream" development and efficient servicing. There are no recommended changes to the existing policy.

6.7.2 Region Share Non-residential Lands

6.7.2.1 The Region also includes an allowance in the water supply and sanitary sewerage ten-year capital programs for the Regional share of capital works in conjunction with non-residential development. This allows the Region to pay for the oversizing costs of water and sewer services related to the development of non-residential lands from development charges. The use of these funds requires Regional Council approval. There are no recommended changes to this practice.

6.8 Well Interference Policy

6.8.1 The Regional Well Interference Policy (Appendix C) provides relief to residents in situations where their private well has potentially been negatively impacted by the construction of Regional services. The current policy has been Regional practice since 1999. Similar practices existed, in various forms, prior to 1999.

6.8.2 The existing Regional Well Interference Policy uses Development Charge revenue to:

- provide a temporary supply of water during construction of Regional Services to the affected homeowner;
- construct watermains and water services to homes that have been or will potentially be negatively impacted by development; and
- construct new wells as an alternative method of addressing impacted property owners that reside outside the water supply area or where it is not economically feasible to extend water services to the affected property.

These costs are funded 100 percent from water supply development charges based on estimated activity levels. There is one recommended change to the existing well interference policy. In the event that the resident is unwilling to cooperate with the Region's investigation into the well interference claim, as determined by the Commissioner of Works, the "During Construction Provisions" of the well interference policy will no longer be available to provide relief to the subject property.

6.9 Intensification Servicing Policy

6.9.1 The Regional Official Plan requires that urban areas within the "Built Boundary" be planned to accommodate a minimum 40 percent of all residential development occurring annually through intensification within built-up areas. Overall servicing of this intensification has been included in the water supply and sanitary sewerage analyses contained in Appendix F and Appendix G. However, recent intensification-type developments across the Region have proven that such projects often occur on specific locations at a density beyond the average estimated for a broader area, as was considered in establishing these capital forecasts.

6.9.2 In 2013, Regional Council approved the Intensification Servicing Policy (Appendix D) to address servicing requirements specific to intensification development. Because the intensification related development charge works are site or area specific and cannot be predicted with any certainty in advance, it was recommended that a development charge component for such works be included to support intensification and a policy was created to provide access to these allowances.

- 6.9.3 The existing policy created a sanitary sewerage development intensification allowance within the development charge and the capital program. There is no intensification allowance within the water supply capital program as capacity issues for water supply services did not exist in the sample of recent intensification projects that Regional staff considered.
- 6.9.4 Under the current Development Charges policy, developers can apply to use the funds, provided that certain criteria are met:
- located within the built-up area;
 - must require DC work that is not already included in Appendix G;
 - all local services are funded by the developer; and
 - the development provides housing for at least 1,000 people.

Council approval was required for all expenditures from this sanitary sewerage development intensification allowance.

- 6.9.5 There were no developments from 2013 to 2017 that required major sanitary sewerage capital works and therefore there were no applications for this funding. Staff have recently discussed this policy with area municipal staff, Building Industry and Land Development (BILD) and Durham Region Home Builders Association (DRHBA). Both groups have expressed support for this policy to be continued as there may be developments within the built boundary in the future that will require sanitary sewerage works. Area municipal staff also asked Regional staff to reconsider the 1,000 people threshold.
- 6.9.6 Staff are recommending that this policy continue in order to provide assistance to residential intensification projects that require substantial Regional capital works (due to the specific location and the infrastructure constraints of the development) that has not been included in the sanitary sewer DC capital program.
- 6.9.7 The proposed policy remains the same as approved in 2013 with the exception that the requirement for 1,000 people has been removed (See Appendix D).
- 6.9.8 The Province will be implementing new intensification targets and a new land needs methodology that upper and single tier municipalities will be required to use for their respective Municipal Comprehensive Reviews. The increased intensification targets and the new land needs methodology will be incorporated in the Region's next Municipal Comprehensive Review. This review will examine the increased intensification targets and the implications for providing the requisite infrastructure.
- 6.9.9 It is not yet known what effect these provincial policy changes will have on the existing water and sewer infrastructure. As mentioned previously, it is difficult to determine the impact of intensification on the water and sewer system due to the site specific requirements of each individual development project. However, the additional development related to the increased intensification targets will put additional demands on the Regional water and sewer system.

6.9.10 These new Provincial policy requirements will trigger an analysis of the servicing needs for intensification and related financial implications within Strategic Growth Areas. This analysis will be undertaken as part of the Municipal Comprehensive Review and will include scenario analyses given the localized nature in servicing needs. The work to be completed as part of the Municipal Comprehensive Review will assist in assessing the costs of greenfield development versus intensification development and will provide the necessary background information for the next Development Charge Background Study in 2022-2023.

6.10 Region-wide vs. Area-specific Charges

6.10.1 The Development Charges Act, 1997 historically has provided the opportunity for a municipality to impose municipal-wide charges or area specific charges. Sections 2(7) and 2(8) of the DCA provide that a development charge by-law may apply to the entire municipality or only part of it and more than one development charge by-law may apply to the same area.

6.10.2 Amendments to the Development Charges Act, 1997 now require municipalities to consider the application of Region-wide vs. Area-specific application of development charges.

s.10(2)(c.1) requires Council to consider the use of more than one DC By-law to reflect different needs from services in different areas

6.10.3 Most municipalities in Ontario have established uniform, municipal-wide development charges. This has been Durham's approach since 1991, with the exception of its approach to the Seaton community in the City of Pickering and the Carruthers Creek area in the Town of Ajax.

6.10.4 When area-specific charges are used, it is generally to underpin master servicing and front-end financing arrangements, particularly in the case of stormwater management, collector/minor arterial roads and/or feeder mains and sanitary trunk sewers.

6.10.5 The Region established area-specific charges for water and sanitary sewerage in the case of the Seaton Community consistent with the front-ending agreements that are required to advance the water and sewer infrastructure works in order to accommodate development in Seaton. Under the Development Charges Act, 1997, the Region plans to provide development charge credits to those developers entering into such front-ending agreements.

6.10.6 The rationale for separate area-specific charges for water and wastewater in Carruthers Creek reflects long-standing historical front end financing arrangements, which are explained in a separate background study for these services.

6.10.7 There is no justification for the establishment of additional area-specific development charges at this time. The recommendation is to continue to apply Region-wide development charges based on the following:

- The ten-year service level from all applicable services across the Region can be included to establish an upper ceiling on the amount of funds which can be collected. If a development charge by-law applied to only a part of the municipality, the level of service cannot exceed that which would be determined if the by-law applied to the whole municipality. As such, when applied to forecast growth within the specific area, it would establish an area specific level of service ceiling which would significantly reduce the total revenue recoverable for the Region, potentially resulting in DC revenue shortfalls and impacts on property taxes and user rates.
- Region-wide DCs ensures a consistent approach to financing the entire cost associated with growth-related capital projects. For example, user rates and property taxes are required to finance the share of growth-related capital projects not recoverable by DCs and all associated operating costs. Therefore, the use of area specific development charges results in a share of growth-related capital costs being recovered from a specific area, with the remaining capital costs of the projects (i.e. non DC recoverable share) and the associated operating costs with those new assets being recovered from uniform user rates and property taxes, applied to the entire Region.
- Attempting to impose an area-specific DC potentially causes equity issues in transitioning from a Region-wide approach to an area specific approach. An area municipality that is less developed and becomes subject to an area specific development charge, could face a significant increase in DC rates, as the municipality will not benefit from drawing on the Regional pool of DC funding and may have contributed Regional DCs to fund capital required to support development in other communities. Whereas, another municipality that has experienced significant growth which required substantial capital investments, benefitted from the capital investments being financed by Regional DCs. The implementation of area specific development charges could result in varying Regional DCs across municipalities, which may impact the ability to attract investment into their communities.
- As a result of its municipal structure, Regional services are available across the Region, used often by all residents and are not restricted to one specific geographic area. The use of a Region-wide DC approach reflects these system-wide benefits of service and more closely aligns with the funding principles of service provision (e.g. uniform Region-wide water and wastewater rates, property tax rates, etc.).

6.10.8 It is for these reasons that the Region has maintained its approach to calculate the development charges on a uniform Region-wide basis for all services, except for those subject to front-ending agreements (i.e. Seaton and Carruthers Creek) where area specific development charge by-laws facilitated the upfront of capital by landowners in return for development charge credits.

6.11 DC Indexing

6.11.1 S.s.5 (1)9 of the DCA requires that rules must be developed to determine a number of things and they "... may also provide for the indexing of development charges based on the prescribed index" (s.s.5(1)10). Section 6, para. 2 requires that a DC by-law must set out an express statement indicating how, if at all, the rules provide for the indexing of development charges.

6.11.2 The "prescribed index" is defined in O.Reg. 82/98 s.7 as, "The Statistics Quarterly, Construction Price Statistics, catalogue number 62-007 as the index for the purposes of paragraph 10 of subsection 5(1) of the Act." Section 24 of the Region's existing DC by-law further specifies that such indexing is to occur on July 1 of each year based on data for the most recently available period ending March 31.

6.11.3 It is necessary that the Region's DC be indexed in order to ensure that there is sufficient funding for the works that the development charges have been calculated to cover, as the cost of those works to be constructed in future years increases with inflation.

6.11.4 Based on the use of the cash flow method of calculating the Region's DC, limited advantage is involved in indexing the charge more frequently than once per year. Any cash flow improvement is translated into reduced interest costs or increased reserve fund earnings and a commensurately lower DC. As a result, it is recommended that the Region continue with its annual indexing practice, commencing July 1, 2019.

6.12 Collection Policy

6.12.1 Residential Collection Timing (for plan of subdivision)

Under the Region's current DC By-law No. 16-2013, Regional Water Supply, Sanitary Sewerage and Regional Roads Development Charges for plans of subdivision are payable in full upon signing of a subdivision agreement or, at the option of the developer:

- a) 50 percent upon execution of the subdivision agreement with a letter of credit to be posted for 55 percent of the total development charges at the execution of the subdivision agreement;
- b) the balance on the first anniversary date of the subdivision agreement or as building permits are issued, whichever occurs first; and
- c) Charges for Long Term Care, Paramedic Services, GO Transit, Regional Transit, Police Services, Health and Social Services and Development Related Studies are payable at building permit issuance.

6.12.2 Regional Council's 2017 Seniors' and Affordable Housing Task Force directed staff to investigate deferring development charges related to seniors' and affordable housing. The proposed by-law includes provisions for a deferral of Regional development charges for social and government assisted affordable housing projects with the following parameters:

- Applies for social and affordable housing developments that are in receipt of federal or provincial program funding.
- Deferral period is until first unit occupancy, opposed to issuance of the first building permit (deferral payment agreement required).

6.12.3 Development charges for other types of residential development and all non-residential development are payable at building permit issuance and development charges are payable at the rate in existence when payment is due.

7.0 IMPLEMENTATION

7.1 The By-law Adoption Process

7.1.1 The Region's proposed DC by-law is included in Appendix K.

7.1.2 Section 12 of the DCA indicates that before passing a development charge by-law, Council must hold at least one public meeting, giving at least 20 clear days' notice thereof, in accordance with the Regulation. Council must also ensure that the proposed by-law and background study are made available to the public at least two weeks prior to the (first) meeting. Any person who attends such a meeting may make representations related to the proposed by-law.

7.1.3 If a proposed by-law is changed following such a meeting, the Council must determine whether a further meeting (under this section) is necessary (i.e. if the proposed by-law which is proposed for adoption has been changed in any respect, the Council should formally consider whether an additional public meeting is required), incorporating this determination as part of the final by-law or associated resolution. It is noted that Council's decision, once made, is final and not subject to review by a Court or the Ontario Municipal Board.

7.1.4 The Region's 2018 development charge consultation process has included outreach to the GTA and Durham chapters of BILD; and the various Chambers of Commerce, Boards of Trade and other business associations. Regional staff have met with local municipal staff to review an overview of the growth forecast, and capital programs as well as the potential policy changes.

7.2 Long Term Capital and Operating Cost Examination / Asset Management

7.2.1 Long Term Capital and Operating Cost Examination

Subsection 10(2)(c) of the Act requires that a DC Background Study include an examination of the long term capital and operating costs for capital infrastructure required for each service to which the development charge by-law would relate.

The capital costs include those required to initially put the necessary infrastructure in place, including the cost share to be absorbed by existing development (benefit to existing development, existing DC reserve fund balances and exemptions) as well as new development (calculated development charges, as well as future development charges from post period capacity). In addition, the estimated cost of capital repairs, upgrades and ultimately asset replacement, over time should be set out.

Operating costs also need to be estimated, largely in order to verify the financial feasibility of the capital program. While this analysis is less applicable to water, sewer and road works, which are in many cases, non-discretionary, than it is to some of the 'soft' services, it nevertheless represents a Background Study requirement.

Appendix I contains Durham's Long Term Capital and Operating Cost examination.

7.2.2 Asset Management

Subsections 10(2)(c.2) and 10(3) of the Act requires that a DC Background Study include an asset management plan. The scope of the asset management plan must deal with all assets whose capital costs are proposed to be funded under the development charge by-law. Moreover, the asset management plan must demonstrate that all the assets contained in the scope of this plan are financially sustainable over their full life cycle. While detailed asset management plan requirements are prescribed for Transit Services, there are no such requirements for non-Transit Services. As such municipalities are provided with discretion in demonstrating a broad level asset management plan that provides for the long-term investment in an asset over its entire useful life.

The Region has undertaken an Asset Management Plan dated June 2017, which has been approved by Regional Council (Report# 2017-COW-147). The plan addresses all of the services contained in the DC Background Study and is concerned only with existing assets (i.e. does not include expansionary assets within the DC Background study). As a result, this DC Background study must include an asset management plan for the assets in the ten year forecast. Appendix I contains Durham's asset management plan with respect to these assets. Based on this asset management plan, the assets proposed to be funded under the development charge by-law are deemed to be financially sustainable over their full life cycle.

7.3 **Potential Economic Impact on Development**

- 7.3.1 One of the important considerations in the circumstance where a significant increase is proposed in the development charge, is the potential economic impact that such an increase may have upon the Region's future residential and non-residential development prospects.

7.3.2 Appendix J presents a summary of relevant DC comparisons and related material.

7.4 By-law Implementation

7.4.1 Once the Region has calculated the charge, prepared the complete Background Study, carried out the public process and passed a new by-law, the emphasis shifts to implementation matters. These include transitional arrangements, notices, potential appeals and complaints, credits, front-ending agreements, subdivision agreement conditions and finally the collection of revenues and funding of projects. The following section overviews requirements in each case.

7.4.2 In accordance with s.13 of the DCA, when a DC by-law is passed, the municipal clerk shall give written notice of the passing and of the last day for appealing the by-law (the day that is 40 days after the day it was passed). Such notice must be given no later than 20 days after the day the by-law is passed (i.e. as of the day of newspaper publication and the mailing of the notices).

Section 10 of O.Reg. 82/98 further defines the notice requirements, which are summarized as follows:

- Notice may be given by publication in a newspaper, which is (in the Clerk's opinion) of sufficient circulation to give the public reasonable notice, or by personal service, fax or mail to every owner of land in the area to which the by-law relates;
- s.s.10(4) lists the persons/organizations who must be given individual notice;
- s.s.10(5) lists the eight items which the notice must cover.

7.4.3 In addition to the "notice" information, the Region must prepare a "pamphlet" explaining each development charge by-law in force, setting out:

- a description of the general purpose of the development charges;
- the "rules" for determining if a charge is payable in a particular case and for determining the amount of the charge;
- the services to which the development charge relates; and
- a general description of the general purpose of the Treasurer's statement and where it may be received by the public.

Where a by-law is not appealed to the Ontario Municipal Board (OMB), the pamphlet must be readied within 60 days after the by-law comes into force. Later dates apply to appealed by-laws.

The Region must give one copy of the most recent pamphlet without charge, to any person who requests one.

7.4.4 Sections 13-19 of the DCA set out requirements relative to the making and processing of a DC by-law appeal and OMB Hearing in response to an appeal. Any person or organization may appeal a DC by-law to the OMB by filing with the municipal clerk a notice of appeal, setting out the objection to the by-law and the

reasons supporting the objection. This must be done by the last day for appealing the by-law, which is 40 days after the by-law is passed.

7.4.5 Over and above the right of appeal, a person required to pay a development charge, or his agent, may “complain” to Regional Council imposing the charge that:

- the amount of the charge was incorrectly determined;
- the credit to be used against the development charge was incorrectly determined; or
- there was an error in the application of the development charge.

Sections 20-25 of the DCA set out the requirements that exist, including the fact that a complaint may not be made later than 90 days after a DC (or any part of it) is payable. A complainant may appeal the decision of Regional Council on their complaint to the OMB.

7.4.6 The Region and one or more landowners may enter into a front-ending agreement, which provides for the funding of the costs of a project, which will benefit an area in the Region to which the DC by-law applies. Such an agreement can provide for the costs to be borne by one or more parties to the agreement who are, in turn, reimbursed in future, by persons who develop land defined in the agreement. Part III of the DCA (Sections 44-57) addresses front-ending agreements.

7.5.7 Section 59 of the DCA prevents a municipality from imposing directly or indirectly, a charge related to development or a requirement to construct a service related to development, by way of a condition or agreement under s.51 or s.53 of the *Planning Act*, except for:

“local services, related to a plan of subdivision or within the area to which the plan related, to be installed or paid for by the owner as a condition of approval under section 51 of the *Planning Act*,”

“local services to be installed or paid for by the owner as a condition of approval under Section 53 of the *Planning Act*.”

Appendix B sets out Durham’s “Region Share Policy”, which defines local services.

7.5.8 It is also noted that s.s.59(4) of the DCA requires that the Region use its *Planning Act* power to impose conditions to ensure that the first purchaser of newly subdivided land is informed of all the development charges related to the development, at the time the land is transferred.

Appendix A

Anticipated Development, 2018-2028

Introduction

This Appendix presents the background information used to develop the anticipated amount, type and location of development for which development charges can be imposed.

The forecast for the 2018 Development Charge Background Study is an update of the previous Development Charge Study completed in 2013. The 2013 Development Charge Background Study was based on the growth forecasts contained within the Durham Regional Official Plan, prepared through the Durham Regional Official Plan Amendment No. 128 (ROPA 128) process to the horizon year of 2031. The region-wide population and employment forecast is mandated by the Growth Plan for the Greater Golden Horseshoe. The forecasts assume growth will occur in the manner contemplated in the Regional Official Plan, with development concentrated primarily within the Urban Areas designated in the plan. A small allowance for rural growth is also included. The 2018 Development Charge Background Study is based on a 10 year interval from 2018 to 2028. This provides for the analysis to be conducted on uniform, 5-year intervals and is compliant with the *Development Charges Act, 1997*.

The anticipated residential and non-residential development is distributed by water supply and sanitary sewer servicing areas for purposes of developing the capital forecasts for those services. The residential and non-residential development is also distributed by transportation zone to calculate the Regional Roads capital forecast. Anticipated development is forecasted for the mid-year periods 2018 to 2023 and 2023 to 2028.

Approach for Seaton Development

It is recognized that the development of the Seaton Community (refer to Figure A-1) must be in accordance with the Central Pickering Development Plan (CPDP).

The Regional development charge for Water Supply and Sanitary Sewerage is calculated based on the capital needs over the next 10 years, excluding Seaton. The Region set in place area-specific charges for water and sanitary sewerage for the Seaton Community, as front-ending agreements were required to advance the water and sewer infrastructure works in order to accommodate development there. As such, the anticipated development forecasts are summarized with and without the forecasts for the Seaton community.

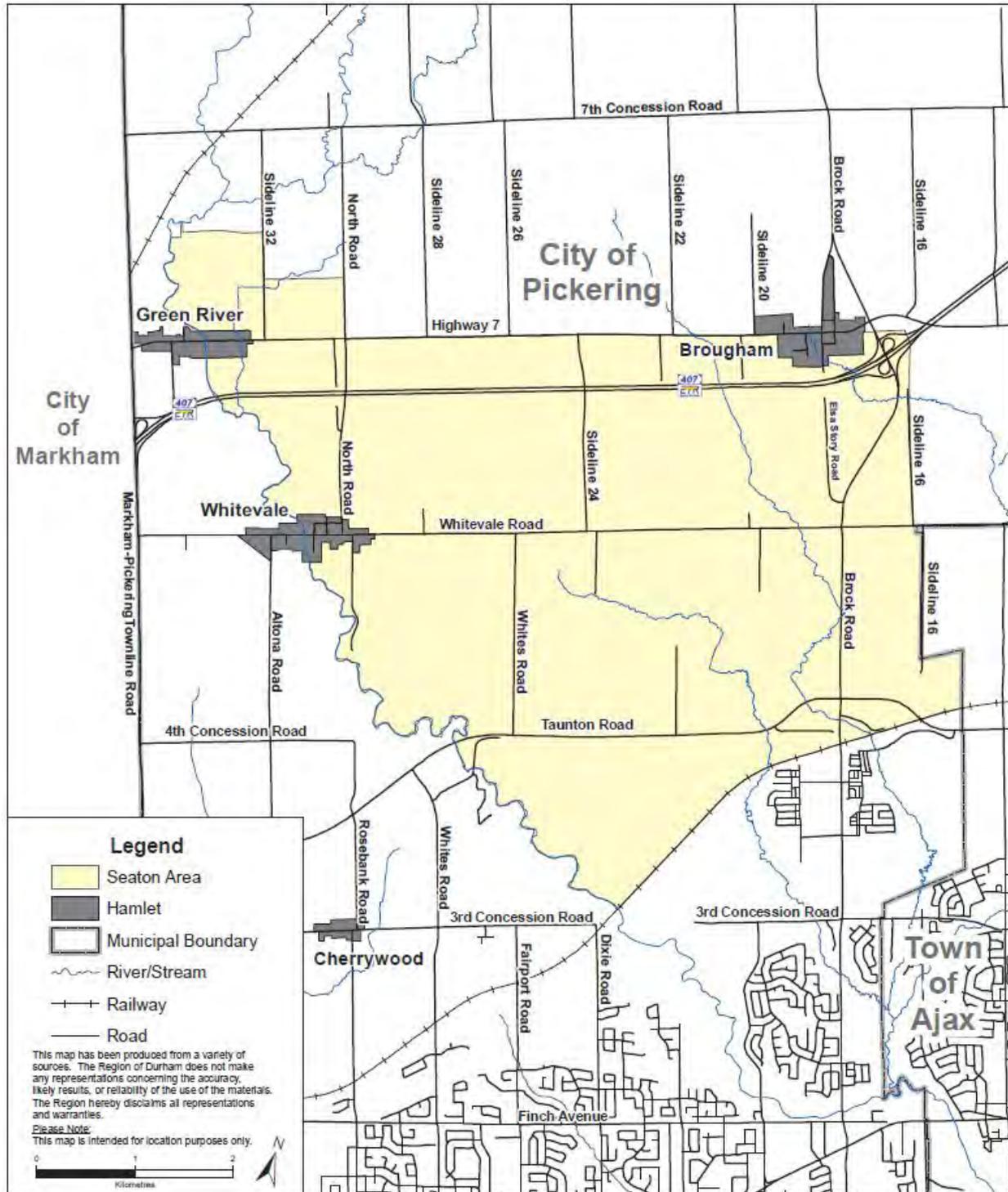
Water supply and sanitary sewerage treatment is planned on a local system basis and the requirements are specifically related to development in Seaton. Under this approach, developers/builders in the Seaton area pay the area specific development charges for water and sewer, not the Regional Water Supply and Sanitary Sewerage Development Charges.

Other Development Charge eligible services are calculated on a Region-wide basis, including Regional Roads, Transit, Long Term Care, Police, Paramedic Services, Health and Social Services, Housing Services and development-related studies. Development forecasts for these services include all of the Region.

The following looks first at the anticipated residential development, and then at the anticipated non-residential development. Each section presents tabular and graphic information used in developing the forecasts.

Figure A – 1

Seaton Area



Anticipated Residential Development

The anticipated residential development was derived from demand-driven forecasts of future population growth, which were converted to dwelling units and distributed to servicing areas. The process can be summarized as follows:

- The population forecast is derived from the 2031 population forecast figure (960,000) for Durham in Schedule 3 of the Provincial Growth Plan for the Greater Golden Horseshoe (2006). A future update of the Regional Official Plan will incorporate the 2041 population forecast figure of 1,190,000 for Durham in the Growth Plan (2017).
- The resulting forecasts of future population and dwelling units for the Region and area municipalities were distributed to the various servicing areas (i.e. transportation zones, water and sanitary servicing areas) based on phasing considerations, servicing constraints, and consideration of additional anticipated growth resulting from the realization of key structural elements mentioned above.

The following provides a summary of historical and forecasted population and dwelling unit information used to derive the anticipated residential development forecast (the forecasts from 2018 – 2028 as listed below refer to July 1, 2018 to June 30, 2028):

- Table A-1 provides historical Statistics Canada Census population and household information since 1995 and as well as assessed household and dwelling unit information where available.
- Table A-2 provides residential building permit information since 1986 by type of dwelling unit according to density (low, medium and apartment). Based on the Region's building permit data, the average annual number of new residential dwelling units, over the 21-year period 1996-2016, is 3,906.
- Table A-3 summarizes the forecasted dwelling units and population growth for the time periods 2018 to 2023, 2023 to 2028, and 2018 to 2028.
- Table A-4 provides the total population, with and without Seaton, for 2018 and 2028 as well as the increase in population between 2018 and 2028.
- Table A-5 provides the residential dwelling unit forecast by type of unit for the time periods 2018 to 2023, 2023 to 2028 and 2018 to 2028. Based on historical Census data, the total apartments are proportioned so that 35% consists of bachelor and one bedroom units and 65% consists of units with two bedrooms or more.
- Table A-6 provides the percentage shares of urban and rural residential dwelling units as a proportion of total residential dwelling units for the periods 2018 to 2023, 2023 to 2028 and 2018 to 2028.

- Table A-7 provides the residential dwelling unit growth forecast by year for the relevant periods of time between 2018 and 2028. The forecast growth is shown for urban, rural, and total new dwelling units.
- Figure A-2 graphically illustrates the annual number of new residential dwelling units for the period 1995 to 2016, based on the increments of dwelling units in Table A-1, as well as the annual number of residential dwelling units forecast for the 2017 to 2028 period. The forecast results are derived from the forecast data contained in Table A-7.
- Table A-8 provides the distribution of the anticipated residential dwelling unit growth by area municipality for the periods 2018 to 2023, 2023 to 2028 and 2018 to 2028.
- Table A-9 provides the distribution of the anticipated population growth by area municipality for the periods 2018 to 2023, 2023 to 2028 and 2018 to 2028.
- Table A-10 provides the average number of persons per unit, by type of residential dwelling unit according to density. This is based on an analysis of residential dwelling units in Durham Region from 1-15 years old as reported by Statistics Canada (Special Tabulation) during the 2006 Census.
- Table A-11 shows the calculation of the standard equivalent units which are used for revenue calculation purposes (refer to Appendices E, F, G and H). Standard equivalent units represent the total anticipated residential development as expressed in low density units (singles and semis), which is based on the relative average number of persons per density unit type. This table is calculated based on the information provided in previous tables. The information summarized in this table is used for calculating the residential development charge. The total “With Seaton” amounts (Section D) are used for the Regional Roads and General calculations, while the urban “Without Seaton” figures are used for Water Supply and Sanitary Sewerage purposes.

Table A-1

ASSESSED AND CENSUS POPULATION, HOUSEHOLDS AND DWELLING UNITS			
1995 - 2016			
YEAR	POPULATION	HOUSEHOLDS	DWELLING UNITS
1995 Assessed	NA	150,690	156,106
1996 Census	458,616	154,100	154,310
1996 Census (includes Undercount)	471,353		
1996 Assessed	NA	154,306	158,907
1997 Assessed	NA	157,928	162,581
1998 Assessed	NA	161,103	165,433
1999 Assessed	NA	163,466	168,235
2000 Assessed	NA	167,800	172,242
2001 Census	506,901	171,725	175,738
2001 Census (includes Undercount)	526,987		
2001 Assessed	NA	173,127	177,375
2002 Assessed	NA	177,104	181,552
2003 Assessed	NA	NA	NA
2004 Assessed	NA	NA	NA
2005 Assessed	NA	190,864	197,757
2006 Census	561,258	194,672	202,155
2006 Census (includes Undercount)	584,360		
2006 Assessed	NA	195,896	204,098
2007 Assessed	NA	NA	208,663
2008 Assessed	NA	NA	210,060
2009 Assessed	NA	NA	213,619
2010 Assessed	NA	NA	218,235
2011 Census	608,125	213,746	220,598
2011 Census (includes Undercount)	632,500		
2011 Assessed	NA	NA	221,553
2012 Assessed	NA	NA	NA
2013 Assessed	NA	NA	NA
2014 Assessed	NA	NA	NA
2015 Assessed	NA	NA	NA
2016 Census	645,862	227,906	233,886
2016 Census (includes Undercount)	671,700		

Source: Ministry of Revenue, MPAC and Statistics Canada
NA - Not Available (No enumeration conducted) or Not Applicable.

Notes: 1. Census figures as of mid-year.
2. Assessed households and dwelling units as of year-end.
3. Households are defined as occupied residential units
4. Dwelling Units are defined as all residential dwelling units, occupied or unoccupied.
5. 1996, 2001, 2006, 2011 and 2016 Census estimates (undercount included) for population from Statistics Canada Annual Demographic Statistics.
6. Undercount refers to estimate of net postcensal undercoverage of population for Durham Region.

Table A-2

NEW RESIDENTIAL UNITS BY TYPE OF DWELLING UNIT (FROM BUILDING PERMIT RECORDS)							
1986-2016							
YEAR	LOW DENSITY (Single/Semi)		MEDIUM DENSITY (Row/Town)		APARTMENT		TOTAL UNITS DURHAM REGION
	No.	%	No.	%	No.	%	
1986	6,554	91.0%	169	2.3%	480	6.7%	7,203
1987	6,701	80.3%	768	9.2%	875	10.5%	8,344
1988	6,538	79.6%	542	6.6%	1,137	13.8%	8,217
1989	4,169	71.6%	294	5.0%	1,363	23.4%	5,826
1990	2,398	64.0%	673	18.0%	673	18.0%	3,744
1991	2,249	54.9%	809	19.8%	1,036	25.3%	4,094
1992	1,804	66.6%	536	19.8%	368	13.6%	2,708
1993	1,872	73.0%	327	12.8%	364	14.2%	2,563
1994	2,943	76.7%	634	16.5%	261	6.8%	3,838
1995	1,173	66.2%	479	27.0%	121	6.8%	1,773
Annual Avg. 1986-1995	3,640	75.3%	523	10.8%	668	13.8%	4,831
1996	2,517	74.6%	604	17.9%	251	7.4%	3,372
1997	3,203	85.8%	453	12.1%	77	2.1%	3,733
1998	2,527	83.1%	471	15.5%	43	1.4%	3,041
1999	3,171	77.7%	536	13.1%	375	9.2%	4,082
2000	3,503	77.9%	646	14.4%	346	7.7%	4,495
2001	3,259	78.4%	772	18.6%	128	3.1%	4,159
2002	4,342	81.5%	660	12.4%	323	6.1%	5,325
2003	4,988	80.1%	966	15.5%	277	4.4%	6,231
2004	3,662	74.6%	869	17.7%	380	7.7%	4,911
2005	4,482	77.5%	1,080	18.7%	221	3.8%	5,783
2006	3,693	70.4%	1,011	19.3%	540	10.3%	5,244
2007	2,914	78.0%	645	17.3%	179	4.8%	3,738
2008	2,125	66.9%	963	30.3%	89	2.8%	3,177
2009	1,568	72.3%	330	15.2%	270	12.5%	2,168
2010	2,010	66.7%	690	22.9%	312	10.4%	3,012
2011	2,340	63.8%	727	19.8%	600	16.4%	3,667
2012	1,834	69.9%	505	19.3%	283	10.8%	2,622
2013	1,354	46.9%	541	18.8%	989	34.3%	2,884
2014	1,797	63.2%	591	20.8%	457	16.1%	2,845
2015	2,013	54.4%	567	15.3%	1,120	30.3%	3,700
2016	1,781	46.3%	970	25.2%	1,094	28.5%	3,845
Annual Avg. 1996-2016	2,813	72.0%	695	17.8%	398	10.2%	3,906
Annual Avg. 2011-2016	1,853	56.8%	650	19.9%	757	23.2%	3,261

1. Based on area municipal building permit reports.
2. Low Density includes Singles, semi-detached, and links.
3. Medium Density includes row/townhouses and apartments in duplexes.

Table A-3

RESIDENTIAL DWELLING UNIT AND POPULATION GROWTH FORECAST		
July 1, 2018- June 30, 2028		
PERIOD	DWELLING UNIT GROWTH	POPULATION GROWTH
TOTAL		
2018-2023	48,025	102,840
2023-2028	38,410	80,115
2018-2028	86,435	182,955
WITHOUT SEATON		
2018-2023	38,430	74,460
2023-2028	30,430	58,140
2018-2028	68,860	132,600
SEATON ONLY		
2018-2023	9,595	28,380
2023-2028	7,975	21,980
2018-2028	17,570	50,360
Note: Numbers may not add due to rounding.		

Table A-4

POPULATION July 1, 2018- June 30, 2028			
TOTAL	2018	2018-2028	2028
With Seaton	689,395	182,955	872,350
Without Seaton	687,390	132,600	819,990
Note: Numbers may not add due to rounding.			

Table A-5

RESIDENTIAL DWELLING UNIT GROWTH FORECAST BY TYPE				
July 1, 2018- June 30, 2028				
Period	LOW DENSITY (Single/semis)	MEDIUM DENSITY (Row/Town)	APARTMENT	
			BACHELOR/ (ONE BEDROOM	TWO BEDROOMS OR MORE
			35%	65%
WITH SEATON				
2018-2023	25,069	12,246	3,746	6,964
2023-2028	20,050	9,795	2,996	5,569
2018-2028	45,119	22,041	6,742	12,533
SEATON				
2018-2023	5,009	2,447	748	1,392
2023-2028	4,162	2,033	622	1,156
2018-2028	9,172	4,480	1,370	2,548
WITHOUT SEATON				
2018-2023	20,060	9,800	2,998	5,572
2023-2028	15,884	7,755	2,374	4,412
2018-2028	35,945	17,554	5,371	9,985
Notes:				
1. "Low density" includes single and semi-detached residential dwelling units as well as links.				
2. "Medium density" includes all townhomes and apartments in duplex.				
3. "Apartment" refers to an apartment unit in a high-rise building which has five or more stories, as well as low rise apartments, basement apartments, flats in converted houses, and apartments attached to non-residential buildings.				
4. All figures are rounded.				
5. The time period for each specified year in the range represents the end of May to coincide with Census enumeration.				

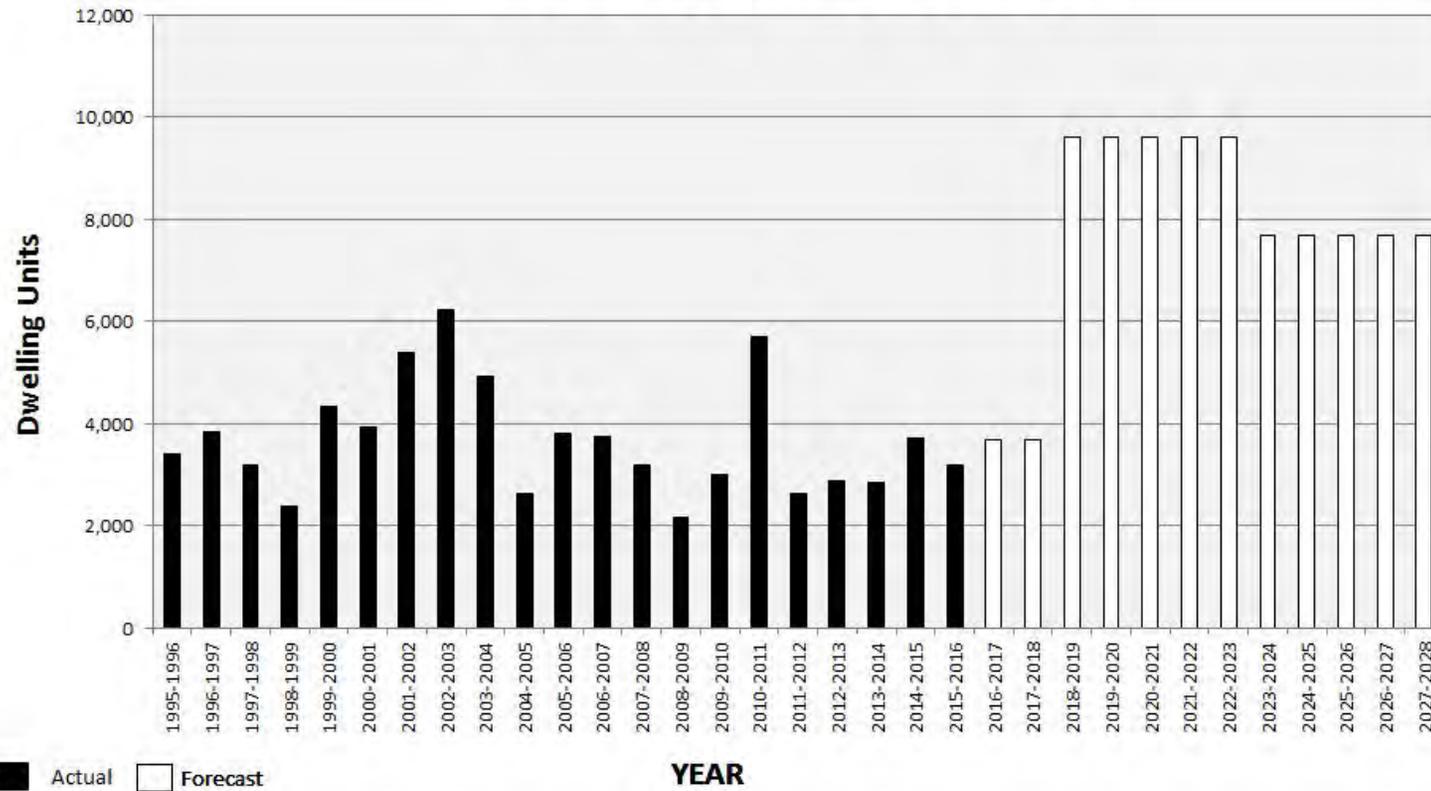
Table A-6

PERCENTAGE SHARE OF URBAN AND RURAL RESIDENTIAL DWELLING UNITS July 1, 2018- June 30, 2028		
PERIOD	URBAN	RURAL
WITH SEATON		
2018-2023	97.8%	2.2%
2023-2028	98.4%	1.6%
2018-2028	98.1%	1.9%
WITHOUT SEATON		
2018-2023	97.2%	2.8%
2023-2028	98.0%	2.0%
2018-2028	97.6%	2.4%

Table A-7

RESIDENTIAL DWELLING UNIT GROWTH FORECAST (NEW UNITS)			
BY TIME PERIOD, July 1, 2018- June 30, 2028			
YEAR	URBAN (NEW UNITS)	RURAL (NEW UNITS)	TOTAL (NEW UNITS)
WITH SEATON			
2018-2019	9,390	215	9,605
2019-2020	9,390	215	9,605
2020-2021	9,390	215	9,605
2021-2022	9,390	215	9,605
2022-2023	9,390	215	9,605
2018-2023	46,950	1,075	48,025
2023-2024	7,560	120	7,680
2024-2025	7,560	120	7,680
2025-2026	7,560	120	7,680
2026-2027	7,560	120	7,680
2027-2028	7,570	120	7,690
2023-2028	37,810	600	38,410
2018-2028	84,760	1,675	86,435
WITHOUT SEATON			
2018-2019	7,470	215	7,685
2019-2020	7,470	215	7,685
2020-2021	7,470	215	7,685
2021-2022	7,470	215	7,685
2022-2023	7,475	215	7,690
2018-2023	37,355	1,075	38,430
2023-2024	5,965	120	6,085
2024-2025	5,965	120	6,085
2025-2026	5,965	120	6,085
2026-2027	5,965	120	6,085
2027-2028	5,970	120	6,090
2023-2028	29,830	600	30,430
2018-2028	67,185	1,675	68,860
Note: Figures may not add due to rounding.			

**FIGURE A-2
REGION OF DURHAM
RESIDENTIAL DWELLING UNIT GROWTH**



Note: "Actual" is based on dwelling unit growth in Table A-1.

Table A-8

RESIDENTIAL DWELLING UNIT GROWTH BY AREA MUNICIPALITY			
(WITH AND WITHOUT SEATON), July 1, 2018- June 30, 2028			
Area Municipality	2018-2023	2023-2028	2018-2018
Ajax	4,948	1,527	6,475
Brock	576	541	1,117
Clarington	6,806	6,722	13,528
Oshawa	4,428	7,671	12,099
Pickering With Seaton Community	19,050	10,026	29,076
Without Seaton Community	9,454	2,052	11,506
Scugog	653	271	924
Uxbridge	948	462	1,410
Whitby	10,617	11,189	21,806
Durham With Seaton Community	48,026	38,409	86,435
Without Seaton Community	38,430	30,435	68,865
Note: Figures may not add due to rounding.			

Table A-9

POPULATION GROWTH BY AREA MUNICIPALITY			
(WITH AND WITHOUT SEATON), July 1, 2018- June 30, 2028			
Area Municipality	2018-2023	2023-2028	2018-2018
Ajax	5,345	2,390	7,735
Brock	573	293	866
Clarington	15,768	14,251	30,019
Oshawa	3,238	17,015	20,253
Pickering With Seaton Community	53,544	24,150	77,694
Without Seaton Community	25,165	2,172	27,337
Scugog	-124	-116	-240
Uxbridge	869	310	1,179
Whitby	23,625	21,823	45,448
Durham With Seaton Community	102,838	80,116	182,954
Without Seaton Community	74,459	58,138	132,597
Note: Figures may not add due to rounding.			

Table A-10

AVERAGE NUMBER OF PERSONS PER UNIT BY TYPE FOR DWELLING UNITS AGED 1-15 YEARS		
DWELLING UNIT DENSITY	PERSONS PER UNIT	% OF SINGLE DETACHED
Low Density (Single and Semi Detached)	3.46	100.00%
Medium Density (Attached/Multiple)	2.78	80.35%
Apartment (Bachelor/One Bedroom)	1.31	37.86%
Apartment (Two bedroom and greater)	2.01	58.09%
<ul style="list-style-type: none"> • Single detached refers to a single dwelling unit not attached to any other dwelling or structure (except its own garage or shed). • Semi-detached refers to one of two dwellings attached side by side (or back to front) to each other, but not to any other dwelling or structure (except its own garage or shed). • Attached/Multiple refers to other dwelling unit types not included above such as townhouses. • Apartment refers to an apartment unit in a high-rise building which has five or more stories, as well as low rise apartments, basement apartments, flats in converted houses, and apartments attached to non-residential buildings. • Based on 2006 Census Special Tabulations. 		

Table A-11

STANDARD EQUIVALENT UNITS											
YEARS	(A) Residential Dwelling Unit Forecast (All Types of Units)	(B) RESIDENTIAL DWELLING UNIT FORECAST (BY Type of Unit)				(C) STANDARD EQUIVALENT UNITS (BY TYPE OF UNIT)				(D) STD. EQUIVALENT (Total Units)*	
		Low Density (Single/Semi)	Medium Density (Row/Town)	Apartment		Low Density 100%	Medium Density 80.35%	Apartment		Roads & General	Water & Sewer
				2 Bedroom+	1 Bedroom			2 Bedroom+ 58.09%	1 Bedroom 37.86%		
WITH SEATON											
2018-2019	9,605	5,014	2,449	1,393	749	5,014	1,969	809	283	8,075	7,895
2019-2020	9,605	5,014	2,449	1,393	749	5,014	1,969	809	283	8,075	7,895
2020-2021	9,605	5,014	2,449	1,393	749	5,014	1,969	809	283	8,075	7,895
2021-2022	9,605	5,014	2,449	1,393	749	5,014	1,969	809	283	8,075	7,895
2022-2023	9,605	5,014	2,449	1,393	749	5,014	1,969	809	283	8,075	7,895
2023-2024	7,680	4,009	1,958	1,114	599	4,009	1,575	647	226	6,457	6,355
2024-2025	7,680	4,009	1,958	1,114	599	4,009	1,575	647	226	6,457	6,355
2025-2026	7,680	4,009	1,958	1,114	599	4,009	1,575	647	226	6,457	6,355
2026-2027	7,680	4,009	1,958	1,114	599	4,009	1,575	647	226	6,457	6,355
2027-2028	7,690	4,014	1,961	1,115	600	4,014	1,577	648	226	6,465	6,363
2018 - 2023	48,025	25,069	12,246	6,964	3,746	25,069	9,845	4,045	1,415	40,374	39,474
2023-2028	38,410	20,050	9,795	5,569	2,996	20,050	7,877	3,236	1,130	32,293	31,783
2018-2028	86,435	45,119	22,041	12,533	6,742	45,119	17,722	7,281	2,545	72,667	71,256
WITHOUT SEATON											
2018-2019	7,685	4,012	1,960	1,114	599	4,012	1,576	647	226	6,461	6,316
2019-2020	7,685	4,012	1,960	1,114	599	4,012	1,576	647	226	6,461	6,316
2020-2021	7,685	4,012	1,960	1,114	599	4,012	1,576	647	226	6,461	6,316
2021-2022	7,685	4,012	1,960	1,114	599	4,012	1,576	647	226	6,461	6,316
2022-2023	7,690	4,014	1,961	1,115	600	4,014	1,577	648	226	6,465	6,321
2023-2024	6,085	3,176	1,551	882	475	3,176	1,247	512	179	5,114	5,034
2024-2025	6,085	3,176	1,551	882	475	3,176	1,247	512	179	5,114	5,034
2025-2026	6,085	3,176	1,551	882	475	3,176	1,247	512	179	5,114	5,034
2026-2027	6,085	3,176	1,551	882	475	3,176	1,247	512	179	5,114	5,034
2027-2028	6,090	3,179	1,552	883	475	3,179	1,248	513	179	5,119	5,038
2018 - 2023	38,430	20,060	9,800	5,572	2,998	20,060	7,881	3,236	1,130	32,307	31,585
2023-2028	30,425	15,884	7,755	4,412	2,374	15,884	6,236	2,561	895	25,576	25,174
2018-2028	68,855	35,945	17,554	9,985	5,371	35,945	14,117	5,797	2,025	57,884	56,759
<p>Notes:</p> <ul style="list-style-type: none"> * - "Roads & General", "With Seaton", used for Regional Roads and Soft Services rate calculations. - "Water & Sewer", "Without Seaton", used for Water Supply and Sanitary Sewerage rate calculation purposes. - Figures are rounded. <ol style="list-style-type: none"> 1. Section A is from Table A-7 2. Section B is obtained from Table A-5 3. Section C is obtained by applying the relative difference in average number of persons/unit by type from Table A-10 to Section B. 4. Section D is obtained as follows: Roads & General are 100% of total units in Section C; Water & Sewer is obtained by applying the share of urban units from Table A-6 to the total units in Section C. 5. Numbers may not add due to rounding. 											

Anticipated Non-Residential Development

The anticipated non-residential development forecast is derived from future employment growth, converted to floor space (expressed in square meters) and assigned to servicing areas. The forecasts from 2018 – 2028 as listed below and in the tables refer to July 1, 2018 to June 30, 2028. The process can be summarized as follows:

- Employment forecasts to the year 2031 were developed through the background work completed for the Durham Regional Official Plan (the forecasts used in the Development Charges Study cover the 10-year period from 2018-2028). The forecasts do not assume any population or employment related to the realization of an airport in north Pickering within the forecast period. The employment forecasts are derived from the 2031 employment forecast figure (350,000) mandated for Durham in Schedule 3 of the Provincial Growth Plan for the Greater Golden Horseshoe (2006);
- Non-residential floor space forecasts were derived for each major category by applying typical density conversion factors (i.e. square meters per employee) to the employment forecast for that sector. The typical density figures for the industrial and commercial sectors are based on an analysis of historical and current trends in Durham Region. The floor space forecasts by major category were allocated by area municipality; and
- The resulting forecasts of future employment for the Region were then distributed to the various servicing areas (i.e. transportation zones, and “demand areas”, a composite of water pressure zones and main drainage areas). The forecasts were first separated into expansion (i.e. additions to existing buildings) and new (i.e. construction of new buildings) growth shares based on historical building permit data. The forecast shares were then assigned to servicing areas, recognizing phasing considerations and servicing constraints. The expansion growth share was allocated to servicing areas according to the existing distribution of non-residential development. New growth was distributed based on available land supply (for Employment Area), non-residential parcel area (for Built Boundary Area), and the location and magnitude of dwelling unit growth (for Greenfield Area).

The following provides a summary of the historical and forecast employment and floor space information used to derive anticipated non-residential development:

- Table A-12 provides historical population, employment and activity rates for Durham Region from 1991, 1996, 2001, 2006 and 2011 Statistics Canada Census data. The employment information is summarized according to the major Statistics Canada categories, being Primary, Industrial, Commercial and Institutional. The following types of employment are included in these categories:
 - Primary – agriculture, fishing, trapping, logging, forestry, mining, quarrying, oil well;

- Industrial – manufacturing; transportation and storage; communication and other utility; and wholesale trade;
- Commercial – retail trade; finance, insurance, and real estate; business services; accommodation, food and beverage services; and other services; and
- Institutional – government, educational, health and social services.

“Work at Home” employment is also provided. However “No Fixed Place of Work” employment is not included.

- Table A-13 shows the historical non-residential floor space created in Durham Region for the 1990 – 2016 period based on building permit data for Industrial, Commercial, Institutional and Governmental uses. For the purposes of the Development Charges Background Study, the Institutional and Governmental categories are combined into an Institutional category consistent with the Statistics Canada building permit and employment information.
- Table A-14 summarizes forecast employment and non-residential floor space for the 2018 – 2028 period by major employment category. Separate forecasts are provided with and without the Seaton community. Floor space assumptions (square meters/employee) for each area municipality were applied to each respective employment forecast by Industrial, Commercial and Institutional categories to determine the Floor Space values. Over the forecast period, the Region’s employment is anticipated to grow by about 77,250 jobs, from 216,470 to 293,720 (including Seaton).
- Table A-15 provides the overall floor space per employee results for Durham Region, for each employment category, for the entire 2018-2028 period, with and without the Seaton community.
- Figure A-3 graphically compares historical and forecast employment from Tables A-12 and A-14, illustrating the growth in employment over the forecast period.
- Figure A-4 summarizes forecasted non-residential floor space by major employment category from Table A-14.
- Table A-16 shows the historical shares of urban and rural floor space as a proportion of total non-residential floor space created for the 1990 – 2016 period. Differentiation by urban and rural areas is required to determine the proportion of forecast floor space subject to Regional water supply and sanitary sewer services (urban only).
- Figure A-5 compares actual historical and forecast growth in non-residential floor space by year from Tables A-13 and A-14. Non-residential development activity in Durham has been cyclical over time, as a result of changes in the economy.

- Table A-17 provides the distribution of the anticipated employment growth by area municipality for the periods 2018 to 2023, 2023 to 2028 and 2018 to 2028.
- Table A-18 provides the distribution of the anticipated non-residential floor space growth by area municipality for the periods 2018 to 2023, 2023 to 2028 and 2018 to 2028.
- Table A-19 summarizes forecast non-residential floor space growth by year for the 2018 – 2028 period. The forecast is summarized by rural, urban, and total floor space for each major employment category. Separate forecasts are provided with and without the Seaton community.
- The information summarized in Table A-19 is used for calculating the non-residential development charge (refer to Appendices E, F, G and H). The Total “With Seaton Community” amounts are used for the Regional Roads and general calculations, while the Urban “Without Seaton Community” figures are used for Water Supply and Sanitary Sewerage purposes.

TABLE A-12

HISTORICAL POPULATION, EMPLOYMENT AND ACTIVITY RATES BY SECTOR (FROM CENSUS DATA) 1991-2011											
Year	POPULATION	PRIMARY	WORK AT HOME	INDUSTRIAL		COMMERCIAL		INSTITUTIONAL		TOTAL	
				JOBS	ACTIVITY RATE	JOBS	ACTIVITY RATE	JOBS	ACTIVITY RATE	JOBS	ACTIVITY RATE
1991	422,970	2,125	12,635	63,615	0.150	45,695	0.108	31,410	0.074	155,480	0.368
1996	471,360	1,775	13,855	54,670	0.116	48,700	0.103	30,125	0.064	149,125	0.316
2001	526,990	1,475	16,290	59,175	0.112	62,225	0.118	34,235	0.065	173,400	0.329
2006	584,360	1,545	18,505	59,860	0.102	70,550	0.121	39,615	0.068	190,075	0.325
2011	632,500	2,465	19,085	49,705	0.079	87,725	0.139	49,675	0.079	208,655	0.330

Source: Watson and Associates Economists Ltd., 2017.

The population figures for 1991, 1996, 2001, 2006 and 2011 include the Census undercount.

Does not include 'No Fixed Place of Work' employment.

All Figures are rounded.

Table A-13							
HISTORICAL NON-RESIDENTIAL FLOOR SPACE CREATED BY SECTOR (FROM BUILDING PERMIT RECORDS), 1990-2016							
YEAR	INDUSTRIAL		COMMERCIAL		INSTITUTIONAL (1)		TOTAL
	(m²)	%	(m²)	%	(m²)	%	(m²)
1990	90,930	27%	69,160	20%	180,530	53%	340,620
1991	27,190	28%	26,460	28%	42,260	44%	95,910
1992	13,750	11%	26,530	21%	87,280	68%	127,560
1993	6,590	7%	44,705	51%	36,705	42%	87,995
1994	31,255	22%	45,480	32%	67,285	47%	144,015
1995	86,205	40%	64,120	30%	63,375	30%	213,705
1996	10,180	10%	37,880	37%	55,035	53%	103,095
1997	39,035	27%	66,690	47%	36,655	26%	142,380
1998	52,700	31%	76,440	45%	41,330	24%	170,470
1999	171,020	48%	90,495	25%	96,235	27%	357,750
2000	125,570	30%	127,860	31%	160,290	39%	413,720
2001	87,990	37%	47,220	20%	103,035	43%	238,240
2002	111,425	37%	67,715	22%	125,920	41%	305,055
2003	138,295	28%	166,110	34%	187,525	38%	491,935
2004	153,445	45%	87,550	25%	102,555	30%	343,550
2005	77,445	25%	118,510	39%	111,175	36%	307,130
2006	209,065	57%	77,310	21%	82,345	22%	368,715
2007	75,835	27%	94,795	34%	109,580	39%	280,210
2008	42,935	14%	157,555	52%	104,785	34%	305,275
2009	42,830	17%	90,280	37%	112,600	46%	245,710
2010	33,455	20%	67,425	39%	70,590	41%	171,465
2011	40,665	19%	75,595	36%	92,950	44%	209,210
2012	56,043	35%	68,215	42%	36,745	23%	161,003
2013	40,680	43%	40,586	43%	13,773	14%	95,039
2014	45,730	26%	84,370	49%	43,260	25%	173,360
2015	28,956	46%	22,810	36%	11,641	18%	63,407
2016	41,929	32%	37,717	29%	50,606	39%	130,252

1. "institutional" combines both institutional and Government sectors from building permit reports.
2. All Figures are rounded.

Table A-14

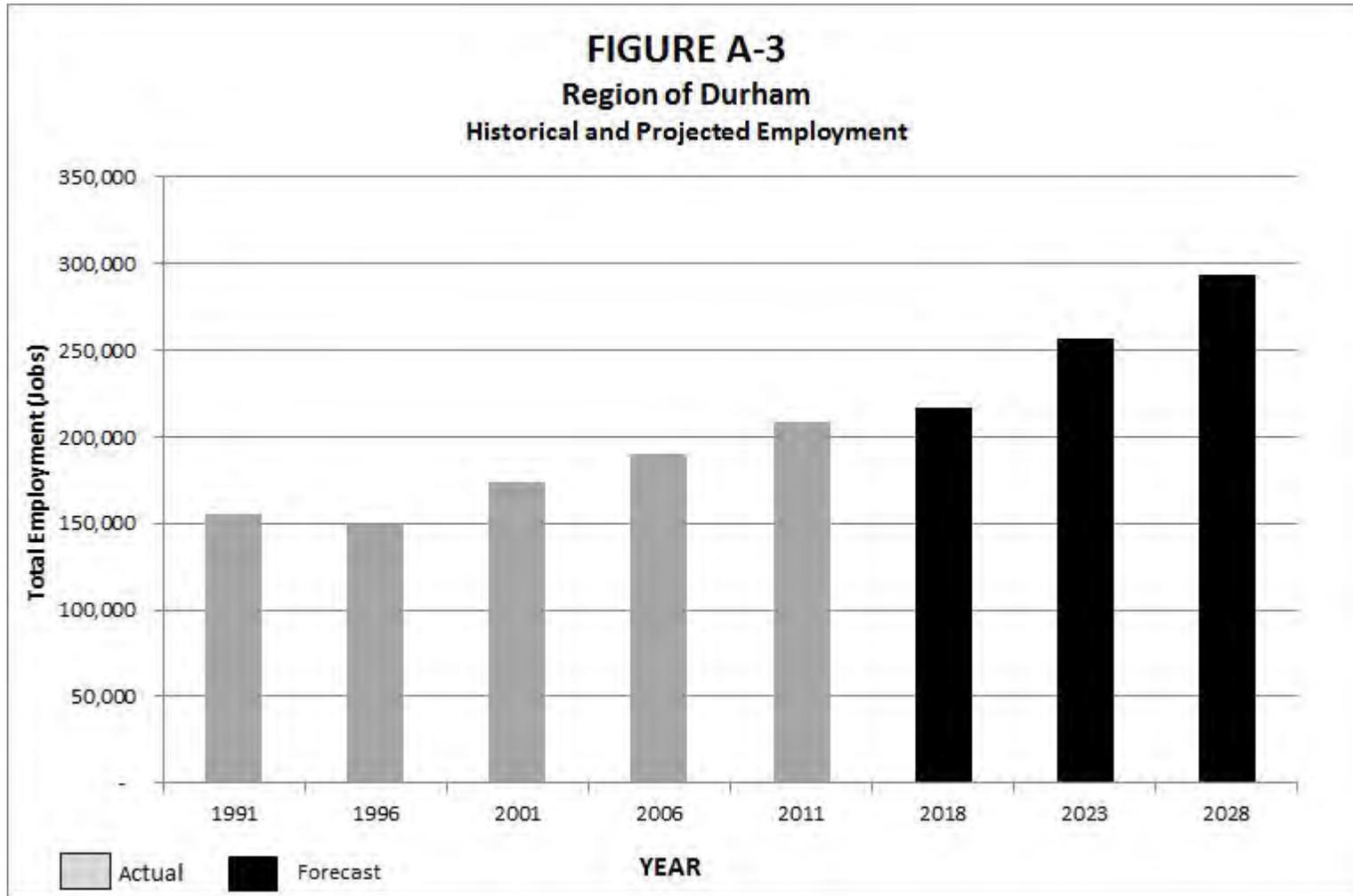
Employment and Non-Residential Floor Space Forecasts by Sector, 2018-2028													
Period	Employment									Floor Space (m ²)			
	Primary	Industrial	Commercial/ Retail	Institutional	Total Employment (excluding WAH & NFPOW)	Work at Home (WAH)	Total Employment Including Work at Home, Excluding NFPOW	No Fixed Place of Work (NFPOW)	Total Employment (including WAH & NFPOW)	Industrial	Commercial	Institutional	Total
With Seaton Total													
2018	1,970	53,370	85,800	52,860	193,980	22,490	216,470	18,790	235,250	6,350,300	3,395,400	3,247,400	12,993,100
2023	1,970	78,000	96,640	55,560	232,160	25,080	257,240	18,770	276,000	9,250,500	3,818,900	3,418,400	16,487,900
2028	1,960	101,480	105,870	56,950	266,250	27,470	293,720	18,760	312,480	12,028,600	4,181,900	3,505,300	19,715,700
Growth													
2018-2023	-	24,630	10,850	2,710	38,180	2,590	40,770	- 20	40,750	2,900,200	423,600	171,000	3,494,800
2023-2028	- 10	23,480	9,230	1,390	34,090	2,390	36,480	- 10	36,470	2,778,000	363,000	86,900	3,227,900
2018-2028	- 10	48,110	20,070	4,100	72,270	4,980	77,250	- 20	77,230	5,678,300	786,500	257,900	6,722,700
Without Seaton Total													
2018	1,970	53,370	85,800	52,860	193,980	22,490	216,470	18,790	235,250	6,350,300	3,395,400	3,247,400	12,993,100
2023	1,970	72,150	93,890	54,590	222,590	24,660	247,250	18,740	265,980	8,612,300	3,719,100	3,357,100	15,688,500
2028	1,960	89,600	101,250	55,610	248,410	26,620	275,030	18,670	293,700	10,731,600	4,014,600	3,420,500	18,166,700
Growth													
2018-2023	-	18,780	8,090	1,740	28,610	2,170	30,780	- 50	30,730	2,262,000	323,700	109,800	2,695,400
2023-2028	- 10	17,450	7,370	1,010	25,820	1,960	27,780	- 70	27,720	2,119,300	295,500	63,400	2,478,200
2018-2028	- 10	36,230	15,460	2,750	54,430	4,130	58,560	- 120	58,450	4,381,300	619,300	173,100	5,173,600

Source: Watson & Associates Economists Ltd., 2017. Derived from Durham Region Official Plan.

