
REGION OF HALTON

2022 Development Charges

Background Study

FOR

WATER, WASTEWATER, ROADS &

GENERAL SERVICES DEVELOPMENT CHARGES

December 15, 2021

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List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
AMP	Asset management plan
BPE, 2011	Best Planning Estimates, 2011
DC	Development charge
DCA	Development Charges Act, 1997, as amended
GFA	Gross floor area
NFPOW	No fixed place of work
OLT	Ontario Land Tribunal
O. Reg.	Ontario Regulation
PPU	Persons per unit
ROPA	Regional Official Plan Amendment
SDE	Single detached equivalent
sq.ft.	Square foot
sq.m.	Square metre
TFA	Total floor area
TTS, 2016	Transportation Tomorrow Study, 2016
U.E.C.	Uncommitted Excess Capacity
WAH	Work at Home

Executive Summary

Executive Summary

1. Purpose of this Background Study

1.1. This background study (the Study) has been prepared pursuant to section 10 of the *Development Charges Act, 1997* (DCA) as amended and, together with the proposed by-law, is being made available to the public more than 2 weeks prior to the public meeting, as required by section 12 of the DCA, which is expected to be held February 16, 2022.

1.2. The development charges (DCs) 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. A decision is required by Council, after receiving input at the public meeting and the completed study and by-law, as to the magnitude of the charge it wishes to establish, for residential and non-residential development.

1.3. The Study is continuing with the current by-law structure of area specific water and wastewater DCs for the Greenfield versus Built Boundary areas and also continuing with the non-residential roads DC structure being split between retail and non-retail.

1.4. Decisions are also involved in finalizing DC policy and the by-law, including exemptions, indexing, applicability to the redevelopment of land, and the schedule of charges by type of land use. Key proposed changes are summarized below in section 4 of this Executive Summary.

1.5. It is the purpose of the public meeting and the continuing consultation activity to obtain input on all these matters.

1.6. The purpose of the Study is to propose the replacement of the following by-law with the proposed by-law (Appendix I):

- By-law No. 36-17, as amended, "A by-law to establish water, wastewater, roads and general services Development Charges for the Regional Municipality of Halton (Built Boundary and Greenfield Areas)" (expiring on August 31, 2022)

1.7. The 2022 DC update process has been undertaken in advance of the expiry date of this by-law and reflects the Region's planning projections in the Best Planning Estimates approved by Council in 2011 (BPE, 2011).

1.8. Based on the BPE, 2011, the Region has planned for a total of 780,000 people (752,537 excluding the Census undercount) and 390,000 jobs by 2031. Through consultation with local municipalities, as part of the Sustainable Halton process, Halton Region further allocated growth targets by local municipality.

1.9. Further, the DCA (clause 10(2) (c.2)) require that the Study must include an asset management plan (AMP) for all assets with capital that is proposed to be funded under the DC by-law. Subsection 10(3) of the DCA provides a framework for this plan. This background study provides details of the AMP (Appendix H).

1.10. The Study and the proposed by-law do not include GO Transit servicing requirements. The Region imposes a DC for GO Transit purposes, pursuant to By-law No. 159-01 commencing November 14, 2001. This by-law (as amended by By-laws 78-12 and 38-17) has been extended by Provincial legislation/regulation 7 times including most recently in 2019. This latest extension maintains the GO Transit DC rates, subject to annual indexing in accordance with section 7 of the Ontario Regulation 82/98, or as may be amended from time to time. The Province has proposed an extension of the by-law to December 31st, 2022. Imposition of a revised GO Transit DC by-law to replace the current by-law would require a separate updating process.

1.11. Further, the Study does not address the Recovery DC By-law No. 37-17 (Residential Recovery of the Early Payment of Estimated Future Water, Wastewater and Roads DCs for the Recovery Area 2012-2021). This by-law was updated under a separate study and the new Recovery DC By-law No. 48-21 comes into force January 1, 2022.

2. Region-wide vs. Area Specific Costs

2.1. S.10 (2)(c.1) of the DCA, requires Council to consider the use of more than one DC by-law to reflect different needs for services in different areas. As such, the Region considered area specific charges.