Table A-15

Durham 2018-2028	Square Meters Floor Space/Employee			
	Industrial	Commercial	Institutional	Total
With Seaton	117	39	63	94
Without Seaton	120	40	63	97

Source: Watson & Associates Economists Ltd.



Notes:

1. Total employment does not include jobs related to 'No Fixed place of work (NFPOW).'

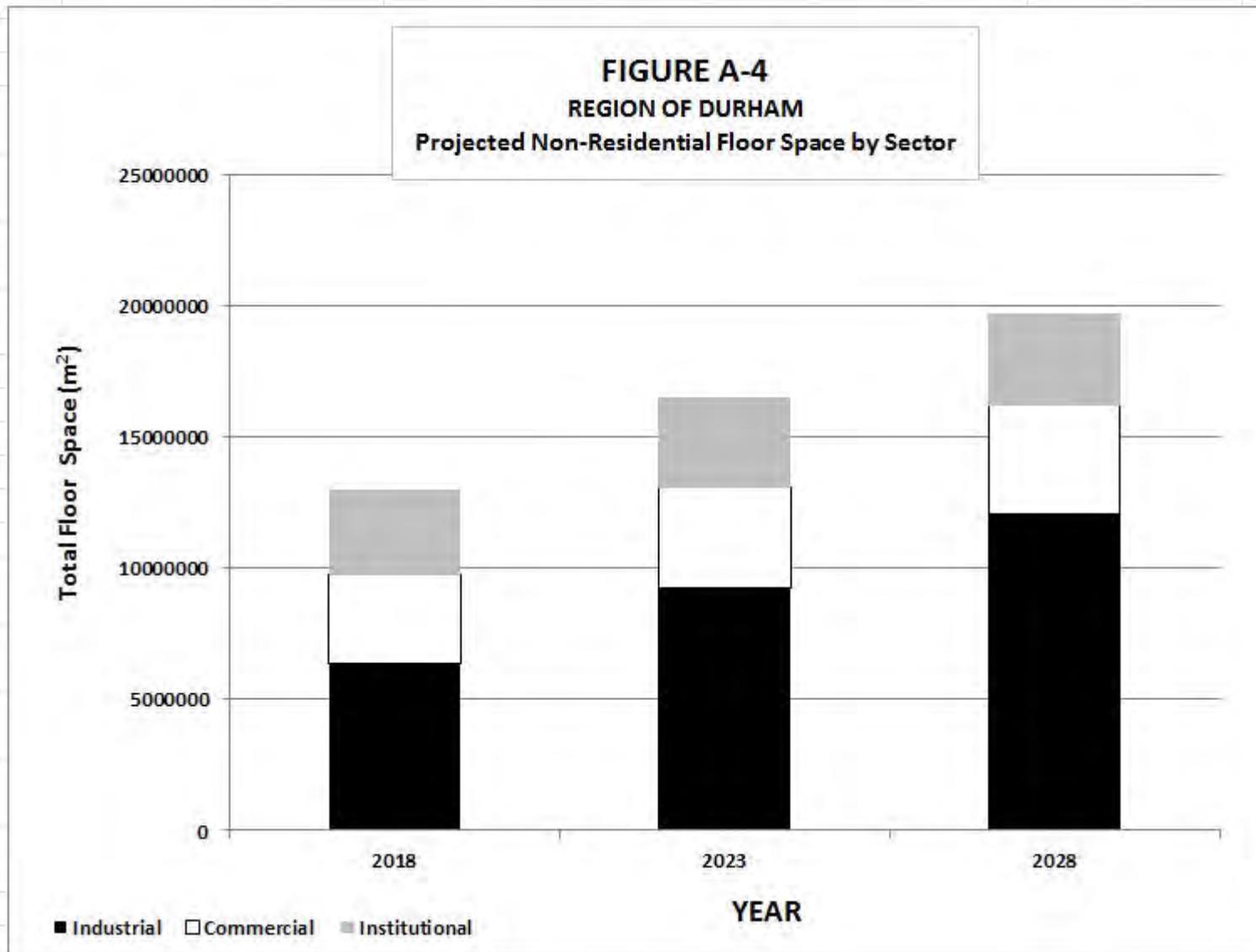


Table A-16					
HISTORICAL URBAN AND RURAL SHARES OF NON-RESIDENTIAL FLOOR SPACE CREATED (FROM BUILDING PERMIT RECORDS), 1990-2016					
YEAR	URBAN		RURAL		(m²)
	(m²)	%	(m²)	%	
1990	337,215	99%	3,405	1%	340,620
1991	84,505	88%	11,405	12%	95,910
1992	121,695	95%	5,865	5%	127,560
1993	84,740	96%	3,260	4%	88,000
1994	142,425	99%	1,595	1%	144,020
1995	210,830	99%	2,870	1%	213,700
1996	101,270	98%	1,825	2%	103,095
1997	135,975	96%	6,405	4%	142,380
1998	162,775	95%	7,695	5%	170,470
1999	342,320	96%	15,430	4%	357,750
2000	397,270	96%	16,450	4%	413,720
2001	227,665	96%	10,580	4%	238,245
2002	300,920	99%	4,135	1%	305,055
2003	461,460	94%	30,475	6%	491,935
2004	330,975	96%	12,575	4%	343,550
2005	296,375	96%	10,755	4%	307,130
2006	346,370	94%	22,345	6%	368,715
2007	257,370	92%	22,840	8%	280,210
2008	297,025	97%	8,250	3%	305,275
2009	235,410	96%	10,300	4%	245,710
2010	164,320	96%	7,150	4%	171,470
2011	207,050	99%	2,160	1%	209,210
2012	140,909	88%	20,094	12%	161,003
2013	92,618	97%	2,421	3%	95,039
2014	146,738	85%	26,622	15%	173,360
2015	60,621	96%	2,786	4%	63,407
2016	112,476	86%	17,776	14%	130,252
Annual Average 1990 - 2016	214,790	95%	10,647	5%	225,437

Note: All Figures are rounded.

FIGURE A-5
Region of Durham
Historical and projected Non-Residential Floor Space Growth by Year

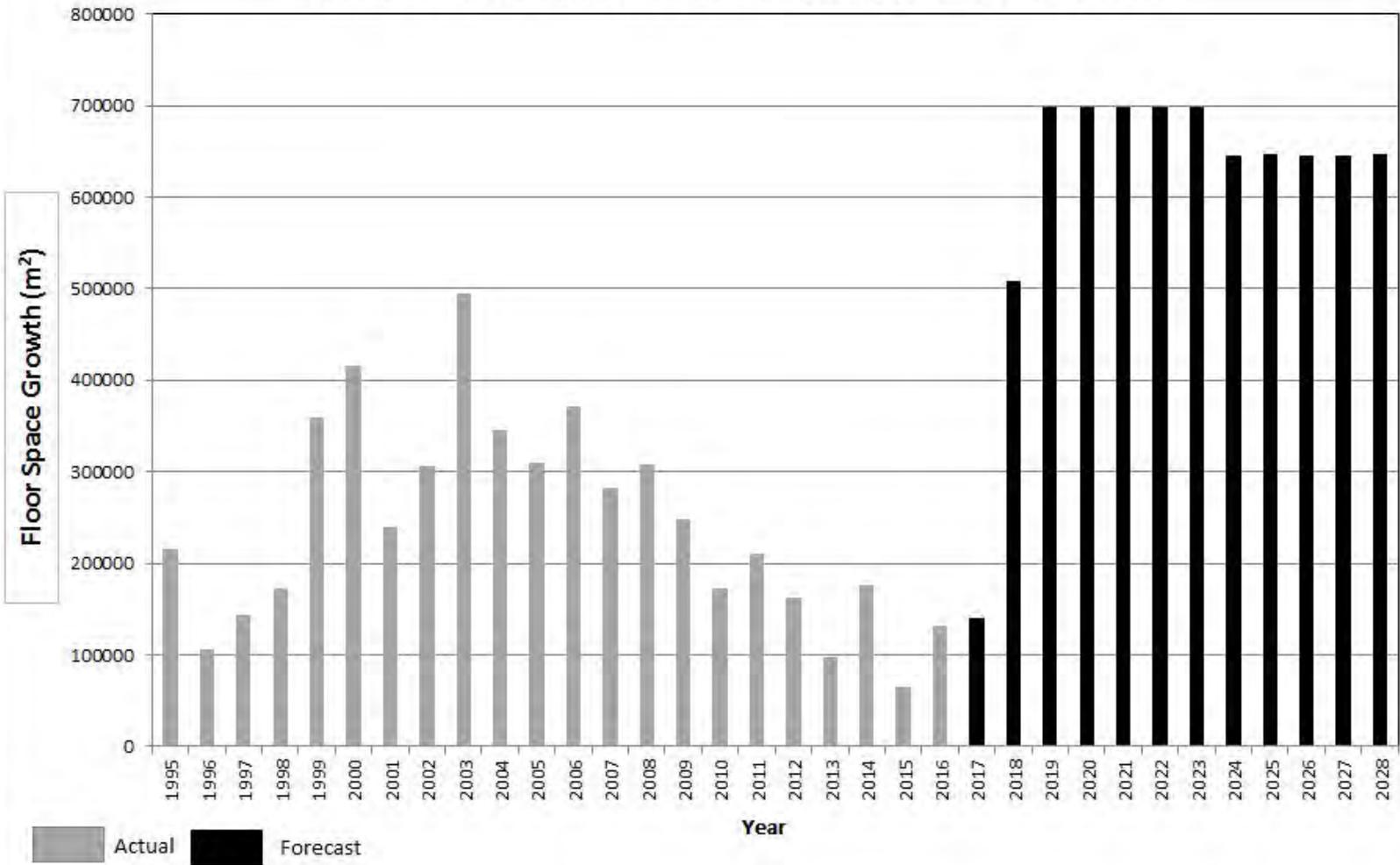


Table A-17				
EMPLOYMENT GROWTH FORECAST BY AREA MUNICIPALITY (WITH AND WITHOUT SEATON), 2018-2028				
AREA MUNICIPALITY		2018-2023	2023-2028	2018-2028
Ajax		5,680	3,980	9,650
Brock		290	270	560
Clarington		5,030	4,200	9,230
Oshawa		8,400	9,400	17,800
Pickering	With Seaton community	12,270	9,330	21,610
	Without Seaton community	2,290	650	2,930
Scugog		290	280	570
Uxbridge		260	240	500
Whitby		8,560	8,780	17,330
Durham	With Seaton Community	40,780	36,480	77,250
	Without Seaton Community	30,800	27,800	58,570
Notes:				
1. Does not include 'No Fixed Place of Work' employment.				
2. Figures may not add due to rounding.				

Table A-18				
NON-RESIDENTIAL FLOOR SPACE (m2)GROWTH FORECAST BY AREA MUNICIPALITY (WITH AND WITHOUT SEATON), 2018-2028				
AREA MUNICIPALITY		2018-2023	2023-2028	2018-2028
Ajax		476,200	311,900	788,000
Brock		22,400	20,800	43,200
Clarington		414,600	359,800	774,300
Oshawa		722,200	851,300	1,573,500
Pickering	With Seaton community	987,300	822,200	1,809,500
	without Seaton community	187,900	72,600	260,400
Scugog		18,800	16,000	34,900
Uxbridge		14,300	20,000	34,300
Whitby		839,200	825,900	1,665,100
Durham	With Seaton community	3,494,800	3,227,900	6,722,700
	Without Seaton community	2,695,400	2,478,200	5,173,600
Notes: Figures may not add due to rounding				

TABLE A-19												
NON-RESIDENTIAL FLOOR SPACE GROWTH FORECASTS BY SECTOR AND BY RURAL AND URBAN (WITH AND WITHOUT SEATON), 2018 -2028												
YEAR	RURAL (m ²)				URBAN (m ²)				TOTAL (m ²)			
	Industrial	Commercial	Institutional	Total	Industrial	Commercial	Institutional	Total	Industrial	Commercial	Institutional	Total
WITH SEATON COMMUNITY												
2018-2019	8,400	540	60	9,000	571,640	84,160	34,140	689,940	580,040	84,700	34,200	698,940
2019-2020	8,400	540	60	9,000	571,640	84,160	34,140	689,940	580,040	84,700	34,200	698,940
2020-2021	8,400	540	60	9,000	571,640	84,160	34,140	689,940	580,040	84,700	34,200	698,940
2021-2022	8,400	540	60	9,000	571,640	84,160	34,140	689,940	580,040	84,700	34,200	698,940
2022-2023	8,400	540	60	9,000	571,640	84,160	34,140	689,940	580,040	84,700	34,200	698,940
2018-2023	42,000	2,700	300	45,000	2,858,200	420,800	170,700	3,449,700	2,900,200	423,500	171,000	3,494,700
2023-2028	63,200	4,300	900	68,400	2,714,800	358,700	86,000	3,159,500	2,778,000	363,000	86,900	3,227,900
2018-2028	105,300	7,000	1,200	113,500	5,573,000	779,500	256,700	6,609,200	5,678,300	786,500	257,900	6,722,700
WITHOUT SEATON COMMUNITY												
2018-2019	8,400	540	60	9,000	444,000	64,200	21,880	530,080	452,400	64,740	21,940	539,080
2019-2020	8,400	540	60	9,000	444,000	64,200	21,880	530,080	452,400	64,740	21,940	539,080
2020-2021	8,400	540	60	9,000	444,000	64,200	21,880	530,080	452,400	64,740	21,940	539,080
2021-2022	8,400	540	60	9,000	444,000	64,200	21,880	530,080	452,400	64,740	21,940	539,080
2022-2023	8,400	540	60	9,000	444,000	64,200	21,880	530,080	452,400	64,740	21,940	539,080
2018-2023	42,000	2,700	300	45,000	2,220,000	321,000	109,400	2,650,400	2,262,000	323,700	109,700	2,695,400
2023-2028	63,200	4,300	900	68,400	2,056,100	291,200	62,500	2,409,800	2,119,300	295,500	63,400	2,478,200
2018-2028	105,300	7,000	1,200	113,500	4,276,000	612,200	171,900	5,060,100	4,381,300	619,200	173,100	5,173,600

Source: Watson & Associates Economists Ltd., 2018
Note: Figures may not add precisely due to rounding.

Appendix B

Region Share Policy For Residential Development

Appendix B – Region Share Policy

1. Introduction

The purpose of this policy paper is to examine the Regional policy of cost sharing with developers for the construction of sanitary sewers, watermains and Regional roads in conjunction with residential development.

2. Applicability

This policy is intended to be applicable to all residential development for the areas specified in this by-law, whether the development proceeds by plan of subdivision, consent or issuance of a building permit.

3. Development Charges Act

The Development Charges Act, 1997, states that:

“ss.59(1) a municipality shall not, by way of a condition or agreement under section 51 or 53 of the *Planning Act*, impose directly or indirectly a charge related to a development or a requirement to construct a service related to development except as allowed in subsection (2).

(2) a condition or agreement referred to in subsection (1) may provide for:

- a) local services, related to a plan of subdivision or within the area to which the plan relates, to be installed or paid for by the owners as a condition of approval under section 51 of the *Planning Act*;
- b) local services to be installed or paid for by the owner as a condition of approval under section 53 of the *Planning Act*.”

The term "local services" is not specifically defined in the DCA, 1997 or the associated regulations.

The existing Region's share policy is consistent with the requirements referenced above.

3.1 Definition of "Local Service"

For the purposes of Region Share, "Local Service" may be defined as the linear components of the sanitary sewerage system, water supply system or Regional road system which conform to Regional design guidelines and are of the minimum size required to provide service to the proposed development in its entirety.

4. Current Policy

4.1 General Philosophy

There is a range of significantly different approaches which can be taken under the DCA, 1997 with respect to the provision of municipal services.

One end of the range is to use the Front-ending provisions of the Act or the equivalent and have willing developers pay the full cost of necessary infrastructure with eventual collection and reimbursement by the municipality from other benefiting, but not contributing, landowners. This approach works relatively well in municipalities with only a few developers controlling large areas of land and a housing market that can support large scale land development. The developers have control over the cost and timing of servicing and the municipality does not have to provide major capital funding and assume the associated risk that developers will not proceed in a timely fashion.

At the opposite end of the range of approaches is for the municipality to partner with developers and provide major infrastructure through its capital budget. Infrastructure (beyond local services) constructed by developers, under this approach, is limited and eligible for either a credit against development charges or a cash rebate from the municipality. This is a workable approach in municipalities with a multitude of developers controlling relatively small and fragmented parcels of property. It also results in more competition among developers, which should result in lower consumer costs, and allows development to proceed in a slower housing market.

Elements of the developer's capital requirements and risk are reduced, or rather, shifted to the municipality.

Due to the fragmented land ownership and the multitude of developers in much of Durham Region, the Region has traditionally tended toward the second approach to the provision of infrastructure. The existing Region Share policy has been crafted in accordance with this philosophy and has worked well within the economic and market realities faced by Durham Region.

4.2 Existing Regional Policy, Established 1991, Amended 1993, 1999 and 2003

The current Region Share policy covers all Regional "hard" services, consisting of sanitary sewers, watermains and Regional roads, constructed in conjunction with residential development. The Policy came into effect in November 1991 and has been subsequently amended in 1993, 1999 and 2003 by Regional Council. The original policy provided for the Region to pay for oversizing of services internal to the subdivision and all works external to the subdivision.

The policy was amended, by Council, in May 1993, to recognize the special case of abutting services and to require developers to pay for 50% of the minimum size of abutting services. The policy was amended further by Council, in July 1999, to address oversizing for non-sequential development and allow developers to claim a cost recovery prior to 100% payment of their development charges. In August 2003, the policy was amended to reduce the Region’s share for external services for sequential development from the full cost of the works to the oversizing cost only, similar to the Region’s share for non-sequential development. There were no changes in the 2008 and 2013 DC Studies.

The current Region Share policy is as follows:

Category of Service	Source of Financing	
	Developer	Region
Sequential External Works	Min. Size	Oversizing Share
Non-Sequential External Works	Min. Size	Oversizing Share
Internal Works	Min. Size	Oversizing Share
Abutting Works	50% of Min. Size	Remainder

The definitions of the service categories may be found in Attachment No. 1.

4.3 Sequentiality

Sequentiality is defined as "something which follows something else, or something which occurs in a chronological order of events". In the context of subdivision development, it can be defined as the next subdivision which may proceed geographically and for which all necessary external infrastructure is in place.

In order for a development to be defined as sequential, the following criteria must be satisfied:

- Adequate Water Pollution Control Plant capacity;
- Adequate Water Supply Plant capacity;
- Trunk sewers available;
- Feeder mains available;
- Sanitary Sewerage Pumping stations available;
- Water booster pumping station available;
- Reservoir storage available;
- The development must be the next, closest, geographic extension of service to allow residential development (extension of services over open spaces or other non-developable lands may be permitted depending on the site location).

For services to be "available," they must exist, be committed in a Council approved tender award, or be contained within an executed servicing agreement (backed by 100% performance guarantees).

Development which does not fit the above criteria is non-sequential.

Regional staff is currently authorized to arrange up to \$500,000 in Regional financing for sequential development and up to \$100,000 in Regional financing for non-sequential development. For larger amounts, Council authorization is required.

4.4 Oversizing/external/abutting Services

The Region cost shares (with funding largely from development charge revenue) the portion of those services which are sized or located so as to benefit lands beyond the proposed development. These include: services which are oversized beyond the minimum size required by the development or the minimum size permitted by the Regional Design Guidelines, whichever is larger; services which are external to, or not required by the development; and services which abut the development and provide direct service to adjacent lands.

The developer funds the minimum size of services required for the subject development, or the Regional Design Guideline minimum size, whichever is larger, in the case of internal or external oversizing. The developer funds one half of the cost of the minimum size, or the Regional Design Guideline minimum size of services, in the case of abutting services of direct benefit to adjacent lands. The Region bears the remainder of the cost (one half of the cost of the minimum size plus oversizing).

No compensation is given to a developer for any extra cost incurred due to increased depth of service which is necessary to accommodate lands beyond the proposed development.

4.5 Projected Value of Region Share

The estimated financial impact on the development charge quantum using current policy and based on projections of sanitary sewer, watermain and road construction required to support the residential activity in the next 10 year period, is:

Average Cost Per Single Detached Equivalent Unit (\$2018)	
Sanitary Sewers	\$190
Water Supply	225
Regional Roads	<u>29</u>
TOTAL	<u>\$444</u>

4.6 Timing of Payment

Currently, the payment of Region's share is made once the following are satisfied:

- a) All required works have been completed and received Regional approval, as evidenced by a Completion Acceptance Certificate; and
- b) The required documentation in a form satisfactory to the Region has been submitted.

The required documentation consists of:

- an invoice with actual cost backup data; and
- a Statutory Declaration satisfactory to the Region.

Documentation should normally be filed with the Region shortly after completion of construction.

4.7 Form of Payment

The Region's share can be paid in the form of Development Charge credits or cash.

Under the current extended timeframe for the payment of Region's share, credits are popular with developers as they effectively speed up repayment to the developer, who receives recovery upon obtaining building permits. Unfortunately, the Region usually cannot quantify the amount of the credit until i) the works are completed, ii) the contractor has submitted the final invoice and iii) the developer has invoiced the Region for their share.

For this reason, payment of the Region's share by cash is preferred once the conditions in the agreement have been satisfied and a satisfactory invoice from the developer has been received.

5. Proposed Policy

There are no recommended changes to the Region's Cost Sharing Policy as described below.

5.1 External Services – Non-Sequential

Under the current policy, where the development is considered to be non-sequential, the developer pays for the minimum size of external sanitary sewers and watermains and the Region pays for oversizing. It is proposed that this policy remain in effect.

5.2 External Services - Sequential

Under the current policy the Development Charge By-law requires the developer to pay for the minimum size of external sanitary sewers and watermains and the Region to pay only for over sizing. For an external service which is not required to service the subdivision, the Region shall pay 100 percent of the cost, subject to the availability of financing as approved by Regional Council. It is proposed that this policy remain in effect.

5.3 Regional Roads and Storm Drainage

Under the current policy, the developer pays for Regional road improvements required to access a development and for the minimum size of Regional storm drainage works required to service a development.

The Region's cost sharing policy for Roads mainly consists of paying for Regional road improvements over and above the cost of those required for the development and for the oversizing of Regional storm sewers. The Region also pays for its share of any non-Regional storm drainage works that are oversized to convey or treat runoff from Regional roads.

5.4 Remaining Services

The current cost sharing policy with respect to internal and abutting services is a mechanism for equitably distributing the costs of network benefits over all other developments within the network. No revisions are proposed for these components of the policy.

5.4 Summary

The Region's share policy is proposed to remain unchanged as follows:

Category Service	Source of Financing	
	Developer	Region
Sequential External Works	Min. size	Oversizing
Non-Sequential External Works	Min. Size	Oversizing
Internal Works	Min. Size	Oversizing
Abutting Works	50% of Min. Size	Remainder

Examples of the above are illustrated in Attachment No. 2.

6. Financial Impact

With no changes to the Region's current cost sharing policy, the estimated financial impact on the development charge quantum based on projections of sanitary sewer, watermain and road construction required to support the residential activity in the next 10 year period, is:

Average Cost Per Single Detached Equivalent Unit (\$2018)	
Sanitary Sewers	\$190
Water Supply	225
Regional Roads	<u>29</u>
TOTAL	<u>\$444</u>

7. Financing of Region Share Payments to Developers

The construction of municipal sewer, watermain and road services in conjunction with new residential development also provides capacity for new non-residential development and occasionally for existing residential or non-residential development.

The new residential development component of the rebate to the developer is funded from the Residential Development Charge Fund. A share (i.e. 12.4% for water supply, 26.2% for sanitary sewerage and 30.0% for roads) is related to Non-residential Development Charges (Commercial, Institutional and Industrial) collected from non-residential growth. Shortfalls in the Non-residential Development Charge funding are typically financed from User Revenue for Water Supply and Sanitary Sewerage systems and Property Taxes for Regional Roads, with the allocation reviewed on an annual business planning basis.

Historically during years 2013 to 2017, the financing of the Region Share Payments to developers has been as follows:

<u>Service</u>	<u>Residential Development Charge Reserve Fund</u>	<u>Commercial Development Charge Reserve Fund</u>	<u>Property Tax/ User Revenue ⁽¹⁾</u>
Water Supply	87.80%	2.70%	9.50%
Sanitary Sewerage	74.30%	5.80%	19.90%
Regional Roads	68.00%	10.00%	22.00%

(1) Due to the funding shortfalls with the institutional and industrial non-residential development charge shares

During the review of the Development Charges study, an updated analysis has been undertaken with respect to determining the percentage allocation attributable between the Regional Development Charge Reserve Funds.

The proposed attribution of financing is based on historic and projected data and is summarized in the Capital Cost Summary Tables as provided in Appendix E, F and G of the Development Charges Background Study.

8. Recommendations

It is recommended that where applicable, the Region continue to cost share in the oversizing of infrastructure required for future residential development and that no changes to the Region’s Cost Sharing Policy be made.

Attachments

Attachment No.1 – Cost Sharing Policy for Regional Services

Attachment No.2 – Illustration of Region’s Share Calculation for Sewer and Water

Attachment No. 1

Cost Sharing Policy For Regional Services

SCHEDULE H

TO SUBDIVISION AGREEMENT dated the _____ day of _____

B E T W E E N:

-and-

THE REGIONAL MUNICIPALITY OF DURHAM

-and-

COST SHARING POLICY FOR REGIONAL SERVICES

A. DEFINITION OF TERMS

- | | | |
|------------------|---|--|
| Abutting service | - | shall include a service either existing or proposed, that is either located on a road allowance outside the limit of a subdivision but abuts the subdivision or located on a road allowance within the limit of a subdivision but abuts other lands outside the subdivision. |
| Cost | - | for an existing service, shall be the current cost, as determined by the Region, of constructing the service. |
| | - | for a proposed service, shall be the final cost of designing and constructing the service, as determined by the Region, after the construction is complete. |
| External service | - | shall include a service, either existing or proposed, that is located outside the limit of a subdivision but shall not include abutting service. |
| Internal service | - | shall include a service, either existing or proposed, that is located within the limit of a subdivision but shall not include an abutting service. |

- Minimum size - shall be the size of a service of sufficient size, as determined by the Region, to service a subdivision provided that the minimum size shall not be less than a two lane urban cross section road for regional roads, 200 millimetres in diameter for sanitary sewers, 100 millimetres in diameter for sanitary sewer connections, 300 millimetres in diameter for storm sewers, 150 millimetres in diameter for storm sewer connections, 150 millimetres in diameter for watermains and 19 millimetres in diameter for water connections.
- Regional road - shall be a road and related appurtenances that form part of the road system under the jurisdiction and control of the Regional Municipality of Durham and designed in accordance with Regional standards.
- Regional road connection - shall be that portion of a road and related appurtenances designed in accordance with Regional standards that provide direct access from the travelled portion of the regional road to a road under or planned to be under the jurisdiction of a lower-tier municipality or to a private driveway issued in accordance with the Region's Entranceway policy and by-law.
- Sanitary sewer - shall refer to a sanitary sewer system and related appurtenances designed in accordance with regional standards.
- Sanitary sewer connection - shall refer to a sanitary sewer service connection and related appurtenances designed in accordance with regional standards.
- Sequential development - the next development which may proceed geographically for which all necessary external regional service infrastructure is in place and capacity is available.
- Service - shall be a sanitary sewer, sanitary sewer connection, storm sewer, storm sewer connection, watermain or water connection.

- Shared stormwater management facility
- shall refer to the portion of a storm sewer system, such as a storm water detention or retention pond, and related appurtenances that accommodates storm water drainage from a Regional Road, and may be shared with other benefiting users.
- Storm sewer
- shall refer to a storm sewer system including catchbasins, connections, outfalls, inlets and related appurtenances under the jurisdiction and control of the Regional Municipality of Durham and designed in accordance with regional standards.
- Storm sewer connection
- shall refer to a storm sewer service connection and related appurtenances under the jurisdiction and control of the Regional Municipality of Durham and designed in accordance with regional standards.
- Subdivision
- shall mean the draft plan of subdivision approved, in accordance with the Planning Act, by the Regional Municipality of Durham, the Ministry of Housing or the Ontario Municipal Board subject to the conditions set out in Schedule C of this Agreement.
- Water connection
- shall refer to a water service connection and related appurtenances designed in accordance with regional standards.
- Watermain
- shall refer to a watermain system and related appurtenances designed in accordance with regional standards.

B. POLICY

1. Sanitary Sewer, Storm Sewer and Watermain

(a) Internal service

The cost of an internal service shall be shared between the Region and the Subdivider on the following basis:

- (i) For an internal service, which is not required to service the subdivision, the Region shall pay for 100 percent of the cost.
- (ii) For an internal service, which is required to service the subdivision, the Subdivider shall pay for 100 percent of the cost for the minimum size required to service the subdivision and the Region shall pay for the balance of the cost.

(b) Abutting service

The cost of an abutting service shall be shared between the Region and the Subdivider on the following basis:

- (i) For an abutting service, which is not required to service the subdivision, the Region shall pay for 100 percent of the cost.
- (ii) For an abutting service which is required to service the subdivision as well as other lands which are located outside the limit of the subdivision and abut the service, the Subdivider shall pay 50 percent of the cost for the minimum size required to service the subdivision and the Region shall pay for the balance of the cost.
- (iii) For an abutting service, which is required to service the subdivision, but will not service other lands which are located outside the limit of the subdivision and abut the service, the Subdivider shall pay for 100 percent of the cost for the minimum size required to service the subdivision and the Region shall pay for the balance of the cost.

(c) External service

The cost of an external service shall be shared between the Region and the Subdivider on the following basis:

- (i) For an external service, which is required to service the subdivision, the Subdivider shall pay 100 percent of the cost for the minimum size required to service the subdivision and the Region shall pay for the balance of the cost.
- (ii) For an external service, which is not required to service the subdivision, the Region shall pay for 100 percent of the cost.

2. Sanitary Sewer Connection, Storm Sewer Connection and Water Connection

The cost of sanitary sewer connections, storm sewer connections and/or water connections shall be shared between the Region and the Subdivider on the following basis:

- (a) For lands within the subdivision
The Subdivider's cost of sanitary sewer connections, storm sewer connections and/or water connections shall be the total cost of the connections to each lot, block or building site within the subdivision.
- (b) For lands external to the subdivision
The cost of sanitary sewer connections, storm sewer connections and/or water connections to lands external to the subdivision shall be 100 percent paid for by the Region.

3. Regional Road Connection

The cost of a regional road connection shall be shared between the Region and the Subdivider on the following basis:

- (a) The cost of Regional road improvements over and above the cost of those required for the development shall be 100 percent paid for by the Region.
- (b) All other costs necessary to provide safe and efficient access and egress to the subdivision, including, but not limited to, costs for turning lanes, tapers and traffic control measures, shall be 100 percent paid for by the Subdivider.

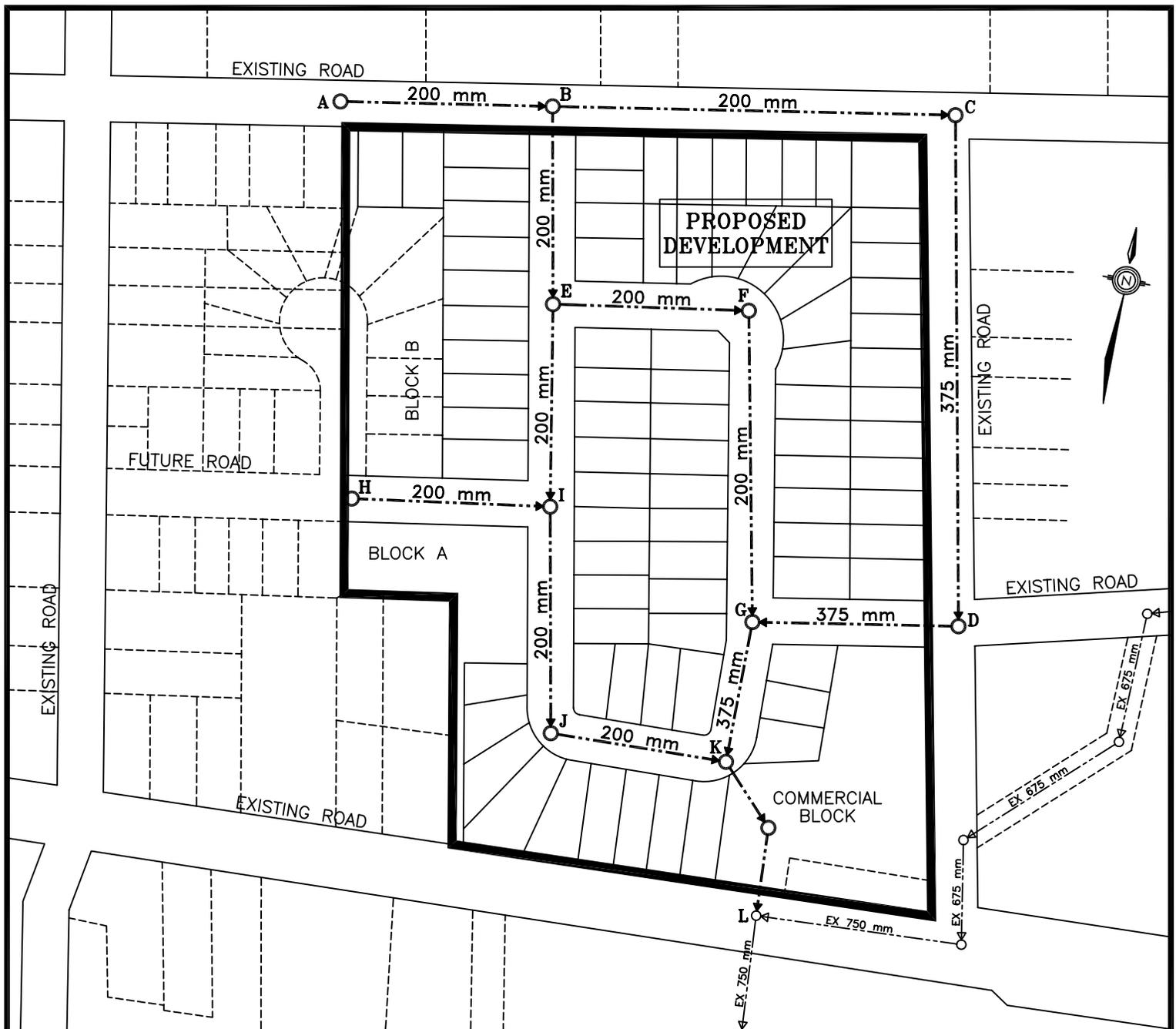
4. Shared Stormwater Management Facility

The cost of a shared stormwater management facility shall be shared between the Region and the Subdivider on the following basis:

- (a) The Subdivider shall pay for 100 percent of the cost of the minimum size required to service the subdivision and other contributing lands owned by the Subdivider.
- (b) The oversizing cost shall be attributed to other contributing parties, including the Region, based on each party's contributing area multiplied by runoff coefficient.
- (c) The Region shall pay for its share of the oversizing cost based on the Region's contributing area multiplied by runoff coefficient.

Attachment No. 2

Illustration of Region Share Calculation for Sewer and Water



COST SHARING			
SECTION	SIZE	DEVELOPER'S SHARE	REGION'S SHARE
A-B, B-C	200 mm	50 %	50 %
C-D	375 mm	50% OF MINIMUM SIZE	BALANCE
D-G, G-K, K-L	375 mm	100% OF MINIMUM SIZE	BALANCE
OTHERS	200 mm	100 %	--

Note: EXTERNAL AND ABUTTING INFRASTRUCTURE FINANCED BY THE REGION OF DURHAM WILL BE SUBJECT TO COLLECTIONS FROM FUTURE BENEFITTING DEVELOPMENT OR LANDOWNERS.



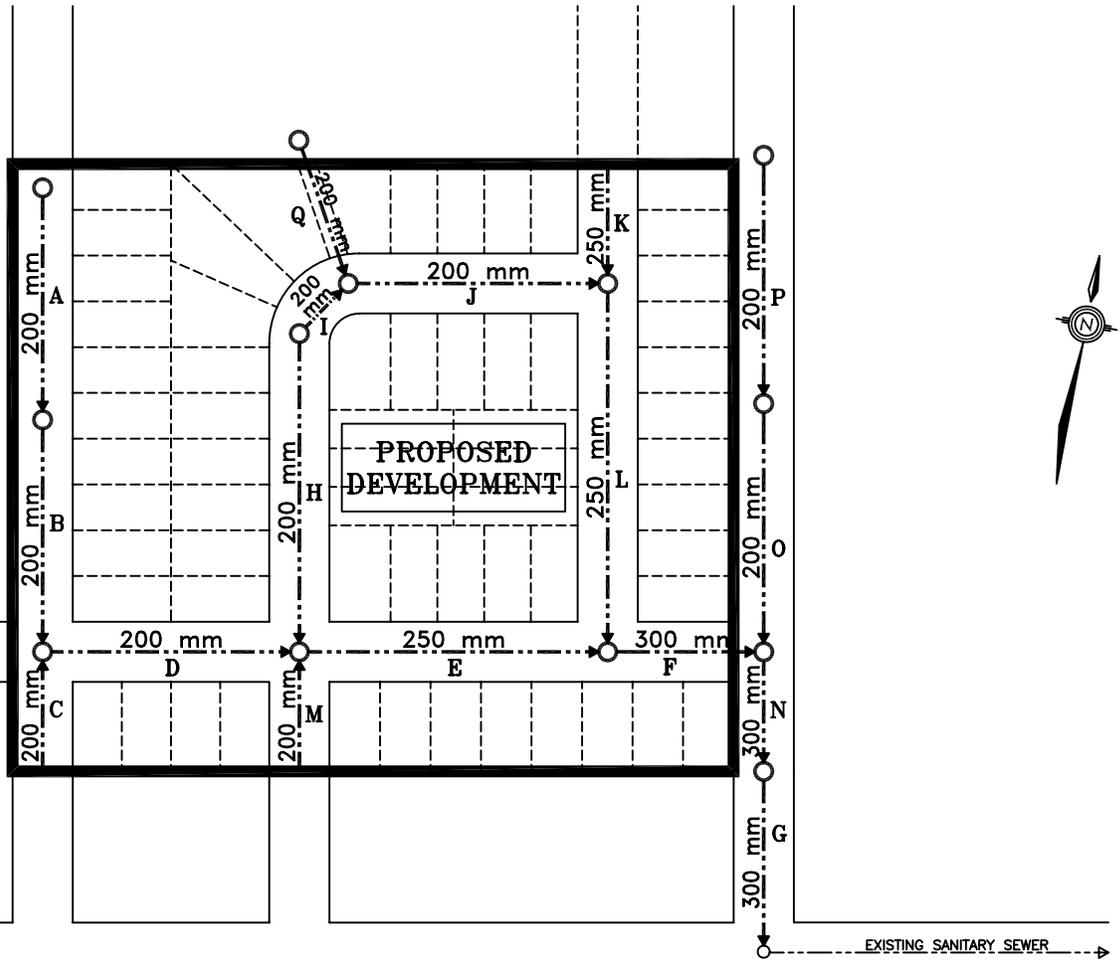
LEGEND

- EX. 750 mm EXISTING SANITARY SEWER
- 200 mm REQUIRED SANITARY SEWER



May 5, 2003

TYPICAL EXAMPLE
COST SHARING
SANITARY SEWER SERVICING
Attachment No. 2 – Page 1



COST SHARING

SECTION	SIZE	DEVELOPER'S SHARE	REGION'S SHARE
A	200 mm	50% OF MINIMUM SIZE	50 %
B	200 mm	50% OF MINIMUM SIZE	BALANCE
C	200 mm	--	100%
D	200 mm	100 %	--
E	250 mm	100% OF MINIMUM SIZE	BALANCE
F	300 mm	100% OF MINIMUM SIZE	BALANCE
G	300 mm	100% OF MINIMUM SIZE	BALANCE
H	200 mm	100 %	--
I	200 mm	100 %	--

SECTION	SIZE	DEVELOPER'S SHARE	REGION'S SHARE
J	200 mm	100 %	--
K	250 mm	100% OF MINIMUM SIZE	BALANCE
L	250 mm	100% OF MINIMUM SIZE	BALANCE
M	200 mm	--	100 %
N	300 mm	50% OF MINIMUM SIZE	BALANCE
O	200 mm	--	100 %
P	200 mm	--	100 %
Q	200 mm	--	100 %

Note: EXTERNAL AND ABUTTING INFRASTRUCTURE FINANCED BY THE REGION OF DURHAM WILL BE SUBJECT TO COLLECTIONS FROM FUTURE BENEFITTING DEVELOPMENT OR LANDOWNERS.

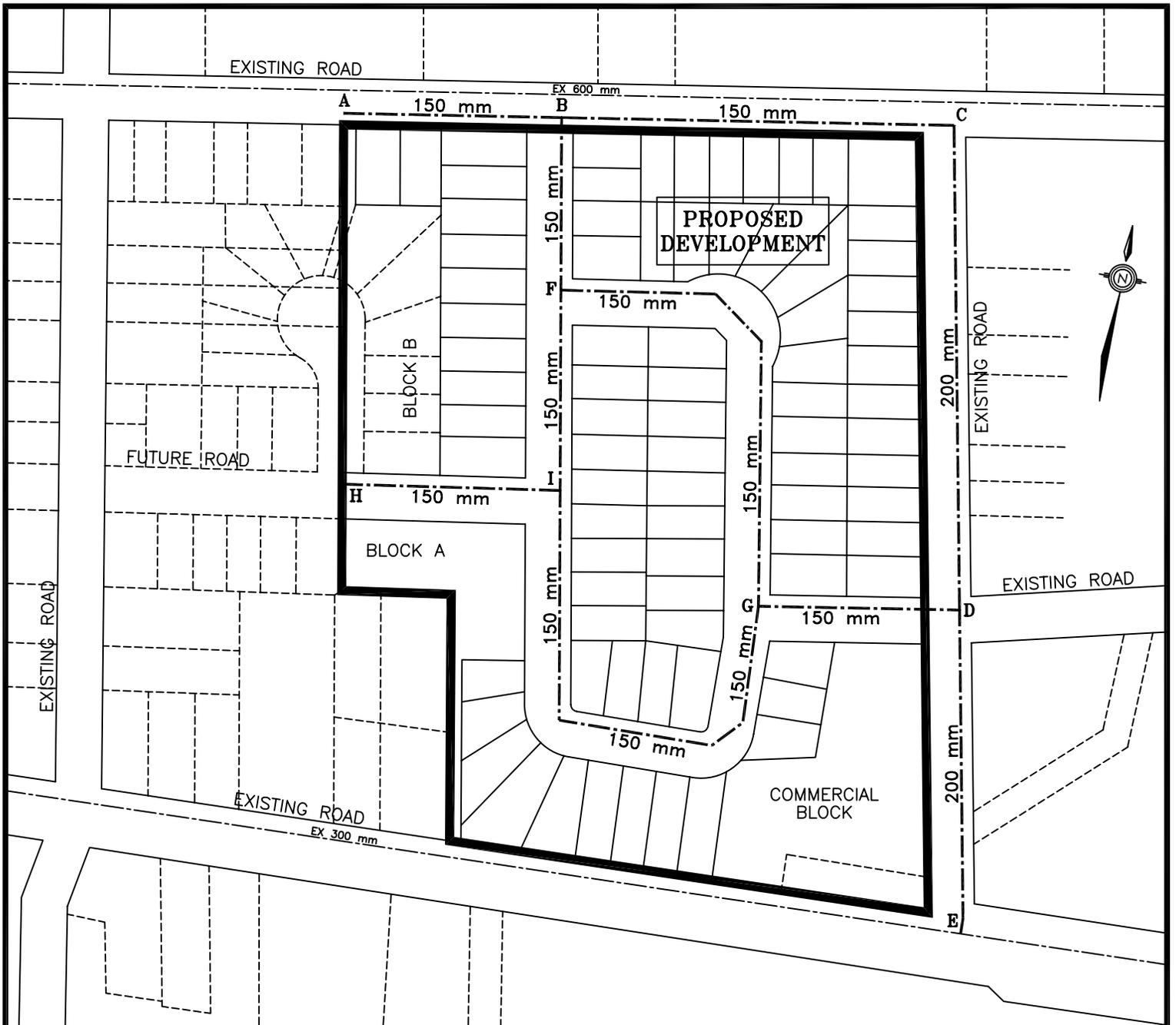


LEGEND

- EX. 750 mm EXISTING SANITARY SEWER
- 200 mm — ○ REQUIRED SANITARY SEWER

May 5, 2003

SCHMATIC
COST SHARING
SANITARY SEWER SERVICING
Attachment No. 2 – Page 2



COST SHARING			
SECTION	SIZE	DEVELOPER'S SHARE	REGION'S SHARE
A-B, B-C	150 mm	50 %	50 %
C-D	200 mm	50% OF MINIMUM SIZE	BALANCE
D-E	200 mm	100 %	--
OTHERS	150 mm	100 %	--

Note: EXTERNAL AND ABUTTING INFRASTRUCTURE FINANCED BY THE REGION OF DURHAM WILL BE SUBJECT TO COLLECTIONS FROM FUTURE BENEFITTING DEVELOPMENT OR LANDOWNERS.



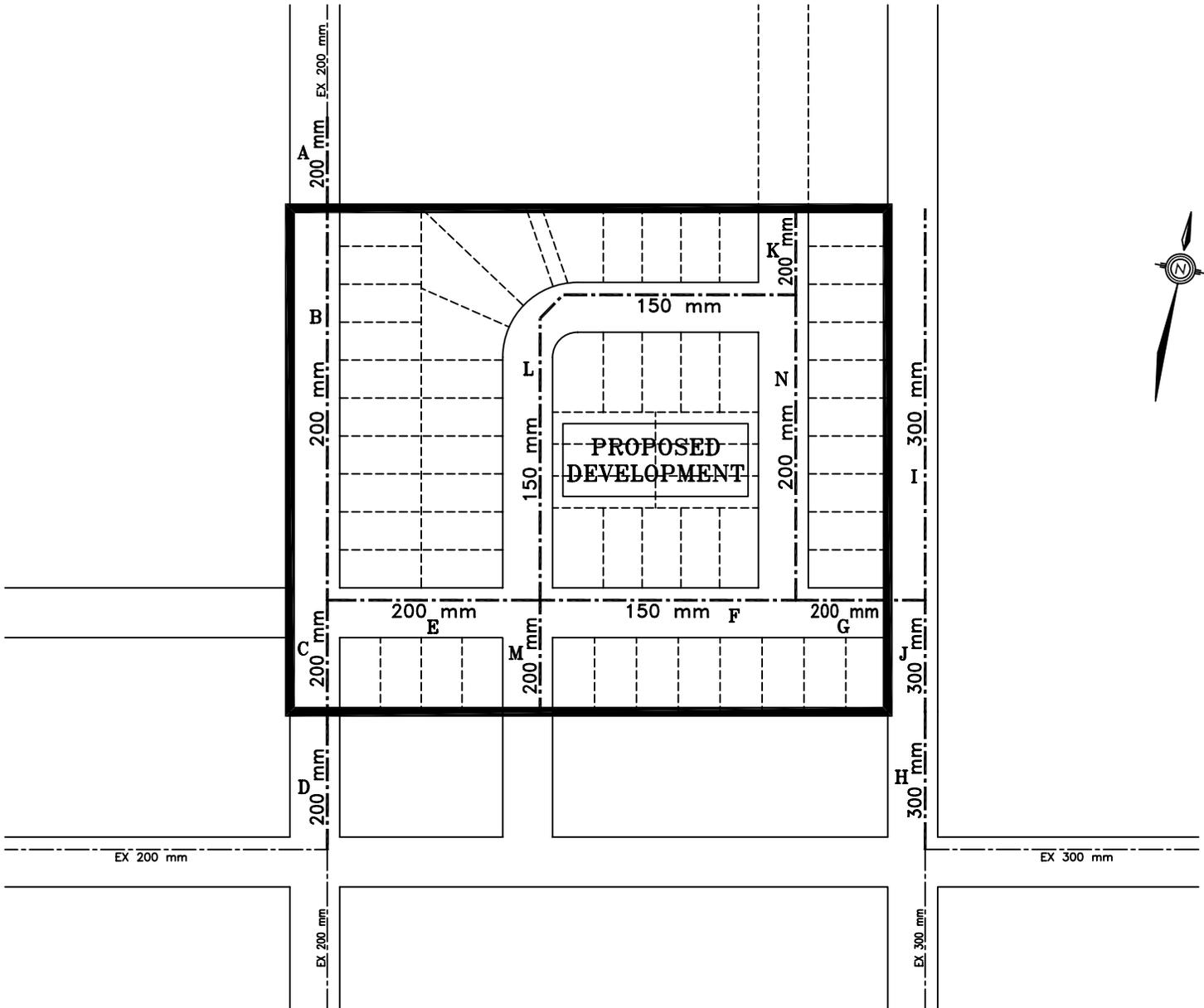
LEGEND

- EX 200 mm — EXISTING WATERMAIN
- 200 mm — REQUIRED WATERMAIN
- K

50 25 0 20 40 60 80 100 Metres

May 5, 2003

TYPICAL EXAMPLE
COST SHARING
WATER SUPPLY SERVICING
Attachment No. 2 – Page 3



COST SHARING

SECTION	SIZE	DEVELOPER'S SHARE	REGION'S SHARE	SECTION	SIZE	DEVELOPER'S SHARE	REGION'S SHARE
A	200 mm	100% OF MINIMUM SIZE	BALANCE	H	300 mm	100% OF MINIMUM SIZE	BALANCE
B	200 mm	50% OF MINIMUM SIZE	BALANCE	I	300 mm	--	100 %
C	200 mm	50% OF MINIMUM SIZE	BALANCE	J	300 mm	50% OF MINIMUM SIZE	BALANCE
D	200 mm	100% OF MINIMUM SIZE	BALANCE	K	200 mm	100% OF MINIMUM SIZE	BALANCE
E	200 mm	100% OF MINIMUM SIZE	BALANCE	L	150 mm	100 %	--
F	150 mm	100 %	--	M	200 mm	--	100 %
G	200 mm	100% OF MINIMUM SIZE	BALANCE	N	200 mm	100% OF MINIMUM SIZE	BALANCE

Note: EXTERNAL AND ABUTTING INFRASTRUCTURE FINANCED BY THE REGION OF DURHAM WILL BE SUBJECT TO COLLECTIONS FROM FUTURE BENEFITTING DEVELOPMENT OR LANDOWNERS.



LEGEND

- EX 200 mm EXISTING WATERMAIN
- 200 mm
K REQUIRED WATERMAIN

May 5, 2003

SCHEMATIC
COST SHARING
WATER SUPPLY SERVICING
Attachment No. 2 – Page 4

Appendix C
Regional Well Interference Policy

Appendix C - Regional Well Interference Policy

1. Introduction

The purpose of this policy paper is to examine the existing Regional Well Interference Policy.

The existing Regional Well Interference Policy provides relief to residential property owners in situations where their private well has potentially been negatively impacted by the construction of Regional services. The construction of Regional services does not include local servicing impacts due to grading, storm water management ponds, storm sewers, foundation drain collectors etc. The current policy has been Regional practice since 1999. Similar practices existed, in various forms, prior to 1999.

The existing Regional Well Interference Policy uses Development Charge revenue to:

- provide a temporary supply of water during construction of Regional Services to the affected homeowner; and
- construct watermains and water services to homes, i.e. only to the front line of homes that have been or will potentially be negatively impacted. Work on private property remains at the homeowner's expense.

These costs are included in the Development Charge Study and are funded 100% from water development charges.

2. Proposed Policy Revision

The Regional Well Interference Policy is shown in Attachment No. 1. There is one recommended change to the policy. In the event that the resident is unwilling to cooperate with the Region's investigation into the well interference claim, as determined by the Commissioner of Works, the "During Construction Provisions" of the well interference policy will no longer be available to provide relief to the subject property (Policy 1.0 (b) in Attachment No. 1).

There has also been a clarification to the definition of Regional services to clarify that the construction of Regional services does not include local servicing impacts due to grading, storm water management ponds, storm sewers, foundation drain collectors and other such services.

3. Financial Impact

The number of units that will fall under the well interference policy over the 2018-2027 forecast period is estimated at 415 units, resulting in a total cost of approximately \$16.1 million (average cost per unit is approximately \$38,800 per unit). The estimated financial impact of the \$16.1 million in well interference costs on the development charge quantum over the next 10 year period (56,759 standard equivalent units) is approximately \$284 per new single detached dwelling unit.

There is no matching user rate contribution as 100% of the cost associated with the well interference policy is funded by development charges.

4. Recommendations

It is recommended that the Region continue to address well interference in accordance with this Policy and that the policy be amended to incorporate item (b) of section 1. in Attachment No.1 which states that the “During Construction Provisions” of the well interference policy will no longer be available to provide relief to the subject property if the resident is unwilling to cooperate with the Region’s investigation into the well interference claim, as determined by the Commissioner of Works.

As well, there is a modification to the definition of Regional services to clarify that the construction of Regional services does not include local servicing impacts due to grading, storm water management ponds, storm sewers, foundation drain collectors etc.

Attachment No. 1

Well Interference Policy

Well Interference Policy

A. Definition of Terms

Affected Party	Shall be the owner of the property that is subject to a Well Impact.
Connection Fee	Shall be the fee paid by a homeowner for a Water Connection, as defined in the Region's Water System by-law.
Frontage Charge	Shall be the charge paid by a homeowner for a Watermain, as defined in the Region's Water System by-law.
Regional Service	Shall be a Watermain, Water Connection, sanitary sewer, sanitary sewer connection, Regional storm sewer, Regional storm sewer connection or Regional Road and for greater clarity, the construction of Regional services does not include local servicing impacts due to grading, storm water management ponds, storm sewers, foundation drain collectors etc.
Temporary Supply of Water	Shall be a system of supplying water to an Affected Party during the construction period by any method deemed appropriate by the Region.
Water Connection	Shall refer to a water service connection and related appurtenances designed in accordance with Regional standards and located within the road right-of way, between the Watermain and the private property line.
Watermain	Shall refer to a watermain system and related appurtenances designed in accordance with Regional standards.
Well Impact	Shall refer to negative influences on the performance of a well, as determined by the Region, that reasonably, and in light of all available data can be attributed to the construction of a Regional Service.
Works on Private Property	Shall refer to all works outside of the municipal road right-of-way including, but not limited to, underground piping, internal and external plumbing, and the abandonment of unused wells.

B. Policy

1. Well Interference During Construction Provisions

- a) A Temporary Supply of Water will be provided to an Affected Party at no cost during the construction period where there is a direct impact on the existing private well supply. Once a Water Connection is constructed and available for use to the property, this provision no longer applies. This often takes the form of water deliveries and temporary above ground tanks. In order to invoke this aspect of the Policy, there needs to be some evidence of an actual impact related to the construction of Regional services as determined by Regional staff, such as:
 - o Lowering of the water level in the well beyond a usable level; and/or
 - o Negative impact on the quality of the water.
- b) In the event that the resident is unwilling to cooperate with the Region's investigation into the well interference claim, as determined by the Commissioner of Works, the During Construction Provisions of the well interference policy will no longer be available to provide relief to the subject property.

2. Well Interference Provisions Post Construction

- a) When Regional services are constructed, water services will be extended to adjacent properties that have private wells which potentially could be negatively impacted by construction which must be within the urban boundary or abutting the urban boundary and conform with the Region's water service request connection policy.
- b) Once the watermain and water service is constructed to the property line, the temporary water supply is removed and the affected homeowner is given the choice to connect to the Regional service. This offer never expires.
- c) The Region will waive the applicable Frontage Charges and Connection Fee for properties serviced by Regional Water supply under this policy.
- d) The costs of constructing the Works on Private Property, including any plumbing requirements and the abandonment of unused wells will be borne by the property owner.
- e) In the event that an Affected Party is located outside of the water supply service area (outside the urban boundary) or when it is not economically feasible to extend water services to the affected party, a new well may be constructed as an alternative method of addressing a well impact, subject to the approval of Committee of the Whole and Council.

3. Future Redevelopment of the Lands

- a) In the event that a property which has received the benefits of this policy is severed or subdivided in the future, Frontage Charges and Connection Fees will be payable to the Region for any new lots created at the rates in effect at the time of connection of the newly created lots to the Regional water supply system.
- b) In the event that a property which has received the benefits of this policy is rezoned or redeveloped in the future for a different use, Frontage Charges and Connection Fees will be payable to the Region for the property at the rates in effect at the time of rezoning or redevelopment application.

4. Other Matters

- a) Once connected to the Regional water supply system and provided the benefits of the Policy, the residents will be charged for water usage based on water meter readings and Regional water rate policies as approved by Council.
- b) Any existing unconnected properties that are experiencing impacts, where the watermain was previously constructed, will be granted the benefits of the Policy. The Policy is not retroactive to any previously connected properties that paid frontage and connection charges at the time of connection.
- c) Where the Region requests that the developer of a nearby development construct a watermain under the Well Interference Policy, the developer will be compensated for those works upon issuance of the “Completion Acceptance Letter” and provision of supporting documentation in accordance with the terms of the executed subdivision or servicing agreement.
- d) In the event that well monitoring is required, this work is to be completed by the Region and funded by the well interference program.
- e) In the event that there is a dispute with respect to the issue of actual well impact, the Region will request that the Ministry of the Environment and Climate Change review the situation and provide a decision in the matter as a means of resolving the dispute.
- f) That Council approval be required for well interference work that exceeds \$100,000 and approval of the Commissioners of Works and Finance be required for works under \$100,000.

Appendix D

Intensification Servicing Policy

Appendix D – Intensification Servicing Policy

1. Introduction

The intensification servicing policy was approved in the 2013 Development Charge Study by Regional Council. This policy was developed in response to an analysis of the costs of sanitary sewerage and water supply servicing associated with the 40% intensification requirement in the Durham Regional Official Plan (ROP). The following provides a background of the intensification servicing policy, applicability and the proposed changes.

As well, the following provides discussion on the increased intensification and density target requirements approved in the Growth Plan for the Greater Golden Horseshoe (2017) and the impact it may have on the intensification servicing policy.

1.1. Background

The ROP requires that urban areas be planned to achieve the following growth management objective on a Region wide basis:

“By 2015, and each year thereafter, accommodate a minimum 40% of all residential development occurring annually through intensification within built-up areas”.

Accordingly, the population forecasts contained in Appendix A have distributed 40% of the population growth in the urban areas throughout the built-up areas, based on density considerations for key structural elements of the Regional Official Plan (e.g. Urban Growth Centres, Regional Centres and Corridors, Commuter Stations and Waterfront Places).

Overall servicing of this intensification has been included in the water supply and sanitary sewerage analyses contained in Appendix F and Appendix G. However, even though the forecasted growth has been targeted to strategic areas on an average density basis, intensification projects may occur at specific locations at a density beyond the average estimated for a broader area, such as a Regional Corridor. In these instances additional development charge works may be required to service the specific sites.

Because the location of intensification projects and the associated required development charge works are site or area specific, they cannot be predicted with certainty in advance. Therefore, it is necessary to include an allowance for such works required to support intensification and to reaffirm a policy to provide access to these allowances, based on the costs of recent experiences in Durham Region.

1.2 Approved Policy

In order to address the difficulty in anticipating where Regional development charge works will be required for intensification projects, Regional Council approved the intensification servicing policy in 2013 which created an intensification allowance within the sanitary sewage development charge quantum calculation.

Under the approved policy, developers apply to use the funds in this allowance if their proposed development meets the following conditions:

- The proposed development is located within the existing built-up area.
- The proposed development requires a development charge sanitary sewage work that is not already listed in the projects included in Appendix G.
- All local works as defined in Section 3.0 of this Appendix are to be funded by the developer.
- The development includes new housing for at least 1,000 people.

Council approval is required for all expenditures from this allowance. For future updates to the development charge by-law, actual sanitary sewage development charge servicing costs within the built-up area would be continuously monitored and included in future analyses contained within this Appendix, and the charge per person updated.

2. Applicability

The intensification servicing policy is only applicable to residential development within the built-up area, whether the development proceeds by plan of subdivision or condominium, consent or issuance of a building permit on an existing vacant parcel or redevelopment site.

3. Development Charges Act

The Development Charges Act, 1997, states that:

“ss.59(1) a municipality shall not, by way of a condition or agreement under section 51 or 53 of the *Planning Act*, impose directly or indirectly a charge related to a development or a requirement to construct a service related to development except as allowed in subsection (2).

(2) a condition or agreement referred to in subsection (1) may provide for:

- a) local services, related to a plan of subdivision or within the area to which the plan relates, to be installed or paid for by the owners as a condition of approval under section 51 of the *Planning Act*,
- b) local services to be installed or paid for by the owner as a condition of approval under section 53 of the *Planning Act*.”

The term "local services" is not specifically defined in the DCA, 1997 or the associated regulations.

The proposed Intensification Servicing Policy is consistent with the requirements referenced above.

3.1 Definition of "Local Service"

For the purposes of intensification servicing, "Local Service" is defined as the linear components of the sanitary sewerage system and water supply system, which conform to Regional design guidelines and are of the minimum size required to provide service to the proposed development in its entirety.

4. Analysis of Previous Intensification Projects (2008 – 2017)

4.1. 2013 Development Charge Analysis

As part of the 2013 Development Charge Study, staff examined a number of large developments constructed or initiated in Durham that are representative of the type of intensification that is consistent with the policy directions of the ROP, and that had development charge funded works (i.e. costs) associated with them, including:

- Simcoe Street Corridor, south of Durham College/UOIT, Oshawa
- San Francisco by the Bay, on Bayly Street, Pickering
- Vision at Pat Bayly Square at Bayly Street and Harwood Avenue (Medallion Corporation project), Ajax

A brief description of each project and the development charge works that were required to service these intensification sites is provided below.

Simcoe Street Corridor

To address student housing pressures in this corridor provision was made within the sanitary sewerage system to provide housing for 6,800 additional people. In order to provide service to these lands, modifications were required to the Simcoe Street Sanitary Pumping Station and forcemain totaling an estimated development charge cost of \$548,000 (\$2013). There were no development charge funded water supply works required to service this intensification project.

San Francisco by the Bay

This project involved the redevelopment of an underutilized shopping plaza into condominium apartments and townhouses for an ultimate population of 1,200 people. This project required the replacement of undersized sanitary trunk sewers downstream at a development charge cost of \$1,565,000 (\$2013). There were no development charge funded water supply works required to service this intensification project.

Vision at Pat Bayly Square (Medallion Corporation project)

This project is under construction and will create six apartment blocks over several phases. The ultimate population is planned at 3,190 people. Sanitary sewerage servicing required for this development is the construction of a new sanitary sewage

pumping station and forcemain. These works will be oversized to allow for further intensification north of the subject site for an additional 4,800 people. The estimated development charge component of the cost of these works is \$2,555,000 (\$2013). There are no development charge funded water supply works required to service this intensification project.

Staff also looked at a number of smaller developments constructed that are representative of the type of intensification required by the ROP, including:

- 44 Bond Street, Oshawa: Redevelopment of an office building into condominiums for 229 people
- 400 Bloor Street East, Oshawa: Redevelopment of an abandoned industrial property into apartments for 90 people.
- 50 Station Street, Ajax: Redevelopment of vacant surplus commercial property into apartments for 136 people.

As these projects occurred on much smaller sites and involved significantly fewer units, no development charge funded water supply works or sanitary sewage works were required to service these intensification projects.

None of the above projects required any upgrades to the water supply system. Regional water supply systems are designed to support domestic uses as well as fire fighting demands. Fire fighting demands have a significant impact on the sizing of the systems as compared to increases in domestic uses resulting from intensification. It is, therefore, reasonable to only address sanitary sewerage servicing in this intensification policy.

The following table summarizes the additional sanitary sewerage servicing development charge costs per person required to service the intensification associated with the preceding examples (based on the 2013 analysis):

Table 1
Sanitary Sewer Development Charge Costs
Intensification Projects (2008-2013)
(per person)

Project	Intensification Population	Sanitary DC Cost (\$2013)	Sanitary DC Cost / Person
Simcoe Street Corridor	6,800	\$ 548,000	\$ 81
SF by the Bay	1,200	\$ 1,565,000	\$ 1,304
Bayly and Harwood	7,990	\$ 2,555,000	\$ 320
44 Bond Street	229	\$ 0	\$ 0
400 Bloor Street East	90	\$ 0	\$ 0
50 Station Street	136	\$ 0	\$ 0
Total	16,445	\$ 4,668,000	\$ 284

The 2013 analysis illustrates that servicing requirements of intensification projects within the built up area on these selected sites varies significantly and is very site specific. As noted above, some projects required significant development charges funded works while others did not require any.

The above table indicates that for every person planned to be added within the built boundary for this particular sample, it costs \$284 to provide sanitary sewerage servicing. However, at this time, 40% of the Region wide growth is planned to be provided within the built-up area, therefore, on a Region wide basis, a cost of \$114/person ($\$284 \times 40\%$) is the currently required sanitary servicing cost.

4.2. Additional Intensification Projects

Since the implementation of the Intensification Servicing Policy in July 2013, there have been numerous residential developments within the built up area. Staff identified 16 apartment building developments from 2013-2017 with the number of units ranging from 25 units to 239 units (staff included developments with 25 or more units). The largest development completed was located at 100 Bond Street (239 units) which received \$430,000 in Regional funding as a part of the Regional Revitalization Program. No Regional sanitary sewer development charge capital works were required to accommodate these developments (i.e. only local works were required which are funded by the developer) and therefore there were no applications for this funding.

Although no intensification projects required sanitary sewerage development charge works within the last five years, it is recommended that this policy be retained as it is likely that future projects may need such improvements. Further, during discussions with area municipal staff, they expressed interest in seeing this policy continue and requested that the policy be less restrictive with respect to the minimum 1,000 person equivalent threshold. Staff also met with the Building Industry and Land Development Association and Durham Region Homebuilders Association prior to the release of the Development Charge Background Study and they expressed support of this policy, recognizing that infill projects may result in significant infrastructure costs.

The following table provides an updated sanitary sewer development charge costs per person for the intensification projects, incorporating the projects from 2013-2017. The projects from the 2013 analysis have been indexed by 9%, utilizing the non-residential construction price index for Toronto, to convert the costs from \$2013 to \$2018.

Table 2
Updated Sanitary Sewer Development Charge Costs
Intensification Projects (2008-2017)
(per person)

Project	Intensification Population	Sanitary DC Cost (\$2018)	Sanitary DC Cost / Person
Simcoe Street Corridor	6,800	\$ 597,000	\$ 88
SF by the Bay	1,200	\$ 1,706,000	\$ 1,421
Bayly and Harwood	7,990	\$ 2,785,000	\$ 349
44 Bond Street	229	\$ 0	\$ 0
400 Bloor Street East	90	\$ 0	\$ 0
50 Station Street	136	\$ 0	\$ 0
Sub-total	16,445	\$ 5,088,000	\$ 309
Projects from 2013-2017	3,945	\$ 0	\$0
Total	20,390	\$ 5,088,000	\$250

5. Proposed Policy

It is recommended that the intensification policy continue and that an intensification allowance be provided within the sanitary sewage development charge quantum calculation. Building upon the analysis completed in 2013 and including the 16 apartment developments over 2013-2017, it is estimated that the cost per person to provide sanitary sewerage servicing is \$250, down from the previous estimate of \$284 in the 2013 Development Charge Study. Based on 40% of the Region wide growth being planned to be provided within the built-up area, the cost on a Region-wide basis is \$100 per person (i.e. 40% x \$250) or \$346 per single detached unit (assuming 3.46 ppu).

Based on discussions with area municipal staff and staff from BILD and DRHBA, it is recommended that the minimum 1,000 people threshold be eliminated, in order to allow a wider range of intensification projects to be considered.

Developers can apply to use the funds in this allowance if their proposed development meets the following conditions:

- The proposed development must be located within the existing built-up area;
- The proposed development must require a development charge sanitary sewage work that is not already listed in the projects included in Appendix G; and

- All local works as defined in Section 3.0 of this Appendix must be funded by the developer.

Council approval will be required for all expenditures from this allowance.

6. Financial Impact

The estimated financial impact on the development charge quantum based on the analyses contained in this Appendix is:

	Average Cost Per Dwelling Unit (3.46 ppu) (\$2018)
Sanitary Sewerage	<u>\$346</u>
TOTAL	<u>\$346</u>

7. Comparison of Greenfield vs Intensification Costs / New Requirements of Growth Plan (2017)

As noted previously, the Regional Official Plan currently requires that a minimum of at least 40% of all new development occur within the built-up area. This policy direction serves to reduce the need for additional new growth (i.e. greenfield) areas while accommodating the population forecasts in the Plan.

The sanitary servicing analyses contained within this Background Study assume that 60% of the growth will occur within greenfield areas and 40% will occur within the built-up area as intensification, consistent with the directions of the ROP.

However, the Province has approved the Growth Plan for the Greater Golden Horseshoe (2017) which introduces increased intensification targets and densities as follows:

- Increasing the residential intensification target within the designated built boundary from 40 per cent to 50 per cent from the time of the next Regional Municipal Comprehensive Review to 2031, increasing to an intensification target to 60 per cent post 2031;
- Increasing the minimum density target for existing designated greenfield areas (i.e. urban lands outside of the built boundary) from 50 residents and jobs combined per hectare to 60 people and jobs combined per hectare for community area lands. For new community area lands designated in the upper tier plan after the Growth Plan came into effect on July 1, 2017, the density target rises to 80 residents and jobs combined per hectare.

The Province will also be implementing a new land needs methodology that upper and single tier municipalities will be required to use for their respective Municipal Comprehensive Reviews. The increased intensification targets and the new land needs methodology will be incorporated in the Region's next Municipal Comprehensive Review. This review will examine the increased intensification targets and the implications for providing the requisite infrastructure.

It is not yet known what effect these provincial policy changes will have on the existing water and sewer infrastructure. As mentioned previously, it is difficult to determine the impact of intensification on the water and sewer system due to the site specific requirements of each individual development project. However, the additional development related to the increased intensification targets will put additional demands on the Regional water and sewer system.

These new Provincial policy requirements will trigger an analysis of the servicing needs for intensification and related financial implications within Strategic Growth Areas. This analysis will be undertaken as part of the Municipal Comprehensive Review and will include scenario analyses given the localized nature in servicing needs. This work, to be completed as part of the Municipal Comprehensive Review, will assist in assessing the costs of greenfield development vs intensification development and will provide the necessary background information for the next Development Charge Study in 2022-2023.

8. Recommendations

It is proposed that the Region continue with an Intensification Policy, as outlined above, to address site specific sanitary sewage servicing requirements within the built-up area and that the Sanitary Sewerage capital program include a provision for the anticipated additional growth related infrastructure costs in order to accommodate site specific, population-intense residential developments.

This intensification policy ensures that the Regional Development Charge is sized so as to cover the unknown additional sanitary sewerage costs that are not included in the sanitary sewerage capital program. This development charge component is addressed on an average Region-wide calculation basis, as with virtually all Regional servicing costs. Further, the development charge by-law provides an incentive for redevelopment via the redevelopment credit, which applies to non-exempt development being redeveloped.

This policy is designed to provide assistance to intensification projects that require substantial Regional sanitary sewerage capital works (due to the specific location and the infrastructure constraints of the development). This is similar to the Regional Revitalization Plan which targets developments that require financial assistance due to the locational and infrastructure characteristics of the proposal. These financial policies target the eligibility of specific developments in need of financial assistance, instead of applying a general discount or exemption to a specific area or specific class of development, which may result in providing financial assistance to development projects that are viable without Regional financial assistance.

The intensification servicing policy and the broader concern of the cost of greenfield development vs intensification development will be reviewed as part of the Municipal Comprehensive Review in light of the increased intensification targets stipulated in the Growth Plan for the Greater Golden Horseshoe (2017) and will provide background information required for the 2022-2023 Development Charge Background Study.

APPENDIX E

**REGIONAL ROADS
SERVICE LEVELS, CAPITAL COSTS
AND DC CALCULATIONS**

APPENDIX E - REGIONAL ROADS

1. Introduction

This appendix documents the analysis completed to establish the Regional Roads component of the development charge. The appendix presents:

- An examination of the historical ten-year average and projected ten year levels of service;
- A forecast of capital works expenditures required to address the increase in need for Regional road service attributable to the anticipated new development over the period January 1, 2018 – December 31, 2027; and
- The calculation of the development charge quantum.

2. Service Levels

The following table lists the historical and projected service levels for Regional roads provided by the Region of Durham. This information has been estimated to ensure that the projected capital expenditures do not provide a standard of service that exceeds the average level that has been provided over the preceding ten (10) years. The analysis considered both the quantity and quality of service as required by subsection 4(1) of O. Reg. 82/98.

The quantity level of service was defined in terms of lane-kilometres of roadway per capita. The quality level of service was defined in terms of the average volume to capacity ratio combined for both directions of travel (vehicle travel in passenger car equivalents divided by the carrying capacity of the infrastructure) at four screenlines (lines that coincide with natural or man-made features, such as creeks and roads). The four screenlines examined were Highway 401 and Taunton Road for north-south travel, and Lake Ridge Road and Townline Road (Oshawa/Clarington)/Mid-Scugog for east-west conditions.

REGION OF DURHAM COMPARISON OF HISTORICAL AND PROJECTED LEVELS OF SERVICE FOR REGIONAL ROADS		
Service Measure	Historical 2006-2016	Projected 2028
<u>Quantity of Service</u> Average lane-kilometres of Regional Road per 1,000 capita	3.6	3.2
<u>Quality of Service</u> Average volume to capacity ratio at screenline (combined for both directions of travel, A.M. peak hour):		
Highway 401(Pickering to Oshawa)	0.47	0.48
Taunton Road (Pickering to Oshawa)	0.37	0.41
Lake Ridge Road (Victoria St. to Myrtle Rd.)	0.53	0.55
Townline Road/Mid-Scugog (Hwy. 401 to Hwy. 7A)	0.34	0.35
All Screenlines	0.43	0.45

The expenditures described in the capital works forecast presented in the following Tables E.1 and E.2 provides a service level, in terms of both quantity and quality, which is less than the historical average over the last 10 years. Accordingly, all growth-related Regional Road improvement costs are eligible to be recovered from development charges, subject to the reductions identified in Section 3.3 below.

3. Capital Works Forecast

3.1 Development of Capital Works Program

A ten-year capital works program was prepared for the period 2018 – 2027, which identifies the projected expenditures, expressed in 2018 dollars, required to address the increase in need for Regional road service attributable to the anticipated development (Appendix A). For the purposes of the Development Charge rate calculation, this forecast has been lagged to match the time period of the development forecasts (i.e. July 1, 2018 to June 30, 2028).

The program shown in Tables E.1 and E.2 and Figures E.1 to E.6 is based on an assessment of the improvements and expansions required over the next ten years to serve expected demands. It includes the construction of road widenings, new connections, corridor improvements, intersection improvements, traffic signals and grade separations required as a result of both new development and redevelopment within the Region.

The need for future road widenings and new connections was determined by examining forecasts of future traffic volumes on the Regional Road network simulated by the Durham Regional Transportation Planning Model (the Model). The Model, which employs the Emme travel demand modelling software package, is calibrated to the most recent travel survey information (2011 Transportation Tomorrow Survey), and verified using observed traffic counts (2011 GTA Cordon Count Program). It forecasts auto and transit travel within the entire Greater Toronto Area (GTA), focussing primarily on the freeways and arterial roads within Durham Region. Travel demands for the areas adjacent to and across the GTA boundary are also represented for completeness. The assessment of road needs for this development charge background study is consistent with the travel demand modelling approach assumptions of the approved Durham Region's 2017 Transportation Master Plan.

The Model identifies the increase in need for service as a result of the anticipated development and accounts for any uncommitted excess capacity presently within Durham's road system, consistent with the requirements of the Development Charges Act, 1997. It also utilizes available capacity on roads not under the Region's jurisdiction.

In particular, the forecasting methodology considered sensitivity analysis with respect to Provincial highway modifications, including Highway 401. Many of these improvements do not have committed funding and thus have undefined timelines. We performed sensitivity analysis, particularly in the latter timeframes of the study, to determine if there were any projected areas of perceived overlap between Regional road and Provincial highway improvements that would result in excessive future capacity.

The analysis considered the impact of the following highway widenings, enhancements or extensions by 2027, compared to the existing (2016) highway network, as follows:

i) Highway 401

- Widen to 10 lanes from Salem Road to Liberty Street
- Widen to 8 lanes from Liberty Street to Highway 35/115
- Upgrade the Lake Ridge Road interchange from allowing only partial movements to full movements
- New interchange at Simcoe Street and reconfiguration of the Brock Street, Ritson Road, Harmony Road, Waverly Road and Liberty Street interchanges

ii) Highway 407

- Extension from Harmony Road to Highway 418, and Highway 418 from Highway 407 to Taunton Road at 4 lanes (opened on January 2, 2018)
- Extension of Highway 407 East from Highway 418 to Highway 35/115 at 4 lanes
- Extension of Highway 418 from Taunton Road to Highway 401 at 4 lanes
- New interchanges at Whites Road Extension (Seaton) and locations as per Phase 1 and 2 implementation

iii) Highway 12

- Widen to 4 lanes from Highway 48 to Regional Highway 48

iv) Highway 35

- Widen to 4 lanes from Highway 115 to Durham/Kawartha Lakes Boundary (and north to Lindsay)

v) Highway 48

- Widen to 4 lanes from Lake Ridge Road (Durham/York boundary) to Highway 12 (tied to Highway 404 extension in York Region)

As noted above, not all of these freeway and highway improvements may be realized by 2027, and Regional staff have assumed less ambitious modifications than have been recommended in approved Environmental Assessment studies (e.g. Highway 401 collector/express configuration between Brock Road and Highway 412, Highway 407 number of lanes). This is intended to result in a more reasonable projected Regional road network especially towards the end of the program and beyond.

Several key arterial or collector road improvements made by area municipalities were also considered for sensitivity analysis by the 2027 timeframe, based on their respective capital works programs. Again, this was done to result in a more reasonable Regional road expansion program while ensuring that necessary Regional road connections would be provided.

The Lakeshore East GO Rail extension to Bowmanville was also considered and analyzed to determine the system impacts if it were to be operational by the 2024-2025 time period as announced by Metrolinx. As per the approved EA study, this service is planned to offer full-day service in both directions to Oshawa (i.e., the new location north of Highway 401) and peak period service to Bowmanville. New GO stations at Thornton's Corners (Oshawa), Central Oshawa, Courtice and Bowmanville were assumed for the analysis. New GO Bus services on Highway 407 to Highway 412 and Highway 418, and connections to Highway 2 and other interchanges (e.g., Brock Road, Baldwin Street, Simcoe Street), were also assumed. The operation of these services influences the transit modal share and the distribution of auto trips to/from the GO stations and Highway 407 carpool/transit interface lots.

The forecasts of A.M. peak hour auto traffic volumes for 2016 and 2028 based on the anticipated development (Appendix A) were compared to existing capacities to identify future Regional road deficiencies by time period. This analysis was further refined through the consideration of lane continuity issues, provision of future transit service, and efforts to consolidate improvements to a minimum number of facilities.

3.2 Forecast Periods

Tables E.1 and E.2, divide the projected capital works program into each forecast year (2018 – 2027), similar to the Region's Annual Capital Budget and Nine Year Forecast for the Regional Road system. This forecast is subject to review and approval by Regional Council on an annual basis.

The timing of implementation for the various projects identified in the forecast and associated cost estimates are preliminary in nature. Project priorities, construction timing and cost estimates will be reviewed on an ongoing basis and will be subject to review and approval annually by Regional Council. Infrastructure improvements also require the completion of a Class Environmental Assessment prior to implementation.

3.3 Allocation of Capital Costs

Table E.1 and E.2 include works required to correct existing deficiencies, which will benefit both existing and new development, as well as system modifications and expansions required solely to support growth during the forecast period.

An assessment has been carried out to allocate the total cost of the various projects contained in the forecast between existing development (non-growth), new residential development (Table E.1), and new non-residential development (Table E.2). This assessment distributes the capital cost of the projects contained in the forecast based on the demand imposed on the system. Demands were assessed on a traffic volume basis.

In addition, the tables identify deductions in accordance with the Development Charges Act, 1997 for:

- "Benefit to Existing Development", which is the anticipated value of new capital works attributable to existing development. This deduction is assessed on a project by project basis and is primarily applicable to reconstruction, rehabilitation and

replacement portion of project construction. As an example, in widening an existing 2-lane road to 4-lanes, the construction work may involve either rehabilitation or reconstruction of the two centre lanes. On this basis, the share of the total project cost associated with rehabilitating or reconstructing the existing two centre lanes was calculated and deemed to be beneficial to the existing community.

- “Post Period Benefit”, which is the value of any anticipated surplus capacity at the end of the forecast period which is to be recovered from subsequent development. The value of surplus capacity to be deducted was calculated on a project by project basis from the forecasted 2028 traffic volumes and capacities for those road widening and new connection projects to be constructed in the 2025-2027 time frame; and
- “Grants, Subsidy and Other”, which is the funding anticipated or received from sources other than the Regional Municipality of Durham.

The following average percentages have been used in allocating the eligible growth-related capital costs between new residential and new non-residential development in Tables E.1 and E.2. The split between residential and non-residential (70% / 30%) development is based on the incremental increase in population and employment over the 2018-2028 forecast period as identified in Appendix A, as follows:

$$\text{Residential: } \frac{182,954}{182,954 + 77,250} = 70\%$$

$$\text{Non-Residential: } 100\% - 70\% = 30\%$$

The non-residential share of 30% is further allocated to the industrial, commercial and institutional development types based on the incremental employment growth for these sectors as identified in Appendix A.

SUMMARY OF GROWTH-RELATED CAPITAL UTILIZATION FOR RESIDENTIAL AND NON-RESIDENTIAL PURPOSES	
Land Use Category	Percentage of Capital Attributable to Growth
<u>Residential</u>	70
<u>Non Residential</u>	
i) Industrial	20
ii) Commercial	8
iii) Institutional	2

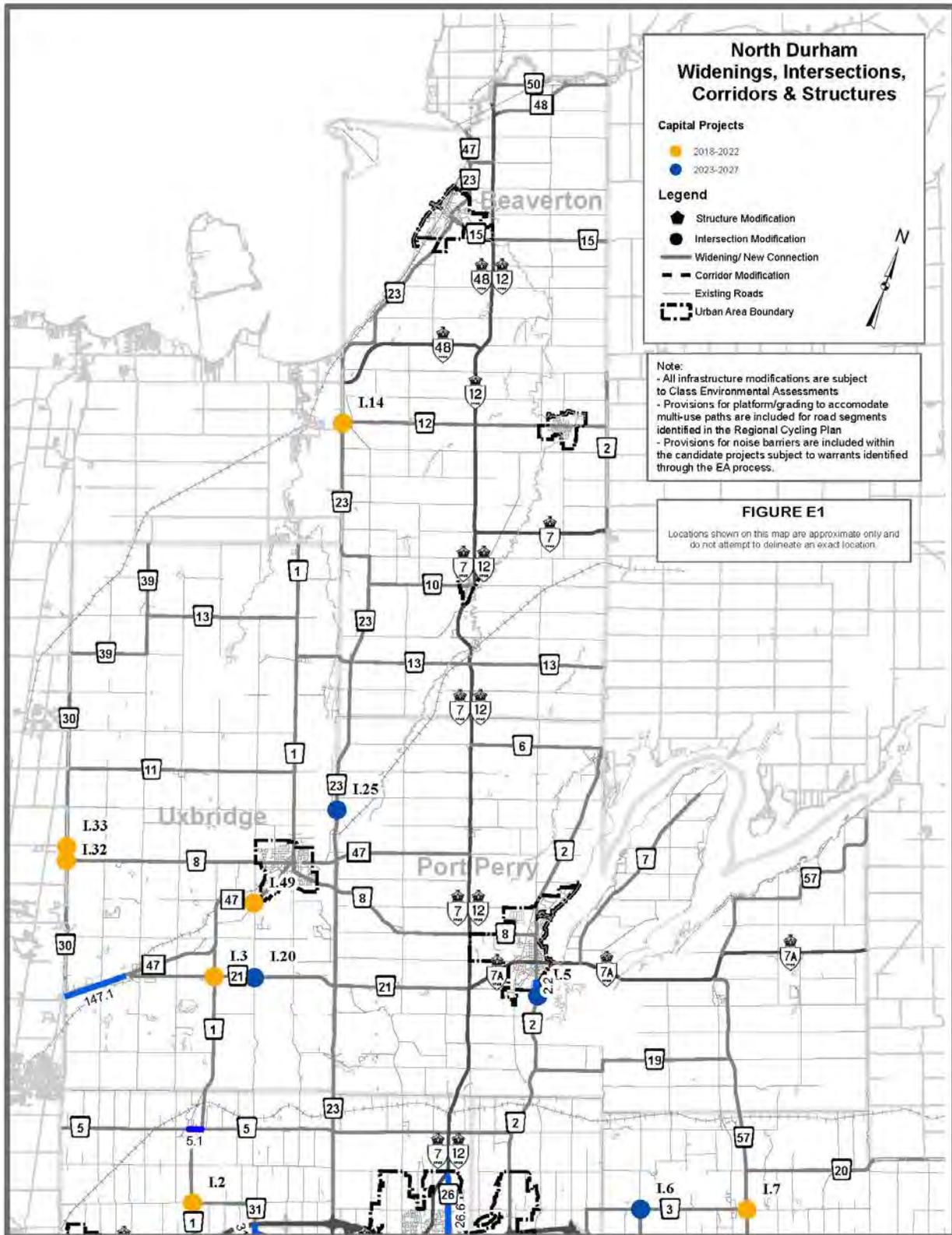
The following table provides a summary of the overall roads capital program (including Seaton) totalling approximately \$1.25 billion over the 2018-2027 time period.

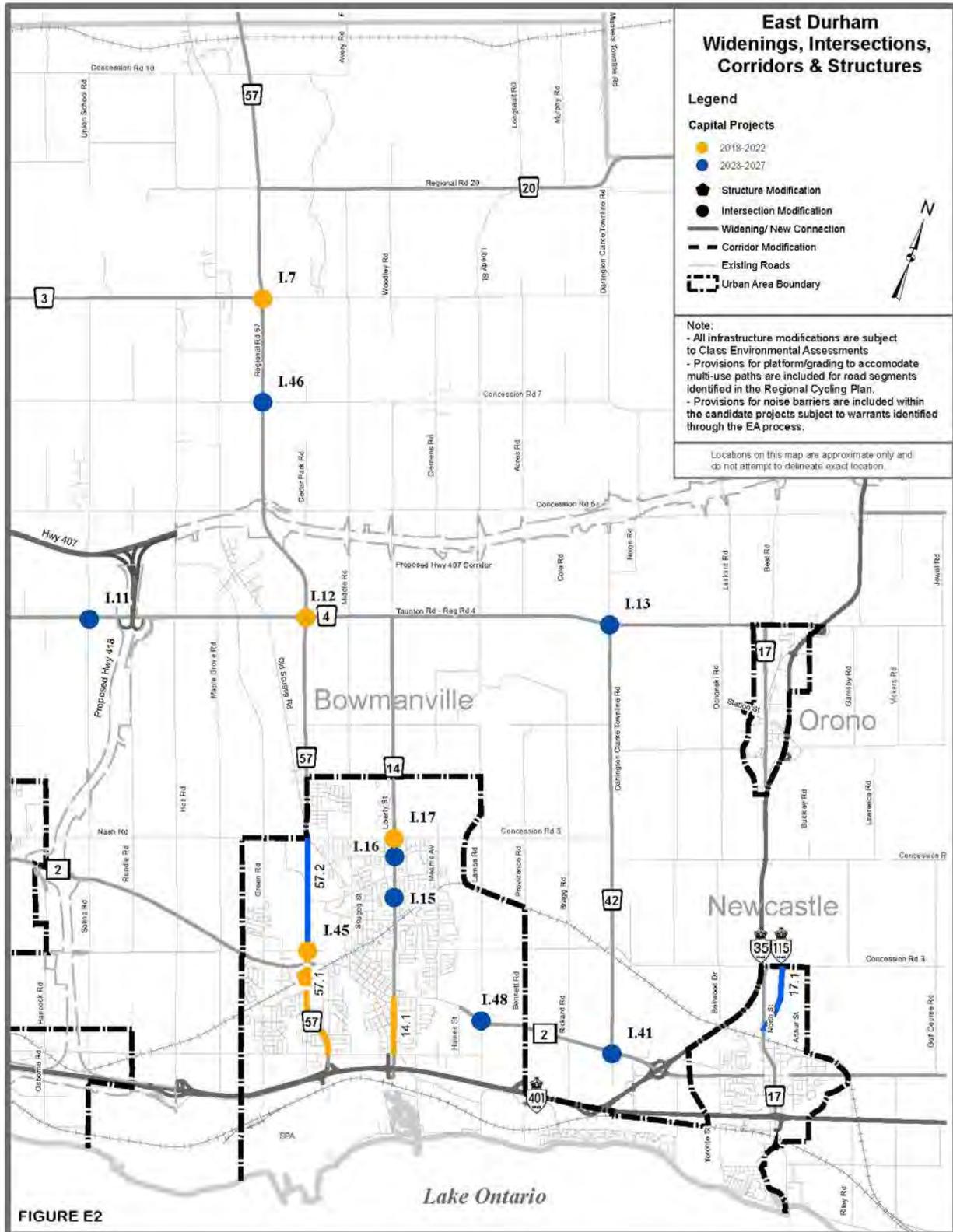
ROADS CAPITAL SUMMARY (2018-2027)

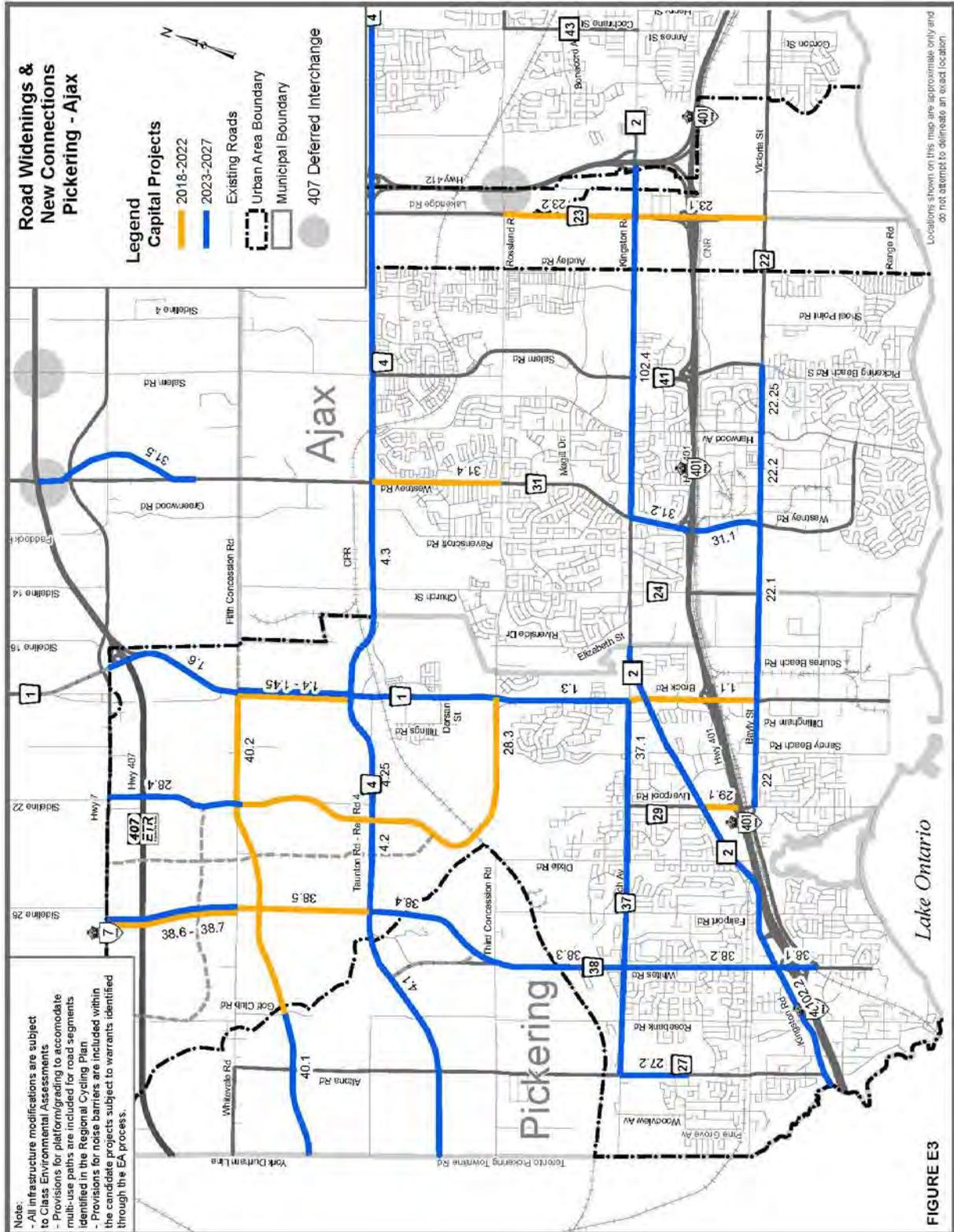
Roads (000's \$)	Widenings, New Connections and Corridor Modifications	Intersection Modifications and Signal Installations	Other Development Charge Component Works	Total
Gross Cost	1,085,890	111,805	53,904	1,251,599
Benefit to Existing	113,734	11,181	4,905	129,820
Post Period Benefit	118,391	0	0	118,391
Grants, Subsidy & Other	0	0	0	0
Total Residential	596,986	70,437	34,299	701,722
Non-Residential	256,779	30,187	14,700	301,666
Grand Total	853,765	100,625	48,999	1,003,389

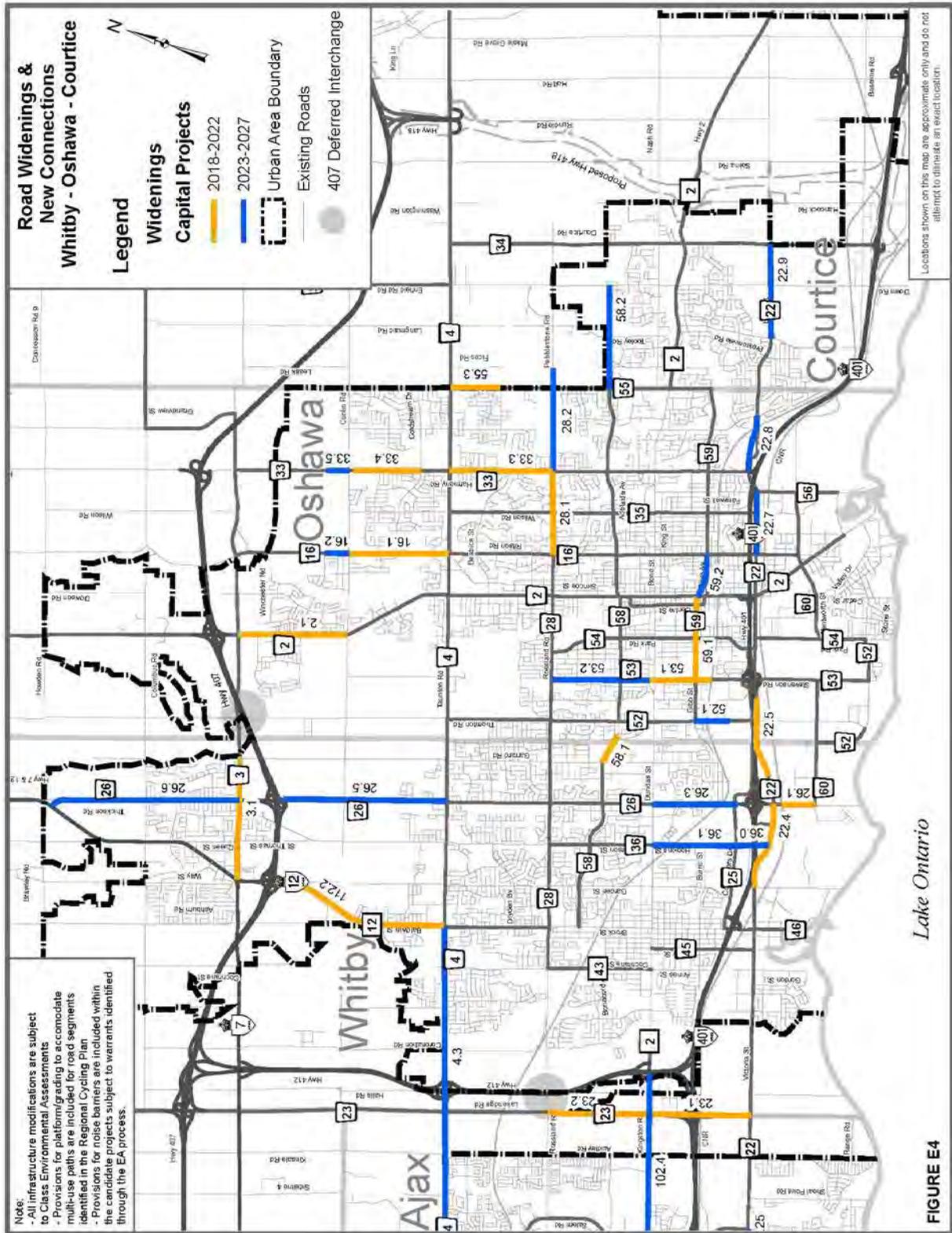
4. Calculation of Development Charge Quantum

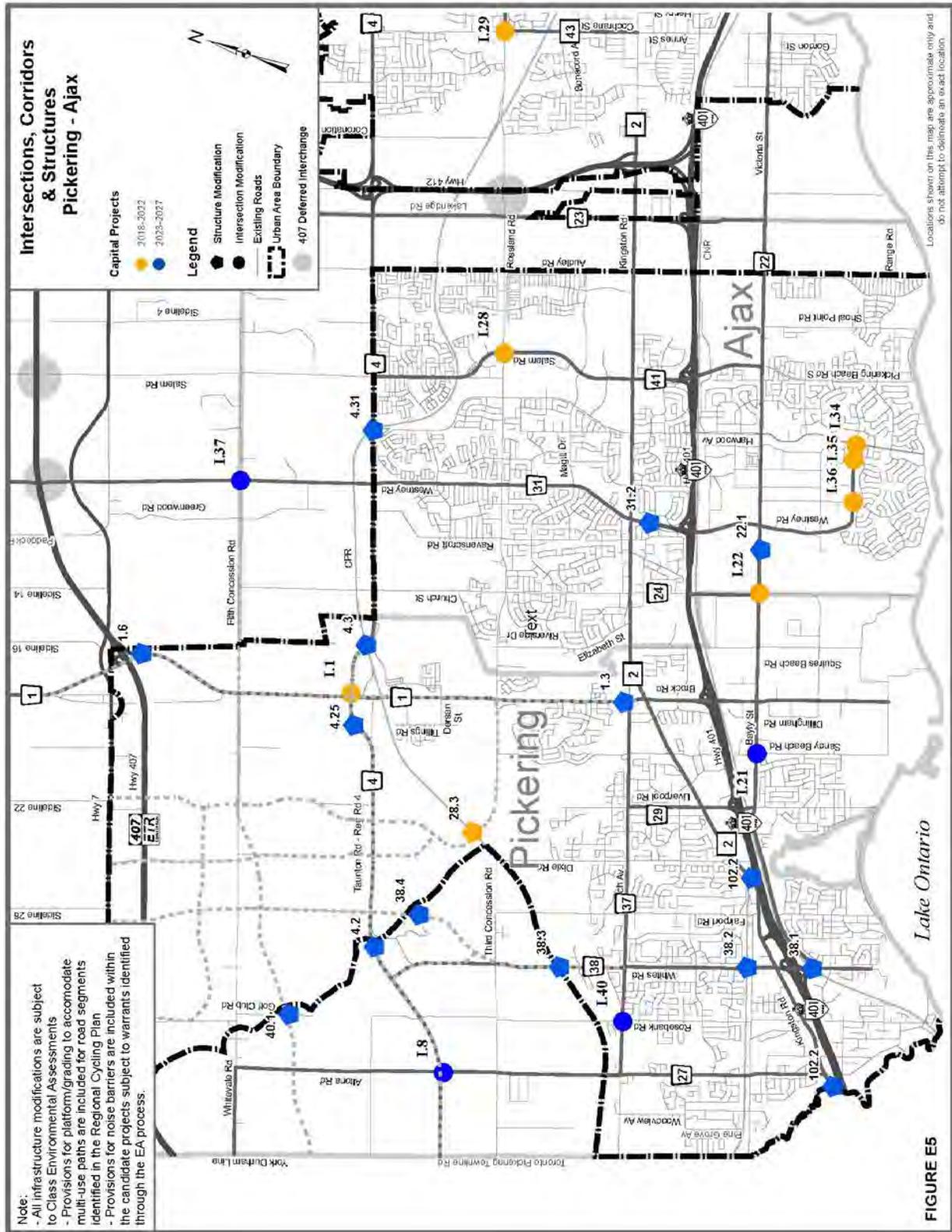
Tables E.3 to E.6 determine the proposed Development Charge per unit and per floor space area for new residential and new non-residential development within the Region of Durham. These tables summarize the Net Growth Related Capital Costs against projected new development during the ten-year forecast, deducting existing uncommitted Reserve Fund Balances. Allowances for financing of Committed Excess Capacity are not required since no debt has been issued to finance Regional road related improvements.











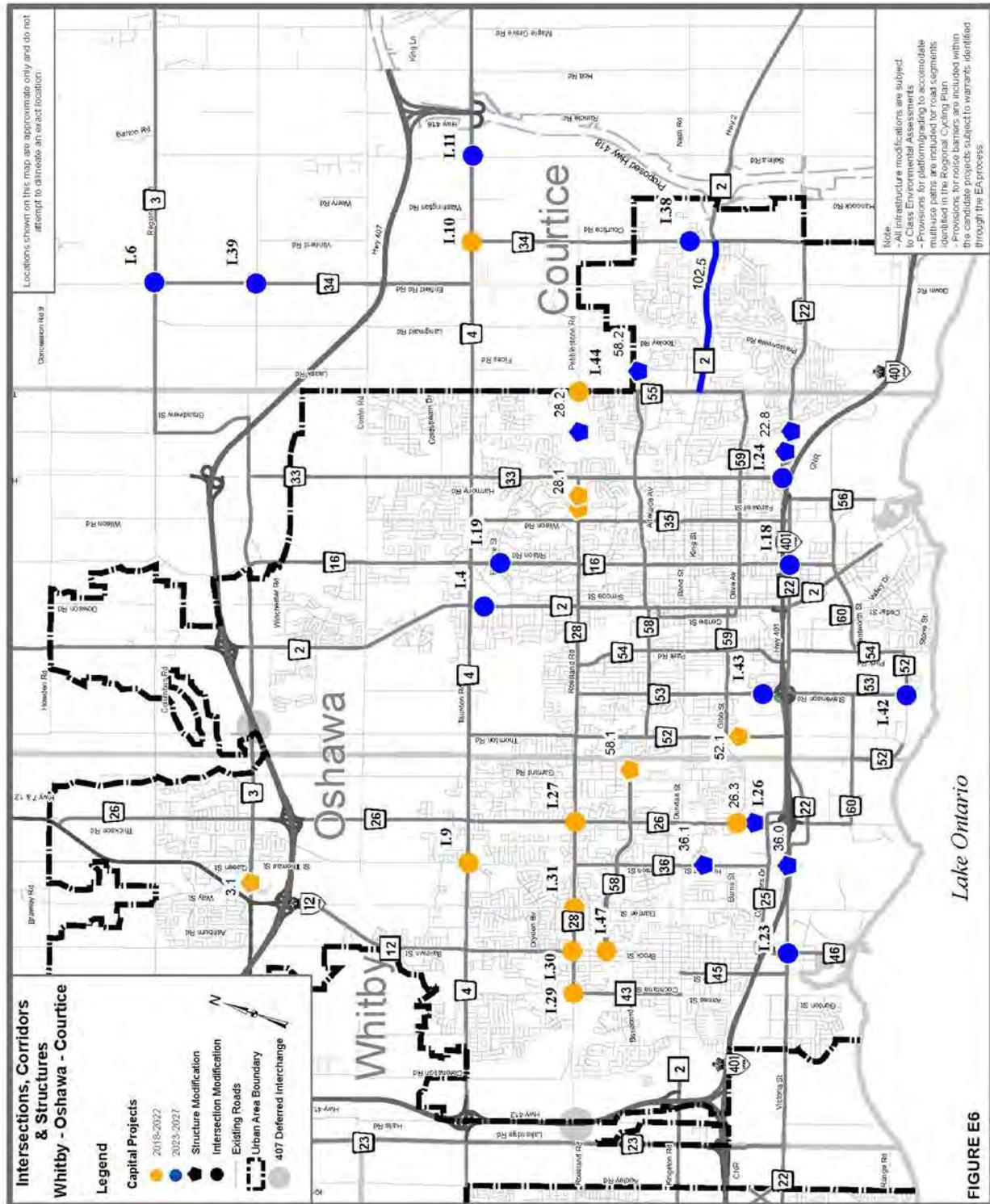


TABLE E.1 - REGIONAL ROADS: CAPITAL COST SUMMARY - RESIDENTIAL (YEAR 2018 - 2027)																										
ITEM #	ROAD NAME	DESCRIPTION	DEVELOPMENT RELATED RESIDENTIAL SHARE SERVICE: REGIONAL ROADS	GROSS COST (2018 Estimated Cost)	BENEFIT TO EXISTING DEVELOP.	POST PERIOD BENEFIT	GRANTS, SUBSIDY & OTHER	DEVELOPMENT RELATED		NET RESIDENTIAL GROWTH COST (2018 Estimated Cost) BY YEAR																
								NON-RESID.	RESID.	TOTAL	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027						
																					%	%	%	%	%	%
												\$ 000's														
31.1	Westney Rd #51	Widen from 5 to 7 lanes		7,930	8%	0%	0%	28%	64%	5,075	0	131	0	131	198	198	4,116	0	0	0	0	0	0	0		
31.2	Westney Rd #51	Hwy 401 to S. of Kingston Rd (Reg Hwy 2) widening		5,925	9%	0%	0%	27%	64%	3,922	0	131	198	230	3,004	0	0	0	0	0	0	0	0	0	0	
31.4	Westney Rd #51	N. of Rossland Rd #28 to Taunton Rd #4		11,950	3%	0%	0%	29%	68%	8,126	211	0	7,915	0	0	0	0	0	0	0	0	0	0	0	0	
31.5	Westney Rd #51	S. of Greenwood to N. of Greenwood		12,770	8%	0%	0%	28%	64%	8,173	0	0	0	0	262	989	330	6,592	0	0	0	0	0	0	0	
33.3	Harmony Rd #53	Rossland Rd #28 to Taunton Rd #4		9,270	8%	0%	0%	28%	64%	5,933	0	0	0	0	553	0	0	0	0	0	0	0	0	0	0	
33.4	Harmony Rd #53	N. of Colerain Dr. to S. of Conlin Rd		6,075	8%	0%	0%	28%	64%	3,888	330	3,558	0	0	0	0	0	0	0	0	0	0	0	0	0	
33.5	Harmony Rd #53	Conlin Rd to Britannia Ave		4,485	34%	69%	0%	2%	5%	206	0	0	0	0	14	12	5	9	162	0	0	0	0	0	0	
36.0	Hopkins St	Construct new Hopkins St overpass		15,550	0%	0%	0%	30%	70%	10,885	0	0	361	287	287	9,951	0	0	0	0	0	0	0	0	0	
36.1	Hopkins St	Consumers Dr #25 to Dundas St		15,760	5%	0%	0%	29%	66%	10,402	0	0	0	0	340	340	205	340	9,177	0	0	0	0	0	0	
37.1	Finch Ave #37	Altona Rd #27 to Brock Rd #1		27,295	40%	0%	0%	18%	42%	11,464	0	0	216	216	216	433	10,362	0	0	0	0	0	0	0	0	
38.1	Whites Rd #38	Bayly St #22 to Kingston Rd (Reg Hwy 2) widening		515	4%	0%	0%	29%	67%	345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
38.2	Whites Rd #38	N. of Kingston Rd (Reg Hwy 2) to Finch Ave #37 widening		21,425	58%	0%	0%	13%	29%	6,213	0	55	59	96	90	5,915	0	0	0	0	0	0	0	0	0	
38.3	Whites Rd #38	Finch Ave #37 to S. of Third Concession Rd		23,020	17%	40%	0%	13%	30%	6,922	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,922	
38.4	Whites Rd #38	S. of Third Concession Rd to Taunton Rd #4		78,600	1%	0%	0%	30%	69%	54,234	0	0	0	0	0	54,234	0	0	0	0	0	0	0	0	0	0
38.5	Whites Rd #38	Taunton Rd #4 to Whitevale Rd		14,960	0%	0%	0%	30%	70%	10,472	0	10,472	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38.6	Whites Rd #38	Whitevale Rd to Hwy 7		7,850	0%	0%	0%	30%	70%	5,955	0	0	5,495	0	0	0	0	0	0	0	0	0	0	0	0	0
38.7	Whites Rd #38	Whitevale Rd to Hwy 7		4,880	20%	0%	0%	24%	56%	2,733	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,733	
40.1	Alexander Knox Rd # 40	York/Durham Line to Golf Club Rd		44,030	0%	0%	0%	30%	70%	30,821	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30,821	
40.2	Alexander Knox Rd # 40	Golf Club Rd to E. of Brock Rd #1		46,000	0%	0%	0%	30%	70%	32,200	0	32,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52.1	Thornton Rd #52	N. of Stellar Dr #25 to N. of Gbb St. #59		10,095	13%	0%	0%	26%	61%	6,158	0	314	314	189	314	5,026	0	0	0	0	0	0	0	0	0	0
53.1	Stevenson Rd #53	CPR Belleville to Bond St		9,060	6%	0%	0%	28%	66%	5,980	271	340	135	271	4,963	0	0	0	0	0	0	0	0	0	0	0
53.2	Stevenson Rd #53	Bond St to Rossland Rd #28		14,420	44%	0%	0%	17%	39%	5,824	0	0	0	201	41	160	5,222	0	0	0	0	0	0	0	0	0
55.3	Townline Rd #55	Beatrice Rd to Taunton Rd #4		3,295	13%	0%	0%	26%	61%	2,010	0	125	1,885	0	0	0	0	0	0	0	0	0	0	0	0	
57.1	Bowmanville Ave #57	Baseline Rd to N. of Stevens Rd		22,020	17%	0%	0%	25%	58%	12,772	435	3,138	9,198	0	0	0	0	0	0	0	0	0	0	0	0	
57.2	Bowmanville Ave #57	N. of Stevens Rd to Nash Rd		9,375	7%	0%	0%	28%	65%	6,094	0	0	335	68	335	5,395	0	0	0	0	0	0	0	0	0	
58.1	Manning Rd/Delade Ave #58	Garard Rd to Thornton Rd #52		13,495	1%	0%	0%	30%	69%	9,312	711	72	8,528	0	0	0	0	0	0	0	0	0	0	0	0	
58.2	Alabade Ave #58	Townline Rd #55 to Trulls Rd		25,595	0%	0%	0%	30%	70%	20,010	0	0	0	0	361	3,605	192	15,862	0	0	0	0	0	0	0	
59.1	Gbb St #59	E. of Stevenson Rd #53 to Simcoe St #2		15,450	29%	0%	0%	21%	50%	7,725	1,468	978	568	4,713	0	0	0	0	0	0	0	0	0	0	0	
59.2	Gbb St/Oliver Ave #59	Interconnection from Simcoe St #2 to Stinson Rd #16		14,320	4%	0%	0%	29%	67%	9,594	0	690	690	345	864	657	6,348	0	0	0	0	0	0	0	0	
102.2	Kingston Rd /Reg Hwy 2	Pickering Toronto Boundary to Nelson Rd		69,270	7%	0%	0%	28%	65%	45,826	2,176	0	0	0	0	670	2,678	3,348	33,475	0	0	0	0	0	0	
102.4	Kingston Rd /Reg Hwy 2	Westney Rd #51 to Hwy 412		24,310	11%	0%	0%	27%	62%	15,072	1,150	0	0	0	0	639	1,277	639	1,277	10,091	0	0	0	0	0	
102.5	King St /Reg Hwy 2	Townline Rd #55 to Courtnie Rd #34		4,425	50%	0%	0%	15%	36%	1,549	0	0	0	0	144	72	72	1,262	0	0	0	0	0	0	0	
112.2	Babwin St /Reg Hwy 12	N. of Taunton Rd #4 to N. of Garden St		15,860	9%	0%	0%	27%	64%	10,150	330	330	922	8,570	0	0	0	0	0	0	0	0	0	0	0	
147.1	Reg Hwy 47	York/Durham Line #30 to Goodwood Rd #21		12,875	0%	81%	0%	6%	13%	1,822	0	0	0	0	65	65	130	1,297	0	0	0	0	0	0	0	
Sub-Total (Widenings, New Connections and Corridor Modifications)				1,085,890	113,734	118,991	0			596,986	23,986	23,293	123,221	18,748	31,563	92,707	42,140	54,399	44,344	142,586	0	0	0	0	0	

TABLE E.1 - REGIONAL ROADS: CAPITAL COST SUMMARY - RESIDENTIAL (YEAR 2018 - 2027)																				
ITEM #	DESCRIPTION	GROSS COST (2018 Estimated Cost)	BENEFIT EXISTING DEVELOP. %	POST RESID BENEFIT %	GRANTS, RESID & OTHER %	DEVELOPMENT RELATED		NET RESIDENTIAL GROWTH COST (2018 ESTIMATED BY YEAR)												
						NON-RESID. %	RESID. %	TOTAL												
								2018	2019	2020	2021	2022	2023	2024	2025	2026	2027			
		\$ 000's	%	%	%	%	%	\$ 000's												
Other Development Charge Component Works																				
O.1	Engineering Activities	4,500	10%	0%	0%	27%	63%	284	284	284	284	284	284	284	284	284	284	284	2	
O.2	Property Acquisitions	988	10%	0%	0%	27%	63%	62	63	63	63	63	63	63	63	63	63	63	63	
O.3	Roadside Landscaping Projects	1,500	10%	0%	0%	27%	63%	95	95	95	95	95	95	95	95	95	95	95	95	
O.4	Contingencies Development Related	12,700	10%	0%	0%	27%	63%	630	819	819	819	819	819	819	819	819	819	819	8	
O.5	Transportation Plans and Studies	1,850	0%	0%	0%	30%	70%	1,256	105	105	105	105	105	105	105	105	105	105	1	
O.6	Intelligent Transportation System Projects	7,395	10%	0%	0%	27%	63%	4,659	463	479	481	510	441	441	441	441	441	441	397	3
O.7	Maintenance Facilities and Vehicles Capital Allowance	21,961	10%	0%	0%	27%	63%	13,859	0	2,009	3,068	1,196	4,255	42	756	0	0	0	2.5	
O.8	Regional Share of Services for Residential Subdivision Development	3,000	0%	0%	0%	30%	70%	2,100	210	210	210	210	210	210	210	210	210	210	2	
Sub-Total (Other Development Charge Component Works)		53,904	4,905	0	0			34,299	1,848	5,122	3,240	6,322	2,127	2,772	2,261	1,972	4,47			
TOTAL OF REGION		1,251,699	129,820	118,391	0	0	0	701,722	31,501	39,653	134,996	34,355	46,487	104,370	47,939	60,380	50,171	151,87		