2.2. At present, the regional roads and general services charges are imposed on a Region-wide basis, while the water and wastewater residential and non-residential charges are imposed on an area specific basis: Greenfield DC and Built Boundary DC.

2.3. ROPA 38, approved by Council, and the Provincial Growth Plan requires that by the year 2016 and each year thereafter, a minimum of 40 percent (%) of all residential development occurring annually in Halton must be within the Built Boundary area (Built

Boundary for the Provincial Growth Plan for the Greater Golden Horseshoe, 2006) with the remaining in the Greenfield area (area outside the Built Boundary) but within the ROPA 38 Urban Area. Accordingly, continuing with an area specific charge for the Greenfield and Built Boundary areas to support the intensification development of the Growth Plan (detailed in Appendix B).

2.4. The area specific water and wastewater charges were calculated based on the distribution/collection infrastructure required to service growth planned within the Greenfield and Built Boundary areas. The DC rates relating to the water and wastewater capacity (e.g. plant expansions) are calculated on a Region-wide basis given the difficulty in identifying area specific infrastructure related to capacity projects.

3. The 2022 DC Calculation

3.1. An annualized cash flow method was undertaken to calculate the DCs, which considers available DC reserve fund balances, project costs adjusted for inflation, DC credits, outstanding (unfunded) capital costs, historic oversizing costs, financing costs associated with expenditure timing and anticipated DC revenues, with 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 DC calculation and cash flow methodology are included in Appendices C, E, and F.

3.2. The planning period for the calculation of the charges in the Study extends to 2031 for all services. 2031 was selected as the planning horizon as it is consistent with planning projections approved by Council (BPE, 2011) and the coverage of the Region's Official Plan (ROPA) 39.

3.3. The estimated servicing needs related to this anticipated development are detailed in Appendices B, D and F. Table ES-1 summarizes the capital infrastructure cost required over the planning horizon and the deductions made pursuant to the DCA.

Table ES-1
Summary of Capital Costs for all Eligible Programs (2022 \$, millions)

Services	Gross Cost	Less:				Net Growth		
		Benefit to Existing Dev't	Post Period Capacity	Subsidy, Dev Contbt'n	Other Deduc't	Total	Res	N-res
W/WW (2023-2031):								
Water	\$ 562.2	\$ 12.0	\$ 46.9	\$ -	\$ -	\$ 503.4	\$ 373.9	\$ 129.5
Wastewater	608.6	175.1	24.5	-	-	408.9	300.8	108.1
Sub-Total	\$ 1,170.8	\$ 187.1	\$ 71.4	\$ -	\$ -	\$ 912.3	\$ 674.6	\$ 237.6
Roads (2023-2031)	\$ 2,441.1	\$ 400.0	\$ 238.0	\$ -	\$ -	\$ 1,803.0	\$ 1,153.9	\$ 649.1
General Service (2022-2031):								
Growth Studies	\$ 16.1	\$ 6.3	\$ -	\$ -	\$ 0.8	\$ 9.0	\$ 6.5	\$ 2.5
Police*	83.6	19.5	27.5	-	-	36.6	26.3	10.3
Paramedics	32.6	11.4	8.4	-	-	12.8	11.3	1.5
Facilities	12.3	4.0	1.3	-	-	7.0	6.0	1.1
Social Housing	100.1	50.1	-	-	-	50.1	50.1	-
Waste Diversion	14.9	8.1	1.0	-	0.4	5.4	5.1	0.3
Waterfront Parks	37.6	14.9	14.8	-	-	7.9	7.5	0.4
Sub-Total	\$ 297.2	\$ 114.2	\$ 53.1	\$ -	\$ 1.2	\$ 128.7	\$ 112.7	\$ 16.0
Total	\$ 3,909.1	\$ 701.3	\$ 362.6	\$ -	\$ 1.2	\$ 2,844.0	\$ 1,941.3	\$ 902.7

Note: May not add due to rounding

* Includes discounted debt payments

3.4. The non-residential roads infrastructure cost was further divided among different types of non-residential development between retail and non-retail development (Appendix D and E).