TABLE E.2 - REGIONAL ROADS: CAPITAL COST SUMMARY - NON-RESIDENTIAL (YEAR 2018 - 2027)																					
ITEM #	ROAD NAME	DESCRIPTION	DEVELOPMENT RELATED NON-RESIDENTIAL SHARE SERVICE: REGIONAL ROADS	GROSS COST (2018 Estimated Cost)	BENEFIT TO EXISTING DEVELOP.	POST PERIOD BENEFIT	GRANTS, SUBSIDY & OTHER	DEVELOPMENT RELATED			NET NON-RESIDENTIAL GROWTH COST (2018 Estimated Cost)										
								NON- RESID.	RESID.	%	TOTAL	2016	2019	2020	2021	2022	2023	2024	2025	2026	2027
Widenings, New Connections and Corridor Modifications																					
31.1	Westney Rd #31	Widen from 5 to 7 lanes		7,930	8%	0%	0%	28%	64%	0	57	0	0	57	87	1,932	0	0			
31.2	Westney Rd #31	Widen from 5 to 7 lanes, including structure widening		5,925	9%	0%	0%	27%	64%	0	55	84	0	0	1,280	0	0	0			
31.4	Westney Rd #31	N. of Rossland Rd #28 to Taunton Rd #4		11,950	3%	0%	0%	29%	68%	0	0	3,376	0	0	0	0	0	0			
31.5	Westney Rd #31	S. of Greenwood to N. of Greenwood		12,770	8%	0%	0%	28%	64%	0	0	0	0	0	115	433	144	2,884			
33.3	Harmony Rd #33	Rossland Rd #28 to Taunton Rd #4		9,270	8%	0%	0%	28%	64%	2,595	0	0	0	0	0	0	0	0			
33.4	Harmony Rd #33	N. of Goldstream Dr. to S. of Conlin Rd		6,075	8%	0%	0%	28%	64%	1,701	144	1,557	0	0	0	0	0	0			
33.5	Harmony Rd #33	Conlin Rd to Brianna Ave		4,485	34%	59%	0%	2%	5%	90	0	0	0	0	6	5	2	4			
36	Hopkins St	Construct new Hopkins St overpass		15,550	0%	0%	0%	30%	70%	4,655	0	0	155	123	123	4,265	0	0			
36.1	Hopkins St #36	Consumers Dr #25 to Dundas St		15,760	5%	0%	0%	29%	66%	4,570	0	0	0	0	149	149	90	149			
37.1	Finch Ave #37	Altona Rd #27 to Brock Rd #1		27,295	40%	0%	0%	18%	42%	4,913	0	0	93	93	93	185	4,450	0			
38.1	Whites Rd #38	Bayly St #25 to Kingston Rd (Reg Hwy 2)		515	4%	0%	0%	29%	67%	149	0	0	0	0	0	0	0	149			
38.2	Whites Rd #38	N. of Kingston Rd (Reg Hwy 2) to Finch Ave		21,425	58%	0%	0%	13%	29%	2,785	0	27	27	40	40	2,651	0	0			
38.3	Whites Rd #38	Finch Ave #37 to S. of Third Concession Rd		23,020	17%	40%	0%	13%	30%	2,993	0	0	0	0	0	0	0	2,993			
38.4	Whites Rd #38	S. of Third Concession Rd to Taunton Rd #4		78,600	1%	0%	0%	30%	69%	23,560	0	0	0	0	23,560	0	0	0			
38.5	Whites Rd #38	Budge crossing at West Dunes Creek		14,860	0%	0%	0%	30%	70%	4,488	0	4,488	0	0	0	0	0	0			
38.6	Whites Rd #38	Whitevale Rd to Whitevale Rd		7,850	0%	0%	0%	30%	70%	2,355	0	2,355	0	0	0	0	0	0			
38.7	Whites Rd #38	Whitevale Rd to Hwy 7		4,880	20%	0%	0%	24%	56%	1,171	0	0	0	0	0	0	0	1,171			
40.1	Alexander Knox Rd # 40	York/Durham Line to Golf Club Rd		44,030	0%	0%	0%	30%	70%	13,209	0	0	0	0	0	0	0	13,209			
40.2	Alexander Knox Rd # 40	Golf Club Rd to E. of Brock Rd #1		46,000	0%	0%	0%	30%	70%	13,800	0	13,800	0	0	0	0	0	0			
52.1	Thornton Rd #52	N. of Stellar Dr #25 to N. of Gibb St. #59		10,095	13%	0%	0%	26%	61%	2,625	0	134	134	81	134	2,142	0	0			
53.1	Stevenson Rd #53	CPR Ballville to Bond St		9,060	6%	0%	0%	26%	66%	2,537	115	144	57	115	2,106	0	0	0			
53.2	Stevenson Rd #53	Bond St to Rossland Rd #28		14,420	44%	0%	0%	17%	39%	2,451	0	0	88	18	70	2,276	0	0			
55.3	Townline Rd #55	Beatrice Rd to Taunton Rd #4		3,295	13%	0%	0%	26%	61%	857	0	53	803	0	0	0	0	0			
57.1	Bowmanville Ave #57	Baseline Rd to N. of Stevens Rd		22,020	17%	0%	0%	25%	58%	5,505	188	1,363	3,965	0	0	0	0	0			
57.2	Bowmanville Ave #57	N. of Stevens Rd to Nash Rd		9,375	7%	0%	0%	28%	65%	2,625	0	0	144	29	144	2,307	0	0			
58.1	Manning Rd/Adelaide Ave #58	Garland Rd to Thornton Rd #62		13,495	1%	0%	0%	30%	69%	4,049	309	32	3,708	0	0	0	0	0			
58.2	Adelaide Ave #58	Townline Rd #55 to Trulls Rd		28,585	0%	0%	0%	30%	70%	8,576	0	0	0	0	155	1,545	78	6,798			
59.1	Gibb St #59	E. of Stevenson Rd #53 to Simcoe St #2		15,450	29%	0%	0%	21%	50%	3,245	616	411	238	1,979	0	0	0	0			
59.2	Gibb St/Olive Ave #59	Interconnection from Simcoe St #2 to Ritson Rd #16		14,320	4%	0%	0%	29%	67%	4,153	0	299	299	149	374	284	2,748	0			
102.2	Kingston Rd/Reg Hwy 2	Pickering/Toronto Boundary to Nation Rd		69,270	7%	0%	0%	28%	65%	19,396	938	0	0	0	288	1,154	1,154	14,420			
102.4	Kingston Rd/Reg Hwy 2	Westney Rd #31 to Hwy 412		24,310	11%	0%	0%	27%	62%	6,564	501	0	0	0	278	556	278	556			
102.5	King St/Reg Hwy 2	Townline Rd #55 to Coarice Rd #54		4,425	50%	0%	0%	15%	35%	664	0	0	0	0	62	31	31	541			
112.2	Baldwin St/Reg Hwy 12	N. of Taunton Rd #44 to N. of Garden St		15,960	9%	0%	0%	27%	64%	4,282	139	389	3,615	0	0	0	0	0			
147.1	Reg Hwy 47	York/Durham Line #30 to Goodwood Rd #21		12,875	0%	81%	0%	6%	13%	773	0	0	0	0	31	31	62	618			
Sub-Total (Widenings, New Connections and Corridor Modifications)				1,085,890	113,734	118,391	0	0	256,779	10,305	10,079	52,882	7,940	13,650	39,936	18,285	23,242	19,193	61,267		

TABLE E.2 - REGIONAL ROADS: CAPITAL COST SUMMARY - NON-RESIDENTIAL (YEAR 2018 - 2027)																		
ITEM #	DESCRIPTION	GROSS COST (2018 Estimated Cost)	BENEFIT TO EXISTING DEVELOP.	POST PERIOD BENEFIT	GRANTS, SUBSIDY & OTHER	DEVELOPMENT RELATED		NET NON-RESIDENTIAL GROWTH COST (2018 Estimated Cost)										
						NON-RESID.	RESID.	TOTAL	BY YEAR									
									2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
		\$ 000's	%	%	%	%	%	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	\$ 000's	
Other Development Charge Component Works																		
O.1	Engineering Activities	4,500	10%	0%	0%	0%	27%	63%	1,215	122	122	122	122	122	122	122	122	122
O.2	Property Acquisitions	998	10%	0%	0%	0%	27%	63%	270	27	27	27	27	27	27	27	27	27
O.3	Roadside Landscaping Projects	1,500	10%	0%	0%	0%	27%	63%	405	41	41	41	41	41	41	41	41	41
O.4	Contingencies Development Related	12,700	10%	0%	0%	0%	27%	63%	3,429	270	351	351	351	351	351	351	351	351
O.5	Transportation Plans and Studies	1,850	0%	0%	0%	0%	30%	70%	555	45	45	45	45	45	45	45	150	45
O.6	Intelligent Transportation System Projects	7,395	10%	0%	0%	0%	27%	63%	1,997	198	246	205	205	211	219	189	188	170
O.7	Maintenance Facilities and Vehicles Capital Allowance	21,961	10%	0%	0%	0%	27%	63%	5,929	0	861	1,315	608	1,824	18	324	0	0
O.8	Regional Share of Services for Residential Subdivision Development	3,000	0%	0%	0%	0%	30%	70%	900	90	90	90	90	90	90	90	90	90
Sub-Total (Other Development Charge Component Works)		53,904	4,905	0	0	0			14,700	792	1,782	2,195	1,388	2,709	912	1,188	969	845
TOTAL OF REGION		1,251,599	129,820	118,391	0	0	0	0	301,666	13,526	17,090	57,928	14,629	20,046	44,934	20,770	25,806	21,691

Table E.3
RESIDENTIAL ROADS
Region-Wide Development Charge (With Seaton)
Cash Flow Calculation of the Residential Development Charge
(\$000's)

Year	1	2	3	4	5	6	7	8	9
	DC Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expend. Inflated @ 3.0%	Equivalent Single Detached Units	Unit Charge Inflated @ 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.00%	DC Reserve Fund Closing Bal.
2018-19	33,363	31,501	31,501	8,075	9,250	74,690	76,552	1,914	78,466
2019-20	78,466	39,653	40,843	8,075	9,527	76,931	114,555	2,864	117,419
2020-21	117,419	134,996	143,217	8,075	9,813	79,239	53,440	1,336	54,776
2021-22	54,776	34,355	37,541	8,075	10,107	81,616	98,852	2,471	101,323
2022-23	101,323	46,487	52,322	8,075	10,410	84,065	133,066	3,327	136,393
2023-24	136,393	104,370	120,993	6,457	10,723	69,237	84,637	2,116	86,752
2024-25	86,752	47,939	57,242	6,457	11,044	71,314	100,825	2,521	103,346
2025-26	103,346	60,380	74,260	6,457	11,376	73,454	102,540	2,563	105,103
2026-27	105,103	50,171	63,555	6,457	11,717	75,657	117,205	2,930	120,135
2027-28	120,135	151,872	198,159	6,465	12,069	78,024	0	0	0
TOTAL		701,724	819,632	72,668		764,227		22,042	

	Single / Semi Detached	Medium Density Multiple	2 Bedroom Apartment	1 Bedroom Apartment
DC/Unit	\$9,250	\$7,432	\$5,373	\$3,502

Table E.4
COMMERCIAL ROADS
Development Charge (With Seaton)
Cash Flow Calculation of the Commercial Development Charge
(\$000's)

Year	1	2	3	4	5	6	7	8	9	10
DC Reserve Fund Opening Balance	Development Related Exp Total	Development Related Exp Commercial ¹	Development Related Exp Inflated @ 3.0%	Estimated Development m ² Commercial	Charge m ² inflated 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.00%	DC Reserve Fund Closing Bal.	
2018-19	8,760	13,526	3,611	3,611	84,700	91.92	12,934	323	13,257	
2019-20	13,257	17,090	4,563	4,700	84,700	94.67	16,576	414	16,990	
2020-21	16,990	57,928	15,467	16,409	84,700	97.51	8,841	221	9,062	
2021-22	9,062	14,629	3,906	4,268	84,700	100.44	13,301	333	13,633	
2022-23	13,633	20,046	5,352	6,024	84,700	103.45	16,372	409	16,781	
2023-24	16,781	44,934	11,997	13,908	72,600	106.55	10,609	265	10,874	
2024-25	10,874	20,770	5,546	6,622	72,600	109.75	12,220	306	12,526	
2025-26	12,526	25,806	6,890	8,474	72,600	113.04	12,258	306	12,565	
2026-27	12,565	21,691	5,791	7,336	72,600	116.44	13,682	342	14,024	
2027-28	14,024	65,247	17,421	22,730	72,600	119.93	0	0	0	
Total		301,667	80,545	94,083	786,500		82,403	2,920		

	Commercial
Development Charge/m ²	\$91.92
Development Charge/sq ft	\$8.54
Proposed rate/sq ft	\$8.54

Notes

(1) The Commercial expenditures are approximately 26.7% of total non-residential expenditures based on the commercial share of non-residential capital costs outlined on page E-6 in Appendix E

Table E.5
INDUSTRIAL ROADS
Development Charge (With Seaton)
Cash Flow Calculation of the Industrial Development Charge
(\$000's)

Year	1	2	3	4	5	6	7	8	9	10
DC Reserve Fund Opening Balance	Development Related Exp Total	Development Related Exp Industrial ¹	Development Related Exp Inflated @ 3.0%	Estimated Development m ² Industrial	Charge m ² inflated 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.00%	DC Reserve Fund Closing Bal.	
2018-19	3,663	13,526	9,022	9,022	580,040	34.92	20,257	14,898	372	15,270
2019-20	15,270	17,090	11,399	11,741	580,040	35.97	20,864	24,394	610	25,004
2020-21	25,004	57,928	38,638	40,991	580,040	37.05	21,490	5,503	138	5,641
2021-22	5,641	14,629	9,758	10,662	580,040	38.16	22,135	17,113	428	17,541
2022-23	17,541	20,046	13,371	15,049	580,040	39.31	22,799	25,291	632	25,924
2023-24	25,924	44,934	29,971	34,745	555,600	40.49	22,494	13,673	342	14,015
2024-25	14,015	20,770	13,854	16,542	555,600	41.70	23,168	20,641	516	21,157
2025-26	21,157	25,806	17,213	21,169	555,600	42.95	23,864	23,851	596	24,448
2026-27	24,448	21,691	14,468	18,327	555,600	44.24	24,579	30,700	767	31,467
2027-28	31,467	65,247	43,520	56,783	555,600	45.57	25,317	0	0	0
Total		301,667	201,212	235,032	5,678,200		226,968		4,402	

	Industrial
Development Charge/m ²	\$34.92
Development Charge/sq ft	\$3.24
Proposed rate/sq ft	\$3.24

Notes

(1) The Industrial expenditures are approximately 66.7% of total non-residential expenditures based on the industrial share of non-residential capital costs outlined on page E-6 in Appendix E

Table E.6
INSTITUTIONAL ROADS
Development Charge (With Seaton)
Cash Flow Calculation of the Institutional Development Charge
(\$'000's)

Year	1	2	3	4	5	6	7	8	9	10
DC Reserve Fund Opening Balance	DC Reserve Fund Closing Bal.	Development Related Exp Total	Development Related Exp Institutional ¹	Development Related Exp. Inflated @ 3.0%	Estimated Development m ² Institutional	Charge m ² inflated 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 5.00%	DC Reserve Fund Closing Bal.
2018-19	118	13,526	893	893	34,200	77.30	2,644	1,869	47	1,916
2019-20	1,916	17,090	1,128	1,162	34,200	79.62	2,723	3,477	87	3,564
2020-21	3,564	57,928	3,823	4,056	34,200	82.01	2,805	2,312	58	2,370
2021-22	2,370	14,629	966	1,055	34,200	84.47	2,889	4,204	105	4,309
2022-23	4,309	20,046	1,323	1,489	34,200	87.00	2,975	5,795	145	5,940
2023-24	5,940	44,934	2,966	3,438	17,380	89.61	1,557	4,059	101	4,161
2024-25	4,161	20,770	1,371	1,637	17,380	92.30	1,604	4,128	103	4,231
2025-26	4,231	25,806	1,703	2,095	17,380	95.07	1,652	3,789	95	3,884
2026-27	3,884	21,691	1,432	1,814	17,380	97.92	1,702	3,772	94	3,866
2027-28	3,866	65,247	4,306	5,619	17,380	100.86	1,753	0	0	0
Total		301,667	19,910	23,257	257,900		22,304		835	

	Institutional
Development Charge/m ²	\$77.30
Development Charge/sq ft	\$7.18
Proposed rate/sq ft	\$7.18

Notes

(1) The Institutional expenditures are approximately 6.6% of total expenditures based on the institutional share of non-residential capital costs outlined on page E-6 in Appendix E

Appendix F

**Regional Water Supply
Service Levels, Capital Costs
and DC Calculations**

Appendix F – Regional Water Supply

1. Introduction

This appendix provides the analysis completed to establish the Regional Water Supply component of the Development Charge in compliance with the DCA and Ontario Regulation 82/98. The appendix presents:

- An examination of the level of service;
- A forecast of capital works expenditures required to address the increase in need for Regional water supply service attributable to the anticipated new development in the urban areas over the period January 1, 2018 – December 31, 2027; and
- The calculation of the development charge quantum.

2. Service Levels

The following table lists the historical service standards provided for water supply by the Region of Durham. The standards are expressed in terms of design criteria, legislation or capacity requirements as issued by the Ministry of the Environment or any other appropriate regulatory standard setting body. The table also reflects other service criteria adopted by the Regional Works Department.

REGION OF DURHAM WATER SUPPLY STANDARDS	
Service Component	Service Standards Applied
Water Supply Plants	<ul style="list-style-type: none"> • Design criteria based on historical flow data for each individual supply facility. The current maximum day flows in litres/capita/day (l/c/d) which include residential, industrial, commercial and institutional demands are as follows: <ul style="list-style-type: none"> ○ Ajax, Whitby, and Oshawa Plants – 550 l/c/d ○ Bowmanville Plant – 550 l/c/d ○ Newcastle Plant – 600 l/c/d ○ Orono Wells – 560 l/c/d ○ Beaverton Plant – 600 l/c/d ○ Cannington Wells – 500 l/c/d ○ Sunderland Wells – 600 l/c/d ○ Port Perry Wells – 550 l/c/d ○ Blackstock Wells – 500 l/c/d ○ Greenbank Wells – 500 l/c/d ○ Uxbridge Wells – 550 l/c/d • Treatment based on MOECC regulations, MOECC guidelines and is site specific. MOECC regulations, policies and directives are used in order to establish the final Drinking Water Licence and associated Compliance Approval (ECA).
Storage Facilities	<ul style="list-style-type: none"> • Based on MOECC guidelines and Region of Durham system design criteria to meet the storage requirements for fire, equalization and emergency conditions using storage and reserve pumping capacity from water supply plants, if available.
Pumping Stations	<ul style="list-style-type: none"> • Based on MOECC and Region of Durham design guidelines and standards

The expenditures described in the capital works forecast presented in the following Tables F.1 and F.2 provide a similar level of service to that indicated in the table above.

3. Capital Works Forecast

3.1 Development of Capital Works Program

A ten-year capital works program was prepared for the period 2018-2027, which identifies the projected expenditures, expressed in 2018 dollars, required to address the increase in need for Regional water supply service attributable to the anticipated development (Appendix A). For the purposes of the Development Charge calculation, this forecast has been lagged to match the time period of the development forecasts (i.e. July 1, 2018 to June 30, 2028).

The program shown in Tables F.1 and F.2 and Figures F.1 to F.8 is based on information currently available on the capacity of the existing Regional water supply system, combined with an assessment of the improvements and expansions required to accommodate development over the next ten years. It includes the construction of works required to correct existing deficiencies in the system, and plant expansions, storage reservoirs, pumping stations, feeder mains and distribution system extensions required as a result of both new development and redevelopment within the urban areas.

3.2 Sequential Development

The basic premise underlying the forecast of capital works requirements is that development will be sequential in nature with the progressive extension / expansion of the Regional water supply system occurring as development proceeds within the urban areas.

3.3 Forecast Periods

Tables F.1 and F.2 divide the projected capital works program into annual forecast periods. The program is similar to the Region's Annual Capital Budget and Nine Year Forecast for the Regional water supply system. This forecast is subject to review and approval by Regional Council on an annual basis. The works have been assigned to these time frames based on information currently available on existing system capacities, operations experience and estimates of future demand.

The timing of implementation of the various projects identified in the forecasts and associated cost estimates are preliminary in nature. Project priorities, construction timing and cost estimates will be reviewed on an ongoing basis and will be subject to review and approval on an annual basis by Regional Council.

3.4 Allocation of Capital Costs

Tables F.1 and F.2 include works required to correct existing system deficiencies, which will benefit both existing and new development, as well as system improvements and expansions required solely to support growth during the forecast period. An assessment has been carried out to allocate the total cost of the various projects contained in the forecast between existing development (non-growth), new residential development (Table F.1), and new non-residential development (Table F.2). This assessment distributes the capital cost of the projects contained in the forecast based on the demand imposed on the system. Demands were assessed on either a flow or population equivalent basis, depending upon the situation.

In addition, the tables identify deductions in accordance with the Development Charges Act, 1997 for:

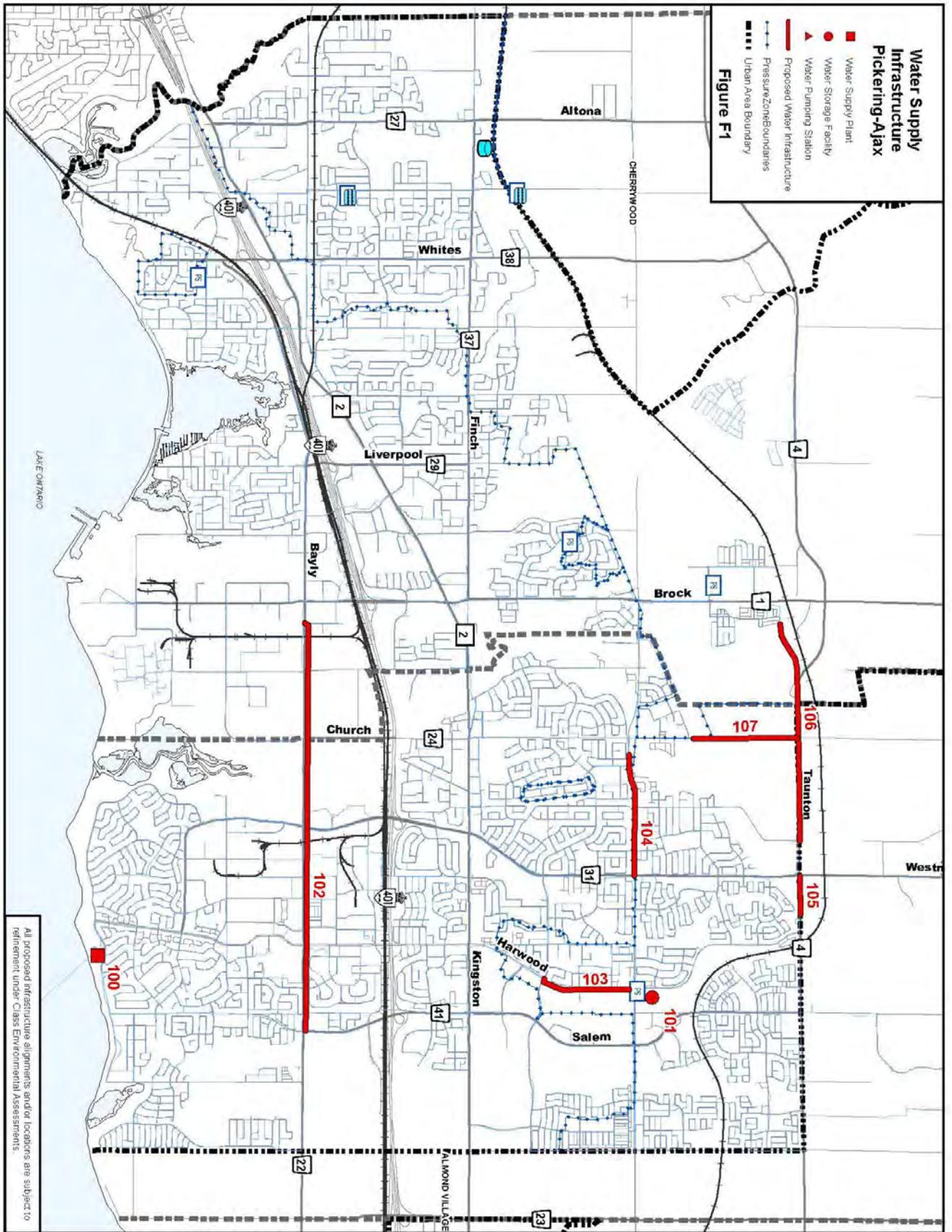
- "Benefit to Existing Development", which is the anticipated value of new capital works attributable to existing development. This deduction is assessed on a project by project basis and is primarily applicable to reconstruction, rehabilitation and replacement type projects;
- "Post Period Benefit", which is the value of anticipated surplus capacity at the end of the forecast period to be recovered from subsequent development. Deductions are made for specifically oversized capital works consisting of water supply plants, reservoirs and pumping stations;
- "Grants, Subsidy and Other", which is the funding anticipated or received from sources other than the Regional Municipality of Durham; and
- "Seaton" and "Federal Lands", the water supply infrastructure to service the Seaton and Federal Lands have been isolated and are not included in the Region Wide Development Charge. The Seaton share is to be covered via a separate area specific development charge by-law.

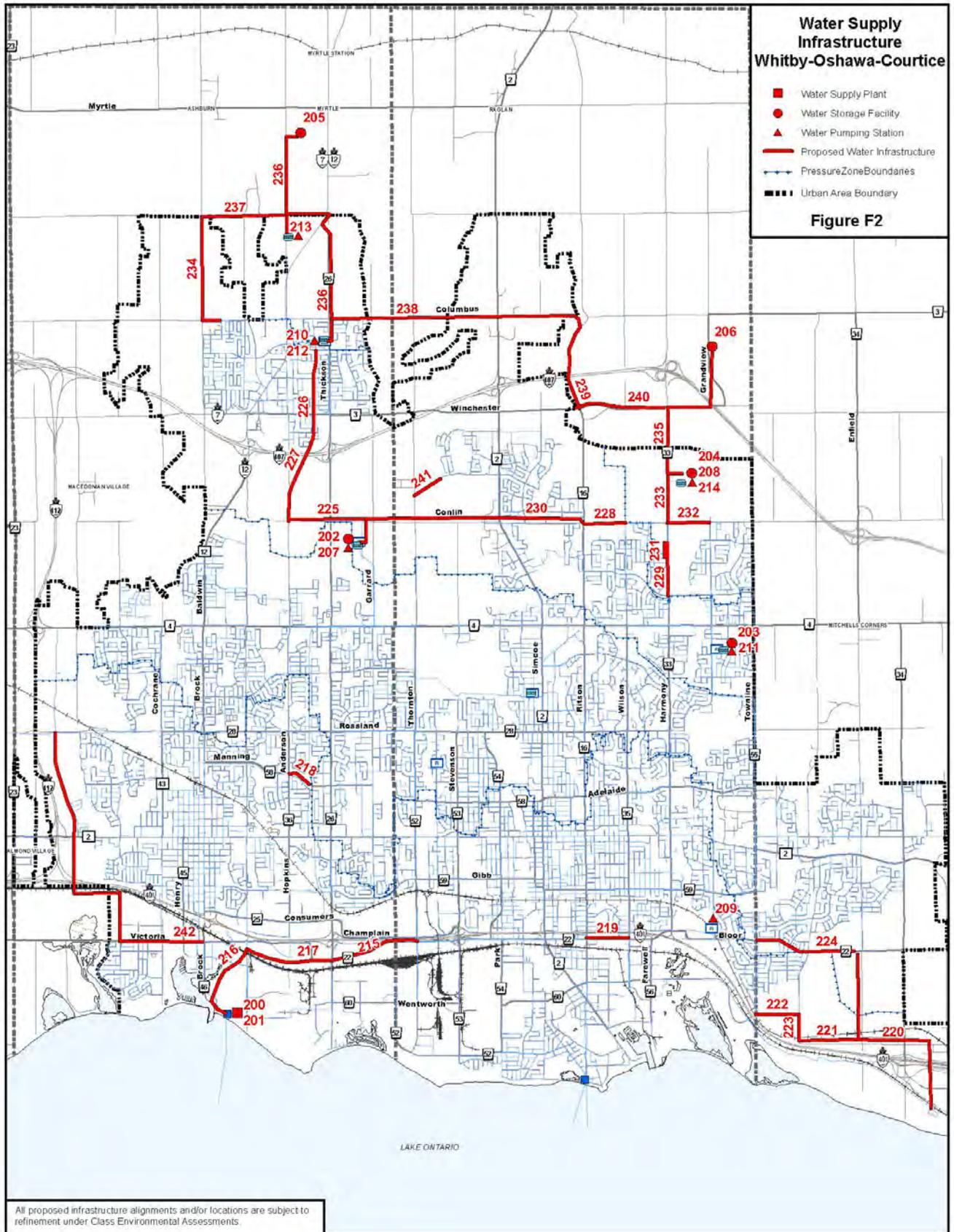
The following average percentages have been used in allocating the eligible growth-related capital costs between new residential and new non-residential development in Tables F.1 and F.2. The attributions, which are based on data obtained from actual water consumption records, plant operations records, and conventional design criteria, reflect relative utilization of eligible growth-related capital costs.

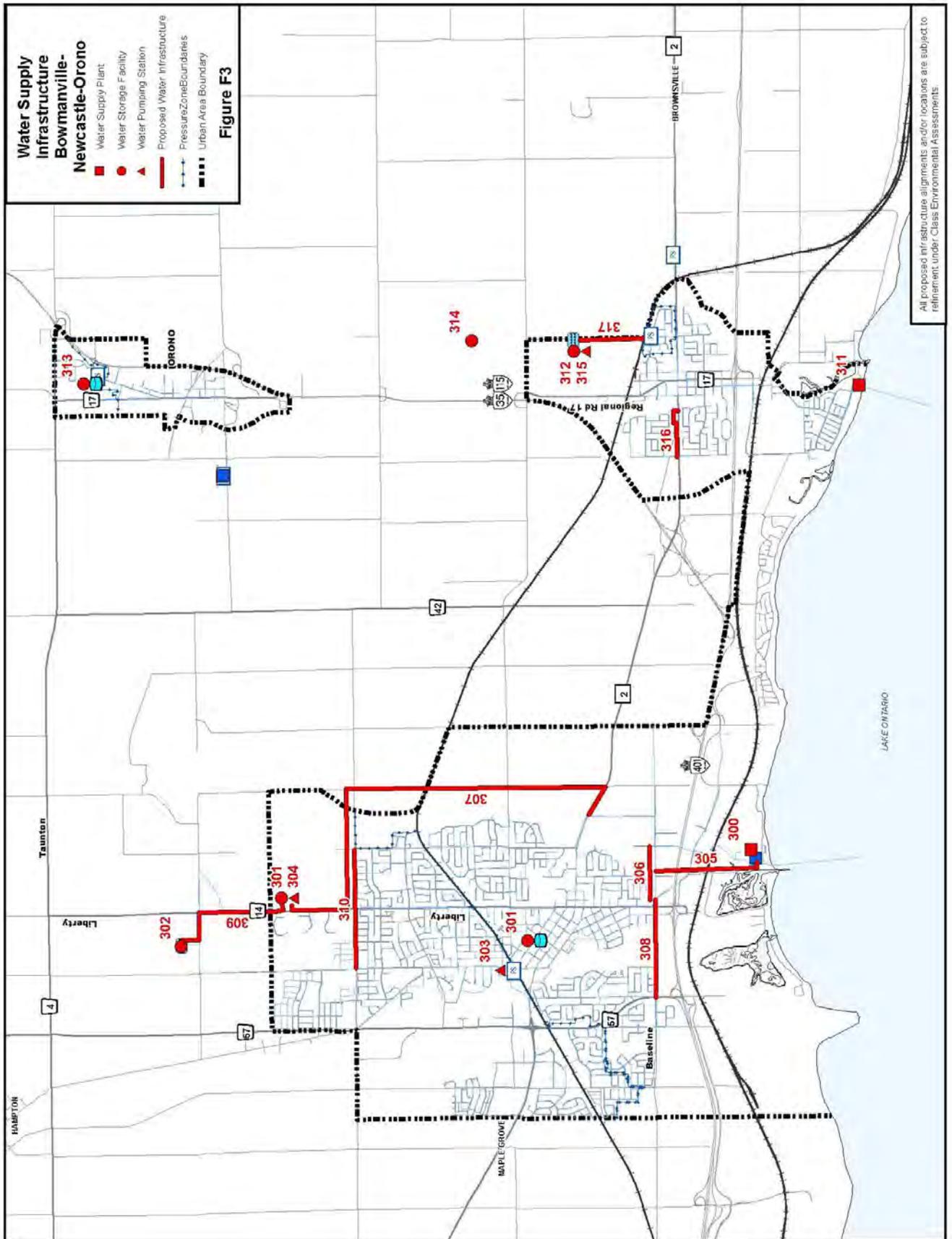
SUMMARY OF GROWTH RELATED CAPITAL UTILIZATION FOR RESIDENTIAL AND NON-RESIDENTIAL PURPOSES BY TYPE OF CAPITAL EXPENDITURE	
Land Use Category	Percentage of Capital Attributable to Growth by Development Type
Residential	
- Water Supply Plants	63.7
- Other	87.6
Non-Residential	
Water Supply Plants (All Non-res)	
i) Industrial	29.5
ii) Commercial	6.4
iii) Institutional	0.4
Other (All non-res)	
i) Industrial	10.1
ii) Commercial	2.2
iii) Institutional	0.1
<u>Note:</u>	
"Other" refers to Water Distribution System components including watermains, pumping stations and storage facilities i.e. reservoirs.	

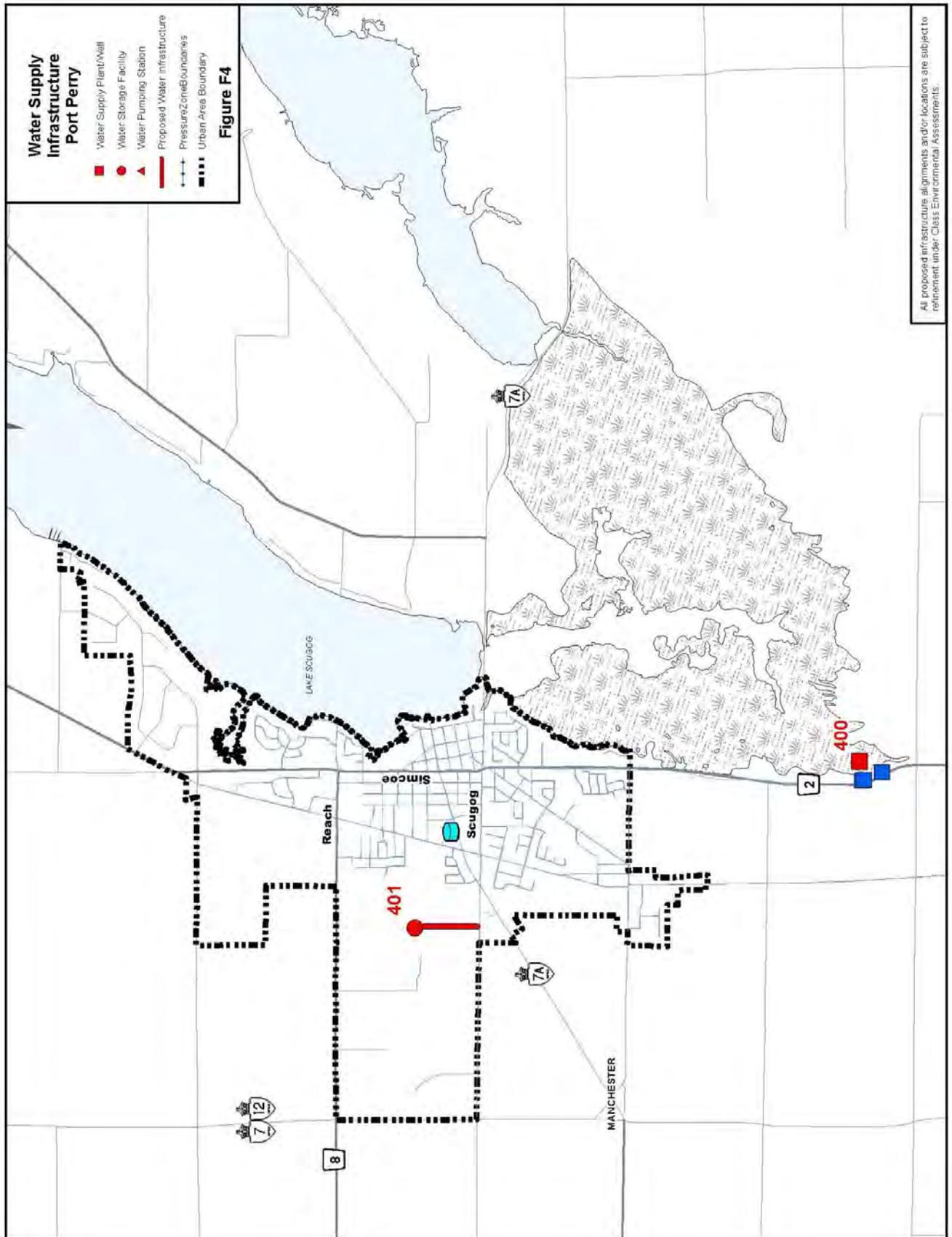
4. Calculation of Development Charge Quantum

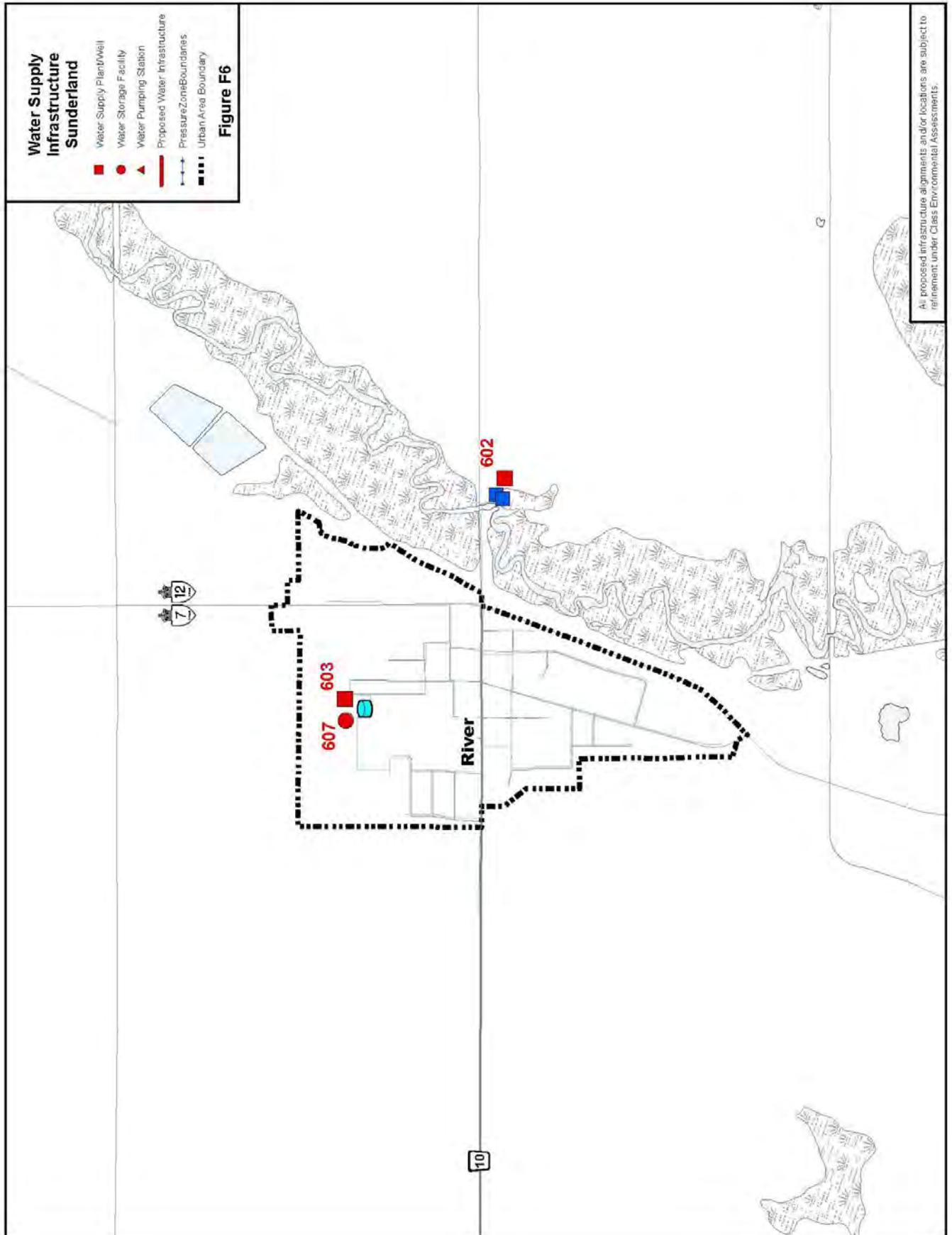
Tables F.3 to F.6 determine the proposed Development Charge per unit for new residential and new non-residential development within the urban areas in the Region of Durham. These tables summarize the Net Growth-Related Capital Costs against projected new development during the ten year forecast, including allowances for deducting Uncommitted Excess Capacity from the future requirement and deducting Existing Reserve Fund Balances.

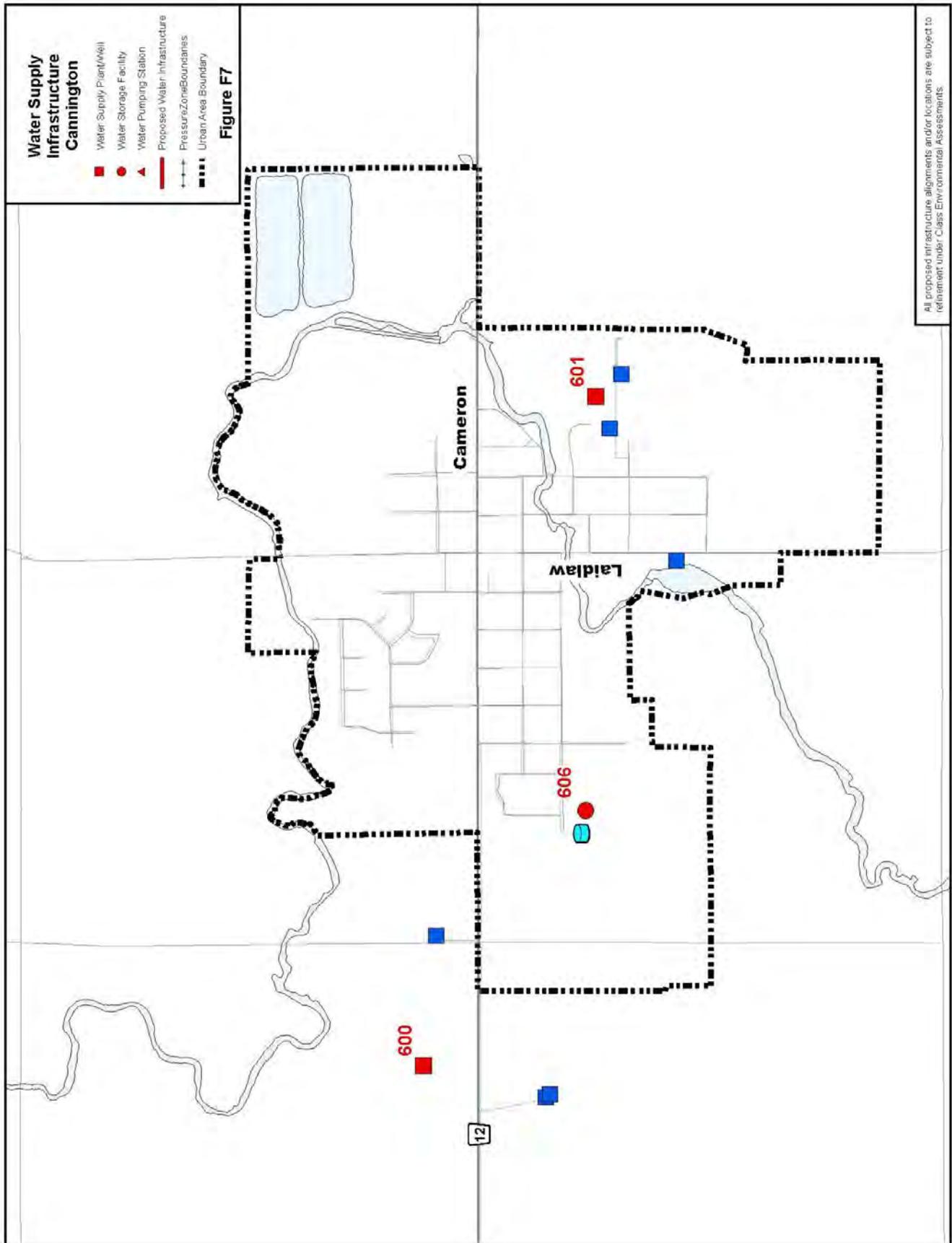












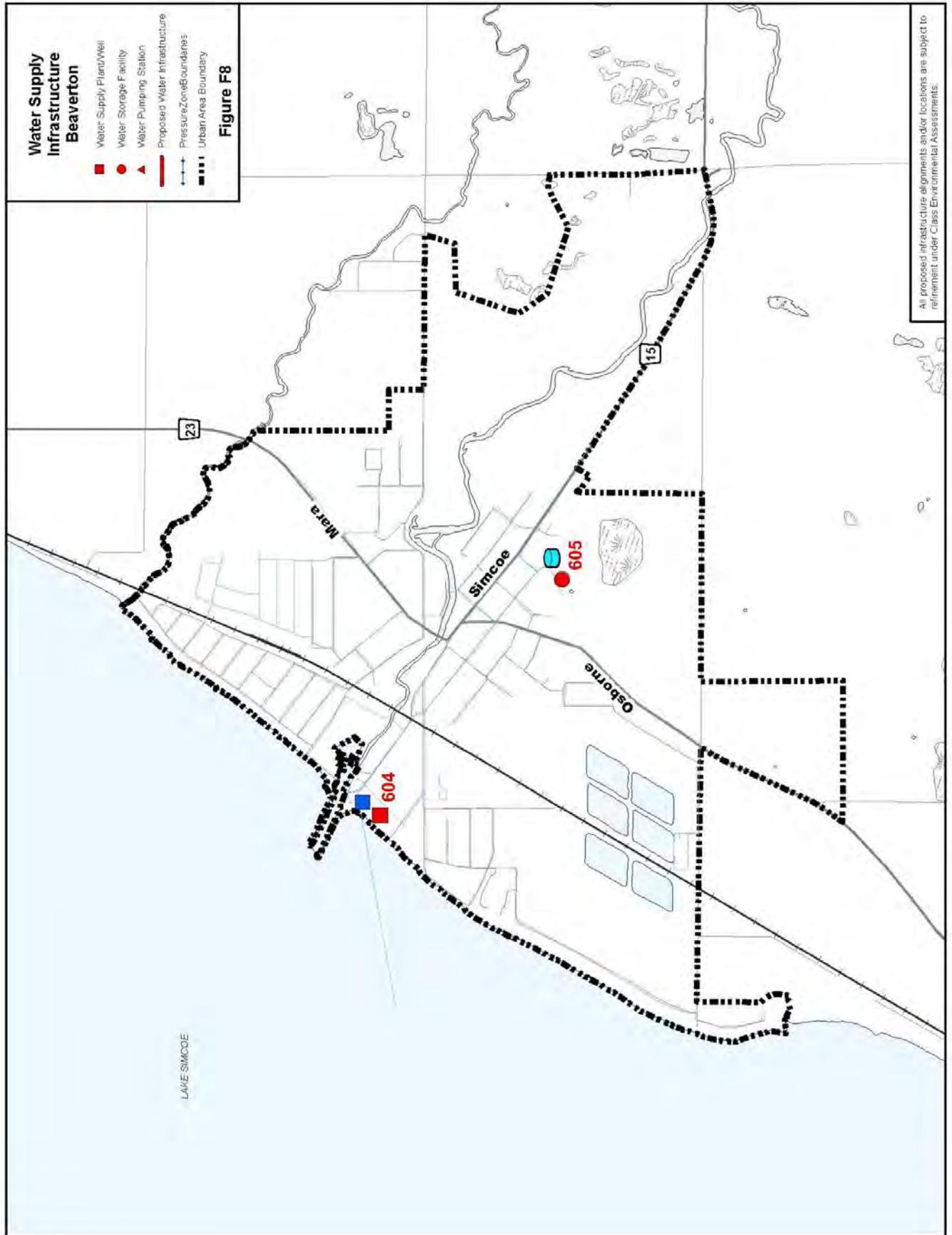


Table F.1 - Regional Water Supply: Capital Cost Summary: Residential (Year 2018 - 2027)																								
Item #	Description	Gross Cost to (2018 Estimated Cost)	Benefit to Existing Development	Post Period Benefit	Grants, Subsidy, & Other	Development Related			Total Net Residential Growth Cost	BY YEAR														
						Seaton	Federal Lands	Non-Resid.		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027					
		\$ 000's	%	%	%	%	%	%	\$ 000's															
	Pickering / Ajax																							
	Water Supply Plants (WSP)																							
100	Expansion of Ajax WSP from 163.6 MLD to 327 MLD	98,880	0.0%	33.00%	0.0%	39.00%	17.00%	3.99%	7.01%	105		315			6,508									
	Storage Facility																							
101	New 11,360 ML Zone 1 storage facility - Ajax	12,000	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	526		526			9,461									
	Construction of Major Feedermains (FM) for New Developments																							
102	Zone 1 feedermain on Bayly St. from Pickering Beach Rd. to Toy Ave. - Pickering / Ajax	18,575	0.0%	0.0%	0.0%	20.91%	0.0%	9.81%	69.28%	12,869													683	12,176
103	Zone 1 feedermain on Harwood Ave. from Roseland Rd. to Kerrison Dr. - Ajax	4,500	0.0%	0.0%	0.0%	37.45%	0.0%	7.75%	54.79%	2,465	219	2,246												
104	Zone 1 feedermain on Roseland Rd. from Church St. to Westney Rd. - Pickering / Ajax	8,550	0.0%	0.0%	0.0%	9.95%	25.40%	6.02%	56.62%	4,841	57	4,785												
105	Zone 2 feedermain on Taunton Rd. - Westney Rd. to 200 m west of Harwood Ave.	2,800	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	2,540			2,540											
106	Zone 2 feedermain on William Jackson Dr. and Taunton Rd. from Earl Grey Dr. to Ravenscroft Rd.	6,200	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	5,431		5,431												
107	Zone 2 feedermain on Church St. from south side of Hydro Corridor to Taunton Rd. - Ajax (Resion's Share)	3,600	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	3,154			526		2,628									
	Total Pickering/Ajax	155,205	0.0%	0.32,630	0.0%	0.0%	0.0%	0.0%	0.0%	48,742	276	7,662	0	6,272	3,066	18,597	0	693	0	693	0	12,176		
	Whitby/Oshawa/Clarington (Courtice)																							
	Water Supply Plants (WSP)																							
200	Expansion of Whitby WSP from 109 MLD to 218 MLD	140,000	0.0%	5.8%	0.0%	0.0%	0.0%	34.2%	60.0%	84,008		1,200	82,807											
201	Modifications at Whitby WSP - Plate Settling Tanks	10,250	75.1%	0.0%	0.0%	0.0%	0.0%	9.0%	15.9%	1,626				16	1,610									
	Storage Facility																							
202	Expansion of Garrard Rd. Zone 1 Reservoir from 31 ML to 50 ML - Whitby	16,700	0.0%	4.4%	0.0%	0.0%	0.0%	11.9%	83.7%	13,986				2,805		11,180								
203	Expansion of Taunton Rd. Zone 2 Reservoir from 13 ML to 27 ML - Oshawa	12,500	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	10,950					438		1,051						9,461	
204	Expansion of Harmony Rd. Zone 3 Reservoir - Oshawa	4,400	0.0%	14.8%	0.0%	0.0%	0.0%	10.6%	74.6%	3,284					299								2,985	
205	New Zone 4 storage facility 11 MLD - Whitby	12,000	0.0%	12.0%	0.0%	0.0%	0.0%	10.9%	77.1%	9,251		848		8,403										
206	New Zone 4 storage facility 11 MLD - Oshawa	12,000	0.0%	17.0%	0.0%	0.0%	0.0%	10.3%	72.7%	8,725		618		8,107										
	Pumping Stations (PS)																							
207	Upgrades at Garrard Rd. Zone 3 PS - Whitby	1,400	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	1,226		228	999											
208	New Zone 4 PS at Harmony Zone 3 Reservoir - Oshawa	7,000	0.0%	13.3%	0.0%	0.0%	0.0%	10.8%	75.9%	5,316		380	4,937											
209	Expansion of Grandview Zone 2 PS - Oshawa	6,400	0.0%	4.0%	0.0%	0.0%	0.0%	11.9%	84.1%	5,382					420								505	4,457
210	Expansion of Thickson Rd. Zone 3 PS to 22.7 MLD - Brooklyn	12,200	0.0%	13.1%	0.0%	0.0%	0.0%	10.8%	76.1%	9,287				381		837							8,089	
211	Expansion of Taunton Rd. Zone 3 PS from 27 to 75 MLD - Oshawa	1,150	0.0%	14.0%	0.0%	0.0%	0.0%	10.6%	74.6%	858					373								485	
212	Expansion of Zone 4 PS at Thickson Rd. Zone 2 Reservoir - Brooklyn	6,900	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	6,044		526		5,519										
213	Zone 5 PS at Duffe Rd. Zone 3 Reservoir and feedermain allowance - Whitby	12,485	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	10,937													2,190	8,747
214	Zone 5 PS at Harmony Rd. Zone 3 Reservoir and feedermain allowance - Oshawa	9,680	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	8,480													1,752	6,728

Table F.1 - Regional Water Supply: Capital Cost Summary: Residential (Year 2018 - 2027)																						
Item #	Description	Gross Cost to Period Benefit to Existing Development	Post Subsidy, & Other	Development Related			Total Net Residential Growth Cost	BY YEAR														
				Seaton Federal Lands	Non-Resid.	Resid.		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027					
		\$ 000's	%	%	%	%	\$ 000's															
Construction of Major Feedermains (FM) for New Development																						
215	Zone 1 feedermain on Victoria St./Bloor St. from Thickson Rd. to Thornton Rd. - Phase 1 - Whitby/Oshawa	12,500	0.0%	0.0%	0.0%	0.0%	10,950			10,950												
216	Zone 1 feedermain on easement from Whitby WSP to Victoria St./CNR - Phase 2 - Whitby	12,000	0.0%	0.0%	0.0%	0.0%	10,512			10,512												
217	Zone 1 feedermain on Victoria St. from CNR to Thickson Rd. - Phase 3 - Whitby	16,200	0.0%	0.0%	0.0%	0.0%	14,191			14,191												
218	Zone 1 feedermain on Mainring Rd. from Anderson St. to Hydro Corridor - Whitby	1,900	0.0%	0.0%	0.0%	0.0%	1,664							350	1,314							
219	Zone 1 feedermain on Bloor St. from Ritson Rd. to Wilson Rd. - Oshawa	5,470	0.0%	0.0%	0.0%	0.0%	4,792	438	4,354													
220	Zone 1 feedermain - Phase 1 - 400 m South of Energy Drive to 100 m North of Energy Drive Phase 2 - 100 m North of Energy Drive to the intersection of Baseline Road & Courtice Road Phase 3 - Baseline Road - Courtice Road to Trulls Road and on Trulls Road from Baseline Road to Bloor Street - Courtice	7,410	0.0%	0.0%	0.0%	0.0%	6,491	876	5,615													
221	Zone 1 feedermain on Baseline Rd. from Prestonsdale Rd. to Trulls Rd. - Courtice	2,800	0.0%	0.0%	0.0%	0.0%	2,453	131	2,321													
222	Zone 1 feedermain on easement from Prestonsdale Rd. to Townline Rd. - Courtice	3,065	0.0%	0.0%	0.0%	0.0%	2,685			263	2,422											
223	Zone 1 feedermain on Prestonsdale Rd. from Baseline Rd. to 950 m N. of Baseline Rd. - Courtice	1,835	0.0%	0.0%	0.0%	0.0%	1,607			263	1,345											
224	Zone 2 feedermain on Bloor St. from Townline Rd. to Trulls Rd. - Courtice	6,950	0.0%	0.0%	0.0%	0.0%	6,088	438	5,650													
225	Zone 3 feedermain on Conlin Rd. from Gairard Rd. P.S. to Anderson Street - Whitby	4,500	0.0%	0.0%	0.0%	0.0%	3,942	438			3,504											
226	Zone 3 feedermain on Anderson St. & Waitford St. from Clair Ave. to Carnwith Dr. - Whitby	7,176	0.0%	0.0%	0.0%	0.0%	6,286							526	5,761							
227	Zone 3 feedermain on Anderson St. from Conlin Rd. to Clair Ave. - Whitby	5,150	0.0%	0.0%	0.0%	0.0%	4,511			438	4,073											
228	Zone 3 feedermain on Conlin Rd. from Ritson Rd. to Wilson Rd. - Oshawa	3,800	0.0%	0.0%	0.0%	0.0%	3,329			3,329												
229	Zone 3 feedermain on Harmony Rd. from Coldstream Dr. to 400 m south of Conlin Rd. - Oshawa	3,475	0.0%	0.0%	0.0%	0.0%	3,044			3,044												
230	Zone 3 feedermain on Conlin Rd. from Ritson Rd. to Gairard Rd. Zone 3 PS - Oshawa/Whitby	19,376	0.0%	0.0%	0.0%	0.0%	16,973	876	16,097													
231	Zone 4 feedermain on Harmony Rd. from Greenhill Ave. to 400 m south of Conlin Rd. - Oshawa (Region's Share)	640	0.0%	0.0%	0.0%	0.0%	561															
232	Zone 4 feedermain on Conlin Rd. from Harmony Rd. to Grandview St. - Oshawa (Region's Share)	1,510	0.0%	0.0%	0.0%	0.0%	1,323							263	1,060							
233	Zone 4 feedermain on Harmony Rd. from Conlin Rd. to New Zone 4 PS - Oshawa	4,500	0.0%	0.0%	0.0%	0.0%	3,942						788	3,154								
234	Zone 4 feedermain on Ashburn Rd. from Columbus Rd. to Brawley Rd. and Columbus Rd. - Whitby (Region's Share)	7,565	0.0%	0.0%	0.0%	0.0%	6,927								613	6,014						
235	Zone 4 feedermain from New Zone 4 PS at Harmony Reservoir to New Oshawa Zone 4 Reservoir - Oshawa	16,050	0.0%	0.0%	0.0%	0.0%	14,060			1,314	12,746											
236	Zone 4 feedermain from Thickson Rd. Zone 4 Pumping Station to Zone 4 reservoir - Whitby	17,535	0.0%	0.0%	0.0%	0.0%	15,273			1,402	13,871											
237	Zone 4 feedermain on Brawley Rd. from Duffis Rd. to Ashburn Road - Whitby	5,900	0.0%	0.0%	0.0%	0.0%	5,081			526	4,555											
238	Zone 4 feedermain on Columbus Rd. from Thickson Rd. to Ritson Rd. - Whitby/Oshawa	16,410	0.0%	0.0%	0.0%	0.0%	14,375								526			13,850				
239	Zone 4 feedermain on Ritson Rd. from Columbus Rd. to Winchester Rd. - Oshawa	6,600	0.0%	0.0%	0.0%	0.0%	5,782											5,782				
240	Zone 4 feedermain on Winchester Rd. from Ritson Rd. to Harmony Rd. - Oshawa	6,280	0.0%	0.0%	0.0%	0.0%	5,501											5,501				
241	300 mm watermain on Britannia Drive from Thornton Road to Windfields Farm Drive - Oshawa	1,855	0.0%	0.0%	0.0%	0.0%	1,625															
242	West Whitby feedermain from Brock St./Victoria St. to Rossland Road - Whitby Phase 1 - Brock St/Victoria St. to Hwy. 2 & Phase 2 - Hwy. 2 to Rossland Road	50,502	0.0%	5.1%	0.0%	0.0%	41,984								228	1,397						
Total Whitby/Oshawa/Clarington (Courtice)		513,819	7,698	18,517	0	0	395,012	0	92,592	395,012	0	0	0	59,663	103,503	76,725	5,167	21,990	4,764	67,349	35,180	15,475