3.5. Table ES-2 distributes further the water/wastewater costs between Greenfield and Built Boundary areas.

Table ES-2
Water & Wastewater Project Costs by Area (2022 \$, millions)

Service	Gross Cost	Less: Benefit to Existing Dev't	Less: Post Period Benefit	Net Growth	Residential Share				Non-residential Share			
					Capacity	Distrb'n /Collect'n - Greenfield	Distrb'n /Collect'n - Built bndry	Total	Capacity	Distrb'n /Collect'n - Greenfield	Distrb'n /Collect'n - Built bndry	Total
Water	\$ 562.2	\$ 12.0	\$ 46.9	\$ 503.4	\$ 139.8	\$ 226.8	\$ 7.3	\$ 373.9	\$ 44.1	\$ 83.9	\$ 1.5	\$ 129.5
Wastewater	608.6	175.1	24.5	408.9	65.2	213.5	22.1	300.8	20.6	83.0	4.5	108.1
Total	\$ 1,170.8	\$ 187.1	\$ 71.4	\$ 912.3	\$ 205.0	\$ 440.3	\$ 29.4	\$ 674.6	\$ 64.7	\$ 166.9	\$ 6.0	\$ 237.6

Note: May not add due to rounding

3.6. The Region intends to implement the projects set out in this Study through its usual practice of preparing financial plans prior to the release of water and wastewater capacity. These plans will consider the projects in the Study to be financed under the plan and may use a combination of various financing techniques. The financial plan may also consider the staging of projects and, therefore, the timing and sequence of development to achieve the fiscal objectives of the Region under the Region's current Official Plan. Accordingly, the timing of some of the projects which are to be DC funded

may be modified from what is shown in the Study. These modifications may be necessitated by the specifics of the financial plans to be prepared for water, wastewater and road servicing.

3.7. The results of the calculation, in terms of the full charges involved, are summarized in Table ES-3 based on the costing and related assumptions contained in Appendices A to F. The area-specific calculated charges are reflected in the proposed by-law contained in Appendix I. Further, Tables ES-4 and ES-5 compare the proposed rates to the current DC rates as of April 1, 2021.

3.8. The areas to which proposed DCs apply are illustrated on Map ES-1.

Table ES-3
Proposed Development Charges for All Services

Development Categories	Water		Wastewater	
	Greenfield	Built Boundary	Greenfield	Built Boundary
Residential				
Single and Semi-Detached	\$ 12,275.69	\$ 4,503.37	\$ 17,260.86	\$ 5,717.59
Multiples - 3 or More Bedrooms	9,941.62	3,649.24	13,979.76	4,636.81
Multiples - Less than 3 Bedrooms	6,570.68	2,411.88	9,239.59	3,064.59
Apartments - 2 or More Bedrooms	5,962.77	2,190.39	8,384.99	2,785.24
Apartments - Less than 2 Bedrooms	4,414.81	1,621.75	6,208.20	2,062.18
Special Care/Need & Accessory Dwelling	3,576.39	1,315.93	5,028.04	1,673.48
Non-Residential per sq. ft. (TFA)				
Retail	\$ 3.897	\$ 1.340	\$ 5.245	\$ 2.053
Non-Retail	\$ 3.897	\$ 1.340	\$ 5.245	\$ 2.053

Development Categories	Roads	Growth Studies	Police	Paramedics	Facilities	Social Housing	Waste Diversion	Waterfront Parks
Residential								
Single and Semi-Detached	\$ 30,365.68	\$ 150.82	\$ 603.71	\$ 286.51	\$ 98.01	\$ 985.82	\$ 95.72	\$ 218.69
Multiples - 3 or More Bedrooms	24,582.32	122.10	488.73	231.94	79.34	798.06	77.49	177.04
Multiples - Less than 3 Bedrooms	16,247.09	80.70	323.01	153.30	52.44	527.46	51.21	117.01
Apartments - 2 or More Bedrooms	14,741.34	73.22	293.08	139.09	47.58	478.58	46.47	106.17
Apartments - Less than 2 Bedrooms	10,914.41	54.21	216.99	102.98	35.23	354.34	34.40	78.60
Special Care/Need & Accessory Dwelling	8,855.02	43.98	176.05	83.55	28.58	287.48	27.91	63.77
Non-Residential per sq. ft. (TFA)								
Retail	\$ 46.049	\$ 0.060	\$ 0.189	\$ 0.025	\$ 0.014	\$ -	\$ 0.003	\$ 0.008
Non-Retail	\$ 8.585	\$ 0.060	\$ 0.189	\$ 0.025	\$ 0.014	\$ -	\$ 0.003	\$ 0.008

Development Categories	Total	
	Greenfield	Built Boundary
Residential *		
Single and Semi-Detached	\$ 62,341.51	\$ 43,025.92
Multiples - 3 or More Bedrooms	50,478.40	34,843.07
Multiples - Less than 3 Bedrooms	33,362.49	23,028.69
Apartments - 2 or More Bedrooms	30,273.29	20,901.16
Apartments - Less than 2 Bedrooms	22,414.17	15,475.09
Special Care/Need & Accessory Dwelling	18,170.77	12,555.75
Non-Residential per sq. ft. (TFA)		
Retail	\$ 55.490	\$ 49.741
Non-Retail	\$ 18.026	\$ 12.277

*GO Transit DC, Recovery DC and Front-ending Recovery are beyond the scope of this study and have not been included in this calculation.

Note: May not add due to rounding

Table ES-4
Change in Residential DCs
(Per Single Detached Unit)

Service	As Of April 21, 2021		New Calculated	
	Greenfield	Built Boundary	Area Specific	
			Greenfield	Built Boundary
Water & Wastewater	\$ 18,965	\$ 7,679	\$ 29,537	\$ 10,221
Roads	\$ 19,284	\$ 19,284	\$ 30,366	\$ 30,366
General Services:	-	-	-	-
Growth Studies	\$ 262	\$ 262	\$ 151	\$ 151
Police	620	620	604	604
Paramedics	169	169	287	287
Facilities	146	146	98	98
Social Housing	941	941	986	986
Waste Diversion	65	65	96	96
Waterfront Parks	202	202	219	219
Sub-Total	\$ 40,655	\$ 29,369	\$ 62,342	\$ 43,026
GO Transit ¹	\$ 1,280	\$ 1,280	\$ 1,280	\$ 1,280
Recovery By-law ¹	\$ 3,679	\$ -	\$ 3,679	\$ -
Front-ending Recovery ¹	\$ 9,500	\$ 9,500	\$ 9,500	\$ 9,500
Total	\$ 55,114	\$ 40,149	\$ 76,801	\$ 53,806

1. GO Transit DC, Recovery DC and Front-ending Recovery are beyond the scope of this study. However, shown in this table for the purposes of presenting a total quantum.

Note: May not add due to rounding

Table ES-5
Change in Non-residential DCs
(per sq.ft. of TFA)

Service	As Of April 1, 2021				New Calculated			
	Greenfield		Built Boundary		Greenfield		Built Boundary	
	Retail	Non-Retail	Retail	Non-Retail	Retail	Non-Retail	Retail	Non-Retail
Water & Wastewater	\$ 7.226	\$ 7.226	\$ 3.233	\$ 3.233	\$ 9.142	\$ 9.142	\$ 3.393	\$ 3.393
Roads	\$30.279	\$ 5.978	\$30.279	\$ 5.978	\$46.049	\$ 8.585	\$46.049	\$ 8.585
General Services:								
Growth Studies	\$ 0.146	\$ 0.146	\$ 0.146	\$ 0.146	\$ 0.060	\$ 0.060	\$ 0.060	\$ 0.060
Police	0.182	0.182	0.182	0.182	0.189	0.189	0.189	0.189
Paramedics	0.028	0.028	0.028	0.028	0.025	0.025	0.025	0.025
Facilities	0.023	0.023	0.023	0.023	0.014	0.014	0.014	0.014
Waste Diversion	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Waterfront Parks	0.011	0.011	0.011	0.011	0.008	0.008	0.008	0.008
Total	\$37.898	\$13.597	\$33.905	\$ 9.604	\$55.490	\$18.026	\$49.741	\$12.277

Note: May not add due to rounding

3.9. As shown in the tables above, the new calculated water, wastewater, roads and general services DCs are increasing, resulting in an overall increase in the new DC rates, compared to the current rates.