Table F.1 - Regional Water Supply: Capital Cost Summary: Residential (Year 2018 - 2027)																			
Item #	Description	Gross Cost (2018 Estimated Cost)	Benefit to Existing Development	Post Period Benefit	Grants, Subsidy, & Other	Development Related			Total Net Residential Growth	BY YEAR									
						Seaton	Federal Lands	Non-Resid.		2016	2019	2020	2021	2022	2023	2024	2025	2026	2027
		\$ 000's	%	%	%	%	%	%	\$ 000's										
Scugog																			
400	New Water Supply Plants (WSP) New Water Supply Source - Port Perry	19,100	25.0%	8.7%	0.0%	0.0%	0.0%	24.1%	42.2%	8,067	633	7,433							
401	Storage Facility Additional Water Storage Facility - 2.8 ML storage capacity and feedermain allowance - Port Perry	12,100	0.0%	8.7%	0.0%	0.0%	11.3%	80.0%		9,677	800	8,878							
Total Scugog		31,200	4.775	2,714	0	0	0	5,967	17,744	17,744	633	8,000	7,433	8,878	0	0	0	0	0
Uxbridge																			
500	New Water Supply Plants (WSP) New 2.7 ML Well and Pumphouse	3,620	0.0%	0.0%	0.0%	0.0%	0.0%	36.3%	63.7%	2,306	395	1,911							
501	Storage Facility Expansion of Quaker Hill Reservoir from 2.8 to 5.2 ML - Uxbridge	3,820	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%		3,346		350	2,996						
Total Uxbridge		7,440	0	0	0	0	0	1,788	5,652	5,652	395	1,911	350	2,996	0	0	0	0	0
Brock																			
600	Water Supply Plants (WSP) Well, Pumphouse with Standby Power - Cannington	4,500	98.5%	0.0%	0.0%	0.0%	0.0%	0.5%	1.0%	43		43							
601	New Well, Pumphouse with Standby Power - Cannington	4,500	0.0%	50.0%	0.0%	0.0%	18.2%	31.9%		1,433		1,433							1,433
602	Well, Pumphouse with Standby Power - Sunderland	4,500	80.5%	0.0%	0.0%	0.0%	7.1%	12.4%		559		62	497						
603	New Well, Pumphouse with Standby Power - Sunderland	4,500	0.0%	50.0%	0.0%	0.0%	18.2%	31.9%		1,433		1,433							1,433
604	Expansion of Beaverton WSP	20,000	0.0%	0.0%	0.0%	0.0%	18.2%	31.9%		6,370		6,370							6,370
Storage Facility																			
605	Additional Water Storage from 2 to 4.8 ML - Beaverton	10,600	41.7%	10.0%	0.0%	0.0%	6.0%	42.3%		4,485		4,485							4,485
606	Additional Water Storage from 1.4 to 3 ML - Cannington	3,600	46.6%	10.0%	0.0%	0.0%	5.4%	38.0%		1,369		1,369							1,369
607	Additional Water Storage from 1.4 to 3 ML - Sunderland	3,600	46.6%	10.0%	0.0%	0.0%	5.4%	38.0%		1,369		1,369							1,369
Total Brock		55,800	15,830	16,280	0	0	0	6,629	17,061	17,061	105	497	0	0	0	0	0	0	11,974
Total Capital Cost		960,844	48,101	77,653	0	44,985	18,981	153,034	618,090	618,090	618,090	23,862	101,836	113,694	107,634	15,544	40,587	8,471	79,053
Other Development Charge Component Works																			
700	Master Planning Studies for Regional Official Plan	1,600	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%		1,402		1,402							701
701	Allowance for Private Well Interference	16,105	0.0%	0.0%	0.0%	0.0%	100.0%			16,105	1,183	1,270	2,881	1,822	2,159	1,358	1,358	1,358	1,358
702	Allowance for Regional Share for works in conjunction with non-residential development	4,000	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%		3,504	350	350	350	350	350	350	350	350	350
703	Maintenance Facilities Capital Allowance	17,981	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%		15,734	0	2,793	4,266	1,649	5,917	59	1,051	0	0
704	Allowance for Regional Share for works in conjunction with residential development	14,600	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%		12,790	1,279	1,279	1,279	1,279	1,279	1,279	1,279	1,279	1,279
705	Expansion of the Regional Environmental Laboratory	1,550	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%		1,358	1,358								
706	Plant SCADA System Projects	7,240	63.0%	0.0%	0.0%	0.0%	13.4%	23.6%		1,706		1,178	528						
Total Other Development Charge Component Works		63,056	4,561	0	0	0	0	5,897	52,598	52,598	6,870	9,304	5,100	10,406	3,046	4,039	2,987	2,987	3,688
Total of Region		1,023,900	52,662	77,653	0	44,985	18,981	158,931	670,688	670,688	28,032	108,707	122,999	112,734	25,950	43,633	12,510	82,040	90,772

Table F.2 - Regional Water Supply: Capital Cost Summary: Non-Residential (Year 2018 - 2027)																									
Item #	Description	Gross Cost (2018 Estimated Cost)	Benefit to Existing Development	Post Period Benefit	Grants, Subsidy, & Other	Development Related		BY YEAR					Total Net Non-Residential Growth Cost \$ 000's												
						Federal Lands	Non-Resid.	2018	2019	2020	2021	2022		2023	2024	2025	2026	2027							
		\$ 000's	%	%	%	%	%	%	%																
Construction of Major Feedermains (FM) for New Development																									
215	Zone 1 feedermain on Victoria St./Bloor St. from Thickson Rd. to Thornton Rd. - Phase 1 - Whitby	12,500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	1,550														
216	Zone 1 feedermain on easement from Whiby WSP to Victoria St./CNR - Phase 2 - Whitby	12,000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	1,488														
217	Zone 1 feedermain on Victoria St. from CNR to Thickson Rd. - Phase 3 - Whitby	16,200	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	2,009														
218	Zone 1 feedermain on Manning Rd. from Anderson St. to Hydro Corridor - Whitby	1,900	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	236														
219	Zone 1 feedermain on Bloor St. from Ritson Rd. to Wilson Rd. - Oshawa	5,470	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	678	62	616												
220	Zone 1 feedermain - Phase 1 - 400 m South of Energy Drive to 100 m North of Energy Drive Phase 2 - 100 m North of Energy Drive to the intersection of Baseline Road & Courtice Road Phase 3 - Baseline Road - Courtice Road to Trulls Road and on Trulls Road from Baseline Road to Bloor Street - Courtice	7,410	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	919	124	795												
221	Zone 1 feedermain on Baseline Rd. from Prestonvale Rd. to Trulls Rd. - Courtice	2,800	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	347	19	329												
222	Zone 1 feedermain on easement from Prestonvale Rd. to Townline Rd. - Courtice	3,065	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	380														
223	Zone 1 feedermain on Prestonvale Rd. from Baseline Rd. to 950 m N. of Baseline Rd. - Courtice	1,835	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	228	37	190												
224	Zone 2 feedermain on Bloor St. from Townline Rd. to Trulls Rd. - Courtice	6,950	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	862	62	800												
225	Zone 3 feedermain on Conlin Rd. from Garrard Rd. P.S. to Anderson Street - Whitby	4,500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	558	62	496												
226	Zone 3 feedermain on Anderson St. & Watford St. from Clair Ave. to Carnwith Dr. - Whitby	7,176	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	890														
227	Zone 3 feedermain on Anderson St. from Conlin Rd. to Clair Ave. - Whitby	5,150	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	639	62	577												
228	Zone 3 feedermain on Conlin Rd. from Ritson Rd. to Wilson Rd. - Oshawa	3,800	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	471														
229	Zone 3 feedermain on Harmony Rd. from Coldstream Dr. to 400 m south of Conlin Rd. - Oshawa	3,475	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	431														
230	Zone 3 feedermain on Conlin Rd. from Ritson Rd. to Garrard Rd. Zone 3 PS - Oshawa/Whiby	19,376	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	2,403	124	2,279												
231	Zone 4 feedermain on Harmony Rd. from Greenhill Ave. to 400 m south of Conlin Rd. - Oshawa (Region's Share)	640	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	79														
232	Zone 4 feedermain on Conlin Rd. from Harmony Rd. to Grandview St. - Oshawa (Region's Share)	1,510	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	187														
233	Zone 4 feedermain on Harmony Rd. from Conlin Rd. to New Zone 4 PS - Oshawa	4,500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	558														
234	Zone 4 feedermain on Ashburn Rd. from Columbus Rd. to Brawley Rd. and Columbus Rd. - Whitby (Region's Share)	7,565	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	938														
235	Zone 4 feedermain from New Zone 4 PS at Harmony Reservoir to New Oshawa Zone 4 Reservoir - Oshawa	16,050	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	1,990	186													
236	Zone 4 feedermain from Thickson Rd. Zone 4 Pumping Station to Zone 4 reservoir - Whitby	17,435	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	2,162	198													
237	Zone 4 feedermain on Brawley Rd. from Duffs Rd. to Ashburn Road - Whitby	5,800	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	719	74													
238	Zone 4 feedermain on Columbus Rd. from Thickson Rd. to Ritson Rd. - Whitby/Oshawa	16,410	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	2,035														
239	Zone 4 feedermain on Ritson Rd. from Columbus Rd. to Winchester Rd. - Oshawa	6,600	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	818														
240	Zone 4 feedermain on Winchester Rd. from Ritson Rd. to Harmony Rd. - Oshawa	6,280	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	779														
241	300 mm watermain on Britannia Drive from Thornton Road to Windfields Farm Drive - Oshawa	1,855	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	230														
242	West Whitby feedermain from Brock St./Victoria St. to Rossland Road - Whitby	50,502	0.0%	5.1%	0.0%	0.0%	0.0%	0.0%	11.8%	83.1%	5,943														
Total Whitby/Oshawa/Clarington (Courtice)		513,819	7,698	18,517	0	0	0	0	92,592	395,012	453	8,959	50,118	11,144	738	3,802	674	9,533	4,980	2,190					

Table F.2 - Regional Water Supply: Capital Cost Summary: Non-Residential (Year 2018 - 2027)																			
Item #	Description	Gross Cost (2018 Estimated Cost)	Benefit to Existing Development	Post Benefit & Other	Grants, Subsidy	Development Related			Total Net Non-Residential Growth Cost	BY YEAR									
						Federal Lands	Non-Resid.	Resid.		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
		\$ 000's	%	%	%	%	%	%	\$ 000's										
Scuqog																			
400	Water Supply Plants (WSP) New Water Supply Source - Port Perry	19,100	25.0%	8.7%	0.0%	0.0%	0.0%	24.1%	42.2%	361	4,236								
401	Storage Facility Additional Water Storage Facility - 2.8 ML storage capacity and feedermain allowance - Port Perry	12,100	0.0%	8.7%	0.0%	0.0%	0.0%	11.3%	80.0%	1,370	1,257								
	Total Scuqog	31,200	4,775	2,714	0	0	0	5,967	17,744	5,967	361	113	4,236	1,257	0	0	0	0	0
Uxbridge																			
500	Water Supply Plants (WSP) New 2.7 ML Well and Pumphouse	3,620	0.0%	0.0%	0.0%	0.0%	0.0%	36.3%	63.7%	1,314	225	1,089							
501	Storage Facility Expansion of Quaker Hill Reservoir from 2.8 to 5.2 ML - Uxbridge	3,820	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	474	50	424							
	Total Uxbridge	7,440	0	0	0	0	0	1,788	5,652	1,788	0	225	1,089	50	424	0	0	0	0
Brook																			
600	Water Supply Plants (WSP) Well, Pumphouse with Standby Power - Carrington	4,500	98.5%	0.0%	0.0%	0.0%	0.0%	0.5%	1.0%	25	25								
601	New Well, Pumphouse with Standby Power - Carrington	4,500	0.0%	50.0%	0.0%	0.0%	0.0%	18.2%	31.9%	817	817								
602	Well, Pumphouse with Standby Power - Sunderland	4,500	80.5%	0.0%	0.0%	0.0%	0.0%	7.1%	12.4%	319	35	283							
603	New Well, Pumphouse with Standby Power - Sunderland	4,500	0.0%	50.0%	0.0%	0.0%	0.0%	18.2%	31.9%	817	817								
604	Expansion of Beaverton WSP *	20,000	0.0%	50.0%	0.0%	0.0%	0.0%	18.2%	31.9%	3,630	3,630								
Storage Facility																			
605	Additional Water Storage from 2 to 4.8 ML - Beaverton	10,600	41.7%	10.0%	0.0%	0.0%	0.0%	6.0%	42.3%	635	635								
606	Additional Water Storage from 1.4 to 3 ML - Carrington	3,600	46.6%	10.0%	0.0%	0.0%	0.0%	5.4%	38.0%	194	194								
607	Additional Water Storage from 1.4 to 3 ML - Sunderland	3,600	46.6%	10.0%	0.0%	0.0%	0.0%	5.4%	38.0%	194	194								
	Total Brook	55,800	15,830	16,280	0	0	0	6,629	17,061	6,629	0	60	283	0	0	0	0	635	0
	Total Capital Cost	960,844	48,101	77,663	0	44,985	18,985	153,034	618,090	153,034	10,797	15,188	55,776	15,371	2,333	9,222	1,578	11,190	22,014
Other Development Charge Component Works																			
700	Master Planning Studies for Regional Official Plan	1,600	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.6%	198	99								
701	Allowance for Private Well Interference	16,105	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0	0	0	0	0	0	0	0	0	0
702	Allowance for Regional Share for works in conjunction with non-residential development	4,000	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	496	50	50	50	50	50	50	50	50	50
703	Maintenance Facilities Capital Allowance	17,961	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	2,227	0	395	604	233	637	8	149	0	0
704	Allowance for Regional Share for works in conjunction with residential development	14,600	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	1,810	181	181	181	181	181	181	181	181	181
705	Expansion of the Regional Environmental Laboratory	1,550	0.0%	0.0%	0.0%	0.0%	0.0%	12.4%	87.6%	192	192								
706	Plant SCADA System Projects	7,240	63.0%	0.0%	0.0%	0.0%	0.0%	13.4%	23.6%	972	672	301							
	Total Other Development Charge Component Works	63,056	4,561	0	0	0	0	5,897	52,598	5,897	423	1,298	1,135	464	1,167	239	379	231	330
	Total of Region	1,023,900	52,662	77,663	0	44,985	18,981	158,931	670,688	158,931	11,220	16,486	56,911	15,835	3,501	9,461	11,421	22,245	9,895

Table F.3
RESIDENTIAL WATER
Region-Wide Development Charge (With-out Seaton)
Cash Flow Calculation of the Residential Development Charge
(\$000's)

Year	1	2	3	4	5	6	7	8	9	10	11	12
	DC Reserve Fund Opening Balance	Existing Debt Payments	Development Related Expenditures	Development Related Expend. Inflated @ 3.0%	Issuing of New Debt	Debt Costs on new Debt 5.0%	Equivalent Single Detached Units	Unit Charge Inflated @ 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.00%	DC Reserve Fund Closing Bal.
2018-19	146,013	0	28,032	28,032	0	0	6,316	9,420	59,495	177,476	4,437	181,913
2019-20	181,913	0	108,707	111,968	0	0	6,316	9,702	61,280	131,224	3,281	134,504
2020-21	134,504	0	122,999	130,490	42,000 (1)	0	6,316	9,993	63,118	109,133	2,728	111,861
2021-22	111,861	0	112,734	123,187	0	5,439	6,316	10,293	65,011	48,246	1,206	49,452
2022-23	49,452	0	25,950	29,207	0	5,439	6,321	10,602	67,015	81,821	2,046	83,866
2023-24	83,866	0	43,633	50,583	0	5,439	5,034	10,920	54,971	82,815	2,070	84,886
2024-25	84,886	0	12,510	14,938	0	5,439	5,034	11,248	56,620	121,129	3,028	124,158
2025-26	124,158	0	82,040	100,899	0	5,439	5,034	11,585	58,319	76,139	1,903	78,042
2026-27	78,042	0	90,772	114,987	24,000 (2)	5,439	5,034	11,933	60,069	41,684	1,042	42,726
2027-28	42,726	0	43,313	56,514	0	48,133	5,038	12,291	61,920	(0)	(0)	(0)
Total		0	670,690	760,804	66,000	80,768	56,759		607,817		21,742	

DC/Unit	Single/Semi Detached	Medium Density Multiple	2 Bedroom Apartment	1 Bedroom Apartment
	\$9,420	\$7,569	\$5,472	\$3,566

Notes

- (1) Debt issued for expansion of Whitby WSP
- (2) Debt issued for the expansion of Bowmanville WSP

Table F.4
COMMERCIAL WATER
Development Charge (With-out Seaton)
Cash Flow Calculation of the Commercial Development Charge
(\$'000's)

Year	1	2	3	4	5	6	7	8	9	10	
2018-19	DC Reserve Fund Opening Balance	5,856									6,464
2019-20		16,486	2,902	2,989	64,200	38.91	2,498	5,974	149	6,123	
2020-21		56,911	10,016	10,626	64,200	40.08	2,573	6,070	152	6,222	
2021-22		15,835	2,787	3,045	64,200	41.28	2,650	4,791	120	4,910	
2022-23		3,501	616	694	64,200	42.52	2,730	5,911	148	6,059	
2023-24		9,461	1,665	1,930	58,240	43.80	2,551	5,643	141	5,784	
2024-25		1,957	344	411	58,240	45.11	2,627	6,964	174	7,138	
2025-26		11,421	2,010	2,472	58,240	46.46	2,706	6,336	158	6,494	
2026-27		22,245	3,915	4,960	58,240	47.86	2,787	3,286	82	3,368	
2027-28		9,895	1,742	2,272	58,240	49.29	2,871	(0)	(0)	(0)	
Total		158,932	27,972	31,374	612,200		26,419		1,282		

	Commercial
Development Charge/m ²	\$37.78
Development Charge/sq ft	\$3.51
Proposed Rate/sq ft	\$3.51

Notes

- (1) The Commercial expenditures are approximately 17.6% of total expenditures based on the commercial share of the total non-residential expenditures outlined on page F-4 in Appendix F
- (2) Debt issued for expansion of Whitby WSP

Table F.5
INDUSTRIAL WATER
Development Charge (With-out Seaton)
Cash Flow Calculation of the Industrial Development Charge
(\$'000's)

Year	1	2	3	4	5	6	7	8	9	10
DC Reserve Fund Opening Balance	DC Reserve Fund Closing Bal.	Development Related Exp Total	Development Related Exp Industrial ⁽¹⁾	Development Related Exp. Inflated @ 3.0%	Estimated Development m ² Industrial	Charge m ² inflated 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.00%	DC Reserve Fund Closing Bal.
2018-19	2,102	11,220	9,133	9,133	444,000	30.18	13,399	6,368	159	6,527
2019-20	6,527	16,486	13,420	13,822	444,000	31.08	13,801	6,507	163	6,669
2020-21	6,669	56,911	46,326	49,147	444,000	32.02	14,215	(28,262)	(1,413)	(29,675)
2021-22	(29,675)	15,835	12,890	14,085	444,000	32.98	14,642	(29,119)	(1,456)	(30,574)
2022-23	(30,574)	3,501	2,850	3,207	444,000	33.97	15,081	(18,701)	(935)	(19,636)
2023-24	(19,636)	9,461	7,701	8,928	411,220	34.99	14,387	(14,177)	(709)	(14,886)
2024-25	(14,886)	1,957	1,593	1,902	411,220	36.03	14,818	(1,970)	(98)	(2,068)
2025-26	(2,068)	11,421	9,297	11,434	411,220	37.12	15,263	1,761	44	1,805
2026-27	1,805	22,245	18,107	22,938	411,220	38.23	15,721	(5,413)	(271)	(5,683)
2027-28	(5,683)	9,895	8,055	10,509	411,220	39.38	16,192	(0)	(0)	(0)
Total		158,932	129,371	145,105	4,276,100		147,519		(4,516)	

	Industrial
Development Charge/m ²	\$30.18
Development Charge/sq ft	\$2.80
Proposed Rate/sq ft	\$2.80

Notes

(1) The Industrial expenditures are approximately 81.4% of total expenditures based on the industrial share of the total non-residential expenditures outlined on page F-4 in Appendix F

Table F.6
INSTITUTIONAL WATER
Development Charge (With-out Seaton)
Cash Flow Calculation of the Institutional Development Charge
(\$000's)

Year	1	2	3	4	5	6	7	8	9	10
	DC Reserve Fund Opening Balance	Development Related Exp Total	Development Related Exp Institutional ⁽¹⁾	Development Related Exp. Inflated @ 3.0%	Estimated Development m ² Institutional	Charge m ² inflated 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.00%	DC Reserve Fund Closing Bal.
2018-19	8	11,220	112	112	21,880	9.27	203	99	2	101
2019-20	101	16,486	165	170	21,880	9.54	209	140	3	143
2020-21	143	56,911	569	604	21,880	9.83	215	(245)	(12)	(257)
2021-22	(257)	15,835	158	173	21,880	10.12	222	(209)	(10)	(219)
2022-23	(219)	3,501	35	39	21,880	10.43	228	(31)	(2)	(32)
2023-24	(32)	9,461	95	110	12,500	10.74	134	(8)	(0)	(8)
2024-25	(8)	1,957	20	23	12,500	11.06	138	107	3	110
2025-26	110	11,421	114	140	12,500	11.39	142	112	3	114
2026-27	114	22,245	222	282	12,500	11.74	147	(21)	(1)	(22)
2027-28	(22)	9,895	99	129	12,500	12.09	151	0	0	0
Total		<u>158,932</u>	<u>1,589</u>	<u>1,783</u>	<u>171,900</u>		<u>1,789</u>		<u>(14)</u>	

	Institutional
Development Charge/m ²	\$9.27
Development Charge/sq ft	\$0.86
Proposed Rate/sq ft	\$0.86

Notes

(1) The Institutional expenditures are approximately 1.0% of total expenditures based on the institutional share of the total non-residential expenditures outlined on page F-4 in Appendix F

Appendix G

Regional Sanitary Sewerage Service Levels, Capital Costs And DC Calculations

Appendix G – Regional Sanitary Sewerage

1. Introduction

This appendix provides the analysis completed to establish the Regional Sanitary Sewerage component of the Development Charge. The appendix presents:

- An examination of the level of service;
- A forecast of capital works expenditures required to address the increase in need for Regional sanitary sewerage service attributable to the anticipated new development in the urban areas over the period January 1, 2018 – December 31, 2027; and
- The calculation of the development charge quantum.

2. Service Levels

The following table lists the historical service standards provided for sanitary sewerage by the Region of Durham. The standards are expressed in terms of design criteria, legislation, or capacity requirements as issued by the Ministry of the Environment or any other appropriate standard setting body. The table also reflects other service criteria adopted by the Regional Works Department.

REGION OF DURHAM SANITARY SEWERAGE STANDARDS	
Service Component	Service Standards Applied
Water Pollution Control Plants	<ul style="list-style-type: none"> • Design criteria based on historical flow data for each individual treatment facility. The current average day flows in litres/capita/day (l/c/d) which include residential, commercial and institutional demands are as follows: <ul style="list-style-type: none"> ○ Duffin Creek Plant (Durham Only) – 386 l/c/d ○ Corbett Creek Plant – 425 l/c/d ○ Harmony and Courtice Plant – 450 l/c/d ○ Port Darlington (Bowmanville) Plant – 375 l/c/d ○ Newcastle Plant – 375 l/c/d ○ Lake Simcoe (Beaverton) Plant – 500 l/c/d ○ Cannington Lagoons – 455 l/c/d ○ Sunderland Lagoons – 455 l/c/d ○ Nonquon (Port Perry) Plant – 395 l/c/d ○ Uxbridge Plant – 385 l/c/d • Treatment based on the MOECC design guidelines and is site specific. MOECC policies and directives are used to establish the final Environmental Compliance Approval (ECA)
Pumping Stations	<ul style="list-style-type: none"> • Based on MOECC and Region of Durham guidelines and system design criteria
Collection Systems	<ul style="list-style-type: none"> • Based on MOECC and Region of Durham design guidelines and standards

The expenditures described in the capital works forecast presented in the following Tables G.1 and G.2 provide a similar level of service to that indicated in the table.

3. Capital Works Forecast

3.1 Development of Capital Works Program

A ten-year capital works program was prepared for the period 2018-2027, which identifies the projected expenditures, expressed in 2018 dollars, required to address the increase in need for Regional sanitary sewerage service attributable to the anticipated development (Appendix A). For the purposes of the Development Charge rate calculation, this forecast has been lagged to match the time period of the development forecasts (i.e. July 1, 2018 to June 30, 2027).

The program shown in Table G.1 and G.2 and Figures G.1 to G.8 is based on information currently available on the capacity of the existing Regional sanitary sewerage system, combined with an assessment of the improvements and expansions required to accommodate development over the next ten years. It includes the construction of works required to correct existing deficiencies in the system, and plant expansions, storage reservoirs, pumping stations, forcemains and sewer system extensions required as a result of both new development and redevelopment within the urban areas.

3.2 Sequential Development

The basic premise underlying the forecast of capital works requirements is that development will be sequential in nature with the progressive extension / expansion of the Regional sanitary sewerage system occurring as development proceeds within the urban areas.

3.3 Forecast Periods

Tables G.1 and G.2 divide the projected capital works program into ten forecast periods. This program is similar to the Region's Annual Capital Budget and Nine-Year Forecast for the Regional sanitary sewerage system. This forecast is subject to review and approval by Regional Council on an annual basis. The works included have been assigned to these time frames based on information currently available on existing system capacities, operations experience and estimates of future demand

The timing of implementation for the various projects identified in the forecasts and associated cost estimates are preliminary in nature. Project priorities, construction timing and cost estimates will be reviewed on an ongoing basis and will be subject to review and approval annually by Regional Council.

3.4 Allocation of Capital Costs

Tables G.1 and G.2 include works required to correct existing system deficiencies which will benefit both existing and new development, as well as system improvements and expansions required solely to support growth during the forecast period. An assessment has been carried out to allocate the total cost of the various projects contained in the forecast between existing development (non-growth), new residential development (Table G.1) and new non-residential development (Table G.2). This assessment distributes the capital cost of the projects contained in the forecast based on the demand imposed on the system. Demands were assessed on either a flow or population equivalent basis, depending upon the situation.

In addition, the tables identify deductions in accordance with the Development Charges Act, 1997 for:

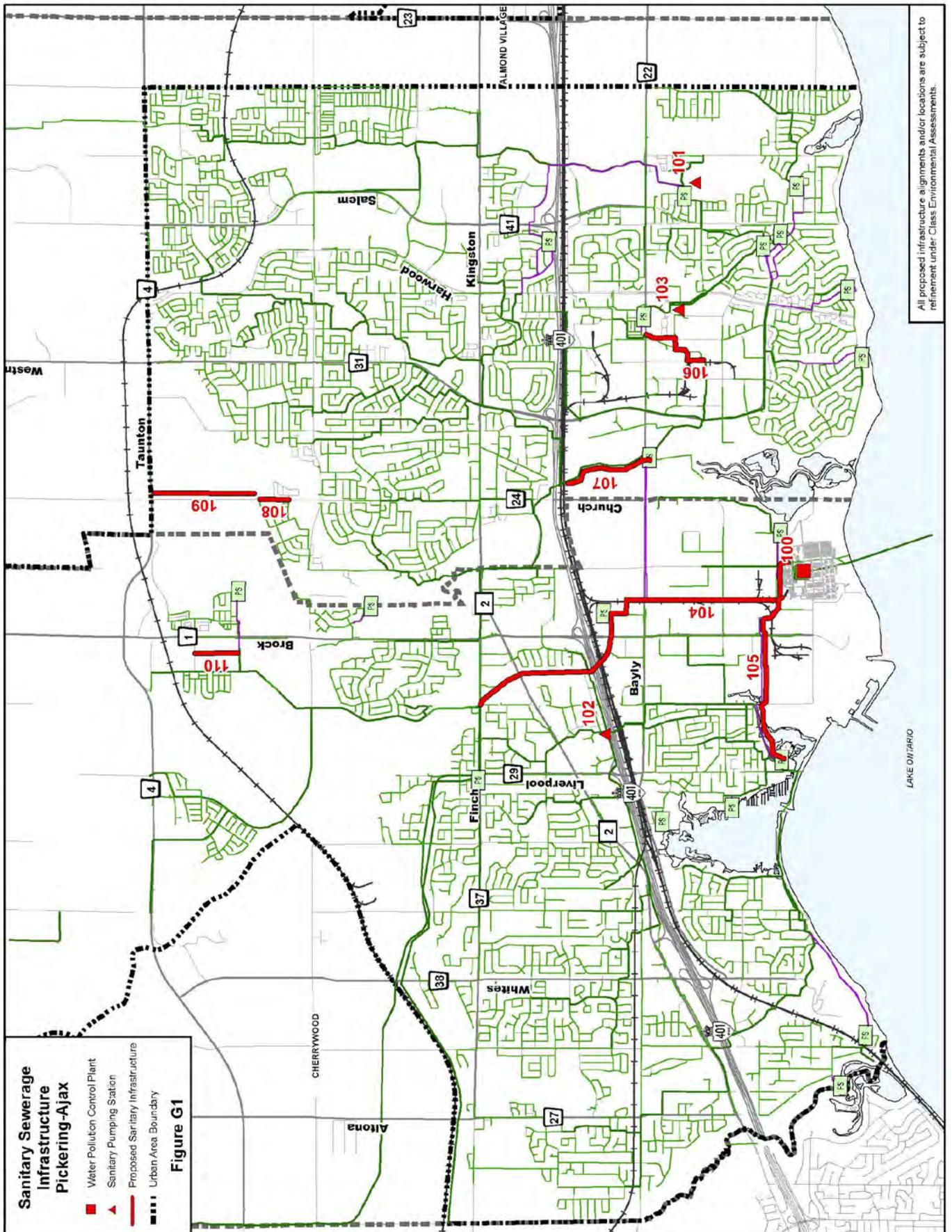
- "Benefit to Existing Development", which is the anticipated value of new capital works attributable to existing development. This deduction is assessed on a project by project basis and is primarily applicable to reconstruction, rehabilitation and replacement type projects;
- "Post Period Benefit", which is the value of anticipated surplus capacity at the end of the forecast period to be recovered from subsequent development. Deductions are made for oversized capital works consisting of water pollution control plants;
- "Grants, Subsidy and Other", which is the funding anticipated or received from sources other than the Regional Municipality of Durham; and
- "Seaton" and "Federal Lands", the sanitary sewerage infrastructure to service the Seaton and Federal Lands have been isolated and are not included in the Region Wide Development Charge. The Seaton share is to be covered via a separate area specific development charge by-law.

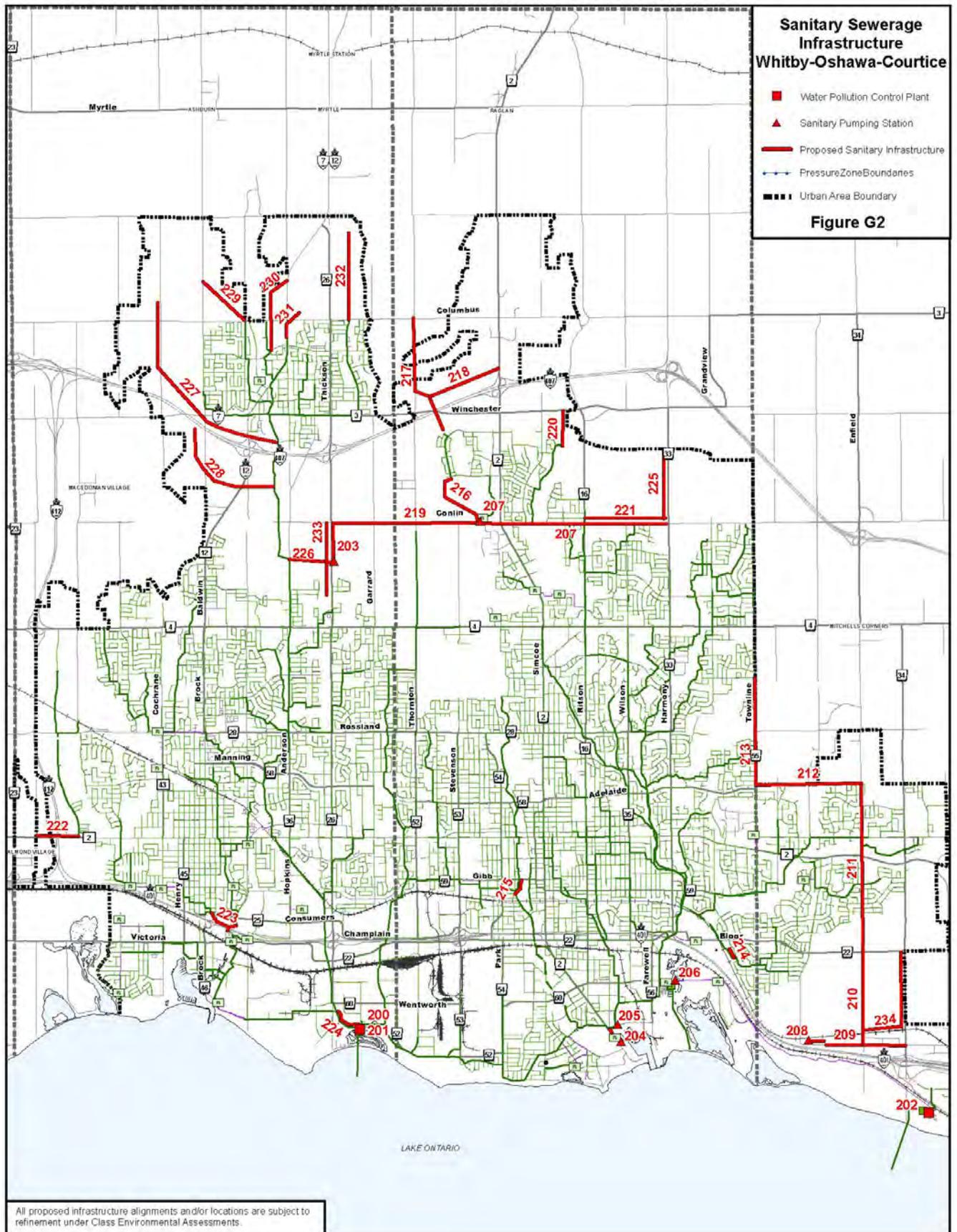
The following average percentages have been used in allocating the eligible growth-related capital costs between new residential and new non-residential development in Tables G.1 and G.2. The attributions, which are based on data obtained from actual water consumption records, plant operations records, and conventional design criteria, reflect relative utilization of eligible growth-related capital costs.

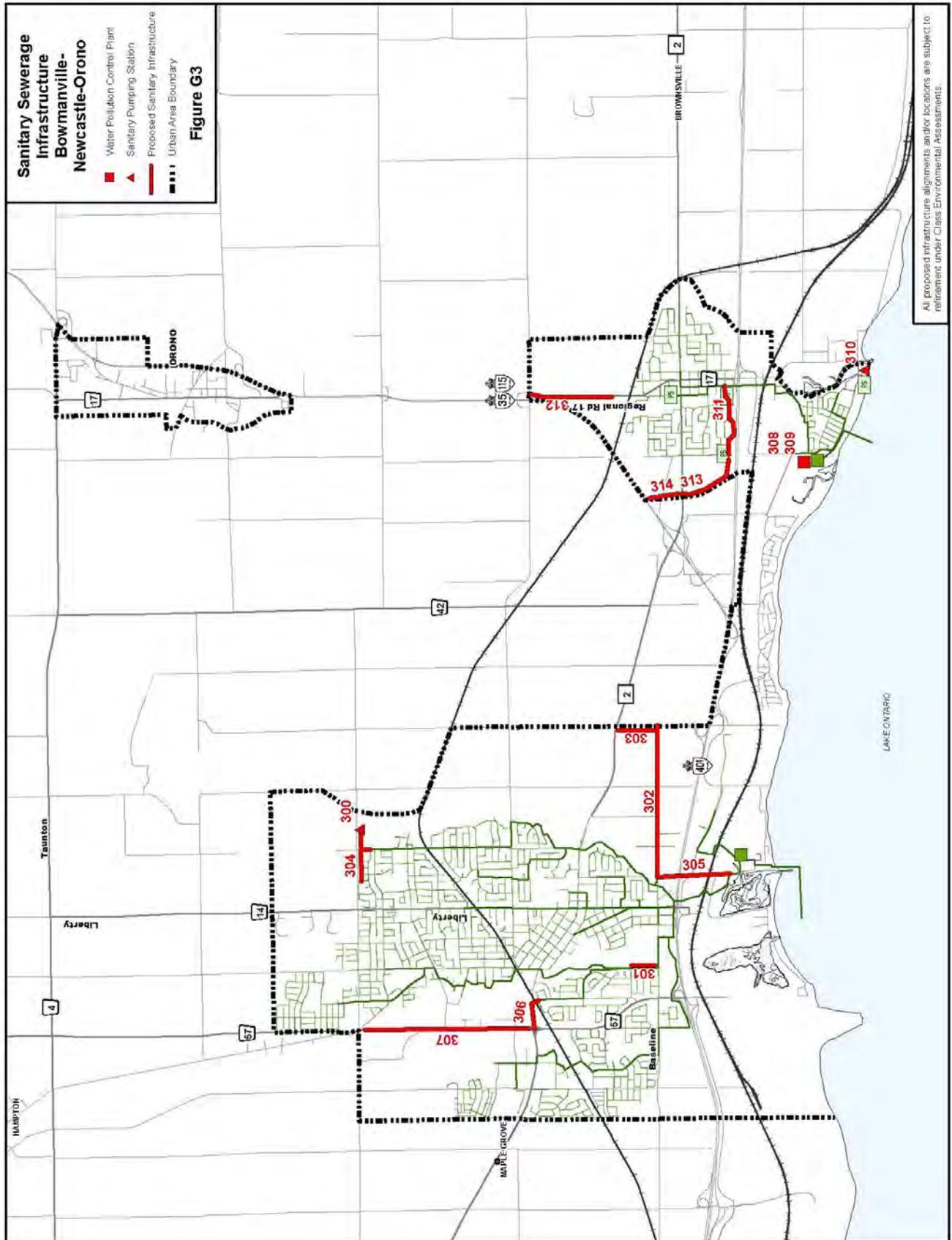
SUMMARY OF GROWTH RELATED CAPITAL UTILIZATION FOR RESIDENTIAL AND NON-RESIDENTIAL PURPOSES BY TYPE OF CAPITAL EXPENDITURE	
Land Use Category	Percentage of Capital Attributable to Growth by Development Type
Residential	
- Water Pollution Control Plants	52.7
- Other	73.8
Non-Residential	
Water Pollution Control Plants (All Non-Res):	
i) Industrial	38.5
ii) Commercial	8.3
iii) Institutional	0.5
Other (All Non-Res):	
i) Industrial	21.3
ii) Commercial	4.6
iii) Institutional	0.3
Note:	
"Other" refers to Sanitary Sewerage Collection System components including sanitary sewers and pumping stations.	

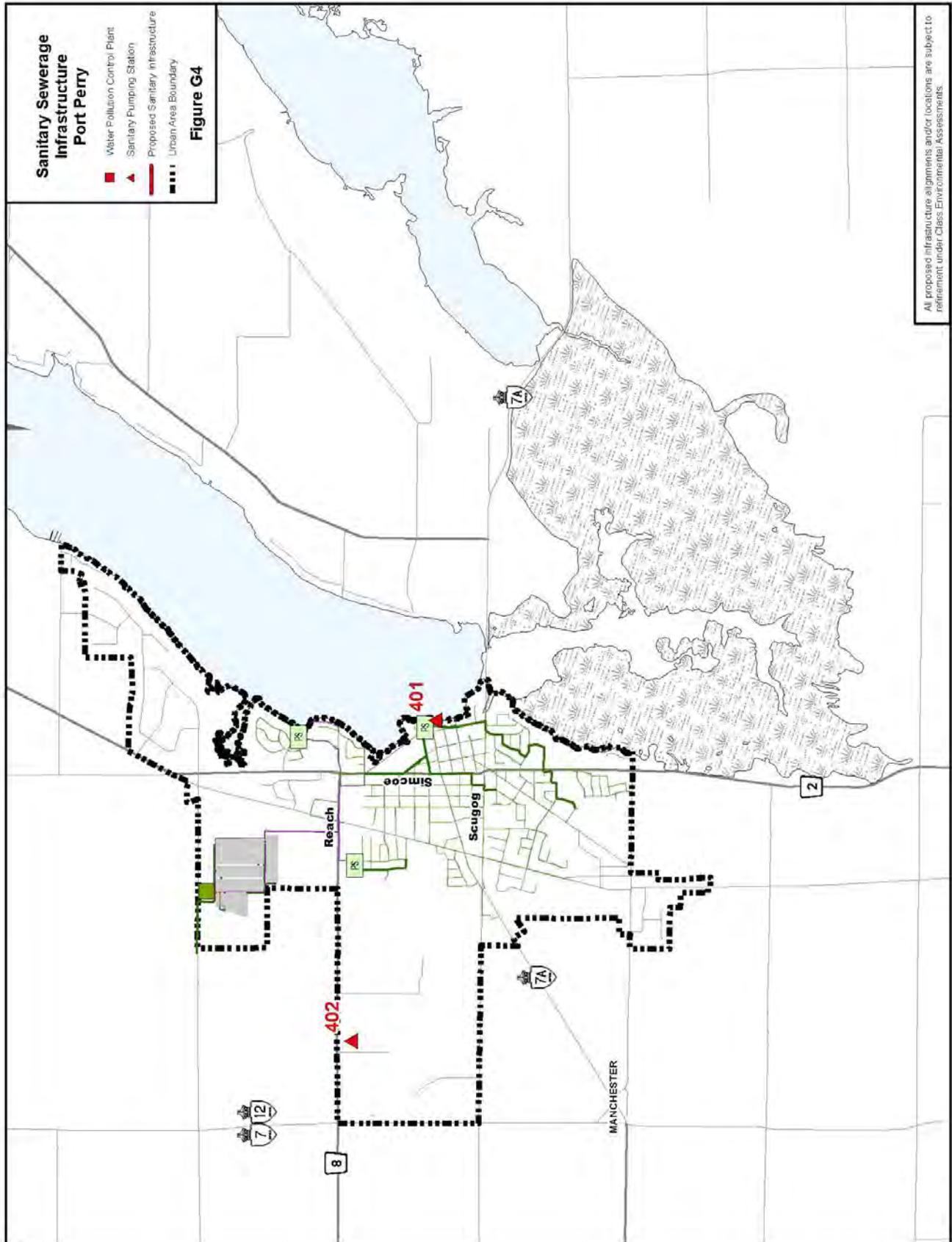
4. Calculation of Development Charge Quantum

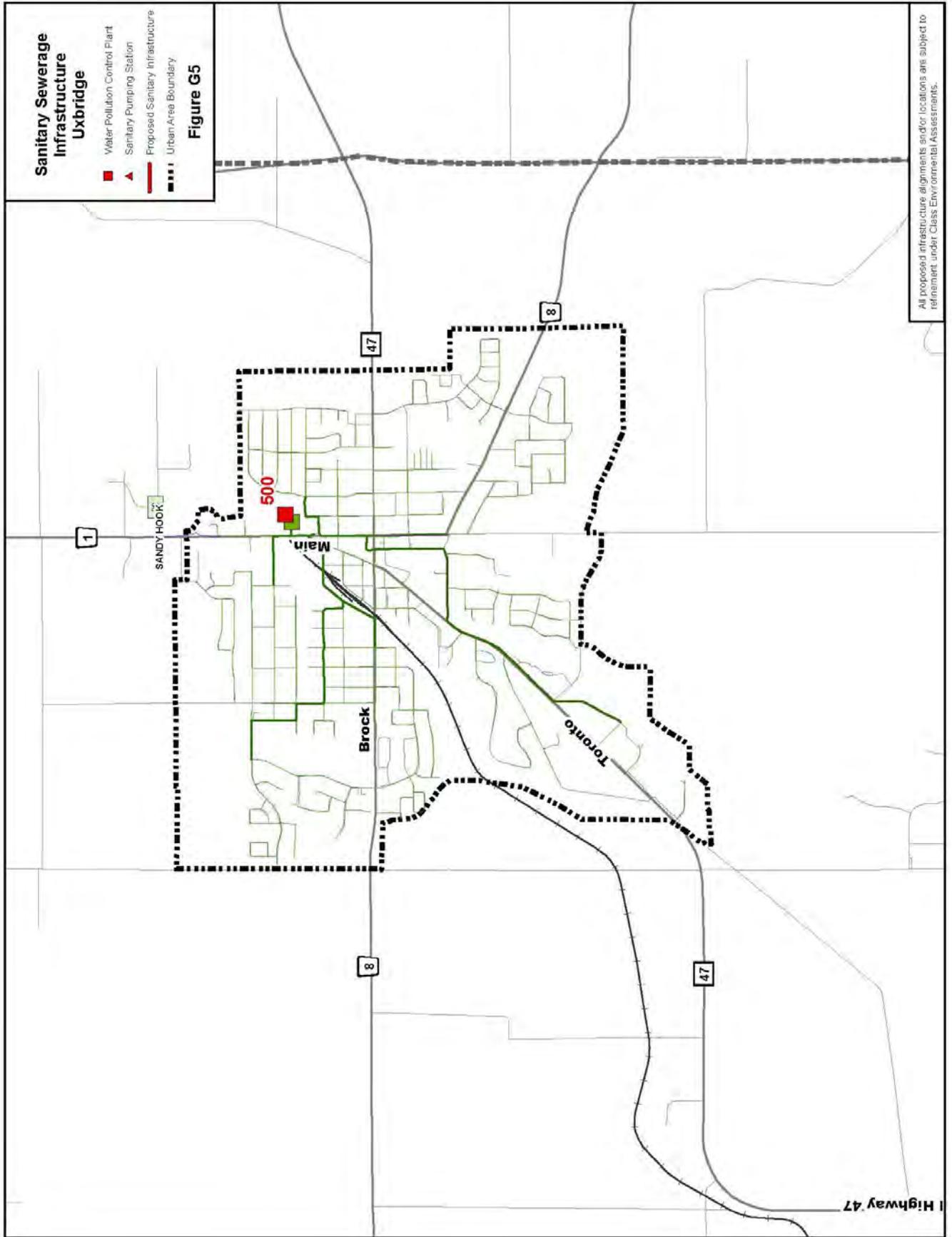
Tables G.3 to G.6 determine the proposed Development Charge per unit for new residential and new non-residential development within the urban areas in the Region of Durham. These tables summarize the Net Growth Related Capital Costs against projected new development during the ten year forecast, including allowances for deducting Uncommitted Excess Capacity from the future requirement and deducting Existing Reserve Fund Balances.

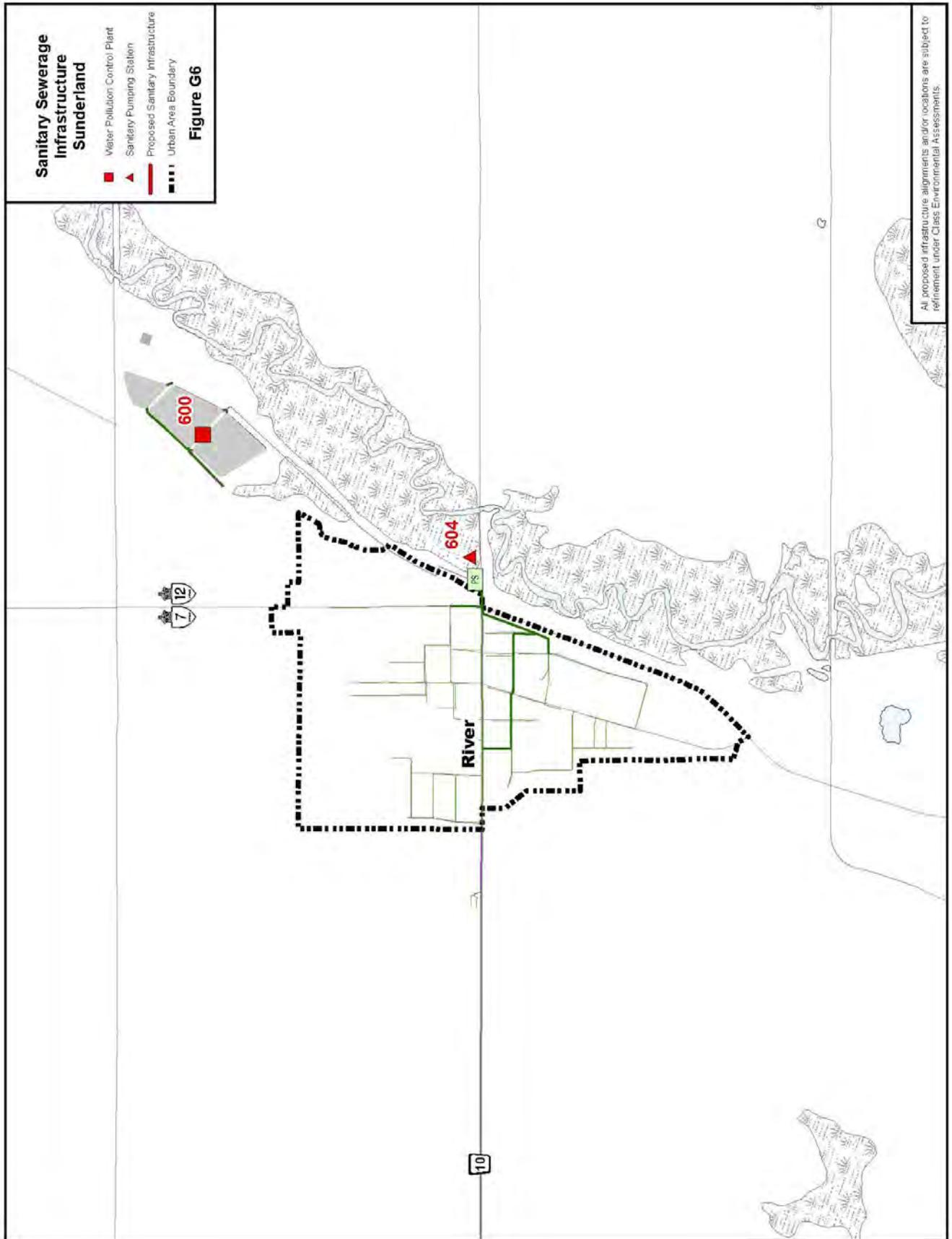


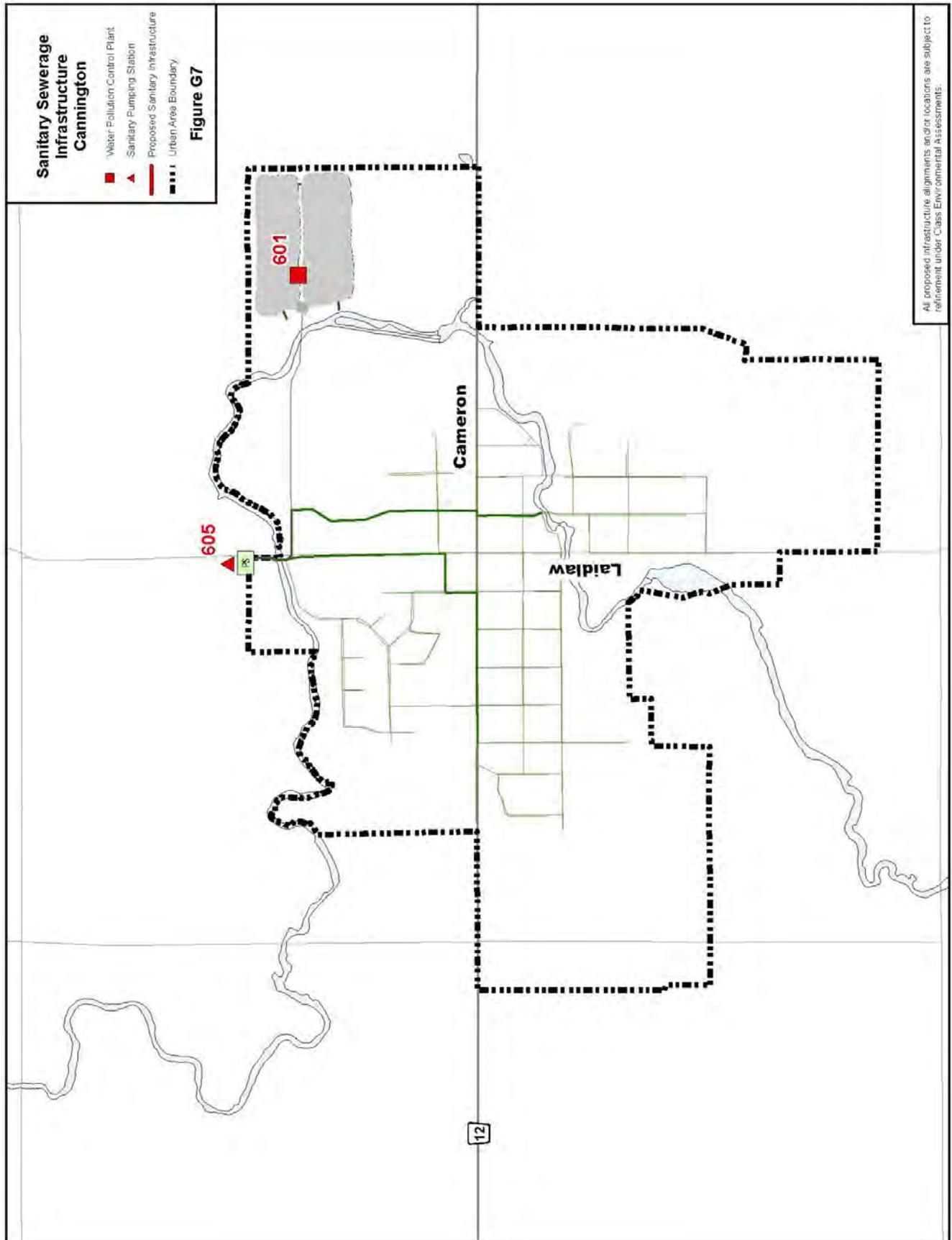












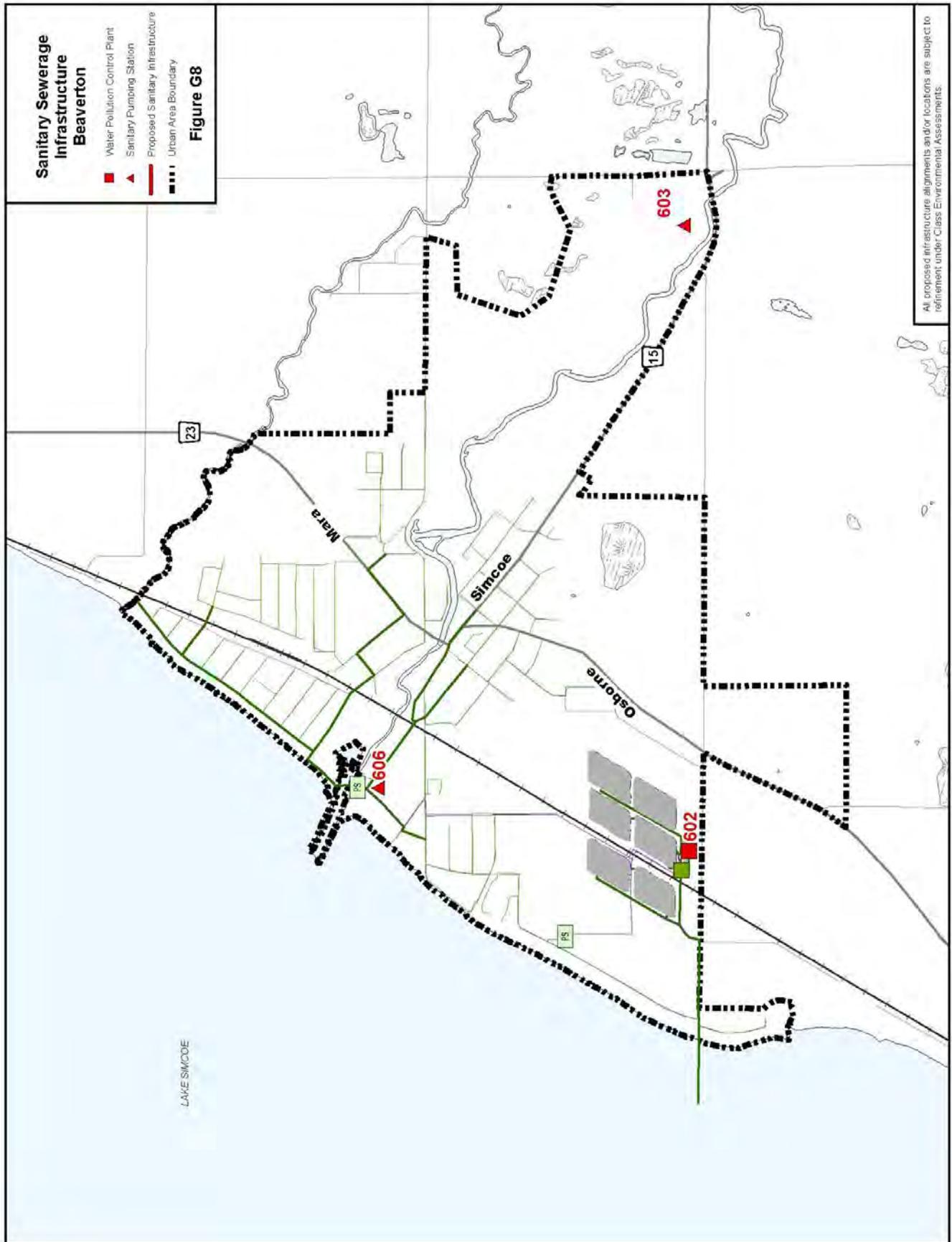


Table G.2 - Regional Sanitary Sewerage: Capital Cost Summary: Non-Residential (Year 2018 - 2027)																									
Item #	Description	Gross Cost (2018 Estimated Cost)	Benefit to Existing Development	Post Benefit	Grants, Subsidy, & Other	Seaton Lands	Development Related	Total Net Non-Residential Growth Cost	BY YEAR																
									Federal	Non-Resid.	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027					
		\$ 000's	%	%	%	%	%	\$ 000's																	
Scugog (Port Perry)																									
Pumping Stations (SSPS)																									
401	Water St. SSPS Upgrade Evaluation and Class EA	8,000	66.0%	0.0%	0.0%	0.0%	0.0%	713			307	406													
402	Port Perry Industrial Lands SSPS and forcemain allowance	10,675	26.1%	0.0%	0.0%	0.0%	19.4%	2,067																2,067	
	Total Scugog (Port Perry)	18,675	8,066	0	0	0	0	2,780	7,829	0	307	406	0	0	0	0	2,067								
Uxbridge																									
Water Pollution Control Plants (WPCP)																									
500	Uxbridge WPCP - Optimization Study and upgrades	2,500	0.0%	0.0%	0.0%	0.0%	47.3%	1,183			1,183														
	Total Uxbridge	2,500	0	0	0	0	0	1,183	1,318	0	1,183	0	0	0	0	0	0								
Brock																									
Water Pollution Control Plants (WPCP)																									
600	Sunderland WPCP	10,000	0.0%	50.0%	0.0%	0.0%	0.0%	2,366			118														
601	Cannington WPCP	10,000	0.0%	50.0%	0.0%	0.0%	0.0%	2,365			118														
602	Beaverton WPCP Expansion	48,000	0.0%	90.0%	0.0%	0.0%	4.7%	2,270																	2,270
	Pumping Stations (SSPS)																								
603	Beaverton Employment Lands SSPS and forcemain allowance	4,000	10.0%	0.0%	0.0%	0.0%	42.6%	1,703																	1,703
604	River Street SSPS expansion - Sunderland	2,500	0.0%	50.0%	0.0%	0.0%	23.7%	591																	591
605	Laidlaw Street SSPS expansion - Cannington	2,500	0.0%	50.0%	0.0%	0.0%	23.7%	591																	591
606	Harbour Street SSPS expansion - Beaverton	2,500	0.0%	90.0%	0.0%	0.0%	4.7%	118																	118
	Total Brock	79,500	400	57,950	0	0	0	10,004	11,146	0	237	0	0	0	0	0	3,571								
	Total Capital Cost	976,575	31,697	340,711	0	8,194	3,518	172,396	420,058	172,396	3,732	15,621	10,044	18,271	32,323	16,197	15,415	24,395	23,538	12,860					
Other Development Charge Component Works																									
700	Master Planning Studies for Regional Official Plan	1,600	0.0%	0.0%	0.0%	0.0%	26.2%	419																	210
701	Allowance for Regional Share for works inconjunction with non-residential development	4,000	0.0%	0.0%	0.0%	0.0%	26.2%	1,048			105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
702	Maintenance Facilities Capital Allowance	17,961	0.0%	0.0%	0.0%	0.0%	26.2%	4,706			0	835	1,276	493	1,770	18	314	0	0	0	0	0	0	0	0
703	Allowance for Regional Share for works inconjunction with residential development	14,600	0.0%	0.0%	0.0%	0.0%	26.2%	3,825			383	383	383	383	383	383	383	383	383	383	383	383	383	383	383
704	Expansion of the Regional Environmental Laboratory	1,550	0.0%	0.0%	0.0%	0.0%	26.2%	406																	
705	Allowance for Intensification	12,900	0.0%	0.0%	0.0%	0.0%	26.2%	3,380			338	338	338	338	338	338	338	338	338	338	338	338	338	338	338
706	Plant SCADA System Projects	2,000	63.0%	0.0%	0.0%	0.0%	9.7%	194																	
707	Allowance for DC Credits for West Whitby Front Ending Agreement	40,120	0.0%	0.0%	0.0%	0.0%	19.5%	7,840			1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	
	Total Other Development Charge Components Works	94,731	1,260	0	0	0	0	21,818	71,653	21,818	1,231	3,229	3,669	2,886	4,469	2,508	1,140	825	825	825	825	825	825	825	1,035
	Total of Region	1,071,306	32,957	340,711	0	8,194	3,518	194,214	491,711	194,214	4,964	18,850	13,713	21,157	36,792	18,705	16,554	25,220	24,364	13,895					

Table G.3
RESIDENTIAL SEWER
Region-Wide Development Charge (With-out Seaton)
Cash Flow Calculation of the Residential Development Charge
(\$'000's)

Year	1	2	3	4	5	6	7	8	9	10	11	12
	DC Reserve Fund Opening Balance	Existing Debt Payments Total	Development Related Expenditures	Development Related Expend. Inflated @ 3.0%	Issuing of New Debt	Debt Costs on new Debt 5.0%	Equivalent Single Detached Units	Unit Charge Inflated @ 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 5.00%	DC Reserve Fund Closing Bal.
2018-19	35,669	11,167	13,579	13,579			6,316	9,171	57,924	68,847	1,721	70,568
2019-20	70,568	11,167	48,370	49,821			6,316	9,446	59,662	69,241	1,731	70,972
2020-21	70,972	9,347	36,236	38,443			6,316	9,730	61,452	84,634	2,116	86,750
2021-22	86,750	5,930	55,064	60,170			6,316	10,021	63,295	83,945	2,099	86,044
2022-23	86,044	5,663	98,026	110,329			6,321	10,322	65,246	35,297	882	36,180
2023-24	36,180	5,663	54,726	63,442			5,034	10,632	53,520	20,594	515	21,109
2024-25	21,109	5,663	46,631	55,680			5,034	10,951	55,126	14,892	372	15,264
2025-26	15,264	5,661	68,091	83,743			5,034	11,279	56,779	(17,360)	(868)	(18,228)
2026-27	(18,228)	5,658	37,929	48,047			5,034	11,618	58,483	(13,451)	(673)	(14,123)
2027-28	(14,123)	3,026	33,060	43,136		0	5,038	11,966	60,285	(0)	(0)	(0)
Total		68,945	491,712	566,391	0	0	56,759		591,771		7,896	

	Single/Semi Detached	Medium Density Multiple	2 Bedroom Apartment	1 Bedroom Apartment
DC/Unit	\$9,171	\$7,369	\$5,327	\$3,472

Table G.4
COMMERCIAL SEWER
Development Charge (With-out Seaton)
Cash Flow Calculation of the Commercial Development Charge
(\$'000's)

Year	1	2	3	4	5	6	7	8	9	10	11
DC Reserve Fund Opening Balance	Existing Debt Payments Total	Development Related Exp Total	Development Related Exp Commercial ¹	Development Related Exp Commercial ¹	Development Related Exp. Inflated @ 3.0%	Estimated Development m ² Commercial	Charge m ² inflated 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.00%	DC Reserve Fund Closing Bal.
2018-19	3,221	1,440	4,964	874	874	64,200	63.28	4,062	4,970	124	5,094
2019-20	5,094	1,439	18,850	3,318	3,417	64,200	65.18	4,184	4,422	111	4,533
2020-21	4,533	1,438	13,713	2,413	2,560	64,200	67.13	4,310	4,844	121	4,966
2021-22	4,966	758	21,157	3,724	4,069	64,200	69.15	4,439	4,578	114	4,692
2022-23	4,692	706	36,792	6,475	7,288	64,200	71.22	4,572	1,271	32	1,303
2023-24	1,303	706	18,705	3,292	3,816	58,240	73.36	4,272	1,053	26	1,079
2024-25	1,079	577	16,554	2,914	3,479	58,240	75.56	4,400	1,424	36	1,459
2025-26	1,459	577	25,220	4,439	5,459	58,240	77.82	4,532	(44)	(2)	(47)
2026-27	(47)	577	24,364	4,288	5,432	58,240	80.16	4,668	(1,387)	(69)	(1,456)
2027-28	(1,456)	161	13,895	2,446	3,191	58,240	82.56	4,808	(0)	(0)	(0)
Total		8,378	194,214	34,182	39,585	612,200		44,250		492	

	Commercial
Development Charge/m ²	\$63.28
Development Charge/sq ft	\$5.88
Proposed Rate/sq ft	\$5.88

Notes

(1) The Commercial expenditures are approximately 17.6% of total expenditures based on the commercial share of the total non-residential expenditures outlined on page G-4 in Appendix G

Table G.5
INDUSTRIAL SEWER
Development Charge (With-out Season)
Cash Flow Calculation of the Industrial Development Charge
(\$'000's)

Year	1	2	3	4	5	6	7	8	9	10
	DC Reserve Fund Opening Balance	Development Related Exp Total	Development Related Exp Industrial ⁽¹⁾	Development Related Exp. Inflated @ 3.0%	Estimated Development m ² Industrial	Charge m ² inflated 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.00%	DC Reserve Fund Closing Bal.
2018-19	3,207	4,964	4,041	4,041	444,000	36.34	16,135	15,302	383	15,684
2019-20	15,684	18,850	15,344	15,804	444,000	37.43	16,619	16,499	412	16,912
2020-21	16,912	13,713	11,162	11,842	444,000	38.55	17,118	22,188	555	22,742
2021-22	22,742	21,157	17,222	18,819	444,000	39.71	17,631	21,555	539	22,094
2022-23	22,094	36,792	29,949	33,708	444,000	40.90	18,160	6,547	164	6,711
2023-24	6,711	18,705	15,226	17,651	411,220	42.13	17,324	6,384	160	6,543
2024-25	6,543	16,554	13,475	16,090	411,220	43.39	17,844	8,298	207	8,505
2025-26	8,505	25,220	20,529	25,248	411,220	44.69	18,379	1,636	41	1,677
2026-27	1,677	24,364	19,832	25,123	411,220	46.04	18,931	(4,515)	(226)	(4,741)
2027-28	(4,741)	13,895	11,311	14,758	411,220	47.42	19,499	0	0	0
Total		194,214	158,090	183,083	4,276,100		177,641		2,234	

	Industrial
Development Charge/m ²	\$36.34
Development Charge/sq ft	\$3.38
Proposed Rate/sq ft	\$3.38

Notes

(1) The Industrial expenditures are approximately 81.4% of total expenditures based on the industrial share of the total non-residential expenditures outlined on page G-4 in Appendix G

Table G.6
INSTITUTIONAL SEWER
Development Charge (With-out Seaton)
Cash Flow Calculation of the Institutional Development Charge
(\$000's)

Year	1	2	3	4	5	6	7	8	9	10
	DC Reserve Fund Opening Balance	Development Related Exp Total	Development Related Exp Institutional ⁽¹⁾	Development Related Expend. Inflated @ 3.0%	Estimated Development m ² Institutional	Charge m ² inflated 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.00%	DC Reserve Fund Closing Bal.
2018-19	4	4,964	50	50	21,880	11.33	248	202	5	207
2019-20	207	18,850	189	194	21,880	11.67	255	269	7	275
2020-21	275	13,713	137	145	21,880	12.02	263	393	10	403
2021-22	403	21,157	212	231	21,880	12.38	271	443	11	454
2022-23	454	36,792	368	414	21,880	12.76	279	319	8	327
2023-24	327	18,705	187	217	12,500	13.14	164	274	7	281
2024-25	281	16,554	166	198	12,500	13.53	169	252	6	259
2025-26	259	25,220	252	310	12,500	13.94	174	123	3	126
2026-27	126	24,364	244	309	12,500	14.36	179	(3)	(0)	(3)
2027-28	(3)	13,895	139	181	12,500	14.79	185	0	0	0
Total		194,214	1,942	2,249	171,900		2,189		57	

	Institutional
Development Charge/m ²	\$11.33
Development Charge/sq ft	\$1.05
Proposed Rate/sq ft	\$1.05

Notes

(1) The Institutional expenditures are approximately 1.0% of total expenditures based on the institutional share of the total non-residential expenditures outlined on page G-4 in Appendix G

APPENDIX H

**OTHER SERVICES
SERVICE LEVELS, CAPITAL COSTS
AND DC CALCULATIONS**

APPENDIX H – OTHER SERVICES

1.0 Introduction

This appendix documents the analysis completed to establish the Other Services components of the development charge. For each service, including Police, Paramedic, Long Term Care, Health and Social services, Housing Services (social and government assisted affordable housing) and Development-Related Studies, the appendix presents:

- An examination of the historical ten year average level of service;
- A forecast of capital works expenditures required to address the increase in need for Regional services attributable to the anticipated new development over the period January 1, 2018 – December 31, 2027; and
- The calculation of the development charge quantum.

2.0 Police

The capital program for Durham Regional Police includes a number of projects to provide services for growth in the Region over the 10-year forecast period. A number of the facilities involve the replacement of existing buildings with larger facilities. In these cases, only the cost of the expansion component has been included as follows:

- The cost of the Regional Support Centre facility (2020) is estimated at \$34.2 million, \$20.0 million (58%) of which is growth related as a portion of the building is replacing an existing facility.
- The cost of the Operations Training Centre facility - Phase 2 (2020 and 2021) is estimated at \$25.0 million, \$16.4 million (66%) of which is growth related as a portion of the building is replacing an existing facility.
- The cost of the Durham North West Seaton facility (2022 and 2023) is estimated at \$30.0 million, \$13.8 million (46%) of which is growth related as a portion of the building is replacing an existing facility.
- Expansion of the North Division Facility expansion (2023 and 2024), estimated to cost \$3.4 million, is 100% growth related.
- The cost of the Center East facility (2025 and 2026) is estimated at \$50.0 million, \$14 million (28%) of which is growth related as a portion of the building is replacing an existing facility.

Development charge reserve balance funding of \$11.3 million has been committed towards the Centre for Investigative Excellence that is planned for 2020. This funding covers the entire residential share of development charge recoverable costs associated with the facility, as per the Region's 2013 DC background study.

No deduction for benefit to existing has been made for the expanded facilities, beyond those identified above for facility replacement as the eligible increase in need will accommodate new development at the same level of service as existing development.

The Region intends to maintain the level of service regarding number of officers per capita. This will require expenditures for police vehicles. It has been assumed that 80 additional patrol vehicles will be added to the existing fleet, 40 vehicles for each five-year period, 2018-2022 and 2023-2027.

Police vehicles have been included in this calculation based on the fact that these vehicles are designed to have a useful life of more than seven years; however, because they operate continuously, this life is compressed into a lesser period of time. No benefit to existing deductions are applied to new vehicles as additions to fleet are to maintain existing service levels. Two radio towers are included in the forecast, in years 2022 and 2027 respectively.

The allocation of costs attributable to new development between residential and non-residential growth has been made based on the share of total growth (182,954 population and 77,250 employment) that each sector represents. On this basis, the residential cost share is 70%.

Service Level Calculation Sheet

Service: **Police (Vehicles)**
Unit Measure: **\$ Value of Vehicles and Other Assets**

Quantity Measure	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Description											\$ Value per Item
Vehicles ⁽¹⁾											
Ride Command Vehicle	337	342	341	364	371	378	379	380	380	381	45,000
Mobile Command	1	1	1	1	1	1	1	1	1	1	350,000
Collision Reconstruction vehicle											350,000
Forensic Identification Scene truck two											58,751
Forensic Identification Scene truck											225,000
Public Order Scene truck											425,000
LAV, Tactical Vehicle											425,000
Tactical scene truck											800,000
Courts transportation vehicle one											425,000
Courts transportation vehicle two											150,000
Hike vessel											600,000
Zodiac Boat											350,000
Police Helicopter											4,020,000
Land (acres)	38	38	38	64	65	65	65	65	75	75	530,000
Radio Infrastructure											
	\$ 7,800,000	\$ 7,800,000	\$ 7,800,000	\$ 7,800,000	\$ 7,800,000	\$ 7,800,000	\$ 20,100,000	\$ 21,000,000	\$ 21,000,000	\$ 21,400,000	
Total	\$ 48,120,064	\$ 48,770,064	\$ 49,093,410	\$ 64,285,445	\$ 65,159,549	\$ 66,274,549	\$ 78,619,549	\$ 80,564,549	\$ 86,364,349	\$ 86,809,349	

Population	611,390	621,865	626,110	632,500	639,655	649,320	655,700	663,345	671,700	677,125
Per Capita Service Level	\$ 78.71	\$ 78.43	\$ 78.42	\$ 101.64	\$ 101.87	\$ 102.07	\$ 119.91	\$ 121.46	\$ 128.58	\$ 128.21

10 Year Average	2008-2017
Combined Quantity/Quality Level (\$ per capita)	\$ 104.53

DC Amount (before deductions)	182,955
2018-2028 Forecast Population Growth	\$ 104.53
Eligible Amount	\$ 19,123,640

Notes:
(1) Vehicles include police cruisers, unmarked cars and SUVs. Values include equipment such as radio, lights and roof bar, and excludes computer.

**INFRASTRUCTURE COSTS COVERED IN THE DC CALCULATION
MUNICIPALITY: Region of Durham**

SERVICE: Police (Vehicles and Other)

Prj. No.	Increased Service Needs Attributable to Anticipated Development 2018-2027	Timing	Gross Capital Cost Est. (\$2018)	Ineligible re: Level of Service	Eligible Increase in Need in Need	Benefit to Existing Development/ U.E.C. (1)	Less:		Sub Total	Less: Other (e.g. 10% Statutory Deduction)	Net Costs Benefiting New Development	Potential DC Recoverable Cost	
							Grants, Subsidies & Other Contributions Attrib. to New Development	Development				Residential Share 70%	Non-Residential Share 30%
	Cost to be Incurred During Term of Proposed By-law (2018-2022)												
1	40 additional patrol vehicles	2018-2022	1,800,000	-	1,800,000	-	-	1,800,000	-	1,800,000	1,260,000	540,000	
2	Radio Tower	2022	350,000	-	350,000	-	-	350,000	-	350,000	245,000	105,000	
	Cost to be Incurred Post By-law Term (2023-2027)												
3	40 additional patrol vehicles	2023-2027	1,800,000	-	1,800,000	-	-	1,800,000	-	1,800,000	1,260,000	540,000	
4	Radio Tower	2027	350,000	-	350,000	-	-	350,000	-	350,000	245,000	105,000	
	Total Estimated Capital Cost		\$ 4,300,000	\$ -	\$ 4,300,000	\$ -	\$ -	\$ 4,300,000	\$ -	\$ 4,300,000	\$ 3,010,000	\$ 1,290,000	

Notes:

(1) Uncommitted excess capacity, where applicable

Service Level Calculation Sheet

Service: Police (Facilities)
Unit Measure: Sq.Ft. of Building Space

Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 Value (\$/sq ft.)
Central East Division - 77 Centre St. North, Oshawa	119,430	119,430	119,430	119,430	119,430	119,430	119,430	119,430	119,430	119,430	119,430
Clairington Complex Phase 1											
South Oshawa CPO - 1173 Cedar St., Oshawa	2,270	2,270	2,270	2,270	2,270	2,270	2,270	2,270	2,270	2,270	73,790
Central West Division - 480 Taunton Rd. East, Whitby	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000
East Division - 1998 Regional Rd 57, Bowmanville	6,546	6,546	6,546	6,546	6,546	6,546	6,546	6,546	6,546	6,546	6,546
Property Bureau - 19 Courtoise Court, Courtoise	23,506	23,506	23,506	23,506	23,506	23,506	23,506	23,506	23,506	23,506	23,506
West Division - 1710 Kingston Rd, Pickering	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000
Uxbridge CPO - 34 Brock St. West, Uxbridge	806	806	806	806	806	806	806	806	806	806	806
North Division - 15765 Hwy #12 Port Perry (excl garage)	11,245	11,245	11,245	11,245	11,245	11,245	11,245	11,245	11,245	11,245	11,245
Lawful Access	9,377	9,377	9,377	10,488	10,488	10,488	10,488	10,488	10,488	10,488	10,488
Ajax Rod and Gun Club	3,444	3,444	3,444	3,444	3,444	3,444	3,444	3,444	3,444	3,444	3,444
Operations Training Centre - 4060 Anderson St, Whitby											
Oshawa Airport Hanger - 1190 Keith Ross Court, Oshawa	875	875	875	875	875	875	875	875	875	875	875
P.L.C. - 2000 Simcoe St. N. Oshawa (Durham College)	14,290	14,290	14,290	14,290	13,720	13,720	13,720	13,720	13,720	13,720	13,720
Regional Reporting Centre - 650 Rossland Rd. East, Whitby	14,842	14,842	14,842	14,842	14,842	14,842	14,842	14,842	14,842	14,842	14,842
Kids Safety Village, 1129 Athol St., Whitby	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422
Beaverton CPC - 454 John St., Beaverton	1,729	1,729	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Beaverton CPC - 412 Bay Street, Beaverton											
Regional HQ Building - 605 Rossland Rd. East, Whitby	37,697	37,697	37,697	37,697	37,697	37,697	37,697	37,697	37,697	37,697	37,697
Courtoise CPC - 2611 Trullis Road, Courtoise	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Case Management Unit - 3000 Garden St., Whitby	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800
Domestic Violence Unit - 701 Rossland Rd. East Whitby	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078
Durham Courthouse - 150 Bond St. East, Oshawa			13,288	13,288	13,288	13,288	13,288	13,288	13,288	13,288	13,288
Total	317,357	317,357	326,838	327,949	374,471	374,471	374,471	448,261	448,261	448,261	448,261

Population	611,390	621,865	626,110	632,500	639,655	649,320	655,700	663,345	671,700	677,125
Per Capita Service Level	0.520	0.511	0.523	0.519	0.586	0.577	0.572	0.676	0.668	0.663

	2008-2017
10 Year Average	
Quantity per capita	0.583
Quality (\$/sq.ft.)	\$ 499.46
Combined Quantity/Quality Level (\$/capita)	\$ 291.04

DC Amount (before deductions)	
2018-2028 Forecast Population Growth	182,955
\$ per Capita	\$ 291.04
Eligible Amount	\$ 53,246,528

**INFRASTRUCTURE COSTS COVERED IN THE DC CALCULATION
MUNICIPALITY: Region of Durham**

SERVICE: Police (Facilities)

Pj/ No.	Increased Service Needs Attributable to Anticipated Development 2018-2027	Timing	Gross Capital Cost Est. (\$2018)	Ineligible re: Level of Service	Eligible Increase in Need	Benefit to Existing Development/ U.E.C. ⁽¹⁾	Less:		Sub Total	Other (e.g. 10% Statutory Deduction)	Net Costs Benefiting New Development	Potential DC Recoverable Cost	
							Grants, Subsidies & Other Contributions Attrib. to New Development	Development				Residential Share 70%	Non-Residential Share 30%
Cost to be Incurred During Term of Proposed By-Law (2018-2022)													
1	Regional Support Centre ⁽²⁾	2020	20,048,262	-	20,048,262	-	-	20,048,262	-	20,048,262	14,033,783	6,014,479	
2	Operations Training Centre - Phase 2 ⁽³⁾	2020 2021	1,314,000 15,111,000	-	1,314,000 15,111,000	-	-	1,314,000 15,111,000	-	1,314,000 15,111,000	919,800 10,577,700	394,200 4,533,300	
3	Durham North West Seaton ⁽⁴⁾	2022	1,150,000	-	1,150,000	-	-	1,150,000	-	1,150,000	805,000	345,000	
Cost to be Incurred Post By-Law Term (2023-2027)													
4	Durham North West Seaton ⁽⁴⁾	2023	12,650,000	-	12,650,000	-	-	12,650,000	-	12,650,000	8,855,000	3,795,000	
5	North Division Expansion	2023 2024	400,000 3,000,000	-	400,000 3,000,000	-	-	400,000 3,000,000	-	400,000 3,000,000	280,000 2,100,000	120,000 900,000	
6	Central East ⁽⁵⁾	2025 2026	1,400,000 12,600,000	-	1,400,000 12,600,000	-	-	1,400,000 12,600,000	-	1,400,000 12,600,000	980,000 8,820,000	420,000 3,780,000	
Total Estimated Capital Cost			\$ 67,673,262	\$ -	\$ 67,673,262	\$ -	\$ -	\$ 67,673,262	\$ -	\$ 67,673,262	\$ 47,371,283	\$ 20,301,979	

Notes:

- (1) Uncommitted excess capacity, where applicable
- (2) The cost of the Regional Support Centre facility is estimated at \$34.2 million, \$20.0 million (58%) of which is growth related as a portion of the building is replacing an existing facility.
- (3) The cost of the Operations Training Centre facility (Phase 2) is estimated at \$25.0 million, \$16.4 million (66%) of which is growth related as a portion of the building is replacing an existing facility.
- (4) The cost of the Durham North West Seaton facility is estimated at \$30.0 million, \$13.8 million (46%) of which is growth related as a portion of the building is replacing an existing facility.
- (5) The cost of the Central East facility is estimated at \$50.0 million, \$14 million (28%) of which is growth related as a portion of the building is replacing an existing facility.

POLICE SERVICES
Region-Wide Development Charge
Cash Flow Calculation of the Residential Development Charge
(\$000's)

Year	DC Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expend. Inflated @ 3.0%	Issuing of New Debt	Debt Costs on new Debt 5.0%	Eqv. Single Detached Units	Unit Charge Inflated @ 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.0%	DC Reserve Fund Closing Bal.
2018-19	154	252	252	0	0	8,075	715	5,777	5,678	142	5,820
2019-20	5,820	252	260	0	0	8,075	737	5,950	11,510	288	11,798
2020-21	11,798	15,206	16,132	10,000 (1)	0	8,075	759	6,128	11,795	295	12,090
2021-22	12,090	10,830	11,834	0	1,295	8,075	782	6,312	5,273	132	5,405
2022-23	5,405	1,302	1,465	0	1,295	8,075	805	6,502	9,146	229	9,375
2023-24	9,375	9,387	10,882	4,500 (2)	1,295	6,457	829	5,355	7,052	176	7,228
2024-25	7,228	2,352	2,808	0	1,878	6,457	854	5,515	8,058	201	8,259
2025-26	8,259	252	310	0	1,878	6,457	880	5,681	11,752	294	12,046
2026-27	12,046	1,232	1,561	0	1,878	6,457	906	5,851	14,459	361	14,820
2027-28	14,820	9,317	12,157	0	8,698 (3)	6,465	933	6,034	0	0	0
TOTAL		50,381	57,660	14,500	18,217	72,668		59,105		2,118	

DC/Unit	Single/Semi Detached	Medium Density Multiple	2 Bedroom Apartment	1 Bedroom Apartment
	\$715	\$575	\$416	\$271

Notes

- (1) Debt issued for the Regional Support Centre.
- (2) Debt issued for the Durham North West Seaton facility.
- (3) Final year of new debt costs represents debt servicing costs from 2027 to 2033.

3.0 Paramedic Services

The Region's ten year capital forecast includes new paramedic stations in Clarington (\$3.8 million, with \$2.2 million growth-related), Uxbridge (\$5.75 million, with \$3.3 million growth-related), North-West Whitby (\$3.8 million) and North-East Oshawa (\$3.8 million). The non growth-related cost shares reflect replacement of existing space.

Development charge reserve balance funding of \$2.5 million has been committed towards an additional ambulance station for the Seaton community that is planned for 2018/19. This funding covers the entire residential share of development charge recoverable costs associated with the facility, as per the Region's 2013 DC background study.

Ambulances have also been included in this calculation, based on the fact that these vehicles are designed to have a useful life of more than seven years. However, because they operate continuously, this life is compressed to a lesser period of time.

The Region's ten-year capital forecast includes the purchase of 4 additional ambulances for the 2018 - 2022 period to maintain compliance with the legislated performance standards. It is expected that 6 additional ambulances will be required during the 2023-2027 period.

The current level of service in the Region is within Ministry of Health guidelines for average response times. However, as the municipality grows, additional stations are required to maintain mandated response times. It is recognized that there is a minor benefit to existing development as a result of more stations and this benefit has been recognized with a 5% deduction. The eligible recovery amount as estimated from the historical level of service is applied fully to the facilities and vehicles in the first 5 year period with the residual applied in the latter 5 years of the forecast. No benefit to existing deductions are applied to new vehicles as additions to fleet are to maintain existing service levels.

The allocation of costs attributable to residential growth has been made based on the ratio of forecast increased population to employment with population weighted at three times in order to reflect increased per capita needs related to age and time spent in residence. Therefore the calculation for the residential share is:

$$\frac{182,955 \text{ additional persons} \times 3}{(182,955 \times 3) + 77,250 \text{ employees}}$$

This produces a residential cost share of 88%.

Service Level Calculation Sheet

Service: **Paramedic Services Vehicles**
Unit Measure: **Total Value of Vehicles and Other Assets**

Quantity Measure	Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
												\$ Value per Item ⁽¹⁾
Number of Vehicles												
	Ambulances with defibrillators	24	25	25	27	27	25	26	27	27	-	263,000
	Ambulances with defibrillators and power cots with power load	-	-	-	-	-	-	-	-	-	-	311,500
	Ambulances Spare (no defibrillators)	11	11	11	12	12	15	15	16	16	15	190,000
	Bariatric Special Purpose Vehicle	-	-	-	-	-	-	-	-	-	-	210,000
	Emergency Response Vehicles with defibrillators	5	6	6	6	6	6	6	6	6	6	99,200
	Emergency Response Vehicle Spares (no defib.)	1	1	1	2	2	2	2	2	2	2	76,000
	EMS Command and Response Vehicles with defibrillators	2	3	3	3	3	3	3	3	3	3	99,200
	EMS Command and Response Vehicle Spares (no defib)	-	-	-	1	1	1	1	1	1	1	76,000
	Management Support Vehicles with Emergency Warning Systems	3	3	3	4	4	4	4	4	4	4	42,000
	Management support spare	1	1	1	1	1	1	1	1	1	1	42,000
	Emergency Support Van	2	2	2	2	2	2	2	2	2	2	105,000
	Emergency Support Trailers	2	2	2	2	2	2	2	2	2	2	60,000
	Logistics Trucks	2	2	2	2	2	2	2	2	2	2	100,000
	All Terrain Gator	1	1	1	1	1	1	1	1	1	1	18,000
	ESU pull trucks	-	-	-	-	-	-	-	-	-	-	80,000
	G&D Van	-	-	-	-	-	-	-	-	-	-	70,000
	Golf Carts	-	-	-	-	-	-	-	-	-	-	30,000
	Paramedic transport vehicles	-	-	-	-	-	10	11	11	11	11	7,000
	Land (acres)	12	12	12	12	12	12	13	12	16	16	530,000
	Total Value of Vehicles and Other Assets	\$ 15,997,031	\$ 16,359,231	\$ 16,314,992	\$ 17,394,592	\$ 17,394,592	\$ 17,780,592	\$ 18,703,022	\$ 18,758,408	\$ 20,987,749	\$ 22,317,249	

Population	611,390	621,865	626,110	632,500	639,655	649,320	655,700	663,345	671,700	677,125
Service Level per Capita/Employment	\$ 26.17	\$ 26.31	\$ 26.06	\$ 27.51	\$ 27.20	\$ 27.39	\$ 28.53	\$ 28.28	\$ 31.25	\$ 32.96

10 Year Average	2008-2017
Combined Quantity/Quality Level (\$/capita)	\$ 28.22

DC Amount (before deductions)	182,855
2018-2028 Forecast Population Growth	\$ 28.22
\$ per Capita	\$ 28.22
Eligible Amount	\$ 5,163,695

⁽¹⁾ Values include equipment such as radio, lights and roof bar where applicable, and exclude computers.

**INFRASTRUCTURE COSTS COVERED IN THE DC CALCULATION
MUNICIPALITY: Region of Durham**

SERVICE: Paramedic Services - Vehicles

Pri. No.	Increased Service Needs Attributable to Anticipated Development 2018-2027	Timing	Gross Capital Cost Est. (\$2018)	Ineligible re: Level of Service	Eligible Increase in Need	Benefit to Existing Development/ U.E.C. (1)	Less:		Sub Total	Other (e.g. 10% Statutory Deduction)	Net Costs Benefiting New Development	Potential DC Recoverable Cost	
							Grants, Subsidies & Other Contributions Attrib. to New Development	Development				Residential Share	Non-Residential Share
												88%	12%
	Cost to be Incurred During Term of Proposed By-law (2018-2022)												
1	2 Additional Ambulances with Defibrillator	2019	512,000	-	512,000	-			512,000	51,200	460,800	405,504	55,296
2	2 Additional Ambulances with Defibrillator	2021	512,000	-	512,000	-			512,000	51,200	460,800	405,504	55,296
	Cost to be Incurred Post By-law Term (i.e., 2023-2027)												
3	2 Additional Ambulances with Defibrillator	2023	512,000	-	512,000	-			512,000	51,200	460,800	405,504	55,296
4	2 Additional Ambulances with Defibrillator	2025	512,000	-	512,000	-			512,000	51,200	460,800	405,504	55,296
5	2 Additional Ambulances with Defibrillator	2027	512,000	-	512,000	-			512,000	51,200	460,800	405,504	55,296
	Total Estimated Capital Cost		\$ 2,560,000	\$ -	\$ 2,560,000	\$ -	\$ -	\$ -	\$ 2,560,000	\$ 256,000	\$ 2,304,000	\$ 2,027,520	\$ 276,480

Notes:

(1) Uncommitted excess capacity, where applicable

Service Level Calculation Sheet

Service: Paramedic Stations
Unit Measure: Sq. Ft. of Building Space

Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 Value (\$/s.f.)
Total Floor Area											
Whitby Paramedic Station	19,945	19,945	19,945	19,945	19,945	19,945	19,945	19,945	19,945	19,945	560
North Oshawa Paramedic Station (Ritson)	4,746	4,746	4,746	4,746	4,746	4,746	4,746	4,746	4,746	4,746	560
South Oshawa Paramedic Station (Bloor)	4,608	4,608	4,608	4,608	4,608	4,608	4,608	4,608	4,608	4,608	560
Oshawa Paramedic Station (Wilson)	6,060	6,060	6,060	6,060	6,060	6,060	6,060	6,060	6,060	6,060	560
Ajax Paramedic Station	2,692	2,692	-	-	-	-	-	-	-	-	560
Pickering Paramedic Station (625 Kingston Rd)	-	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	560
Pickering Paramedic Station	-	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	560
Courtice Paramedic Station	2,630	2,630	2,630	2,630	2,630	2,630	2,630	2,630	2,630	2,630	560
Uxbridge Paramedic Station	2,602	2,602	2,602	2,602	2,602	2,602	2,602	2,602	2,602	2,602	560
Bowmanville Paramedic Station	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	560
Port Perry Paramedic Station	3,528	3,528	3,528	3,528	3,528	3,528	3,528	3,528	3,528	3,528	560
Beaverton Paramedic Station	-	-	9,100	9,100	9,100	9,100	9,100	9,100	9,100	9,100	204
4040 Anderson EMS Storage Facility	-	-	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	560
Sunderland Satellite Facility	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	560
Conlin Depot Maintenance	8,000	8,000	8,000	8,000	8,000	-	-	-	-	-	204
Banting Avenue Storage Facility											
Total	59,411	71,811	79,319	71,319	71,319	71,319	78,119	73,373	73,373	73,373	

Population	611,390	621,865	626,110	632,500	639,655	649,320	655,700	663,345	671,700	677,125
Per Capita Service Level	0.098	0.116	0.127	0.113	0.112	0.110	0.120	0.111	0.110	0.109

	2008-2017
10 Year Average	
Quantity per capita	0.112
Quality (\$/sq.ft.)	\$ 512.32
Combined Quantity/Quality Level (\$/capita)	\$ 57.42

DC Amount (before deductions)	
2018-2028 Forecast Population Growth	182,955
\$ per Capita	\$ 57.42
Eligible Amount	\$ 10,504,891

**INFRASTRUCTURE COSTS COVERED IN THE DC CALCULATION
MUNICIPALITY: Region of Durham**

SERVICE: Paramedic Services - Land Ambulance (Facilities)

Pj, No.	Increased Service Needs Attributable to Anticipated Development 2018-2027	Timing	Gross Capital Cost Est. (\$2018)	Ineligible re: Level of Service	Eligible Increase in Need	Benefit to Existing Development/ U.E.C. (1)	Less:		Sub Total	Other (e.g. 10% Statutory Deduction)	Net Costs Benefiting New Development	Potential DC Recoverable Cost	
							Grants, Subsidies & Other Contributions Attrib. to New Development	Development				Residential Share 88%	Non-Residential Share 12%
Cost to be Incurred During Term of Proposed By-law (2018-2022)													
1	Additional Paramedic Station - Clarington (2) - Land and Design	2018	638,000	-	638,000	31,900	-	606,100	60,610	545,490	480,031	65,459	
	- Construction	2019	1,566,000	-	1,566,000	78,300	-	1,487,700	148,770	1,338,930	1,178,258	160,672	
2	Additional Paramedic Station - Uxbridge (3) - Land and Design	2019	725,000	-	725,000	36,250	-	688,750	68,875	619,875	545,490	74,385	
	- Construction	2021	2,610,000	-	2,610,000	130,500	-	2,479,500	247,950	2,231,550	1,963,764	267,786	
Cost to be Incurred Post By-law Term (i.e. 2023-2027)													
3	Additional Paramedic Station - North-West Whitby - Land and Design	2024	1,300,000	-	1,300,000	65,000	-	1,235,000	123,500	1,111,500	978,120	133,380	
	- Construction	2025	2,500,000	-	2,500,000	125,000	-	2,375,000	237,500	2,137,500	1,881,000	256,500	
4	Additional Paramedic Station - North-East Oshawa - Land and Design	2025	1,300,000	-	1,300,000	65,000	-	1,235,000	123,500	1,111,500	978,120	133,380	
	- Construction	2026	2,500,000	30,413	2,469,587	123,479	-	2,346,107	234,611	2,111,497	1,858,117	253,380	
Total Estimated Capital Cost			\$13,139,000	\$ 30,413	\$13,108,587	\$ 655,429	\$ -	\$12,453,157	\$ 1,245,316	\$ 11,207,842	\$ 9,862,901	\$ 1,344,941	

Notes:

- (1) Uncommitted excess capacity, where applicable
- (2) The cost of the Clarington Paramedic Station replacement and expansion is estimated at \$3.8 million, \$2.2 million (58%) of which is growth related as a portion of the building is replacing an existing facility.
- (3) The cost of the Uxbridge Paramedic Station replacement and expansion is estimated at \$5.75 million, \$3.3 million (58%) of which is growth related as a portion of the building is replacing an existing facility.

PARAMEDIC SERVICES (LAND AMBULANCE)
Region-Wide Development Charge
Cash Flow Calculation of the Residential Development Charge
(\$'000's)

Year	DC Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expend. Inflated @ 3.0%	Issuing of New Debt	Debt Costs on new Debt on 5.0%	Equivalent Single Detached Units	Unit Charge Inflated @ 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate	DC Reserve Fund Closing Bal.
2018-19	0	480	480	0	0	8,075	170	1,372	892	22	915
2019-20	915	2,129	2,193	1,000	0	8,075	175	1,414	1,135	28	1,164
2020-21	1,164	0	0	0	130	8,075	180	1,456	2,490	62	2,552
2021-22	2,552	2,369	2,589	1,300	130	8,075	186	1,500	2,634	66	2,699
2022-23	2,699	0	0	0	298	8,075	191	1,545	3,946	99	4,045
2023-24	4,045	406	470	0	298	6,457	197	1,272	4,549	114	4,663
2024-25	4,663	978	1,168	0	298	6,457	203	1,310	4,508	113	4,620
2025-26	4,620	3,265	4,015	1,500	298	6,457	209	1,350	3,157	79	3,236
2026-27	3,236	1,858	2,354	0	492	6,457	215	1,390	1,780	45	1,825
2027-28	1,825	406	529	0	2,729 ⁽⁴⁾	6,465	222	1,434	0	0	0
TOTAL		11,890	13,798	3,800	4,672	72,668		14,043		627	

	Single/Semi Detached	Medium Density Multiple	2 Bedroom Apartment	1 Bedroom Apartment
DC/Unit	\$170	\$137	\$99	\$64

(1) Debt issued for the Additional Paramedic Stations - Clarington.
 (2) Debt issued for the Additional Paramedic Station - Uxbridge.
 (3) Debt issued for Additional Paramedic Station - North-West Whitby
 (4) Final year of new debt costs represents debt servicing costs from 2027 to 2035.

4.0 Long Term Care

The Region completed the reconstruction of the South Building of Hillsdale Terraces in the City of Oshawa in 2005. This 200 bed home included 65 new beds with the balance being replacement.

In the 2003 Development Charge Study, it was estimated that the residential growth related share of the 200 Bed Hillsdale Terraces long term care facility was \$3.9 million (net of 50% benefit to existing and provincial subsidies). The Region had a \$1.3 million balance in the Long Term Care Development Charge Reserve Fund which was used to fund a portion of these growth-related costs, therefore debenture requirements of \$2.6 million which was included in the calculation of the 2003 development charge for Long Term Care.

The Region issued \$2.6 million in debt to pay for the growth-related cost share of this facility in 2004. There is \$1.3 million in outstanding growth-related debt for this project as of 2017. The principal amount of \$1.3 million plus interest charges are to be repaid through development charges.

The remaining debt principal and interest payments related to the debenture are the only costs included in the development charge quantum for Long Term Care. The DC eligible costs have been allocated 100% to future residential development, reflecting the demands for this service.

There are no other new facilities or expansions in the 10 year forecast. However, the provincial government has recently released a paper, Aging with Confidence: Ontario's Action Plan for Seniors, where a short-term commitment to create 5,000 new long term care beds in the province by 2022 was made, along with a longer term commitment to create over 30,000 new beds over the next decade. Consideration will be given to the possible future development of a new long term care home to serve the growing population of vulnerable adults.

Service Level Calculation Sheet

Service: Long Term Care Facilities
Unit Measure: sq.ft. of building space

Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Value (\$/s.f.)
Hillsdale Estates	265,000	265,000	265,000	265,000	265,000	265,000	265,000	265,000	265,000	265,000	265,000
Hillsdale Terraces	164,510	164,510	164,510	164,510	164,510	164,510	164,510	164,510	164,510	164,510	164,510
Fairview	128,306	128,306	128,306	128,306	128,306	128,306	128,306	170,911	170,911	170,911	170,911
Lakeview	123,559	123,559	123,559	123,559	123,559	123,559	123,559	123,559	123,559	123,559	123,559
Total	681,375	723,980	723,980	723,980	\$ 250						

Population	611,390	621,865	626,110	632,500	639,665	649,320	655,700	663,345	671,700	677,125
Per Capita Service Level	1.115	1.096	1.088	1.077	1.065	1.049	1.039	1.031	1.078	1.069

	2008-2017
10 Year Average	
Quantity per capita	1.077
Quality (\$/sq.ft.)	\$ 250
Combined Quantity/Quality Level (\$/capita)	\$ 269.20

DC Amount (before deductions)	
2018-2028 Forecast Population Growth	182,955
\$ per Capita	\$ 269.20
Eligible Amount	\$ 49,251,486

Service Level Calculation Sheet

Service: Long Term Care Facilities
Unit Measure: Total Value of Other Assets

Quantity Measure

Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 Value
Land (acres)	33	33	33	33	33	33	33	33	33	33	\$ 530,000
Total Value of Other Assets	\$ 17,338,086										

Population	611,390	624,865	626,110	632,500	639,655	649,320	655,700	663,345	671,700	677,125
Per Capita Service Level	\$ 28.36	\$ 27.88	\$ 27.69	\$ 27.41	\$ 27.11	\$ 26.70	\$ 26.44	\$ 26.14	\$ 25.81	\$ 25.61

10 Year Average	2008-2017
Quantity per capita	\$ 26.91

DC Amount (before deductions)	
2018-2028 Forecast Population Growth	182,956
\$ per Capita	\$ 26.91
Eligible Amount	\$ 4,924,197

**INFRASTRUCTURE COSTS COVERED IN THE DC CALCULATION
MUNICIPALITY: Region of Durham**

SERVICE: Long Term Care

Pj. No.	Increased Service Needs Attributable to Anticipated Development 2018-2027	Timing	Gross Capital Cost Est. (\$2018)	Ineligible re: Level of Service	Eligible Increase in Need	Benefit to Existing Development/ U.E.C.	Less:		Subtotal	Net Costs Benefiting New Development	Potential DC Recoverable Cost	
							Grants, Subsidies & Other Contributions Attrib. to New Development	Other (e.g. 10% Statutory Deduction)			Residential Share 100%	Non-Residential Share 0%
1	65 Bed Addition to Hillsdale Terraces ⁽¹⁾		1,272,484	-	N/A	N/A	N/A	N/A	N/A	-	1,272,484	-
	Total Estimated Capital Cost		\$ 1,272,484	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,272,484	\$ -

Notes

⁽¹⁾ The Region issued \$2,626,000 in debentures in 2004 to finance the growth related share of the Hillsdale Terraces Facility. The outstanding debt of \$1,272,484 plus interest charges are the amounts included in the cash flow table that will be funded by DC's.

LONG TERM CARE
Region-Wide Development Charge
Cash Flow Calculation of the Residential Development Charge
(\$000's)

Year	DC Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expend. Inflated @ 3.0%	Issuing of New Debt	Debt Costs Existing Debt (1)	Eqv. Single Detached Units	Unit Charge Inflated @ 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5%	DC Reserve Fund Closing Bal.
2018-19	91	0	0	0	223	8,075	19	152	20	1	21
2019-20	21	0	0	0	223	8,075	19	157	(46)	(2)	(48)
2020-21	(48)	0	0	0	223	8,075	20	162	(110)	(5)	(115)
2021-22	(115)	0	0	0	223	8,075	21	166	(172)	(9)	(181)
2022-23	(181)	0	0	0	223	8,075	21	171	(232)	(12)	(244)
2023-24	(244)	0	0	0	223	6,457	22	141	(326)	(16)	(342)
2024-25	(342)	0	0	0	223	6,457	23	145	(420)	(21)	(441)
2025-26	(441)	0	0	0	0	6,457	23	150	(291)	(15)	(306)
2026-27	(306)	0	0	0	0	6,457	24	154	(152)	(8)	(159)
2027-28	(159)	0	0	0	0	6,465	25	159	(0)	(0)	(0)
TOTAL	0	0	0	0	1,563	72,668		1,559		(87)	

DC/Unit	Single/Semi Detached	Medium Density Multiple	2 Bedroom Apartment	1 Bedroom Apartment
	\$19	\$15	\$11	\$7

Notes

(1) Existing debt payments related to debt issued for Hillsdale Terraces in Oshawa in 2004 (200 Bed Home)

5.0 Health and Social Services

The Region's ten year capital forecast includes the provision of an additional Program Delivery Site and Family Services Location in the Seaton Community in 2019 (\$6.4 million and \$1.9 million, respectively). Also, the capital cost of the New Ontario Works (OW) Delivery Location in 2021, to provide service in the City of Oshawa, is estimated at \$20 million, \$10 million (50%) of which is growth related as a portion of the building is replacing existing facilities.

The eligible recovery amount as estimated from the historical level of service is applied to the Program Delivery Site and Family Services Location in the Seaton Community, with the residual applied to the New OW Delivery Location. Growth-related capital costs in excess of the level of service cap have been identified for the New OW Delivery Location, for consideration in future DC bylaws.

The costs attributable to new development have been allocated 100% to residential development, based on Social Service's programs being delivered primarily to serve the needs of the residents/population of the Region.

Service Level Calculation Sheet

Service: Health and Social Services
Unit Measure: sq.ft. of building space

Quantity Measure	Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Value (\$/s.f.)
	Child Care											
	Ajax Child Care Centre	4,100	4,100	4,100	4,100	4,100	4,100	4,100	4,100	4,100	4,100	276
	Edna Thomson Child Care Centre	7,717	7,717	7,717	7,717	7,717	7,717	7,717	7,717	7,717	7,717	276
	Gibb St Child Care Centre	2,008	2,008	2,008	2,008	2,008	2,008	2,008	2,008	-	-	276
	Lakewoods Child Care Centre	4,088	4,088	4,088	4,088	4,088	4,088	4,088	4,088	5,243	5,243	276
	Pickering Child Care Centre	4,334	4,334	4,334	4,334	4,334	4,334	4,334	4,334	4,334	4,334	276
	Whitby Child Care Centre	4,089	4,089	4,089	4,089	4,089	4,089	4,089	4,089	4,089	4,089	276
	Sunderland Nursery Centre	1,912	1,912	1,912	1,912	1,912	1,912	1,912	1,912	1,547	1,547	276
	Sunderland PS				781	1,547	1,547	1,547	1,547	1,547	1,547	276
	Cannington Nursery Centre	1,912	1,912	1,912	1,912	1,912	1,912	1,912	1,912	-	-	276
	Beaverton Nursery Centre	1,912	1,912	1,912	1,912	1,912	1,912	1,912	1,912	-	-	276
	Clara Hughes	-	-	-	-	-	-	4,873	4,873	4,873	4,873	276
	Health and Related Services											
	Health Dept. (605 Rossland - non-administrative)	2,433	2,433	2,433	2,433	2,433	2,433	2,433	2,433	2,433	2,433	276
	Environmental Health (101 Consumers)	8,113	8,113	8,113	8,113	8,113	8,113	8,113	8,113	8,113	8,113	276
	Durham Health - Dental Clinic	4,713	4,713	4,713	4,713	4,713	4,713	4,713	4,713	4,713	4,713	276
	Durham Health - Breastfeeding Clinic				2,450	2,450	2,450	2,450	2,450	2,450	2,450	276
	Sexual Health Clinic (181 Perry) - Port Perry	3,897	3,897	3,897	3,897	3,897	3,897	3,897	3,897	3,897	3,897	276
	Sexual Health Clinic (Oshawa Centre Galleria) - Oshawa	2,539	2,539	2,539	2,539	2,539	2,539	2,539	2,539	2,539	2,539	276
	Sexual Health Clinic (Pickering Town Centre) - Pickering	1,476	1,476	1,476	1,476	1,476	1,476	1,476	3,719	3,719	3,719	276
	Social Services											
	Brock - Family Services (135 Albert)	460	460	460	460	460	460	460	460	460	460	276
	Oshawa - Income Support (505 Wentworth)	12,037	12,037	12,037	12,037	12,037	12,037	12,037	12,037	12,037	12,037	276
	Oshawa - Income Support (200 John)	15,776	15,776	15,776	15,776	15,776	15,776	20,055	20,055	20,055	41,948	276
	Social Services (605 Rossland - non-administrative)	12,258	12,258	12,258	12,258	12,258	12,258	12,258	12,258	12,258	12,258	276
	Bowmanville (234 King)	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	1,940	276
	Port Perry (169 North)	500	500	500	500	500	500	500	500	500	500	276
	Uxbridge (2 Campbell)	4,810	4,810	4,810	4,810	4,810	4,810	4,810	4,810	4,810	4,810	276
	Ajax (140 Commercial)	12,234	12,234	12,234	12,234	12,234	17,875	17,875	17,875	17,875	17,875	276
	Ajax (339 Westney)	3,638	3,638	3,638	3,638	3,638	3,638	3,638	3,638	3,638	3,638	276
	Social Services											
	Total	118,895	118,895	118,895	122,126	120,980	122,798	131,950	132,185	133,340	155,233	

Population	611,390	621,865	626,110	632,500	639,655	649,320	655,700	663,345	671,700	677,125
Per Capita Service Level	0.195	0.191	0.190	0.193	0.189	0.189	0.189	0.201	0.199	0.229

10 Year Average	
Quantity per capita	0.198
Quality (\$/sq.ft.)	\$ 276
Combined Quantity/Quality Level (\$/capita)	\$ 54.58

DC Amount (before deductions)	
2018-2028 Forecast Population Growth	182,955
\$ per Capita	\$ 54.58
Eligible Amount	\$ 9,986,009

Service Level Calculation Sheet

Service: Health and Social Services
Unit Measure: Total Value of Other Assets

		Quantity Measure										
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Description		\$ Value per Item										
Land (acres)	6.8	6.8	7.2	7.3	7.2	7.3	7.3	7.3	7.4	7.4	8.4	530,000
Total Value of Other Assets	\$ 3,624,097	\$ 3,624,097	\$ 3,823,483	\$ 3,883,102	\$ 3,836,583	\$ 3,880,814	\$ 3,880,814	\$ 3,880,814	\$ 3,935,396	\$ 3,935,396	\$ 4,468,146	
Population	611,390	621,865	626,110	632,500	639,655	649,320	655,700	663,345	671,700	677,125		
Per Capita Service Level	\$ 5.93	\$ 5.83	\$ 6.11	\$ 6.14	\$ 6.00	\$ 5.98	\$ 5.92	\$ 5.93	\$ 5.86	\$ 5.86	\$ 6.60	
Quantity per capita	2008-2017	6.03										
DC Amount (before deductions)	182,959											
2018-2028 Forecast Population Growth	\$ 6.03											
Eligible Amount	\$ 1,102,944											

**INFRASTRUCTURE COSTS COVERED IN THE DC CALCULATION
MUNICIPALITY: Region of Durham**

SERVICE: Health and Social Services

Pj. No.	Increased Service Needs Attributable to Anticipated Development 2018-2027	Timing	Gross Capital Cost Est. (\$2018) ⁽¹⁾	Ineligible re: Level of Service	Eligible Increase in Need	Benefit to Existing Development/ U.E.C.	Less:		Subtotal	Less:			Potential DC Recoverable Cost	
							Grants, Subsidies & Other Contributions Attrib. to New Development	Other (e.g. 10% Statutory Deduction)		Net Costs Benefiting New Development	Residential Share 100%	Non-Residential Share 0%		
1	New Seaton Program Delivery Site	2019	6,400,000	-	6,400,000	320,000	-	6,080,000	608,000	5,472,000	5,472,000	100%	-	-
2	Family Services Seaton Location	2019	1,900,000	-	1,900,000	95,000	-	1,805,000	180,500	1,624,500	1,624,500	100%	-	-
3	New OW Delivery Location ⁽¹⁾	2021	10,000,000	7,211,046	2,788,954	139,448	-	2,649,506	264,951	2,384,555	2,384,555	100%	-	-
	Total Estimated Capital Cost		\$ 18,300,000	\$ 7,211,046	\$ 11,088,954	\$ 554,448	\$ -	\$ 10,534,506	\$ 1,053,451	\$ 9,481,055	\$ 9,481,055	100%	-	\$ -

⁽¹⁾ The cost of the New OW Delivery Location is estimated at \$20 million, \$10 million (50%) which is growth related as a portion of the building is replacing existing facilities.

**Health and Social Services
Region-Wide Development Charge
Cash Flow Calculation of the Residential Development Charge
(\$'000's)**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expend. Inflated @ 3.0%	Issuing of New Debt	Debt Costs on new Debt 5.0%	Eqv. Single Detached Units	Unit Charge Inflated @ 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.0%	DC Reserve Fund Closing Bal.
2018-19	1,188	0	0	0	0	8,075	123	996	2,184	55	2,239
2019-20	2,239	7,097	7,309	5,200 (1)	0	8,075	127	1,026	1,155	29	1,184
2020-21	1,184	0	0	0	673	8,075	131	1,057	1,568	39	1,607
2021-22	1,607	2,385	2,606	1,000 (2)	673	8,075	135	1,089	416	10	427
2022-23	427	0	0	0	803	8,075	139	1,121	745	19	764
2023-24	764	0	0	0	803	6,457	143	923	884	22	906
2024-25	906	0	0	0	803	6,457	147	951	1,054	26	1,081
2025-26	1,081	0	0	0	803	6,457	152	980	1,257	31	1,289
2026-27	1,289	0	0	0	803	6,457 (3)	156	1,009	1,495	37	1,532
2027-28	1,532	0	0	0	2,573 (3)	6,465	161	1,041	0	0	0
TOTAL		9,481	9,915	6,200	7,934	72,668		10,192		269	

DC/Unit	Single / Semi Detached	Medium Density Multiple	2 Bedroom Apartment	1 Bedroom Apartment
	\$123	\$99	\$72	\$47

(1) Debt issued for the New Seaton Program Delivery Site

(2) Debt issued for the New OW Delivery Location

(3) Final year of new debt costs represents debt servicing costs from 2027 to 2031

6.0 Housing Services

Currently, the Region of Durham administers and provides funding to 44 social housing providers, who own approximately 6,374 rental units at 91 sites across the Region. Social housing buildings typically offer a blend of market rents and Rent Geared to Income (RGI) units. The Region has also provided assistance for 389 units under Provincial-Federal programs to provide affordable units.

It has been assumed based on the growth experienced over the previous 10-years, that an additional 416 housing units will be added to the existing stock (208 units for each five year period, 2018-2022 and 2023-2027). Assuming an average capital cost contribution of \$150,000/unit in \$2018, which is based on contributions to recent developments, the gross cost of the units included in the forecast is \$62.4 million.

Based on the Region's current service level of 0.01 units per capita and a net population increase of 182,955 persons over 2018 – 2027, the 416 additional units in the forecast are within the available service level cap of 1,863 units. This approach to calculating the service level cap assumes that the quality of the new units to be provided will be similar to the new units built in the Region in recent years (mix of unit types).

In determining an appropriate deduction for benefit to existing development, consideration was given to existing and future demand for social housing units among the existing population and the potential for occupants of new development to access the units. Factors were considered such as size of the wait list and the current gap in social housing to meet the needs of the existing population as identified by the Region. On this basis, a 50 per cent deduction for benefit to existing development has been made. It is expected that as the service gap is addressed over time, this deduction would be reduced in future DC background studies. There is no post-period benefit resulting from the capital forecast. A 10 per cent statutory deduction has been applied to all housing services capital in the forecast.

The capital costs attributable to new development have been allocated 100 per cent to future residential development as Housing Services primarily serves the needs of the residents of the Region.

It is proposed that Development Charge revenue be applied to fund growth-related capital costs for Housing Services (i.e. Social and Government Assisted Affordable Housing Services), subject to Regional Council approval on a case by case basis, in the following manner:

- New construction only, including additions and extensions resulting in additional rental units in the following categories:
 - a. Social Housing which is rental housing provided by Durham Regional Local Housing Corporation (DRLHC) or by a non-profit housing provider that receives ongoing subsidy from the Region of Durham;
 - b. Affordable Housing which are rental units provided by private or non-profit housing providers that receive funding through a federal or provincial government affordable housing program; and
 - c. Applicants for eligible units must meet eligibility requirements for the Durham access to Social Housing (DASH) wait list.