3.10. The increase in water, wastewater and roads is mainly driven by revised cost estimates to reflect the current unit rates (including land acquisition), Municipal Class Environment Assessments Studies and design, reprogramming of projects post-2022 that for various reasons, for example, coordination and road conflicts, were not practical or possible to deliver and scope changes.

4. Other DC Policies

4.1. The rules for exemptions, relief and adjustments for the charge are detailed in Chapter 6 and included in the proposed by-law in Appendix I. The key proposed changes are:

- Modify the current industrial exemption to allow an accessory building or structure that is incidental or subordinate in purpose to the existing industrial use an exemption of up to 278.7 sq.m. (3,000 sq.ft.), provided that the expansion does not exceed the mandatory exemption (see 6.8.1)
- Add a new exemption of building or structures up to 278.7 sq.m. (3,000 sq.ft.) for lands used in connection with agricultural development for accessory industrial, retail or commercial use. (see 6.8.2)

4.2. The Region's Local Service Guidelines set out in general the size of water, wastewater and road infrastructure that constitutes a development charge project. The Local Services Guidelines are set out in Appendix G.

5. DC Recovery

5.1. Table ES-1 above summarizes the total capital program considered, the deductions made and the amounts, which form part of the calculation of the DCs. The program is focused on works which are development-related. Under the Study for all services combined, \$2.8 billion of a total capital program of \$3.9 billion is eligible for DC recovery over the 10 year planning period.

6. Consultation Process

6.1. Halton Region has undertaken an organized and comprehensive public consultation process through the Development Charges Advisory Committee (DCAC)

prior to the release of the Study. Once the Study is released Halton undertakes a public process prior to the public meeting under the DCA.

6.2. The consultation process will continue prior to Council considering the DC by-law through information posted on the Region's website and the statutory public meeting. This process is discussed in Chapter 7.

7. Council Approvals Sought

7.1. The Study and proposed DC by-law may subsequently be revised and submitted to Council. Accordingly, approval is being sought for:

- the proposed DC by-law;
- the Study, including the development forecast, the development-related capital program, the DC calculation and deductions, and associated policy proposals;
- the undertaking to ensure the increase in the growth-related services will be met, by virtue of the approval of the capital forecast contained herein; and
- the post-2031 capacity to be paid for subsequently by DCs or other similar charges.

8. By-law Adoption and Implementation

8.1. As summarized below, the public meeting is expected to be held February 16, 2022 as required by section 12 of the DCA. The final DC proposals are planned to be made to Council on March 23, 2022 and Council will consider approval of a by-law on April 20, 2022.

Process	Date
1. Release of DC Background Study to the Public	December 15, 2021
2. Public Meeting under the DCA, 1997	February 16, 2022
3. Final DC Proposals to Council	March 23, 2022
4. Proposed Passing of DC By-law(s) by Council	April 20, 2022
5. Advertise Notice of passage of DC By-law(s)	Within 20 days of passage
6. Last day for DC By-law(s) Appeal	40 days after passage