Durham Region
2018 Development Charges Background Study
Average Level of Service

Service:		Housing Services									
Unit Measure:		Housing Units									
Housing Provider	Quantity - # of units										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Non-Profit & Co-operatives											
Ajax Municipal Housing Corporation	490	490	490	490	490	490	490	490	490	490	
Borelia Co-operative Homes	70	70	70	70	70	70	70	70	70	70	
Bowmanville Valley Co-operative Homes	68	68	68	68	68	68	68	68	68	68	
Brock Non-Profit Housing Corporation	53	53	53	53	53	53	53	53	53	53	
Consideration Co-operative Homes	99	99	99	99	99	99	99	99	99	99	
Cornerstone Community Association	56	56	56	56	56	56	56	56	56	56	
Duffin's Creek Co-operative Homes	75	75	75	75	75	75	75	75	75	75	
Durham Region Non-Profit Housing Corporation	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128	1,128	
Providence Place Christian Homes	124	124	124	124	124	124	124	124	124	124	
Gateway Community Homes	118	118	118	118	118	118	118	118	118	118	
Harmony-King Cooperative Homes (Cormack Station)	76	76	76	76	76	76	76	76	76	76	
Heritage Community Housing Corporation	125	125	125	125	125	125	125	125	125	125	
Inter Faith Homes (Bloor Apartments)	36	36	36	36	36	36	36	36	36	36	
J.D. Cochrane Court (Immaculate Conception)	38	38	38	38	38	38	38	38	38	38	
John Howard Society	8	8	8	8	8	8	8	8	8	8	
Life Centre Non-Profit Housing Corporation	126	126	126	126	126	126	126	126	126	126	
Maple Glen Housing Co-operative Homes	40	40	40	40	40	40	40	40	40	40	
Marigold Cooperative Homes	70	70	70	70	70	70	70	70	70	70	
New Hope Non-Profit Dwellings (Durham) Inc.	118	118	118	118	118	118	118	118	118	118	
Northview Meadow Co-operative Homes	261	261	261	261	261	261	261	261	261	261	
Oshawa Legion Manor	38	38	38	38	38	38	38	38	38	38	
Oshawa YWCA	40	40	40	40	40	40	40	40	40	40	
Otter Creek Co-op	84	84	84	84	84	84	84	84	84	84	
Participation House (Campbell Court)	39	39	39	39	39	39	39	39	39	39	
Prisma Non-Profit Residence Corporation	186	186	186	186	186	186	186	186	186	186	
Rougemount Co-operative Homes	105	105	105	105	105	105	105	105	105	105	
Sarah McDonald Place (Inter Organizational Network)	63	63	63	63	63	63	63	63	63	63	
Sunrise Place Non-Profit Housing Co-operative	58	58	58	58	58	58	58	58	58	58	
Sunrise Seniors Place (Oshawa-Durham)	89	89	89	89	89	89	89	89	89	89	
Unity Village Local 183 Non-Profit Homes	82	82	82	82	82	82	82	82	82	82	
Whitby Christian Non-Profit Housing Corporation (Harvest Place)	85	85	85	85	85	85	85	85	85	85	
William Peak Co-operative Homes	141	141	141	141	141	141	141	141	141	141	
Willow Park Co-operative Homes	90	90	90	90	90	90	90	90	90	90	
Sub-total	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	
Federal Non-Profits											
Canadian Foresters Project (Forestree Place) (OCHAP)	61	61	61	61	61	61	61	61	61	61	
Durham County Seniors Citizen Lodge (CSHP)	41	41	41	41	41	41	41	41	41	41	
Faith Place	186	186	186	186	186	186	186	186	186	186	
Kingsway Pioneer Home (CSHP)	80	80	80	80	80	80	80	80	80	80	
Manning Mews Non-Profit Homes	20	20	20	20	20	20	20	20	20	20	
Newcastle Lodge - Parkview (OCHAP)	43	43	43	43	43	43	43	43	43	43	
Oshawa Housing - Normandy Street	63	63	63	63	63	63	63	63	63	63	
Oshawa Housing - Westmount Avenue	20	20	20	20	20	20	20	20	20	20	
Parkview Place (OCHAP)	115	115	115	115	115	115	115	115	115	115	
St. Martin's Centre (OCHAP)	58	58	58	58	58	58	58	58	58	58	
St. Mary's Senior Citizens Residence Oshawa	92	92	92	92	92	92	92	92	92	92	
Trinity Manor	40	40	40	40	40	40	40	40	40	40	
Sub-total	819	819	819	819	819	819	819	819	819	819	
Durham Regional Local Housing Corporation	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	
Affordable Housing Program and Investments in Affordable Housing Program											
Ajax Municipal Housing Corporation (Hubbard Station)	-	-	84	84	84	84	84	84	84	84	
BGS Homes (Whitby Village - 310 Mary Street)	-	-	-	-	-	-	139	139	139	139	
Cher-brook Properties (Bloor Park Village - 394 Bloor Street)	-	-	-	42	42	42	42	42	42	42	
DRLHC (Brookside Apartments)	-	-	5	5	5	5	5	5	5	5	
DRLHC (Lakeview Harbourside)	-	-	-	12	12	12	12	12	12	12	
Mahogany Management (Ritson Residence - 1658 Ritson Rd. N)	-	-	-	-	-	-	-	-	-	75	
TGFG Ventures Inc. (Harmony Ridge Gardens - 762 King Street)	-	-	-	-	32	32	32	32	32	32	
Sub-total	0	0	89	143	175	175	314	314	314	389	
Total	6,374	6,374	6,463	6,517	6,549	6,549	6,688	6,688	6,688	6,763	
Population	611,390	621,865	626,110	632,500	639,655	649,320	655,700	663,345	671,700	677,125	
Per Capita Service Level	0.0104	0.0102	0.0103	0.0103	0.0102	0.0101	0.0102	0.0101	0.0100	0.0100	

10 Year Average	
	2008-2017
Quantity per capita	0.0102
Forecast Population (net)	182,955
Eligible Amount (number of units)	1,863

INFRASTRUCTURE COSTS COVERED IN THE DC CALCULATION
MUNICIPALITY: Region of Durham

SERVICE: Housing Services

Pri. No.	Increased Service Needs Attributable to Anticipated Development 2018-2027	Timing	Gross Capital Cost Est. (\$2018)	Ineligible re: Level of Service	Eligible Increase in Need	Benefit to Existing Development/ U.E.C. ⁽¹⁾	Less:		Sub Total	Other (e.g. 10% Statutory Deduction)	Net Costs Benefiting New Development	Potential DC Recoverable Cost	
							Grants, Subsidies & Other Contributions Attrib. to New Development	Residential Share 100%				Non-Residential Share 0%	
Cost to be Incurred During Term of Proposed By-Law (2018-2022)													
1	208 Housing Units	2018-2022	31,221,346	-	31,221,346	15,610,673	-	15,610,673	1,561,067	14,049,606	14,049,606	100%	-
Cost to be Incurred Post By-Law Term (2023-2027)													
2	208 Housing Units	2023-2027	31,221,346	-	31,221,346	15,610,673	-	15,610,673	1,561,067	14,049,606	14,049,606	100%	-
Total Estimated Capital Cost			\$ 62,442,691	\$ -	\$ 62,442,691	\$ 31,221,346	\$ -	\$ 31,221,346	\$ 3,122,135	\$ 28,099,211	\$ 28,099,211		\$ -

Notes:

(1) Uncommitted excess capacity, where applicable

Housing Services
Region-Wide Development Charge
Cash Flow Calculation of the Residential Development Charge
(\$000's)

Year	DC Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expend. Inflated @ 3.0%	Issuing of New Debt	Debt Costs on new Debt 5.0%	Eqv. Single Detached Units	Unit Charge Inflated @ 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5%/debt rate 5.0%	DC Reserve Fund Closing Bal.
2018-19	0	2,810	2,810	0	0	8,075	387	3,127	317	8	325
2019-20	325	2,810	2,894	0	0	8,075	399	3,220	651	16	667
2020-21	667	2,810	2,981	0	0	8,075	411	3,317	1,003	25	1,028
2021-22	1,028	2,810	3,070	0	0	8,075	423	3,417	1,374	34	1,409
2022-23	1,409	2,810	3,163	0	0	8,075	436	3,519	1,765	44	1,809
2023-24	1,809	2,810	3,257	0	0	6,457	449	2,898	1,450	36	1,487
2024-25	1,487	2,810	3,355	0	0	6,457	462	2,985	1,117	28	1,145
2025-26	1,145	2,810	3,456	0	0	6,457	476	3,075	764	19	783
2026-27	783	2,810	3,560	0	0	6,457	490	3,167	390	10	400
2027-28	400	2,810	3,666	0	0	6,465	505	3,266	0	0	0
TOTAL	28,099	32,213	0	0	0	72,668	31,992	221			

DC/Unit	Single / Semi Detached	Medium Density Multiple	2 Bedroom Apartment	1 Bedroom Apartment
	\$387	\$311	\$225	\$147

7.0 Development – Related Studies

When a municipality intends to introduce a by-law to impose development charges against land to pay for increased capital costs required because of increased needs of servicing arising from development, the *Development Charges Act, 1997* requires municipalities to complete a development charge background study.

The background study requires estimates of the anticipated amount, type and location of development for which development charges can be imposed. The anticipated development estimates are used to estimate the servicing requirements which are used to calculate the capital costs necessary to provide the increased services.

The capital costs required to maintain the municipality's level of service are the basis for the development charge. The *Development Charges Act, 1997* indicates that the costs of the development charge background study required under the Act are also "capital costs". Therefore, the costs to prepare the background study can be included and used to calculate a development charge quantum for Development – Related Studies. The costs associated with the study include:

- Economic consultant
- Other specialized consulting services
- Engineering consulting services
- Research
- Legal services

The capital program for Development Related Studies also include estimates for Municipal Comprehensive Reviews that will be completed at a minimum of five year intervals by the Region.

Unlike other services such as Police Services and Long Term Care, there is no definable service level for Development Charge Background and related studies. However, these studies are largely defined by the requirements of the various applicable Provincial Legislation and guidelines.

There is no benefit to existing share applied as the studies within the forecast period are focused on planning for new development.

The allocation of costs attributable to new development between residential and non-residential growth has been made based on the share of total growth (182,954 population and 77,250 employment) that each sector represents. On this basis, the residential share is 70%.

**INFRASTRUCTURE COSTS COVERED IN THE DC CALCULATION
MUNICIPALITY: Region of Durham**

SERVICE: Development Related Studies

P/I No.	Increased Service Needs Attributable to Anticipated Development 2018-2027	Timing	Gross Capital Cost Est. (\$2018)	Ineligible re: Level of Service	Eligible Increase in Need	Benefit to Existing Development/ U.E.C.	Less:		Sub Total	Other (e.g. 10% Statutory Deduction) ⁽¹⁾	Net Costs Benefiting New Development	Potential DC Recoverable Cost	
							Grants, Subsidies & Other Contributions Attrib. to New Development	Residential Share 70%				Non-Residential Share 30%	
Cost to be Incurred During Term of Proposed By-law (2018-2022)													
1	Municipal Comprehensive Review	2018	500,000		500,000	-	-	-	500,000	10,000	490,000	343,000	147,000
2	Development Charge Study	2022	350,000		350,000	-	-	-	350,000	7,000	343,000	240,100	102,900
Cost to be Incurred Post By-law Term (i.e. 2023-2027)													
3	Development Charge Study	2027	350,000		350,000	-	-	-	350,000	7,000	343,000	240,100	102,900
4	Municipal Comprehensive Review	2027	750,000		750,000	-	-	-	750,000	15,000	735,000	514,500	220,500
Total Estimated Capital Cost			\$ 1,950,000	\$ -	\$ 1,950,000	\$ -	\$ -	\$ -	\$ 1,950,000	\$ 39,000	\$ 1,911,000	\$ 1,337,700	\$ 573,300

Notes:
(1) A 2% deduction has been made as it is estimated that 80% of the studies are related to transportation, water, sewer and police, which are not subject to the 10% deduction.

DEVELOPMENT RELATED STUDIES
Region-Wide Development Charge
Cash Flow Calculation of the Residential Development Charge
(\$'000's)

Year	DC Reserve Fund Opening Balance	Development Related Expenditures	Development Related Expend. Inflated @ 3.0%	Equivalent Single Detached Units	Unit Charge Inflated @ 3.0%	Anticipated Revenue	Surplus (Deficit)	Int. Earnings 2.5% / debt rate 5.00%	DC Reserve Fund Closing Bal.
2018-19	0	343	343	8,075	19	150	(193)	(10)	(202)
2019-20	(202)	0	0	8,075	19	155	(47)	(2)	(50)
2020-21	(50)	0	0	8,075	20	160	110	3	113
2021-22	113	0	0	8,075	20	164	277	7	284
2022-23	284	240	270	8,075	21	169	183	5	188
2023-24	188	0	0	6,457	22	139	327	8	335
2024-25	335	0	0	6,457	22	144	479	12	491
2025-26	491	0	0	6,457	23	148	639	16	655
2026-27	655	0	0	6,457	24	152	807	20	827
2027-28	827	755	985	6,465	24	157	0	0	0
TOTAL		1,338	1,598	72,668		1,539		59	

DC/Unit	Single/Semi Detached	Medium Density Multiple	2 Bedroom Apartment	1 Bedroom Apartment
	\$19	\$15	\$11	\$7

APPENDIX I
LONG TERM CAPITAL AND
OPERATING COST EXAMINATION AND ASSET MANAGEMENT PLAN

1.0 INTRODUCTION

As a requirement of the Development Charges Act, 1997 (DCA) under subsection 10(2)(c), an analysis must be undertaken to assess the long-term capital and operating cost impacts for the capital infrastructure projects identified within the DC Background Study. As part of this analysis, it was necessary to isolate the incremental operating expenditures directly associated with these capital projects.

Also, the recent changes to the DCA (new clause 10(2) (c.2)) require that the Background Study include an Asset Management Plan (AMP) related to new infrastructure to be funded under the DC by-law. Subsection 10(3) of the DCA provides that the AMP shall:

- (a) deal with all assets whose capital costs are proposed to be funded under the DC Bylaw;
- (b) demonstrate that all the assets mentioned in clause (a) are financially sustainable over their full life cycle;
- (c) contain any other information that is prescribed; and
- (d) be prepared in the prescribed manner.

The following sections of this appendix document the examination of long term capital and operating costs, and the AMP, for the following services:

- Regional Roads;
- Regional Water Supply and Sanitary Sewerage;
- Regional Police;
- Paramedic Services; and
- Health and Social Services.

Costs associated with Long-Term Care, Housing Services, and Growth-Related Studies are not considered throughout this appendix as the Region is not necessarily anticipated to incur any or further operating, maintenance, or other asset management costs associated with the forecasted growth related costs of the capital plan.

2.0 REGIONAL ROADS

2.1 Capital Costs

The Regional Roads capital costs anticipated over the period 2018-2027 are provided in Appendix E. These proposed expenditures, expressed in 2018 dollars, are for growth-related projects, which are eligible for development charge financing. The capital works forecasts are summarized in Table I.1 on the following page, and are based on Tables E.1 and E.2 from Appendix E.

TABLE I.1 - REGIONAL ROADS: LONG TERM CAPITAL AND OPERATING COST EXAMINATION (2018 - 2027) - \$2018												
SERVICE: REGIONAL ROADS	2018 BUDGET	FORECAST EXPENDITURE (\$2018)										
		2019	2020	2021	2022	2023	2024	2025	2026	2027	Total	
CAPITAL EXPENDITURES FOR PROPOSED CAPITAL WORKS PROGRAM (YEAR 2018-2027) - \$2018												
A. Growth Related Projects (All projects with DC components)												
Attribution												
1 New Residential	31,501,223	39,652,950	134,995,743	34,354,558	46,486,858	104,369,651	47,938,686	60,379,995	50,171,120	151,871,712	701,722,495	
2 New Non-Residential (Commercial)	3,607,301	4,557,903	15,449,416	3,901,441	5,346,347	11,983,871	5,539,412	6,882,367	5,784,936	17,401,428	80,454,422	
3 New Non-Residential (Industrial & Institutional) General Levy Financing	9,918,387	12,532,097	42,478,653	10,727,134	14,699,948	32,950,029	15,230,788	18,923,283	15,905,864	47,845,772	221,211,953	
4 Post Period Benefit	0	0	0	0	828,113	2,079,398	3,346,164	4,215,055	36,942,930	70,978,938	118,390,599	
5 Grants, Subsidy and Other	0	0	0	0	0	0	0	0	0	0	0	
6 Total (1+2+3+4+5)	45,026,911	56,742,950	192,923,812	48,983,133	67,361,265	151,382,949	72,055,050	90,400,700	108,804,850	288,097,850	1,121,779,470	
B. Non-Growth Projects (100% GL only)												
1 General Levy Financing (Benefit to Existing)	5,346,379	6,770,383	9,645,701	8,229,181	12,837,974	8,353,717	21,719,950	13,554,300	17,295,150	26,067,150	129,819,886	
C. Total Growth and Non-Growth Projects (A+B)												
Attribution												
1 New Residential	31,501,223	39,652,950	134,995,743	34,354,558	46,486,858	104,369,651	47,938,686	60,379,995	50,171,120	151,871,712	701,722,495	
2 New Non-Residential (Commercial)	3,607,301	4,557,903	15,449,416	3,901,441	5,346,347	11,983,871	5,539,412	6,882,367	5,784,936	17,401,428	80,454,422	
3 General Levy Financing (Industrial & Institutional) General Levy Financing (Benefit to Existing)	9,918,387	12,532,097	42,478,653	10,727,134	14,699,948	32,950,029	15,230,788	18,923,283	15,905,864	47,845,772	221,211,953	
4 Post Period Benefit	0	0	0	0	828,113	2,079,398	3,346,164	4,215,055	36,942,930	70,978,938	118,390,599	
5 Grants, Subsidy and Other	0	0	0	0	0	0	0	0	0	0	0	
6 Total (1+2+3+4+5)	50,373,290	63,513,333	202,569,513	57,212,314	80,199,239	159,736,666	93,775,000	103,955,000	126,100,000	314,165,000	1,251,599,355	
OPERATING EXPENDITURES FOR EXISTING WORKS AND PROPOSED CAPITAL WORKS PROGRAM (YEAR 2018-2027)												
D. Annual Cost												
1 Roads and Streets Maintenance Operations	18,795,632	19,501,360	20,082,583	20,155,710	20,226,316	20,383,675	20,476,793	20,588,375	20,784,888	21,133,828	202,129,159	
2 Traffic Operations	7,700,906	8,031,673	8,200,574	8,244,676	8,288,779	8,348,526	8,399,837	8,465,857	8,541,970	8,595,805	82,818,603	
3 Total (1+2)	26,496,538	27,533,033	28,283,157	28,400,386	28,515,094	28,732,201	28,876,631	29,054,232	29,326,858	29,729,633	284,947,762	
4 Annual Increase	(Note 1)	1,036,495	750,124	117,230	114,708	217,106	144,430	177,601	272,627	402,775		
E. Forecast Population	689,395	709,963	730,531	751,098	771,666	792,234	808,257	824,280	840,304	856,327		
F. Cost per Capita	\$38.43	\$38.78	\$38.72	\$37.81	\$36.95	\$36.27	\$35.73	\$35.25	\$34.90	\$34.72		

Notes:
1. Roads and Streets Maintenance Operations and Traffic Operations costs identified in 2018 are based on actual 2018 General Levy Budget provisions.

2.2 Operating Costs

The operating costs anticipated over the period 2018 to 2027 were projected from budgeted program costs, net of recoveries and revenues, contained in the 2018 General Levy Budget. The Regional Roads operating budget is divided into two categories:

- *Roads and Streets Maintenance Operations* – This category includes any costs related to the operation and maintenance of the road allowance and travelled portion of the roadway, except for those tasks directly related to controlling the flow of traffic.
- *Traffic Operations* – This category includes any costs related to controlling the flow of traffic, primarily for traffic signals, signs, and pavement markings.

Unit costs were calculated for each program area within these two broad categories. Given the different nature of the program areas, the unit costs were calculated based on three measures:

- *Per linear kilometre of road* – For program areas that involve services related to the edge of pavement or which are general in nature;
- *Per linear lane-kilometre of road* – For program areas that involve services related to the road surface; and
- *Per traffic signal* – For program areas that involve services related to traffic signals and systems.

The following table summarizes the various program areas, the unit of measure selected, the 2018 General Levy Budget amount and per unit costs for 2018.

REGION OF DURHAM REGIONAL ROADS OPERATING PROGRAMS AND UNIT COSTS			
Program Area	Unit of Measure	2018 Budget Amount	2018 Unit Cost
2017 Inventory	Km	826	
	Lane-km	2,373	
	Signals	448	
Roads and Streets Maintenance Operations			
Winter Control	Lane-km	\$10,015,011	\$4,221
Roadside Maintenance	Km	\$4,454,619	\$5,392
Storm Sewers	Km	\$257,052	\$311
Depot Operations	Km	\$1,616,088	\$1,956
Maintenance General	Km	\$298,304	\$361
Overhead	Km	\$2,154,558	\$2,608
	Net cost	\$18,795,632	
Traffic Operations			
Signals and Systems	Signal	\$1,918,231	\$4,282
Signs, Markings & Roadside Protection	Km	\$1,831,979	\$2,218
Engineering & Central Control System	Km	\$2,893,935	\$3,503
Overhead	Km	\$1,056,761	\$1,279
	Net cost	\$7,700,906	
TOTAL 2018 OPERATING COST		\$26,496,538	

The unit costs, as calculated above, were applied to the forecast Regional Roads inventory to estimate future operating costs. The length of new regional roads, in both kilometres and lane-kilometres, to be constructed through the Capital Works Forecast (Tables E.1 and E.2 from Appendix E) was estimated and added to existing inventory figures to obtain totals. The costs for 2018 are based on actual budget provisions.

The forecasted operating costs over the period 2018 – 2027 are provided at the bottom of Table I.1. The costs are presented on an annual basis and expressed in terms of the cost per capita. The table illustrates that the per capita operating cost associated with the new Regional Road infrastructure is projected to decrease slightly over the cost of providing the service in 2018.

3.0 REGIONAL WATER SUPPLY AND SANITARY SEWERAGE

3.1 Capital Costs

The capital costs for Regional water supply and sanitary sewerage services anticipated over the period 2018-2027 are provided in Appendices F and G. These proposed expenditures, expressed in 2018 dollars, are for growth-related projects, which are eligible for development charge financing. The capital works forecasts as summarized in the following Tables I.2 and I.3 are based on Tables F.1 and F.2 and Tables G.1 and G.2, from Appendix F and G respectively.

3.2 Operating Costs

The operating costs anticipated over the period 2018-2027 were projected from budget program costs, net of recoveries and revenues, contained in the 2018 Water Supply and Sanitary Sewerage Budgets. The operating costs are divided into two categories, Maintenance Operations and Plant Operations summarized below.

3.2.1 Maintenance Operations

Costs associated with the operation of the water distribution and sanitary sewerage collection systems have been forecast based on current per metre pipe costs. Maintenance Operations costs include all operating and maintenance costs associated with the watermains and sanitary sewers.

The cost for Maintenance Operations was calculated as follows:

REGION OF DURHAM WATER SUPPLY AND SANITARY SEWERAGE MAINTENANCE OPERATIONS COSTS (\$2017)		
	Water Supply	Sanitary Sewerage
Maintenance Operations Annual Budget Costs	\$16,179,684	\$7,244,465
Number of metres of pipe in inventory	2,489,369	2,154,271
Cost per metre	\$6.50	\$3.36

The cost per metre, as calculated above, was applied to the forecast pipe inventory to estimate future Maintenance Operations costs. The total length of pipe proposed in the Capital Works program and forecast to be constructed in conjunction with new development was estimated based on available information. The Maintenance Operations cost for 2018 is based on 2017 actual budget provisions, indexed for inflation.

3.2.2 Plant Operations

Costs associated with the operation of Water Supply Plants (WSP) and Water Pollution Control Plants (WPCP) have been forecast based on the current cost per MIGD (million gallons per day) average day flow. Plant Operations costs include all operating costs associated with the plants as well as water storage facilities, water pumping stations and sanitary sewage pumping stations.

The cost for Plant Operations was calculated as follows:

REGION OF DURHAM WATER SUPPLY AND SANITARY SEWERAGE PLANT OPERATIONS COSTS (\$2017)		
	Water Supply	Sanitary Sewerage
Plant Operations Annual Budget Costs	\$21,964,300	\$32,647,058
Average Day Flow (MIGD)	169.78	195.33
Cost per MIGD	\$129,368	\$167,137

The cost per MIGD, as calculated above, was applied to the forecast flow to estimate future Plant Operations costs. The Plant Operations cost for 2018 is based on 2017 actual budget provisions, indexed for inflation.

The forecasted operating costs over the period 2018-2027 are provided at the bottom of Table I.2 and I.3. The costs are presented on an annual basis and expressed in terms of the cost per capita. The tables illustrate that the per capita operating cost associated with the Water Supply infrastructure is projected to decrease slightly over the current cost of providing the service and the per capita operating cost associated with Sanitary Sewerage is projected to increase slightly over the current cost of providing the service.

TABLE I.2 - REGIONAL WATER SUPPLY: LONG TERM CAPITAL AND OPERATING COST EXAMINATION (2018 - 2027)											
FORECAST EXPENDITURE (\$2018)											
SERVICE: WATER SUPPLY											
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total
CAPITAL EXPENDITURES FOR PROPOSED CAPITAL WORKS PROGRAM (YEAR 2017 - 2027)											
A. Growth Related Projects (All projects with DC components)											
Attribution											
1 New Residential	28,032	108,707	122,999	112,734	25,950	43,633	12,510	82,040	90,776	43,313	670,694
2 New Non-Residential (Commercial)	1,980	2,923	10,038	2,809	621	1,673	347	2,026	3,933	1,750	28,100
3 New Non-Residential (Industrial & Institutional) User Rate Financing	9,240	13,563	46,873	13,026	2,880	7,788	1,610	9,395	18,314	8,145	130,834
4 Post-Period Benefit	131	2,385	9,535	7,775	58	31,382	443	5,425	5,292	15,220	77,645
5 Grants, Subsidy and Other	0	0	0	0	0	0	0	0	0	0	0
6 Seaton	160	2,962	0	1,755	0	36,223	0	209	0	3,675	44,985
7 Federal Lands	25	2,401	0	765	0	15,790	0	0	0	0	18,981
8 Total (1+2+3+4+5+6+7)	39,568	132,941	189,445	138,864	29,508	136,488	14,910	99,095	118,316	72,103	971,238
B. Non-Growth Projects (100% UR only)											
1 User Rate Financing (Benefit to Existing)	14,175	9,623	9,031	0	75	7,623	523	4,420	3,837	3,355	52,662
C. Total Growth and Non-Growth Projects (A+B)											
Attribution											
1 New Residential	28,032	108,707	122,999	112,734	25,950	43,633	12,510	82,040	90,776	43,313	670,694
2 New Non-Residential (Commercial)	1,980	2,923	10,038	2,809	621	1,673	347	2,026	3,933	1,750	28,100
3 User Rate Financing (Industrial & Institutional) User Rate Financing (Benefit to Existing)	9,240	13,563	46,873	13,026	2,880	7,788	1,610	9,395	18,314	8,145	130,834
4 Post-Period Benefit	131	2,385	9,535	7,775	58	31,382	443	5,425	5,292	15,220	77,645
5 Grants, Subsidy and Other	0	0	0	0	0	0	0	0	0	0	0
6 Seaton	160	2,962	0	1,755	0	36,223	0	209	0	3,675	44,985
7 Federal Lands	25	2,401	0	765	0	15,790	0	0	0	0	18,981
8 Total (1+2+3+4+5+6+7)	53,743	142,564	198,476	138,864	29,583	144,111	15,433	103,515	122,153	75,458	1,023,900
OPERATING EXPENDITURES FOR EXISTING WORKS AND PROPOSED CAPITAL WORKS PROGRAM (YEAR 2018 - 2027)											
D. Annual Cost											
1 Maintenance Operators	16,802,097	17,027,346	17,245,788	17,466,587	17,699,650	17,932,713	18,165,776	18,398,839	18,631,902	18,869,295	178,239,993
2 Plant Operations	23,320,822	24,128,236	24,935,650	25,731,129	26,526,608	27,322,087	28,117,566	28,913,045	29,708,524	30,555,851	269,259,518
3 Total (1+2)	40,122,919	41,155,582	42,181,438	43,197,716	44,226,258	45,254,800	46,283,342	47,311,884	48,340,426	49,425,146	447,499,511
4 Annual Increase (Note 1)	1,025,335	1,032,663	1,025,856	1,016,278	1,028,542	1,028,542	1,028,542	1,028,542	1,028,542	1,084,720	9,302,227
E. Forecast Urban Population	667,656	687,428	707,199	726,681	746,163	765,646	785,128	804,610	824,092	844,351	
F. Cost per Capita	\$60.10	\$59.87	\$59.65	\$59.45	\$59.27	\$59.11	\$58.95	\$58.80	\$58.66	\$58.54	

Notes:
1. Maintenance Operations and Plant Operations costs identified in 2018 are based on actual 2018 Budget provisions.

TABLE I.3 - REGIONAL SANITARY SEWERAGE: LONG TERM CAPITAL AND OPERATING COST EXAMINATION (2018 - 2027)											
SERVICE: SANITARY SEWERAGE											
FORECAST EXPENDITURE (\$2018)											
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total (2018-2027)
CAPITAL EXPENDITURES FOR PROPOSED CAPITAL WORKS PROGRAM (YEAR 2017 - 2027)											
A. Growth Related Projects (All projects with DC components)											
Attribution											
1 New Residential	13,579	48,370	36,236	55,064	98,026	54,726	46,631	68,091	37,929	33,060	491,711
2 New Non-Residential (Commercial)	871	3,403	2,501	3,808	6,563	3,378	2,907	4,428	4,276	2,439	34,564
3 New Non-Residential (Industrial & Institutional) User Rate Financing	4,092	15,447	11,212	17,349	30,239	15,327	13,648	20,793	20,088	11,456	159,650
4 Post Period Benefit	500	0	0	7,042	9,500	0	0	1,188	274,532	47,950	340,711
5 Grants, Subsidy and Other	0	0	0	0	0	0	0	0	0	0	0
6 Seaton	0	0	0	8,194	0	0	0	0	0	0	8,194
7 Federal Lands	0	0	0	3,518	0	0	0	0	0	0	3,518
8 Total (1+2+3+4+5+6+7)	19,043	67,220	49,949	94,975	144,318	73,431	63,185	94,499	336,825	94,905	1,038,349
B. Non-Growth Projects (100% UR only)											
1 User Rate Financing (Benefit to Existing)	1,552	2,529	3,008	21,086	670	925	0	3,186	0	0	32,957
C. Total Growth and Non-Growth Projects (A+B)											
Attribution											
1 New Residential	13,579	48,370	36,236	55,064	98,026	54,726	46,631	68,091	37,929	33,060	491,711
2 New Non-Residential (Commercial)	871	3,403	2,501	3,808	6,563	3,378	2,907	4,428	4,276	2,439	34,564
3 User Rate Financing (Industrial & Institutional) User Rate Financing (Benefit to Existing)	4,092	15,447	11,212	17,349	30,239	15,327	13,648	20,793	20,088	11,456	159,650
4 Post Period Benefit	1,552	2,529	3,008	21,086	670	925	0	3,186	0	0	32,957
5 Grants, Subsidy and Other	500	0	0	7,042	9,500	0	0	1,188	274,532	47,950	340,711
6 Seaton	0	0	0	8,194	0	0	0	0	0	0	8,194
7 Federal Lands	0	0	0	3,518	0	0	0	0	0	0	3,518
8 Total (1+2+3+4+5+6+7)	20,595	69,749	52,957	116,061	144,988	74,356	63,185	97,685	336,825	94,905	1,071,306
OPERATING EXPENDITURES FOR EXISTING WORKS AND PROPOSED CAPITAL WORKS PROGRAM (YEAR 2018 - 2027)											
D. Annual Cost											
1 Maintenance Operations	7,640,074	7,852,130	8,066,415	8,288,100	8,506,794	8,725,488	8,944,182	9,162,876	9,381,570	9,600,054	86,167,663
2 Plant Operations	35,661,127	37,859,020	40,067,238	42,223,273	44,383,781	46,548,515	48,713,249	50,877,983	53,031,339	55,182,512	454,508,037
3 Total (1+2)	43,301,201	45,711,150	48,133,653	50,511,373	52,890,575	55,274,003	57,657,431	60,040,859	62,412,909	64,782,566	540,675,720
4 Annual Increase (Note 1)	2,412,390	2,409,949	2,412,503	2,387,720	2,379,202	2,383,428	2,383,428	2,383,428	2,372,050	2,339,657	23,353,100
E. Forecast Urban Population	658,158	678,239	698,320	718,205	738,089	757,974	777,859	797,744	817,628	837,513	7,300,466
F. Cost per Capita	\$65.79	\$67.40	\$68.91	\$70.33	\$71.66	\$72.92	\$74.12	\$75.26	\$76.33	\$77.32	\$113.50

Notes:
1. Maintenance Operations and Plant Operations costs identified in 2018 are based on actual 2018 Budget provisions.

4.0 OTHER SERVICES

4.1 Capital Costs

The capital costs for Regional Police, Paramedic Services, and Health and Social Services anticipated over the period 2018-2027 are provided in Appendix H. Over the 2018-2027 forecast, there is \$106 million in total capital costs with \$95 million in capital costs eligible for development charge recoveries, for these services.

Costs associated with Long-Term Care, Housing Services, and Growth-Related Studies are also included in Appendix H, but not considered throughout this appendix as the Region is not necessarily anticipated to incur any or further operating, maintenance, or other asset management costs associated with the forecasted growth related costs of those services.

4.2 Operating Costs

The annual operating costs associated with Regional Police, Paramedic Services, and Health and Social Services were projected using budget program costs information contained in the 2018 Business Plans and Budgets. Once all facilities and vehicles of the capital forecasts are in service, the incremental increase to operating costs over the ten years is estimated to be \$1.9 million.

4.3 Maintenance Costs

The annual maintenance costs associated with Regional Police, Paramedic Services, and Health and Social Services facilities and vehicles were projected using budget program costs information contained in the 2018 Business Plans and Budgets. Once all facilities and vehicles of the capital forecasts are in service, the incremental increase to maintenance costs over the ten years is estimated to be \$2.6 million.

5.0 ASSET MANAGEMENT PLAN

A strong asset management program ensures not only that the Region is accounting for the assets correctly, but monitoring asset condition, assessing repair or replacement options, prioritizing investments in critical infrastructure and incorporating asset renewal in long term financial plans.

The Region’s annual Asset Management Report sets the stage for strategic and financial infrastructure planning, which continues through the annual business planning cycle, including the multi-year Economic and Financial Forecast and Budget Guidelines Report, joint Servicing and Financing studies conducted for major program areas, and detailed individual program Business Plans and Budgets.

The AMP provides for the long term investment in an asset over its entire useful life and demonstrates that the Regional property tax and water supply and sanitary sewer utility rate impacts are projected to stay at a level consistent to the current and previous budgets.

In addition to the operational impacts, over time the initial capital projects will require future replacement. This replacement of capital, and related maintenance costs, are often referred to as lifecycle costs. By definition, lifecycle costs are all the costs which are incurred during the life of a physical asset, from the time its acquisition is first considered, to the time it is taken out of service for disposal or redeployment.

The following table consolidates operating and maintenance cost information for Transportation, Water Supply and Sanitary Sewer infrastructure, as well as growth-related vehicle and facility infrastructure for Regional Police, Paramedic Services, and Health and Social Services. Annual capital depreciation factors have been estimated for all forecasted growth capital, to serve as a representation of the replacement cost of assets on an average annualized basis. The annual depreciation factors have been estimated by dividing the development-related capital costs over the 2018-2027 period by the expected useful life of the assets.

Estimated Incremental Operating, Maintenance and Depreciation Costs Associated with Total Forecasted 2018-2027 Growth Capital (\$2018)

Estimated Annual Operating, Maintenance and Depreciation Costs Associated with Total Forecast Growth Capital				
	Operating Cost (Annual)	Maintenance Cost (Annual)	Depreciation Factor (Annual)	Total
Water Supply and Sanitary Sewer	26,730,000	4,030,000	28,220,000	58,970,000
Transportation	890,000	2,340,000	24,000,000	27,230,000
Other Services*				
Vehicles	630,000	610,000	1,340,000	2,570,000
Facilities	1,280,000	2,020,000	1,740,000	5,040,000
Other Services Sub Total	1,900,000	2,630,000	3,070,000	7,610,000
Total	29,530,000	9,000,000	55,290,000	93,810,000

*Other Services includes Regional Police, Paramedic Services, and Health and Social Services

Note: Totals may not add due to rounding

While the asset management plans anticipate that the majority of the related life-cycle costs will be funded primarily from Durham property tax and user rate payers, there are a variety of other potential infrastructure financing options and related policy and strategy initiatives employed by the Region.

It is important to note that, while municipal program expenditures will increase with growth in population, the costs associated with the new infrastructure would be delayed until the time these works are in place. Regional Staff will continue to monitor development activity and re-examine and reprioritize the capital program in accordance with the location and rate of future growth.

A number of asset management reserve funds have been established to address the future rehabilitation and replacement needs related to transportation, water supply and sanitary sewer services. These reserve funds in conjunction with modest increases in property tax and water and sewer user rates will address the future incremental operating, maintenance and replacement costs associated with the new assets acquired over 2018-2027. Based on the anticipated revenues generated by the forecasted growth in residential and non-residential assessment for property tax purposes and water supply and sanitary sewer customers which enables an increase in water and sewer user revenues, the capital projects in the DC Background Study are deemed to be financially sustainable.

Appendix J

**Inter-Regional Development
Charge Comparison**

TABLE 1
Residential Development Charges
For Greater Toronto Area Municipalities
As at March 16, 2018

Single Detached Unit-\$ per unit				
Municipality	Lower/ Single Tier	Upper Tier	Education	Total
1 Markham(1)	\$ 41,898	\$ 48,330	\$ 6,407	\$ 96,635
2 Mississauga(1)	\$ 33,821	\$ 52,407	\$ 4,567	\$ 90,795
3 King - King City	\$ 35,011	\$ 48,330	\$ 6,407	\$ 89,748
4 King - Nobleton	\$ 33,336	\$ 48,330	\$ 6,407	\$ 88,073
5 Brampton	\$ 29,417	\$ 52,407	\$ 4,567	\$ 86,392
6 Caledon	\$ 24,803	\$ 51,914	\$ 4,567	\$ 81,285
7 Vaughan(1)	\$ 25,600	\$ 48,330	\$ 6,407	\$ 80,337
8 East Gwillimbury	\$ 22,287	\$ 48,330	\$ 6,407	\$ 77,024
9 Aurora	\$ 22,085	\$ 48,330	\$ 6,407	\$ 76,822
10 Richmond Hill(1)	\$ 21,952	\$ 48,330	\$ 6,407	\$ 76,689
11 Newmarket	\$ 21,529	\$ 48,330	\$ 6,407	\$ 76,266
12 Oakville (GF)	\$ 25,283	\$ 40,277	\$ 6,633	\$ 72,193
13 Whitchurch-Stouffville	\$ 14,400	\$ 48,330	\$ 6,407	\$ 69,137
14 Milton (GF)	\$ 19,147	\$ 40,277	\$ 6,633	\$ 66,058
15 Georgina (Keswick)	\$ 11,004	\$ 48,330	\$ 6,407	\$ 65,741
16 Halton Hills (GF)	\$ 15,542	\$ 40,277	\$ 6,633	\$ 62,452
17 Oakville (BB)	\$ 24,999	\$ 26,750	\$ 6,633	\$ 58,382
18 Burlington (GF)	\$ 8,816	\$ 40,277	\$ 6,633	\$ 55,726
19 Whitby	\$ 21,962	\$ 28,360	\$ 2,735	\$ 53,057
20 Milton (BB)	\$ 19,147	\$ 26,750	\$ 6,633	\$ 52,531
21 Halton Hills (BB)	\$ 15,542	\$ 26,750	\$ 6,633	\$ 48,925
22 Oshawa	\$ 16,757	\$ 28,360	\$ 2,735	\$ 47,852
23 Ajax	\$ 16,087	\$ 28,360	\$ 2,735	\$ 47,182
24 Clarington	\$ 16,992	\$ 28,360	\$ 1,738	\$ 47,090
25 Pickering (City Wide)	\$ 14,349	\$ 28,360	\$ 2,735	\$ 45,444
26 Burlington (BB)	\$ 8,816	\$ 26,750	\$ 6,633	\$ 42,199
27 Uxbridge	\$ 11,070	\$ 28,360	\$ 2,735	\$ 42,165
28 Scugog	\$ 10,648	\$ 28,360	\$ 2,735	\$ 41,743
29 Brock	\$ 10,465	\$ 28,360	\$ 2,735	\$ 41,560
			\$/SDU	
			average	\$ 64,810
			median	\$ 65,741
Notes:				
BB - Built Boundary Regional Charge; GF - Green Field Regional Charge				
1. A component of the charge has been converted from a per hectare charge to a hypothetical single detached unit.				

TABLE 2

Non-residential Development Charges (Retail)
For Greater Toronto Area Municipalities
As at March 16, 2018

Retail - \$ per sq.ft. of GFA				
Municipality	Lower/ Single Tier	Upper Tier	Education	Total
1 Richmond Hill(1)	\$ 10.21	\$ 39.89	\$ 1.07	\$ 51.17
2 King - King City	\$ 9.10	\$ 39.89	\$ 1.07	\$ 50.06
3 East Gwillimbury	\$ 8.22	\$ 39.89	\$ 1.07	\$ 49.18
4 Markham(1)	\$ 6.02	\$ 39.89	\$ 1.07	\$ 46.98
5 Vaughan(1)	\$ 5.70	\$ 39.89	\$ 1.07	\$ 46.66
6 Burlington (GF)	\$ 11.53	\$ 33.07	\$ 1.69	\$ 46.29
7 Newmarket	\$ 5.29	\$ 39.89	\$ 1.07	\$ 46.25
8 Oakville (GF)	\$ 10.62	\$ 33.07	\$ 1.69	\$ 45.38
9 Whitchurch-Stouffville	\$ 4.31	\$ 39.89	\$ 1.07	\$ 45.27
10 Aurora	\$ 4.03	\$ 39.89	\$ 1.07	\$ 44.99
11 King - Nobleton	\$ 8.17	\$ 34.81	\$ 1.07	\$ 44.05
12 Burlington (BB)	\$ 11.53	\$ 29.58	\$ 1.69	\$ 42.80
13 Milton (GF)	\$ 7.18	\$ 33.07	\$ 1.69	\$ 41.94
14 Oakville (BB)	\$ 10.62	\$ 29.58	\$ 1.69	\$ 41.89
15 Georgina (Keswick)	\$ 0.89	\$ 39.89	\$ 1.07	\$ 41.85
16 Halton Hills (GF)	\$ 5.53	\$ 33.07	\$ 1.69	\$ 40.29
17 Milton (BB)	\$ 7.18	\$ 29.58	\$ 1.69	\$ 38.46
18 Halton Hills (BB)	\$ 5.53	\$ 29.58	\$ 1.69	\$ 36.80
19 Mississauga(1)	\$ 12.78	\$ 19.79	\$ 1.01	\$ 33.58
20 Brampton	\$ 9.81	\$ 19.79	\$ 1.01	\$ 30.61
21 Caledon	\$ 3.61	\$ 19.65	\$ 1.01	\$ 24.28
22 Whitby	\$ 9.20	\$ 14.28	\$ -	\$ 23.48
23 Oshawa	\$ 8.45	\$ 14.28	\$ -	\$ 22.73
24 Clarington	\$ 6.46	\$ 14.28	\$ 0.40	\$ 21.14
25 Scugog	\$ 6.45	\$ 14.28	\$ -	\$ 20.73
26 Ajax	\$ 4.99	\$ 14.28	\$ -	\$ 19.27
27 Pickering (City Wide)	\$ 2.98	\$ 14.28	\$ -	\$ 17.26
28 Uxbridge	\$ 2.71	\$ 14.28	\$ -	\$ 16.99
29 Brock	\$ 2.50	\$ 14.28	\$ -	\$ 16.78
				\$/sq.ft.
				average \$ 36.11
				median \$ 41.85

Notes:

BB - Built Boundary Regional Charge; GF - Green Field Regional Charge

1. A portion of the charge has been converted from a per hectare charge to a hypothetical GFA charge assuming 30% coverage.

TABLE 3

**Non-residential Development Charges (Industrial)
For Greater Toronto Area Municipalities
As at March 16, 2018**

Industrial- \$ per sq.ft. of GFA				
Municipality	Lower/ Single Tier	Upper Tier	Education	Total
1 King - King City	\$ 9.10	\$ 17.90	\$ 1.07	\$ 28.07
2 Richmond Hill(1)	\$ 8.50	\$ 17.90	\$ 1.07	\$ 27.47
3 King - Nobleton	\$ 8.17	\$ 16.47	\$ 1.07	\$ 25.71
4 Mississauga(1)	\$ 10.96	\$ 13.32	\$ 1.01	\$ 25.29
5 Markham(1)	\$ 5.94	\$ 17.90	\$ 1.07	\$ 24.91
6 Vaughan(1)	\$ 5.70	\$ 17.90	\$ 1.07	\$ 24.67
7 Newmarket	\$ 5.29	\$ 17.90	\$ 1.07	\$ 24.26
8 Oakville (GF)	\$ 10.62	\$ 11.86	\$ 1.69	\$ 24.17
9 Whitchurch-Stouffville	\$ 4.31	\$ 17.90	\$ 1.07	\$ 23.28
10 Aurora	\$ 4.03	\$ 17.90	\$ 1.07	\$ 23.00
11 East Gwillimbury	\$ 2.51	\$ 17.90	\$ 1.07	\$ 21.48
12 Burlington (GF)	\$ 7.38	\$ 11.86	\$ 1.69	\$ 20.93
13 Oakville (BB)	\$ 10.62	\$ 8.38	\$ 1.69	\$ 20.69
14 Georgina (Keswick)	\$ 0.89	\$ 17.90	\$ 1.07	\$ 19.86
15 Brampton	\$ 4.60	\$ 13.32	\$ 1.01	\$ 18.93
16 Caledon	\$ 3.61	\$ 13.19	\$ 1.01	\$ 17.81
17 Burlington (BB)	\$ 7.38	\$ 8.38	\$ 1.69	\$ 17.45
18 Milton (GF)	\$ 3.30	\$ 11.86	\$ 1.69	\$ 16.85
19 Ajax	\$ 4.99	\$ 11.61	\$ -	\$ 16.60
20 Whitby	\$ 4.83	\$ 11.61	\$ -	\$ 16.44
21 Clarington	\$ 3.44	\$ 11.61	\$ 0.40	\$ 15.45
22 Halton Hills (GF)	\$ 1.79	\$ 11.86	\$ 1.69	\$ 15.35
23 Pickering (City Wide)	\$ 2.98	\$ 11.61	\$ -	\$ 14.59
24 Scugog	\$ 2.89	\$ 11.61	\$ -	\$ 14.50
25 Uxbridge	\$ 2.71	\$ 11.61	\$ -	\$ 14.32
26 Brock	\$ 2.50	\$ 11.61	\$ -	\$ 14.11
27 Milton (BB)	\$ 3.30	\$ 8.38	\$ 1.69	\$ 13.36
28 Halton Hills (BB)	\$ 1.79	\$ 8.38	\$ 1.69	\$ 11.86
29 Oshawa	\$ -	\$ 11.61	\$ -	\$ 11.61
				\$/sq.ft.
average				\$ 19.41
median				\$ 18.93

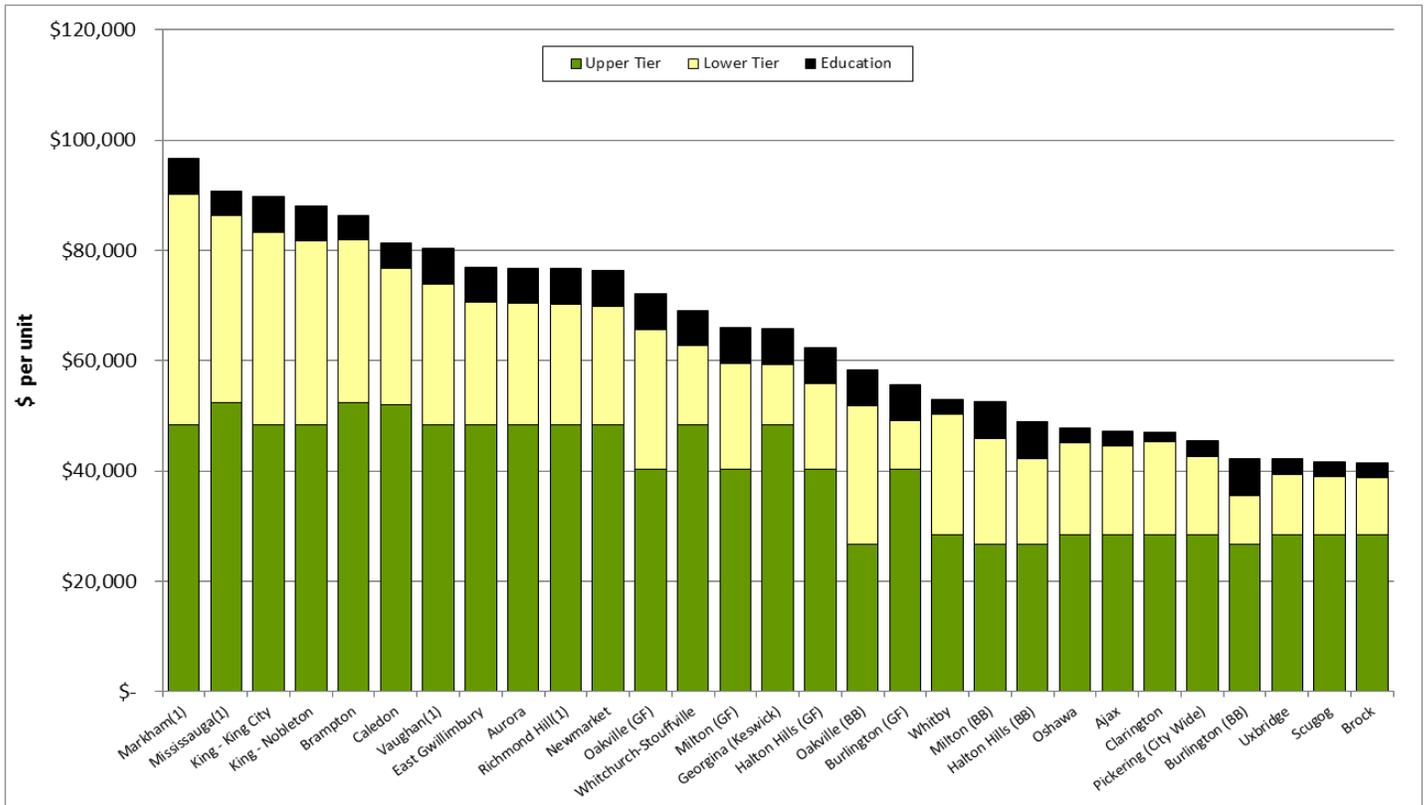
Notes:

BB - Built Boundary Regional Charge; GF - Green Field Regional Charge

1. A portion of the charge has been converted from a per hectare charge to a hypothetical GFA charge assuming 30% coverage.

**Figure 1
Residential Development Charge Rates**

Per Single Detached Dwelling for Greater Toronto Area Municipalities
as of March 16, 2018

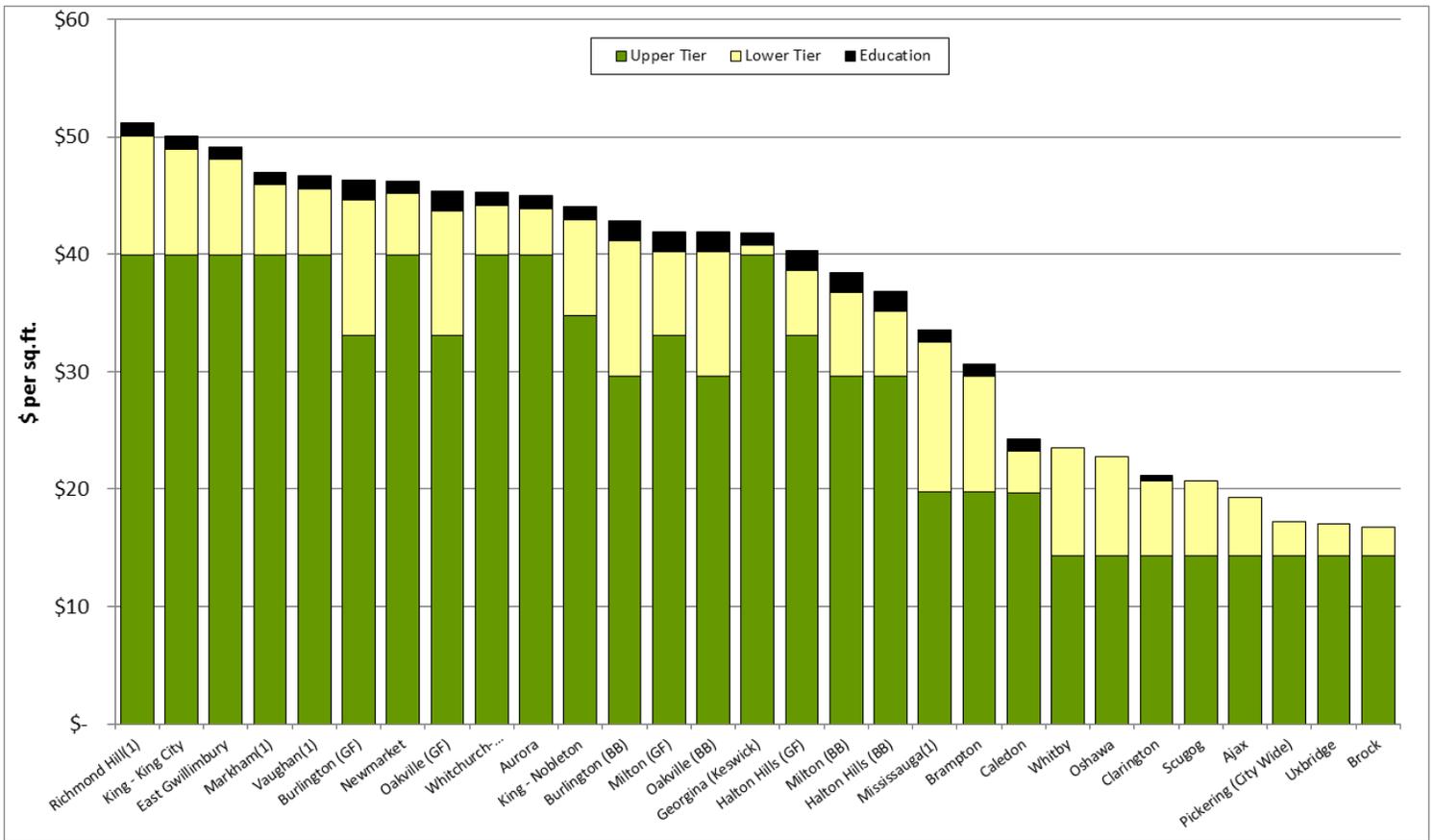


BB=Built Boundary & GF=Greenfield.

1. A component of the charge has been converted from a per hectare charge to a hypothetical single detached unit.

Figure 2
Non-Residential Development Charge Rates
Per GFA of Retail Floor Area for Greater Toronto Area Municipalities

as of March 16, 2018

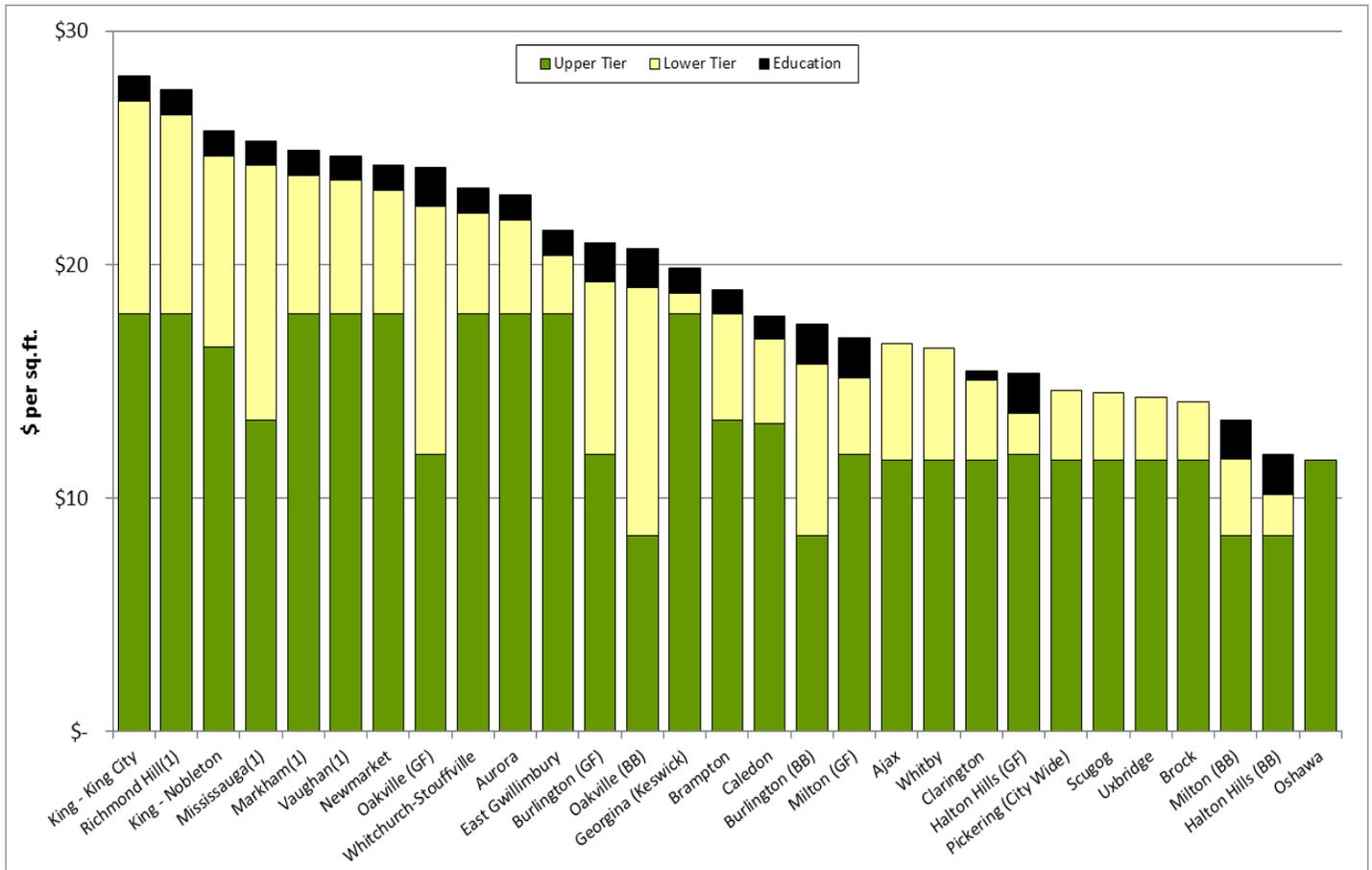


BB=Built Boundary & GF=Greenfield.