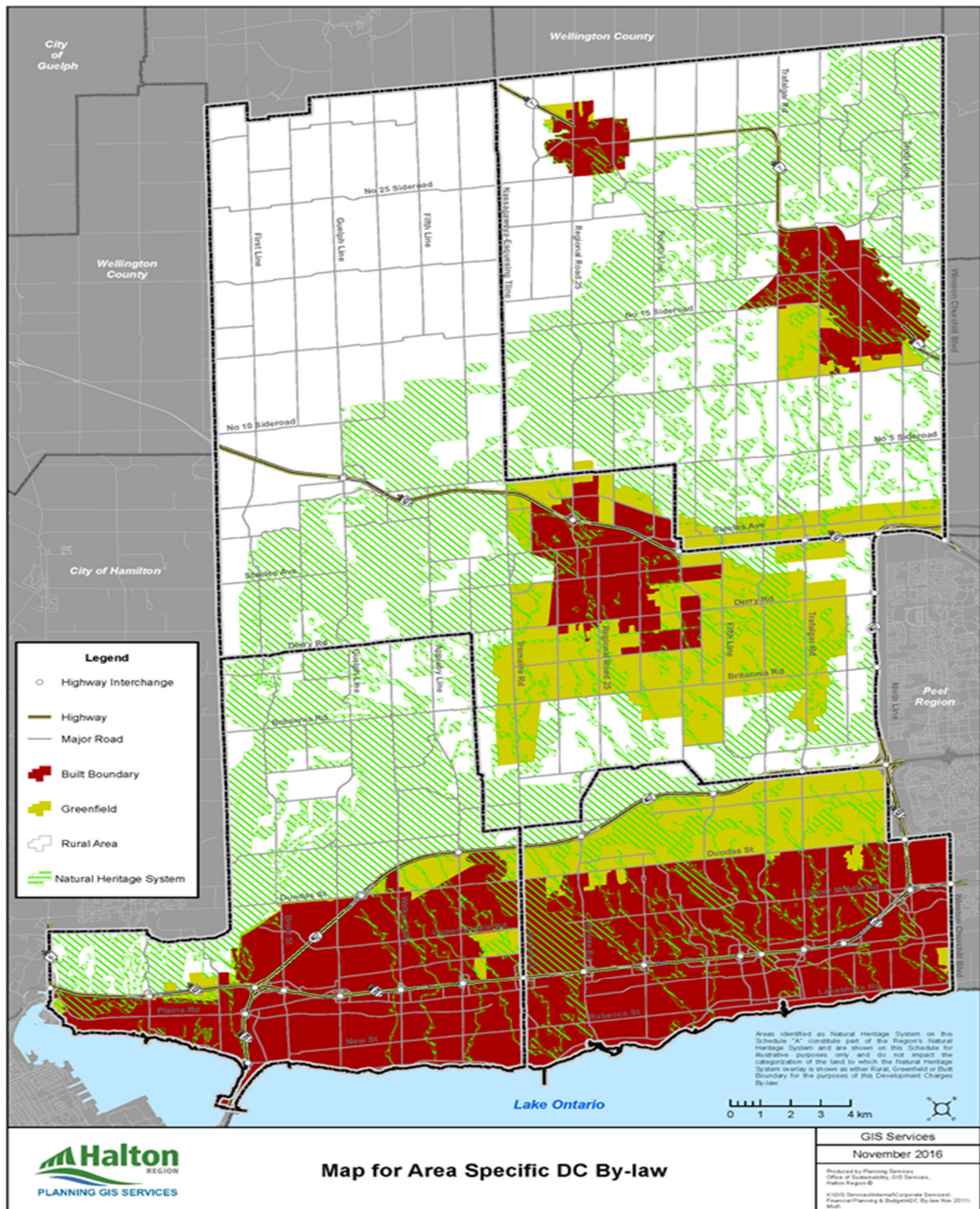
8.2. Although the by-law is scheduled to be passed on April 20, 2022, this Study proposes that the by-law come into force September 1st, 2022 to allow for a transitional period to the new rates prior to expiration of By-law No. 36-17 (August 31, 2022).

9. Acknowledgements

9.1. The preparation of the 2022 DC Background Study and by-law has been undertaken in consultation with the following:

- Halton DCAC;
- Halton Region Planning and Public Works, Legislative & Planning Services, Health and Social Services, as well as Halton Regional Police Service;
- Consultants retained by the Region, including GM BluePlan Engineering Limited, Ellso Consulting Inc., Kagan Shastri LLP Lawyers, and Watson & Associates Economists Ltd.

Map ES-1
Lands to Which Development Charges are Applicable



Chapter 1

Introduction

1. Introduction

1.1 Purpose of this Document

The Region of Halton has prepared a DC background study (the Study) and by-law for water, wastewater, roads and general services (i.e. growth studies, police, paramedic services, facilities, social housing, waste diversion, and waterfront parks) which through the DC process set out in the Study will lead to the replacement of By-law No. 36-17 (Halton Built Boundary and Greenfield Area Water, Wastewater, Roads and General Services Development Charges By-law, 2017).

By-law No. 36-17, as amended, was approved by Council on June 14, 2017, and became effective September 1, 2017. The by-law will expire on August 31, 2022.

The Study has been prepared, in the first instance, to meet the statutory requirements applicable to the Region's DC background study, as summarized in subsections 1.2 and 1.3 below. It also addresses the requirement for "rules" (contained in Chapter 6) and the proposed by-law to be made available as part of the approval process (included as Appendix I).

In addition, the Study is designed to set out sufficient background on the legislation (Chapter 1), current Regional DC policy (Chapter 2) and the policies underlying the proposed by-law (Chapter 6), to make the exercise understandable to those who are involved. Finally, it also addresses post-adoption implementation requirements (Chapter 7).

The Study reviews all relevant information required under the DCA to determine the DCs for water, wastewater, roads and general services (i.e. growth studies, police, paramedic services, facilities, social housing, waste diversion, and waterfront parks). With respect to the water and wastewater services, it has been prepared to calculate uniform plant capacity DCs and area specific distribution/collection charges for the Greenfield and Built Boundary areas, as identified in ROPA 38 (Chapters 4 and 5 and Appendix C). The non-residential roads DC calculation has been differentiated between retail and non-retail development (Appendix D and E).

The chapters in the Study are supported by Appendices containing the data required to explain and substantiate the calculation of the charges.

Figure 1-1 outlines the proposed schedule to be followed with respect to the DC by-law adoption process.

Figure 1-1
Schedule of Key DC Process Dates

Process	Date
1. Release of DC Background Study to the Public	December 15, 2021
2. Public Meeting under the DCA, 1997	February 16, 2022
3. Final DC Proposals to Council	March 23, 2022
4. Proposed Passing of DC By-law(s) by Council	April 20, 2022
5. Advertise Notice of passage of DC By-law(s)	Within 20 days of passage
6. Last day for DC By-law(s) Appeal	40 days after passage

The Public Meeting under the DCA will be held on February 16, 2022, and Council will consider the DC by-law proposed in this background study on April 20, 2022.

1.2 Development Charges Act, 1997 (DCA) Background Study Requirements

The DCA requires that a DC background study must be completed by Regional Council before passing a DC 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, and are as follows:

- a) the estimates under paragraph 1 of subsection 5(1) of the anticipated amount, type and location of development (Chapter 3);
- b) the calculations under paragraphs 2 to 8 of subsection 5(1) for each service to which the DC by-law would relate (Chapter 4);
- c) an examination, for each service to which the DC by-law would relate, of the long-term capital and operating costs for capital infrastructure required for the service (Appendix H);

d) In regard to b), consideration by Council of the use of more than one DC by-law to reflect the different needs for services in different areas (unless the regulations prescribe a specific service or area).

e) the following for each service to which the DC relates:

- the total of the estimated capital costs relating to the service.
- the allocation of the costs referred to in paragraph 1 of subsection 5(1) between costs that would benefit new development and costs that would benefit existing development.
- the total of the estimated capital costs relating to the service that will be incurred during the term of the proposed DC by-law.
- the allocation of the costs referred to in paragraph 3 of subsection 5(1) between costs that would benefit new development and costs that would benefit existing development.
- the estimated and actual value of credits that are being carried forward relating to the service. (O. Reg. 82/98 s.8 and addressed in Chapter 4 of this report)

f) for all services, an AMP shall be provided for all assets whose capital are proposed to be funded under the DC by-law (Appendix I). This plan shall demonstrate that all assets mentioned above are financially sustainable over their full lifecycle.

g) The Study must be made available to the public at least 60 days prior to passing the DC by-law. The Study must be posted on the municipality's website (or if no website is provided by the municipality, made available in the municipal office). Further, the Study must remain on the municipality's website until the DC by-law is repealed or replaced.

1.3 Development Charges Act, 1997 (DCA) Requirements

1.3.1 Introduction

1. DCs are payments made by new development in Halton (and other municipalities) normally as part of the building permit approval and/or the subdivision agreement process. These payments are made by all such new development, unless specifically exempt by the DCA or the Region's DC by-law.