1. A portion of the charge has been converted from a per hectare charge to a hypothetical GFA charge assuming 30% coverage.

Figure 3
Non-Residential Development Charge Rates
Per GFA of Industrial Floor Area for Greater Toronto Area Municipalities

as of March 16, 2018



BB=Built Boundary & GF=Greenfield.

1. A portion of the charge has been converted from a per hectare charge to a hypothetical GFA charge assuming 30% coverage.

TABLE 4
Residential Development Charges
For Greater Toronto Area Municipalities
With Durham's Proposed Rates

Single Detached Unit-\$ per unit				
Municipality	Lower/ Single Tier	Upper Tier	Education	Total
1 Markham(1)	\$ 41,898	\$ 48,330	\$ 6,407	\$ 96,635
2 Mississauga(1)	\$ 33,821	\$ 52,407	\$ 4,567	\$ 90,795
3 King - King City	\$ 35,011	\$ 48,330	\$ 6,407	\$ 89,748
4 King - Nobleton	\$ 33,336	\$ 48,330	\$ 6,407	\$ 88,073
5 Brampton	\$ 29,417	\$ 52,407	\$ 4,567	\$ 86,392
6 Caledon	\$ 24,803	\$ 51,914	\$ 4,567	\$ 81,285
7 Vaughan(1)	\$ 25,600	\$ 48,330	\$ 6,407	\$ 80,337
8 East Gwillimbury	\$ 22,287	\$ 48,330	\$ 6,407	\$ 77,024
9 Aurora	\$ 22,085	\$ 48,330	\$ 6,407	\$ 76,822
10 Richmond Hill(1)	\$ 21,952	\$ 48,330	\$ 6,407	\$ 76,689
11 Newmarket	\$ 21,529	\$ 48,330	\$ 6,407	\$ 76,266
12 Oakville (GF)	\$ 25,283	\$ 40,277	\$ 6,633	\$ 72,193
13 Whitchurch-Stouffville	\$ 14,400	\$ 48,330	\$ 6,407	\$ 69,137
14 Milton (GF)	\$ 19,147	\$ 40,277	\$ 6,633	\$ 66,058
15 Georgina (Keswick)	\$ 11,004	\$ 48,330	\$ 6,407	\$ 65,741
16 Halton Hills (GF)	\$ 15,542	\$ 40,277	\$ 6,633	\$ 62,452
17 Oakville (BB)	\$ 24,999	\$ 26,750	\$ 6,633	\$ 58,382
18 Whitby	\$ 21,962	\$ 31,119	\$ 2,735	\$ 55,816
19 Burlington (GF)	\$ 8,816	\$ 40,277	\$ 6,633	\$ 55,726
20 Milton (BB)	\$ 19,147	\$ 26,750	\$ 6,633	\$ 52,531
21 Oshawa	\$ 16,757	\$ 31,119	\$ 2,735	\$ 50,611
22 Ajax	\$ 16,087	\$ 31,119	\$ 2,735	\$ 49,941
23 Clarington	\$ 16,992	\$ 31,119	\$ 1,738	\$ 49,849
24 Halton Hills (BB)	\$ 15,542	\$ 26,750	\$ 6,633	\$ 48,925
25 Pickering (City Wide)	\$ 14,349	\$ 31,119	\$ 2,735	\$ 48,203
26 Uxbridge	\$ 11,070	\$ 31,119	\$ 2,735	\$ 44,924
27 Scugog	\$ 10,648	\$ 31,119	\$ 2,735	\$ 44,502
28 Brock	\$ 10,465	\$ 31,119	\$ 2,735	\$ 44,319
29 Burlington (BB)	\$ 8,816	\$ 26,750	\$ 6,633	\$ 42,199
			\$/SDU	
			average	\$ 65,572
			median	\$ 65,741

TABLE 5
Non-residential Development Charges (Retail)
For Greater Toronto Area Municipalities
With Durham's Proposed Rates

Retail - \$ per sq.ft. of GFA				
Municipality	Lower/ Single Tier	Upper Tier	Education	Total
1 Richmond Hill(1)	\$ 10.21	\$ 39.89	\$ 1.07	\$ 51.17
2 King - King City	\$ 9.10	\$ 39.89	\$ 1.07	\$ 50.06
3 East Gwillimbury	\$ 8.22	\$ 39.89	\$ 1.07	\$ 49.18
4 Markham(1)	\$ 6.02	\$ 39.89	\$ 1.07	\$ 46.98
5 Vaughan(1)	\$ 5.70	\$ 39.89	\$ 1.07	\$ 46.66
6 Burlington (GF)	\$ 11.53	\$ 33.07	\$ 1.69	\$ 46.29
7 Newmarket	\$ 5.29	\$ 39.89	\$ 1.07	\$ 46.25
8 Oakville (GF)	\$ 10.62	\$ 33.07	\$ 1.69	\$ 45.38
9 Whitchurch-Stouffville	\$ 4.31	\$ 39.89	\$ 1.07	\$ 45.27
10 Aurora	\$ 4.03	\$ 39.89	\$ 1.07	\$ 44.99
11 King - Nobleton	\$ 8.17	\$ 34.81	\$ 1.07	\$ 44.05
12 Burlington (BB)	\$ 11.53	\$ 29.58	\$ 1.69	\$ 42.80
13 Milton (GF)	\$ 7.18	\$ 33.07	\$ 1.69	\$ 41.94
14 Oakville (BB)	\$ 10.62	\$ 29.58	\$ 1.69	\$ 41.89
15 Georgina (Keswick)	\$ 0.89	\$ 39.89	\$ 1.07	\$ 41.85
16 Halton Hills (GF)	\$ 5.53	\$ 33.07	\$ 1.69	\$ 40.29
17 Milton (BB)	\$ 7.18	\$ 29.58	\$ 1.69	\$ 38.46
18 Halton Hills (BB)	\$ 5.53	\$ 29.58	\$ 1.69	\$ 36.80
19 Mississauga(1)	\$ 12.78	\$ 19.79	\$ 1.01	\$ 33.58
20 Brampton	\$ 9.81	\$ 19.79	\$ 1.01	\$ 30.61
21 Whitby	\$ 9.20	\$ 18.47	\$ -	\$ 27.67
22 Oshawa	\$ 8.45	\$ 18.47	\$ -	\$ 26.92
23 Clarington	\$ 6.34	\$ 18.47	\$ 0.40	\$ 25.21
24 Scugog	\$ 6.46	\$ 18.47	\$ -	\$ 24.93
25 Caledon	\$ 3.61	\$ 19.65	\$ 1.01	\$ 24.28
26 Ajax	\$ 4.99	\$ 18.47	\$ -	\$ 23.46
27 Pickering (City Wide)	\$ 2.98	\$ 18.47	\$ -	\$ 21.45
28 Uxbridge	\$ 2.71	\$ 18.47	\$ -	\$ 21.18
29 Brock	\$ 2.50	\$ 18.47	\$ -	\$ 20.97
				\$/sq.ft.
				average \$ 37.26
				median \$ 41.85

Notes:

BB - Built Boundary Regional Charge; GF - Green Field Regional Charge

1. A portion of the charge has been converted from a per hectare charge to a hypothetical GFA charge assuming 30% coverage.

TABLE 6
Non-residential Development Charges (Industrial)
For Greater Toronto Area Municipalities
With Durham's Proposed Rates

Industrial- \$ per sq.ft. of GFA				
Municipality	Lower/ Single Tier	Upper Tier	Education	Total
1 King - King City	\$ 9.10	\$ 17.90	\$ 1.07	\$ 28.07
2 Richmond Hill(1)	\$ 8.50	\$ 17.90	\$ 1.07	\$ 27.47
3 King - Nobleton	\$ 8.17	\$ 16.47	\$ 1.07	\$ 25.71
4 Mississauga(1)	\$ 10.96	\$ 13.32	\$ 1.01	\$ 25.29
5 Markham(1)	\$ 5.94	\$ 17.90	\$ 1.07	\$ 24.91
6 Vaughan(1)	\$ 5.70	\$ 17.90	\$ 1.07	\$ 24.67
7 Newmarket	\$ 5.29	\$ 17.90	\$ 1.07	\$ 24.26
8 Oakville (GF)	\$ 10.62	\$ 11.86	\$ 1.69	\$ 24.17
9 Whitchurch-Stouffville	\$ 4.31	\$ 17.90	\$ 1.07	\$ 23.28
10 Aurora	\$ 4.03	\$ 17.90	\$ 1.07	\$ 23.00
11 East Gwillimbury	\$ 2.51	\$ 17.90	\$ 1.07	\$ 21.48
12 Burlington (GF)	\$ 7.38	\$ 11.86	\$ 1.69	\$ 20.93
13 Oakville (BB)	\$ 10.62	\$ 8.38	\$ 1.69	\$ 20.69
14 Georgina (Keswick)	\$ 0.89	\$ 17.90	\$ 1.07	\$ 19.86
15 Brampton	\$ 4.60	\$ 13.32	\$ 1.01	\$ 18.93
16 Caledon	\$ 3.61	\$ 13.19	\$ 1.01	\$ 17.81
17 Burlington (BB)	\$ 7.38	\$ 8.38	\$ 1.69	\$ 17.45
18 Milton (GF)	\$ 3.30	\$ 11.86	\$ 1.69	\$ 16.85
19 Halton Hills (GF)	\$ 1.79	\$ 11.86	\$ 1.69	\$ 15.35
20 Ajax	\$ 4.99	\$ 9.96	\$ -	\$ 14.95
21 Whitby	\$ 4.83	\$ 9.96	\$ -	\$ 14.79
22 Clarington	\$ 3.44	\$ 9.96	\$ 0.40	\$ 13.80
23 Milton (BB)	\$ 3.30	\$ 8.38	\$ 1.69	\$ 13.36
24 Pickering (City Wide)	\$ 2.98	\$ 9.96	\$ -	\$ 12.94
25 Scugog	\$ 2.89	\$ 9.96	\$ -	\$ 12.85
26 Uxbridge	\$ 2.71	\$ 9.96	\$ -	\$ 12.67
27 Brock	\$ 2.50	\$ 9.96	\$ -	\$ 12.46
28 Halton Hills (BB)	\$ 1.79	\$ 8.38	\$ 1.69	\$ 11.86
29 Oshawa	\$ -	\$ 9.96	\$ -	\$ 9.96
				\$/sq.ft.
				average \$ 18.96
				median \$ 18.93

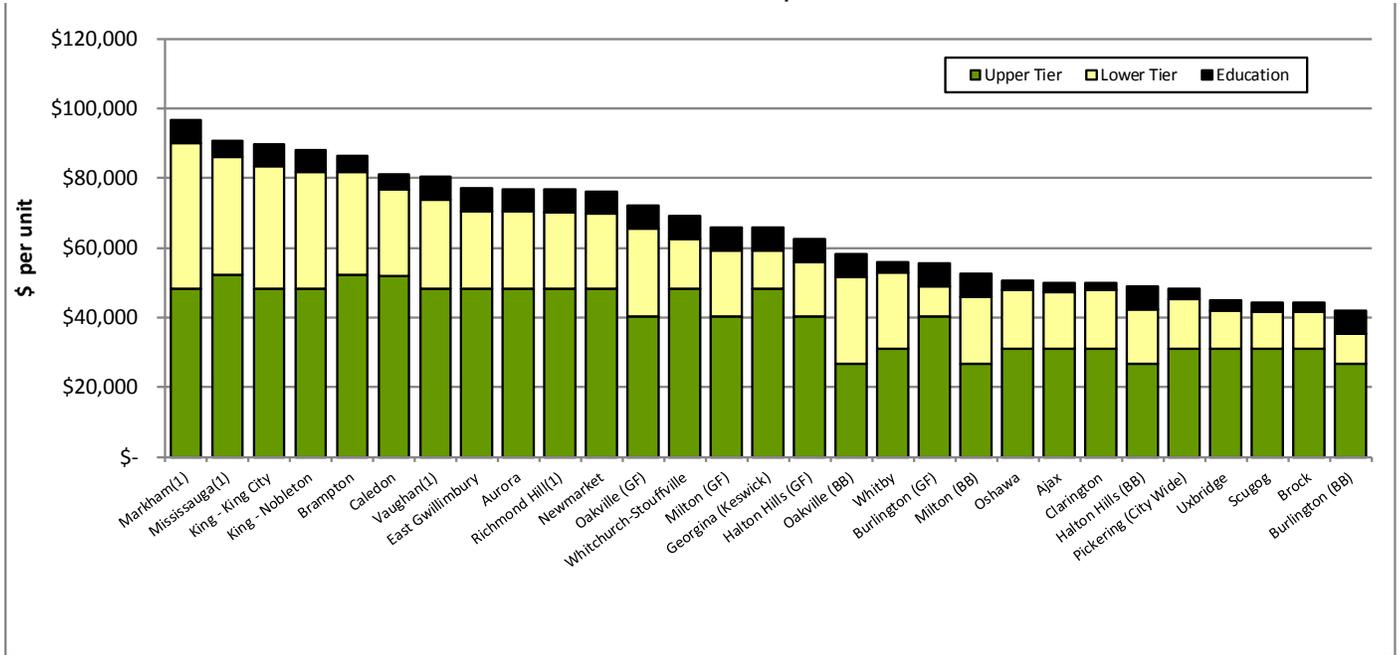
Notes:

BB - Built Boundary Regional Charge; GF - Green Field Regional Charge

1. A portion of the charge has been converted from a per hectare charge to a hypothetical GFA charge assuming 30% coverage.

Figure 4
Residential Development Charge Rates
Per Single Detached Dwelling for Greater Toronto Area Municipalities

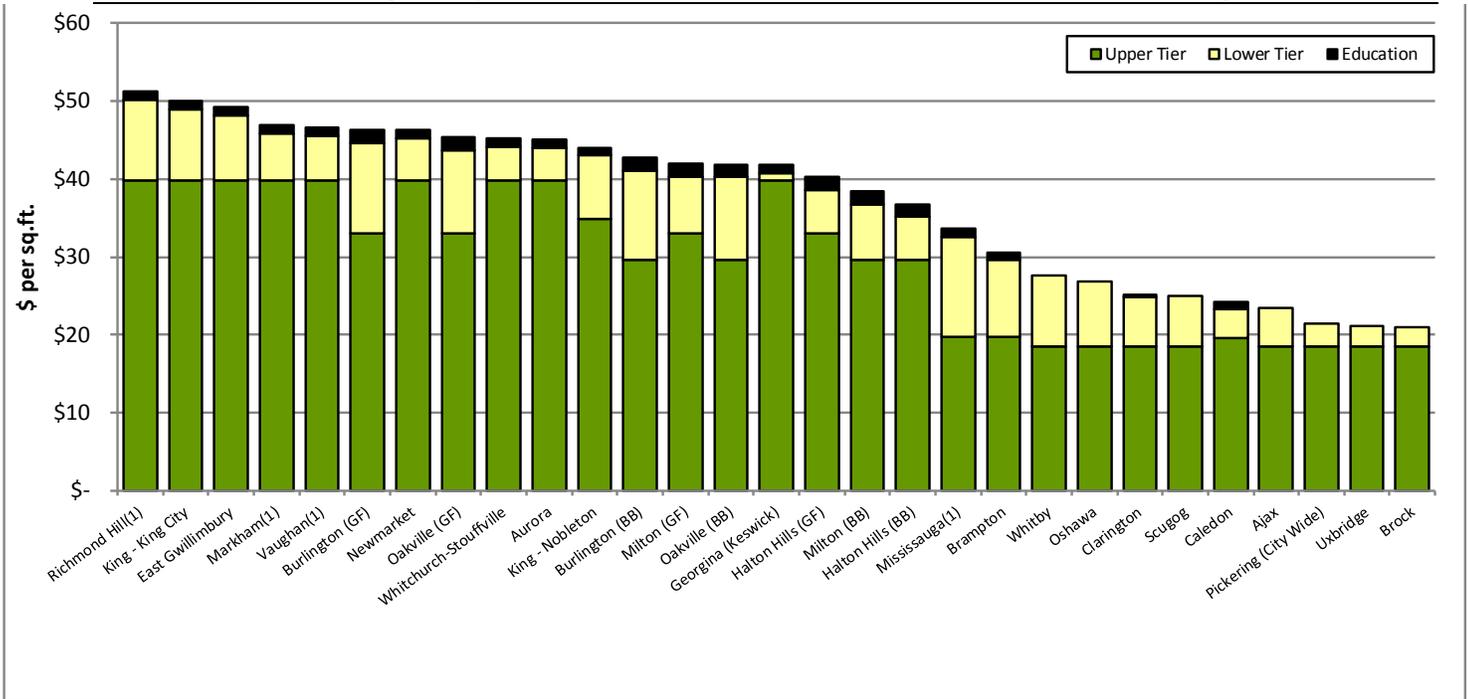
With Durham's Proposed Rates



BB=Built Boundary & GF=Greenfield.

1. A component of the charge has been converted from a per hectare charge to a hypothetical single detached unit.

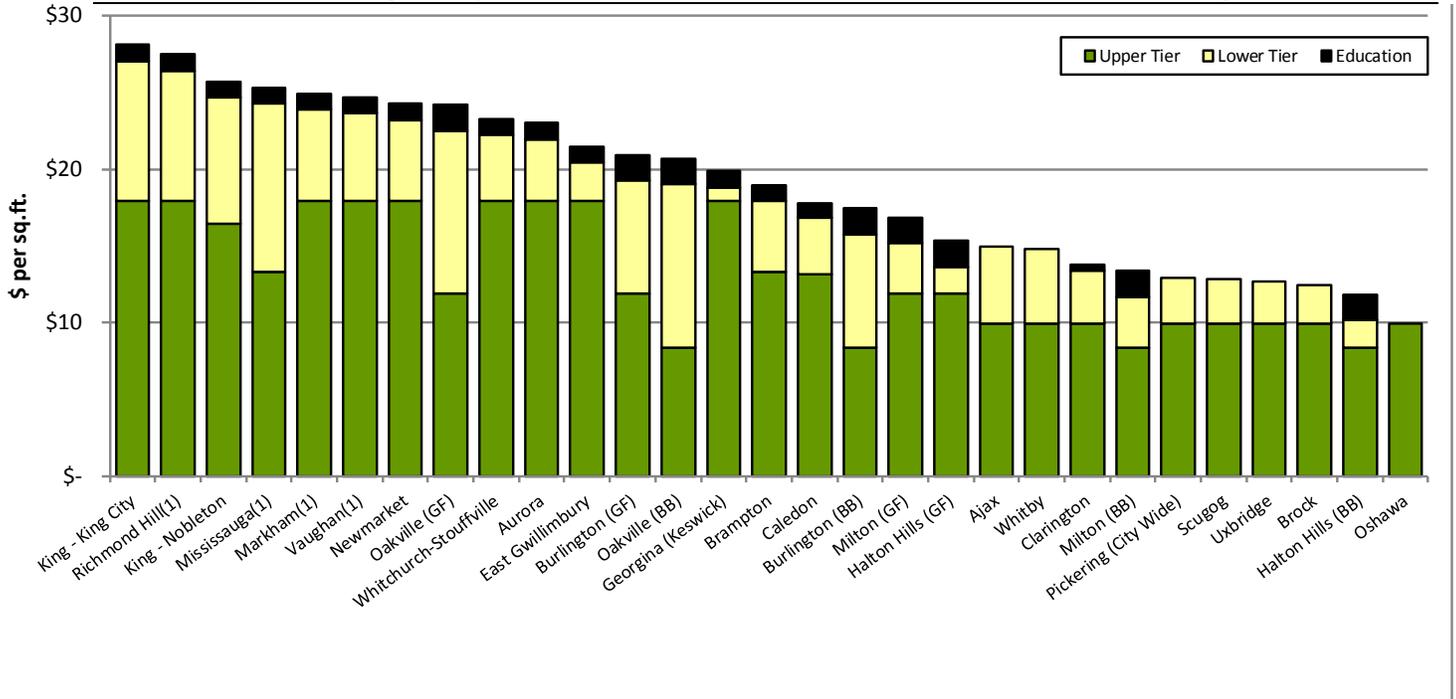
Figure 5
Non-Residential Development Charge Rates
Per GFA of Retail Floor Area for Greater Toronto Area Municipalities
as of March 16, 2018



BB=Built Boundary & GF=Greenfield.

1. A portion of the charge has been converted from a per hectare charge to a hypothetical GFA charge assuming 30% coverage.

Figure 6
Non-Residential Development Charge Rates
Per GFA of Industrial Floor Area for Greater Toronto Area Municipalities
With Durham's Proposed Rates



BB=Built Boundary & GF=Greenfield.

1. A portion of the charge has been converted from a per hectare charge to a hypothetical GFA charge assuming 30% coverage.

Appendix K

Proposed Development Charge By-law

BY-LAW NUMBER ●
OF
THE REGIONAL MUNICIPALITY OF DURHAM
being a by-law regarding development charges

WHEREAS section 2(1) of the *Development Charges Act, 1997*, provides that council of a municipality may by by-law, impose development charges against land to pay for increased capital costs required because of increased needs for services arising from development of the area to which the by-law applies if the development requires one or more of the approvals identified in section 2(2) of the *Development Charges Act, 1997*;

AND WHEREAS a development charge background study, dated March 27, 2018, has been prepared in support of the imposition of development charges;

AND WHEREAS the Council of the Regional Municipality of Durham has given notice and will hold a public meeting on April 11, 2018, in accordance with section 12(1) of the *Development Charges Act, 1997*;

AND WHEREAS the Council of the Regional Municipality of Durham has permitted any person who attended the public meeting to make representations in respect of the proposed development charges;

AND WHEREAS Council considered all of the submissions made in respect of the background study and the proposed development charges;

AND WHEREAS at the Council meeting on June 13, 2018, Council approved the Study and adopted the recommendations in Report ●

NOW THEREFORE THE COUNCIL OF THE REGIONAL MUNICIPALITY OF DURHAM HEREBY ENACTS AS FOLLOWS:

PART I

INTERPRETATION

Definitions

1. In this By-law,
 - (a) “Act” means the *Development Charges Act, 1997*, or a successor statute;
 - (b) “agricultural use” means lands, buildings or structures, excluding any portion thereof used as a dwelling unit or for a commercial use, used or designed or intended for use for the purpose of a *bona fide* farming operation including, but not limited to, animal husbandry, dairying,

livestock, fallow, field crops, removal of sod, forestry, fruit farming, greenhouses, horticulture, market gardening, pasturage, poultry keeping, and equestrian facilities;

- (c) "air-supported structure" means a structure consisting of a pliable membrane that achieves and maintains its shape and is supported by internal air pressure;
- (d) "apartment building" means a residential building, or the residential portion of a mixed-use building, other than a triplex, semi-detached duplex, semi-detached triplex, townhouse or stacked townhouse, consisting of more than 3 dwelling units, which dwelling units have a common entrance to grade;
- (e) "apartment" means a dwelling unit in an apartment building or a single storey dwelling unit located within or above a residential garage or a commercial use;
- (f) "area municipality" means a lower-tier municipality that forms part of the Region;
- (g) "bedroom" means a habitable room, including a den, study, loft, or other similar area, but does not include a living room, a dining room, a bathroom or a kitchen;
- (h) "building or structure: means a permanent enclosed structure and includes an air-supported structure;
- (i) "commercial accessory building or structure" means a building or structure that complies with all of the following criteria:
 - (i) is not essential to,
 - (ii) is naturally and normally incidental to or subordinate in purpose to,
 - (iii) is exclusively devoted to,
 - (iv) is detached from, and
 - (v) is situated on the same property as,

a principal commercial use. Commercial accessory buildings or structures shall include, but not limited to, the separate storage of refuse or the storage of mechanical equipment related to the operation or maintenance of the principal use, building, structure or site. Commercial accessory building or structure shall not include any building or structure, whether in whole or in part, falling within the definition of "commercial use" in this by-law."

- (j) “commercial use” means land, buildings or structures used, designed or intended for use for either or both of office and retail uses as defined in this by-law;
- (k) “Council” means the Council of the Regional Municipality of Durham;
- (l) “development” includes redevelopment;
- (m) “development charges” means charges imposed pursuant to this By-law in accordance with the Act, except in sections 20 and 21 where “development charges” means charges with respect to water supply services, sanitary sewer services and regional road services;
- (n) “duplex” means a building comprising, by horizontal division, two dwelling units;
- (o) “dwelling unit” means a room or suite of rooms used, or designed or intended for use by one person or persons living together, in which culinary and sanitary facilities are provided for the exclusive use of such person or persons;
- (p) “existing industrial building” means a building used for or in connection with,
 - (i) manufacturing, producing, processing, storing or distributing something,
 - (ii) research or development in connection with manufacturing, producing or processing something,
 - (iii) retail sales by a manufacturer, producer or processor of something they manufactured, produced or processed, if the retail sales are at the site where the manufacturing, production or processing takes place,
 - (iv) office or administrative purposes, if they are,
 - (1) carried out with respect to manufacturing, producing, processing, storage or distributing of something, and
 - (2) in or attached to the building or structure used for that manufacturing, producing, processing, storage or distribution;
- (q) “farm building” means a building or structure used, in connection with a bona fide agricultural use and includes barns, silos, and similar structures, and includes a dwelling located on the same lot as the agricultural use or on a lot directly abutting the agricultural use, which is used exclusively for

the housing of temporary or seasonal persons employed exclusively for the farming of that agricultural use, but otherwise excludes a building or structure used, or designed or intended for use for residential or commercial uses;

- (r) “garden suite” means a one-unit detached, temporary residential structure containing bathroom and kitchen facilities that is ancillary to an existing residential structure and that is designed to be portable;
- (s) “gross floor area” means (except for the purposes of sections 11 and 17), in the case of a non-residential building or structure or the non-residential portion of a mixed-use building or structure, the aggregate of the areas of each floor, whether above or below grade, measured between the exterior faces of the exterior walls of the building or structure or pliable membrane in the case of an air supported structure, or from the centre line of a common wall separating a non-residential and a residential use, and, for the purposes of this definition, the non-residential portion of a mixed-use building is deemed to include one-half of any area common to the residential and non-residential portions of such mixed-use building or structure;
- (t) “hospice” means a building or structure used to provide not for profit palliative care to the terminally ill;
- (u) “housing services use”/ “housing services” means social housing which is rental housing provided by Durham Region Local Housing Corporation (DRLHC) or by a non-profit housing provider that receives ongoing subsidy from the Region of Durham and Affordable Housing which are rental units provided by private or non-profit housing providers that receive capital funding through a federal and / or provincial government affordable housing program;
- (v) “industrial use” means lands, buildings or structures used or designed or intended for use for manufacturing, producing, processing, fabricating or assembly of raw goods, research or development in connection therewith, and includes office uses, warehousing or bulk storage of goods and the sale of commodities to the general public where such uses are accessory to an industrial use, but does not include the sale of commodities to the general public through a warehouse club or similar use;
- (w) “institutional use” means lands, buildings or structures used or designed or intended for use by a non-profit organized body, society or religious group for promoting a public and non-profit purpose, and would include a hospice and office uses where such uses are accessory to an institutional use;

- (x) “local board” means a local board as defined in the *Municipal Affairs Act*, other than a board defined in subsection 1(1) of the *Education Act*;
- (y) “medium density multiples” includes plexes, townhouses, stacked townhouses and all other residential uses that are not included in the definition of “apartment building”, “apartment”, “garden suites”, “mobile homes”, “retirement residence units”, “single detached”, “single detached dwelling” or “semi-detached dwelling”;
- (z) “mixed-use” means land, buildings or structures used, or designed or intended for use, for a combination of at least two of commercial, industrial, institutional or residential uses;
- (aa) “mobile home” means any dwelling that is designed to be made mobile, and constructed or manufactured to provide a permanent or temporary residence for one or more persons, but does not include a travel trailer or tent trailer or trailer otherwise designed;
- (bb) “non-residential use” means lands, buildings or structures or portions thereof used, or designed or intended for use for other than residential use, and includes commercial, industrial and institutional uses;
- (cc) “office use” means lands, buildings or structures used or designed or intended for use for the practice of a profession, the carrying on of a business or occupation and, for greater certainty, but without in any way limiting the generality of the foregoing, shall include but not be limited to the office of a physician, lawyer, dentist, architect, engineer, accountant, real estate or insurance agency, insurance company, veterinarian, surveyor, appraiser, financial institution, consumer loan company, employment agency, advertising agency, consulting firm, business service, investment company, security broker, mortgage company, medical clinic, builder, land developer;
- (dd) “place of worship” means a building or structure or part thereof that is used primarily for worship and is exempt from taxation as a place of worship under the *Assessment Act*;
- (ee) “plex” means a duplex, a semi-detached duplex, a triplex or a semi-detached triplex;
- (ff) “Region” means the Regional Municipality of Durham;
- (gg) “region-wide charges” means the development charges imposed in regard to the region-wide services;
- (hh) “region-wide services” means services in regard to regional roads, regional police, paramedic services, health and social services, long term care, development related studies, and housing services;

- (ii) “residential use” means lands, buildings or structures used, or designed or intended for use as a home or residence of one or more individuals, and shall include, but is not limited to, a single detached dwelling, a semi-detached dwelling, a townhouse, a plex, a stacked townhouse, an apartment, an apartment building, a mobile home, a retirement residence and a residential dwelling unit accessory to a non-residential use;
- (jj) “retail use” means lands, buildings or structures used or designed or intended for use for the sale or rental or offer for sale or rental of goods or services for consumption or use and, for greater certainty, but without in any way limiting the generality of the foregoing, shall include, but not be limited to, food stores, pharmacies, clothing stores, furniture stores, department stores, sporting goods stores, appliance stores, garden centres, automotive dealers, automotive repair shops, gasoline service stations, government owned retail facilities, private daycare, private schools, private lodging, private recreational facilities, sports clubs, golf courses, skiing facilities, race tracks, gambling operations, medical clinics, funeral homes, motels, hotels, rooming houses, restaurants, theatres, facilities for motion picture, audio and video production and distribution, sound recording services, self-storage facilities and secure document storage;
- (kk) “retirement residence” means a residential building or the residential portion of a mixed-use building which provides accommodation for persons of retirement age, where common facilities for the preparation and consumption of food are provided for the residents of the building, and where each unit or living accommodation has separate sanitary facilities, less than full culinary facilities and a separate entrance from a common hall;
- (ll) “retirement residence unit” means a unit within a retirement residence;
- (mm) “rooming house” means a detached building or structure which comprises rooms that are rented for lodging and where the rooms do not have both culinary and sanitary facilities for the exclusive use of individual occupants;
- (nn) “Seaton Community” means the lands shown on Schedule “F”, which may generally be described as being bounded: to the south by the Canadian Pacific Railway right-of-way; to the west by West Duffins Creek; to the north by Provincial Highway No. 7; and to the east by Sideline 16 and the boundary between the City of Pickering and the Town of Ajax, and excludes the lands comprising the Hamlet communities of Whitevale, Green River and Brougham;
- (oo) “semi-detached duplex” means one of a pair of attached duplexes, each duplex divided vertically from the other by a party wall;

- (pp) “semi-detached dwelling” means a building divided vertically (above or below ground) into and comprising 2 dwelling units;
 - (qq) “semi-detached triplex” means one of a pair of triplexes divided vertically one from the other by a party wall;
 - (rr) “serviced” means the particular service is connected to or available to be connected to the lands, buildings or structures, or, as a result of the development, will be connected to or will be available to be connected to the lands, buildings or structures, or the lands to be developed are in an area designated for the particular service in the Region’s Official Plan;
 - (ss) “services” means the services designated in section 7 of this by-law;
 - (tt) “single detached dwelling” and “single detached” means a building comprising 1 dwelling unit;
 - (uu) “stacked townhouse” means a building, other than a plex, townhouse or apartment building, containing at least 3 dwelling units; each dwelling unit separated from the other vertically and/or horizontally and each dwelling unit having a separate entrance to grade;
 - (vv) “townhouse” means a building, other than a plex, stacked townhouse or apartment building, containing at least 3 dwelling units, each dwelling unit separated vertically from the other by a party wall and each dwelling unit having a separate entrance to grade;
 - (ww) “triplex” means a building comprising 3 dwelling units.
2. In this by-law where reference is made to a statute or a section of a statute such reference is deemed to be a reference to any successor statute or section.

PART II

APPLICATION OF BY-LAW — RULES

Circumstances Where Development Charges are Payable

3. Development charges shall be payable in the amounts set out in sections 10, 13, 14 and 15 of this by-law where:
- (a) the lands are located in the area described in subsection 4(1); and
 - (b) the development of the lands requires any of the approvals set out in section 5.

Area to Which By-law Applies

4. (1) Subject to subsections 4(2) and 4(3), this by-law applies to all lands in the Region.
- (2) This by-law shall not apply to lands that are owned by and used for the purposes of:
 - (a) the Region or a local board thereof;
 - (b) a board as defined in subsection 1(1) of the *Education Act*, and
 - (c) an area municipality or a local board thereof in the Region.
- (3) Development charges imposed under this by-law in regard to water supply and sanitary sewerage services do not apply to the development of lands located within the Seaton Community. For greater certainty, the balance of the development charges imposed under this by-law apply to the development of lands located within the Seaton Community.

Approvals for Development

5. Development charges shall be imposed upon all lands, buildings or structures that are developed for residential or non-residential uses if the development requires,
 - (a) the passing of a zoning by-law or of an amendment thereto under section 34 of the *Planning Act*,
 - (b) the approval of a minor variance under section 45 of the *Planning Act*,
 - (c) a conveyance of land to which a by-law passed under subsection 50(7) of the *Planning Act* applies;
 - (d) the approval of a plan of subdivision under section 51 of the *Planning Act*,
 - (e) a consent under section 53 of the *Planning Act*,
 - (f) the approval of a description under section 9 of the *Condominium Act, 1998*; or
 - (g) the issuing of a permit under the *Building Code Act, 1992* in relation to a building or structure.

Designation of Services

6. It is hereby declared by Council that all development of land within the area to which this By-law applies will increase the need for services.
7. The development charges under this By-law applicable to a development shall apply without regard to the services required or used by a particular development.
8.
 - (1) No more than one development charge for each service designated in section 9 shall be imposed on land to which this by-law applies even though two or more of the actions described in section 5 are required before the land can be developed.
 - (2) Notwithstanding subsection 8(1), if two or more of the actions described in section 5 occur at different times, additional development charges shall be imposed if the subsequent action has the effect of increasing the need for services.
9.
 - (1) The categories of services for which development charges are imposed under this by-law are as follows:
 - (a) water supply;
 - (b) sanitary sewerage;
 - (c) regional roads;
 - (d) long term care;
 - (e) regional police;
 - (f) paramedic services;
 - (g) health and social services;
 - (h) housing services; and
 - (i) development related studies.
 - (2) The components of the services designated in subsection 9(1) are described on Schedule "A".

Amount of Charge

Residential

10. The development charges described in Schedule "B" to this by-law shall be imposed upon residential uses of lands, buildings or structures, including a

dwelling unit accessory to a non-residential use and, in the case of a mixed use building or structure, upon the residential uses in the mixed use building or structure, according to the type of residential unit. The development charges payable shall comprise the following:

- (a) Region-wide Charges
 - (i) a development charge with respect to each of the region-wide services according to the type of residential use;
- (b) Regional Water Supply and Sanitary Sewer Charges
 - (i) where the lands, buildings or structures are serviced by regional water supply services, the development charge with respect to water supply services according to the type of residential use;
 - (ii) where the lands, buildings or structures are serviced by regional sanitary sewer services, the development charge with respect to sanitary sewer services according to the type of residential use.

Exemptions

- 11. (1) In this section,
 - (a) “gross floor area” means the total floor area, measured between the outside of exterior walls or between the outside of exterior walls and the centre line of party walls dividing the building from another building, of all floors above the average level of finished ground adjoining the building at its exterior walls;
 - (b) “other residential building” means a residential building not in another class of residential building described in this subsection;
 - (c) “semi-detached or row dwelling” means a residential building consisting of one dwelling unit having one or two vertical walls, but no other parts, attached to another structure;
 - (d) “single detached dwelling” means a residential building consisting of one dwelling unit and not attached to another structure.
- (2) Subject to subsections 11(3), 11(4) and 11(5), development charges shall not be imposed in respect to:
 - (a) the issuance of a building permit not resulting in the creation of an additional dwelling unit;
 - (b) the enlargement of an existing dwelling unit;

- (c) the creation of one or two additional dwelling units within an existing single detached dwelling or on the same lot as an existing single detached dwelling;
 - (d) the creation of one additional dwelling unit within a semi-detached dwelling, a row dwelling, or any other residential building, or on the same lot as an existing semi-detached dwelling, a row dwelling, or any other residential building; or
 - (e) the creation of a garden suite.
- (3) Notwithstanding 11(2)(c) and (d), prior to the issuance of a building permit for any additional dwelling unit located on the same lot, but not within a single detached dwelling, semi-detached dwelling, a row dwelling, or any other residential building, the owner shall be required to enter into an agreement with the Region under section 27 of the Act respecting the timing and calculation of payment of development charges, notice of which the owner shall register on the title to the lands at its sole cost and expense with the intention that the provisions shall bind and run with title to the lands. Such agreement will require that in the event that the lands upon which any additional dwelling unit is located are the subject of an application for consent under section 53 of the *Planning Act*, or for which a by-law is passed under subsection 50(7) of the *Planning Act*, within 10 years of the date of building permit issuance for such additional dwelling unit, the development charges that would have otherwise been payable for such dwelling unit, shall become due and payable.
- (4) Notwithstanding subsection 11(2)(c), development charges shall be imposed in accordance with section 10 if the total gross floor area of the additional one or two dwelling units within the existing single detached dwelling or on the same lot as the existing single detached dwelling exceeds the gross floor area of the existing dwelling unit.
- (5) Notwithstanding subsection 11(2)(d), development charges shall be imposed in accordance with section 10 if the additional dwelling unit has a gross floor area greater than:
- (a) in the case of a semi-detached or row dwelling, the gross floor area of the existing dwelling unit; and
 - (b) in the case of any other residential building, the gross floor area of the smallest dwelling unit already contained in the residential building.

Mobile Home

12. (1) The development charges imposed upon a mobile home under section 10 shall be payable at the rate applicable to an apartment of two bedrooms or larger.
- (2) The development charges paid in regard to a mobile home shall be refunded in full to the then current owner thereof, upon request, if the mobile home is removed within ten years of the issuance of the building permit relating thereto.
- (3) The onus is on the applicant to produce evidence to the satisfaction of the Region, acting reasonably, which establishes that the applicant is entitled to the refund claimed under this section.

Retirement Residence Unit

- 12.1 (1) The development charges imposed on a retirement residence unit under section 10 shall be payable at the rate applicable to an apartment of one bedroom and smaller.

Non-Residential

Commercial

13. (1) The development charges described in Schedule "C" to this by-law shall be imposed upon commercial uses of lands, buildings or structures, and, in the case of a mixed use building or structure, upon the commercial uses in the mixed use building or structure. The development charges payable shall comprise the following:
 - (a) Regional Road Charges
 - (i) a development charge with respect to regional road services according to the gross floor area of the commercial use;
 - (b) Regional Water Supply and Sanitary Sewer Charges
 - (i) where the lands, buildings or structures are serviced by regional water supply services, the development charge with respect to water supply services according to the gross floor area of the commercial use;
 - (ii) where the lands, buildings or structures are serviced by regional sanitary sewer services, the development charge with respect to sanitary sewer services according to the gross floor area of the commercial use.

- (2) Subject to subsections 13(3) and 13(4) of this by-law, the development charges imposed on commercial accessory buildings or structures shall be payable at the rate applicable to industrial development under Schedule “E”.
- (3) The application of development charges at the industrial rate in regard to commercial accessory buildings or structures shall be limited to an aggregate of 7,000 square feet of gross floor area of all such buildings or structures on the same site.
- (4) Development charges at the rate applicable to commercial development under Schedule “C” shall be imposed upon the gross floor area of commercial accessory buildings or structures in excess of 7,000 square feet on the same site.

Institutional

14. The development charges described in Schedule “D” to this by-law shall be imposed upon institutional uses of lands, buildings or structures, and, in the case of a mixed use building or structure, upon the institutional uses in the mixed use building or structure. The development charges payable shall comprise the following:
 - (a) Regional Road Charges
 - (i) a development charge with respect to regional road services according to the gross floor area of the institutional use;
 - (b) Regional Water Supply and Sanitary Sewer Charges
 - (i) where the lands, buildings or structures are serviced by regional water supply services, the development charge with respect to water supply services according to the gross floor area of the institutional use;
 - (ii) where the lands, buildings or structures are serviced by regional sanitary sewer services, the development charge with respect to sanitary sewer services according to the gross floor area of the institutional use.

Industrial

15. The development charges described in Schedule “E” to this by-law shall be imposed upon industrial uses of lands, buildings or structures, and, in the case of a mixed use building or structure, upon the industrial uses in the mixed use building or structure. The development charges payable shall comprise the following:

- (a) Regional Road Charges
 - (i) a development charge with respect to regional road services according to the gross floor area of the industrial use;
- (b) Regional Water Supply and Sanitary Sewer Charges
 - (i) where the lands, buildings or structures are serviced by regional water supply services, the development charge with respect to water supply services according to the gross floor area of the industrial use;
 - (ii) where the lands, buildings or structures are serviced by regional sanitary sewer services, the development charge with respect to sanitary sewer services according to the gross floor area of the industrial use.

Exemptions

16. (1) Notwithstanding the provisions of this by-law, development charges shall not be imposed in regard to:
- (a) agricultural uses and farm buildings;
 - (b) places of worship;
 - (c) public hospitals receiving aid under the *Public Hospitals Act*, R.S.O. 1990, c. P.40, excluding such buildings or structures or parts thereof used, designed or intended for use primarily for or in connection with a commercial purpose;
 - (d) any part of a building or structure used for the parking of motor vehicles, excluding parking spaces for display of motor vehicles for sale or lease or parking spaces associated with the servicing of motor vehicles;
 - (e) free standing roof-like structures and canopies that do not have exterior walls.

Exemption for Enlargement of Existing Industrial Building

17. (1) Despite any other provisions of this by-law, if a development includes the enlargement of the gross floor area of an existing industrial building, the amount of the development charge that is payable in respect of the enlargement shall be calculated as follows:

- (a) if the gross floor area is enlarged by fifty percent or less, the amount of the development charge in respect of the enlargement is zero;
 - (b) if the gross floor area is enlarged by more than fifty percent the amount of the development charge in respect of the enlargement is the amount of the development charge that would otherwise be payable multiplied by the fraction determined as follows:
 - (i) determine the amount by which the enlargement exceeds fifty percent of the gross floor area before the enlargement; and
 - (ii) divide the amount determined under paragraph (i) by the amount of the enlargement.
- (2) For the purposes of subsection 17(1) the following provisions apply:
- (a) the gross floor area of an existing industrial building shall be calculated as it existed as of July 1, 2018;
 - (b) subject to 2(c) below, the enlargement need not be an attached addition or expansion of an existing industrial building, but rather may be a new standalone structure, provided it is located on the same parcel of land as the existing industrial building;
 - (c) in the event that the enlargement is in the form of a standalone building or structure located on the same parcel of land as per 2(b) above, prior to the issuance of a building permit for the standalone building or structure, the owner shall be required to enter into an agreement with the Region under section 27 of the Act respecting the timing and calculation of payment of development charges, notice of which the owner shall register on the title to the lands at its sole cost and expense with the intention that the provisions shall bind and run with title to the lands. Such agreement will require that in the event that the lands upon which any standalone building or structure is located are the subject of an application for consent under section 53 of the *Planning Act*, or for which a by-law is passed under subsection 50(7) of the *Planning Act*, within 10 years of building permit issuance for such standalone building or structure, that the development charges that would have otherwise been payable for such standalone building or structure, shall become due and payable.
- (3) In this section “gross floor area” means the total floor area, measured between the outside of exterior walls or between the outside of exterior walls and the centre line of party walls dividing the building from another

building, of all floors above the average level of finished ground adjoining the building at its exterior walls.

Reduction of Development Charges For Redevelopment

18. (1) Despite any other provision of this by-law, where, as a result of the redevelopment of land, a building or structure existing on the land within ten years prior to the date of payment of development charges in regard to such redevelopment was, or is to be demolished, in whole or in part, or converted from one principal use to another, in order to facilitate the redevelopment, the development charges otherwise payable with respect to such redevelopment shall be reduced by the following amounts:
- (a) in the case of a residential building or structure, the amount of the reduction in the applicable development charges will equal the applicable development charges under section 10 of this by-law that would have been chargeable on the type of dwelling units demolished or to be demolished or converted to another use; and
 - (b) in the case of a non-residential building or structure, the amount of the reduction in the applicable development charges will equal the applicable development charges under sections 13, 14 or 15 of this by-law that would have been chargeable on the gross floor area of the non-residential building or structure that was demolished or to be demolished or converted to another use;
 - (c) in the case of a non-residential building or structure that would have been exempt from the payment of development charges under the current Regional Development Charge By-law, the amount of the reduction in the applicable development charge will equal the applicable development charge under section 14 of this by-law that, had the building or structure not been exempt, could have been chargeable on the gross floor area of the non-residential building or structure that was demolished or to be demolished or converted to another use; and
 - (d) in the case of a mixed-use building or structure, the amount of the reduction in the applicable development charges will equal the applicable development charges under sections 10, 13, 14 or 15 of this by-law that would have been chargeable either upon the type of dwelling units or the gross floor area of non-residential use in the mixed-use building or structure that is being demolished or to be demolished or converted to another use;

provided that such amounts shall not exceed, in total, the amount of the development charges otherwise payable with respect to the redevelopment.

- (2) The ten year period referred to in subsection 18(1) of this by-law shall be calculated from the date of the issuance of the first demolition permit.
- (3) Development charges shall not be reduced under this section where the building or structure that is to be demolished or has been demolished or converted from one principal use to another was, or would have been, exempt from development charges under this by-law.
- (4) The onus is on the applicant to produce evidence to the satisfaction of the Region, acting reasonably, which establishes that the applicant is entitled to the reduction in the payment of development charges claimed under this section.

PART III

ADMINISTRATION

Timing of Payment of Development Charges

19. Development charges, adjusted in accordance with section 24 of this by-law to the date of payment, are payable in full on the date on which a building permit is issued with respect to each dwelling unit, building or structure.
20.
 - (1) Notwithstanding section 19, development charges, adjusted in accordance with section 24 to the date of payment, with respect to water supply services, sanitary sewer services and regional road services shall be payable, with respect to an approval of a residential plan of subdivision under section 51 of the Planning Act, immediately upon the owner entering into the subdivision agreement with the Region, on the basis of the proposed number and type of dwelling units in the plan of subdivision.
 - (2) Notwithstanding section 20(1), development charges applicable to a high density or condominium block in a residential plan of subdivision are payable in accordance with section 19.
 - (3) Notwithstanding subsection 20(1), where an owner elects to enter into an agreement with the Region pursuant to section 27 of the Act, development charges with respect to water supply services, sanitary sewer services and regional road services may be payable as follows:
 - (a) upon the execution of the subdivision agreement, 50% of the development charges otherwise payable under subsection 20(1), adjusted in accordance with section 24 to the date of payment; and
 - (b) on the first anniversary date of the execution of the subdivision agreement, 50% of the development charges otherwise payable under subsection 20(1), adjusted in accordance with section 24 to the date of payment;

provided, however, in regard to any lot on the plan of subdivision, any balance of the development charges owing during the one year period following execution of the subdivision agreement shall become payable, after adjustment in accordance with section 24 to the date of payment, on the date a building permit is issued in regard to such lot.

- (4) The balance of the development charges outstanding at any time that are payable in accordance with subsection 20(3) shall be secured by a letter of credit, in a form acceptable to the Region, in an amount which is equal to 55% of the development charges as determined under section 10. The payment of the outstanding balance under subsection 20(3) may be made by way of a draw by the Region on the letter of credit.
 - (5) Notwithstanding section 19 and subsection 20(3), Council, from time to time, and at any time, may enter into agreements in accordance with section 27 of the Act which provide for all or any part of a development charge to be paid before or after it would otherwise be payable.
 - (6) Notwithstanding any of the foregoing, for lands, buildings and structures developed for a housing services use, the Region may defer the timing of payment of development charges from building permit issuance to occupancy, or another agreed upon date, if the owner enters into an agreement with the Region and the applicable area municipality under section 27 of the Act, respecting the timing and calculation of payment of development charges, notice of which the owner shall register on the title to the lands at its sole cost and expense with the intention that the provisions shall bind and run with title to the lands.
21. (1) If, at the time of issuance of a building permit or permits in regard to a lot on a plan of subdivision for which payments have been made pursuant to subsection 20(1) or 20(3), the type of dwelling unit for which building permits are being issued is different than that used for the calculation and payment under subsection 20(1) or 20(3), and there has been no change in the zoning affecting such lot, and the development charges for the type of dwelling unit for which building permits are being issued were greater at the time that payments were made pursuant to subsection 20(1) or 20(3) than for the type of dwelling unit used to calculate the payment under subsection 20(1) or 20(3), an additional payment to the Region is required, which payment, in regard to such different unit types, shall be the difference between the development charges in respect to the type of dwelling unit for which building permits are being issued, calculated as at the date of issuance of the building permit or permits, and the development charges previously collected in regard thereto, adjusted in accordance with section 24 of this by-law to the date of issuance of the building permit or permits.

- (2) If, at the time of issuance of a building permit or permits in regard to a lot on a plan of subdivision for which payments have been made pursuant to subsection 20(1) or 20(3), the total number of dwelling units of a particular type for which building permits have been or are being issued is greater, on a cumulative basis, than that used for the calculation and payment under subsection 20(1) or 20(3), and there has been no change in the zoning affecting such lot, an additional payment to the Region is required, which payment shall be calculated on the basis of the number of additional dwelling units at the rate prevailing as at the date of issuance of the building permit or permits for such dwelling units.
- (3) If, at the time of issuance of a building permit or permits in regard to a lot on a plan of subdivision for which payments have been made pursuant to subsection 20(1) or 20(3), the type of dwelling unit for which building permits are being issued is different than that used for the calculation and payment under subsection 20(1) or 20(3), and there has been no change in the zoning affecting such lot, and the development charges for the type of dwelling unit for which building permits are being issued were less at the time that payments were made pursuant to subsection 20(1) or 20(3) than for the type of dwelling unit used to calculate the payment under subsection 20(1) or 20(3), a refund in regard to such different unit types shall be paid by the Region, which refund shall be the difference between the development charges previously collected, adjusted in accordance with section 24 of this by-law to the date of issuance of the building permit or permits, and the development charges in respect to the type of dwelling unit for which building permits are being issued, calculated as at the date of issuance of the building permit or permits.
- (4) If, at the time of issuance of a building permit or permits in regard to a lot on a plan of subdivision for which payments have been made pursuant to subsection 20(1) or 20(3), the total number of dwelling units of a particular type for which building permits have been or are being issued is less, on a cumulative basis, than that used for the calculation and payment under subsection 20(1) or 20(3), and there has been no change in the zoning affecting such lot, a refund shall be paid by the Region, which refund shall be calculated on the basis of the number of fewer dwelling units at the rate prevailing as at the date of issuance of the building permit or permits.
- (5) Notwithstanding subsections 21(3) and 21(4), a refund shall not exceed the amount of the development charges paid under section 20.

Payment by Services

22. Notwithstanding the payments required under sections 19 and 20, the Region may, by agreement pursuant to section 38 of the Act, permit an owner to provide services in lieu of the payment of all or any portion of a development charge. The Region shall give the owner who performed the work a credit towards the

development charge in accordance with the agreement subject to the requirements of the Act.

Front-Ending Agreements

23. Council, from time to time, and at any time, may enter into front-ending agreements in accordance with the Act.

Indexing

24. Development charges imposed pursuant to this by-law shall be adjusted annually, without amendment to this by-law, as of the 1st day of July, 2019, and on each successive July 1st date in accordance with the Statistics Canada Quarterly, *Construction Price Statistics*, catalogue number 62-207, for the most recently available annual period ending March 31.

Schedules

25. The following schedules to this by-law form an integral part thereof:
- Schedule "A" - Components of Services Designated in section 7
 - Schedule "B" - Residential Development Charges
 - Schedule "C" - Commercial Development Charges
 - Schedule "D" - Institutional Development Charges
 - Schedule "E" - Industrial Development Charges
 - Schedule "F" - Map of Seaton Community

Date By-law in Force

26. This by-law shall come into force on July 1, 2018.

Date By-law Expires

27. This by-law will expire five years from the date it comes into force, unless it is repealed at an earlier date by a subsequent by-law.

Repeal

28. By-law No.16-2013 is hereby repealed effective on the date this by-law comes into force.

Registration

29. A certified copy of this by-law may be registered on title to any land to which this by-law applies.

Severability

30. In the event any provision, or part thereof, of this by-law is found by a court of competent jurisdiction to be *ultra vires*, such provision, or part thereof, shall be deemed to be severed, and the remaining portion of such provision and all other provisions of this by-law shall remain in full force and effect.

Short Title

31. This By-law may be cited as the Regional Municipality of Durham Development Charges By-law, 2018

BY-LAW read and passed this 13th day of June, 2018.

R. Anderson, Regional Chair and CEO

R. Walton, Regional Clerk/

Director of Legislative Services

SCHEDULE "A"

**DESIGNATED REGIONAL SERVICES AND
SERVICE COMPONENTS THEREUNDER**

CATEGORY OF
REGIONAL SERVICES

SERVICE COMPONENTS

- | | |
|--------------------|---|
| 1. Regional Road | <ul style="list-style-type: none">• Regional Road Construction/Improvements/Urbanization• Improvements to Highway Interchanges/Grade Separations• Intersection and Corridor Improvements• Traffic Signals and Systems• Property Acquisition• Maintenance Facilities• Capital Equipment• Landscaping• Studies• Environmental Assessment |
| 2. Regional Police | <ul style="list-style-type: none">• Costs to Acquire Land or an Interest in Land, Including a Leasehold Interest• Costs to Improve Land• Costs to Acquire, Lease, Construct or Improve Buildings and Structures• Costs to Acquire, Lease, Construct or Improve Facilities• Vehicles and Equipment |
| 3. Long Term Care | <ul style="list-style-type: none">• Costs to Acquire Land or an Interest in Land, Including a Leasehold Interest• Costs to Improve Land• Costs to Acquire, Lease, Construct or Improve Buildings and Structures• Costs to Acquire, Lease, Construct or Improve Facilities |
| 4. Water Supply | <ul style="list-style-type: none">• Pumping Stations• Reservoirs• Feeder mains• Water Supply Plants and Municipal Wells• Capital Equipment• Studies• Environmental Assessment• Water Use Efficiency Strategy• Well Interference |

5. Sanitary Sewerage
 - Sewage Pumping Stations and Force mains
 - Trunk Sanitary Sewers
 - Water Pollution Control Plants
 - Sludge Storage and Disposal Facilities
 - Capital Equipment
 - Studies
 - Environmental Assessment
 - Water Use Efficiency

6. Paramedic Services
 - Land Ambulances and Equipment Stations and Land

7. Health and Social Services
 - Costs to Acquire Land and Buildings
 - Studies

8. Housing Services
 - Costs to Acquire Land and Buildings or Units
 - Costs to Improve Land
 - Costs for Construction of new Buildings or Units
 - Studies

9. Development Related Studies

SCHEDULE "B"

**RESIDENTIAL DEVELOPMENT CHARGES PER DWELLING UNIT
EFFECTIVE JULY 1, 2018 - \$ PER DWELLING TYPE**

SERVICE CATEGORY	SINGLE DETACHED & SEMI-DETACHED \$	MEDIUM DENSITY MULTIPLES \$	TWO BEDROOM APARTMENT & LARGER \$	ONE BEDROOM APARTMENT & SMALLER \$
<u>Region-Wide Charges</u>				
Regional Roads	9,250	7,432	5,373	3,502
Regional Police	715	575	416	271
Long-Term Care	19	15	11	7
Paramedic Services	170	137	99	64
Health & Social Services	123	99	72	47
Housing Services	387	311	225	147
Development Related Studies	19	15	11	7
Subtotal	10,683	8,584	6,207	4,045
<u>Regional Water Supply & Sanitary Sewer Charges</u>				
Water Supply	9,420	7,569	5,472	3,566
Sanitary Sewerage	9,171	7,369	5,327	3,472
Subtotal	18,591	14,938	10,799	7,038
Total of All Charges	<u>29,274</u>	<u>23,522</u>	<u>17,006</u>	<u>11,083</u>

NOTE: The development charges described above shall be adjusted annually on July 1 pursuant to Section 24 of this By-law.

SCHEDULE "C"

**COMMERCIAL DEVELOPMENT CHARGES EFFECTIVE JULY 1, 2018
\$ PER SQUARE FOOT OF GROSS FLOOR AREA**

SERVICE CATEGORY	COMMERCIAL DEVELOPMENT CHARGES
Water Supply	3.51
Sanitary Sewerage	5.88
Regional Roads	8.54
Total of All Charges	<u>17.93</u>

NOTE: The development charges described above shall be adjusted annually on July 1 pursuant to section 24 of this By-law.

SCHEDULE "D"

**INSTITUTIONAL DEVELOPMENT CHARGES EFFECTIVE JULY 1, 2018
\$ PER SQUARE FOOT OF GROSS FLOOR AREA**

SERVICE CATEGORY	INSTITUTIONAL DEVELOPMENT CHARGES
Water Supply	0.86
Sanitary Sewerage	1.05
Regional Roads	7.18
Total of All Charges	<u>9.09</u>

NOTE: The development charges described above shall be adjusted annually on July 1 pursuant to section 24 of this By-law.

SCHEDULE "E"

**INDUSTRIAL DEVELOPMENT CHARGES EFFECTIVE JULY 1, 2018
\$ PER SQUARE FOOT OF GROSS FLOOR AREA**

SERVICE CATEGORY	INDUSTRIAL DEVELOPMENT CHARGES
Water Supply	2.80
Sanitary Sewerage	3.38
Regional Roads	3.24
Total of All Charges	<u>9.42</u>

NOTE: The development charges described above shall be adjusted annually on July 1 pursuant to section 24 of this By-law.

SCHEDULE "F"

SEATON COMMUNITY