2. These payments are made for the initial capital requirements of providing services to new development anticipated over a specific planning period (i.e. to 2031 for Halton).

Region-funded services that are potentially eligible for DC funding are now listed in Section 2 of the DCA (see section 1.4 below).

3. “Capital” is defined in the DCA to include the municipal cost to acquire, lease, construct or improve land or facilities, including rolling stock (7+ year life), furniture and equipment (other than computer equipment), library materials, as well as related study and financing costs.

4. The monies collected under a DC by-law are maintained in separate reserve funds, one for each of the services or classes of services (discussed further in Section 1.4 below). It is also required that the monies only be expended for the purpose for which the DC was calculated.

5. In calculating the charge, it is necessary to:

- establish a new growth forecast for population and housing, and for employees and floor area for a planning period;
- determine and cost the additional services that such new growth will require and ensure that the capital program has Council approval;
- make the cost deductions required by the DCA with respect to service level, benefit to existing development, excess capacity, grants, and other contributions, etc.;
- calculate DCs by type of use and document this in a background study and by-law;
- take a background study and proposed by-law through a public process, seeking Council approval thereof.

1.3.2 DC Prerequisites

As per the DCA, the Region can impose DCs for:

1. A Regional service and funding responsibility:

- Water supply services, including distribution and treatment services.
- Wastewater services, including sewers and treatment services.
- Storm water drainage and control services.
- Services related to a highway.
- Electrical power services.
- Toronto-York subway extension.

- Transit services.
- Waste diversion services.
- Policing services.
- Fire protection services.
- Ambulance services.
- Library services.
- Long-term Care services
- Parks and Recreation services, but not the acquisition of land for parks.
- Public Health services.
- Childcare and early years services.
- Housing services.
- Provincial Offences Act services.
- Services related to emergency preparedness.
- Services related to airports, but only in the Regional Municipality of Waterloo.
- Additional services as prescribed.

2. A service which will experience an increase in capital needs at least partially attributable to residential and/or non-residential growth in Halton for a period between 2022-2031.

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 or other 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. Such capital costs don't serve to increase the future (per capita/employee) level of service beyond the average attained in Halton over the 2012-2021 period, or as legislated.

1.3.3. A Summary of Statutory DC Calculation Requirements

The following tabular text sets out the method that must be used to determine DCs for non-transit services (note that under section 6.1 of O. Reg. 82/98, transit is a prescribed service and provides a forward-looking service standard along with added requirements to be included in a background study as per sections 8 (2), (3) and (4) of the O. Reg.). 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 1-2 which follows.

Para-graph	Subsection 5 (1) of the DCA (and associated Regulations)	Commentary
1.	<p>“The anticipated amount, type and location of development, <u>for which development charges can be imposed</u>, must be estimated.”</p> <p>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. 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, adoption of area specific by-laws is a choice to be made by Council.</p>
2.	<p>“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 paragraph 1 must correspond to the service attribution in paragraph 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</p>

Para-graph	Subsection 5 (1) of the DCA (and associated Regulations)	Commentary
		<p>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>
3.	<p>“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>
4.	<p>“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 How the level of service and average level of service is determined may be governed by the regulations.”</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>No planning period cap is provided by the Act, with the exception of Transit services.</p> <p>A Class of Service may be established which is composed of any number or combination of services and may include parts or portions of the services listed in subsection 2 (4) or parts or portions of the capital costs listed in subsection 5(3) (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</p>

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

Para-graph	Subsection 5 (1) of the DCA (and associated Regulations)	Commentary
	<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. 4 (1.1) provides that in determining the quality of a service, the replacement cost, exclusive of any allowance for depreciation, shall be the amount used.</p> <p>s. 4 (2) addresses the service level in an excluded geographic area where a service is not provided.</p> <p>s. 4 (4) limits the service level in part of a municipality to the level otherwise applicable to the full municipality.</p> <p>s. 4 (3) modifies the service level cap where a higher level is required by another Act.</p>	<p>considerations involve “quantity” (e.g. floor space/capita) and “quality” (e.g. cost per sq. m. of floor space).</p> <p>Potentially affects area specific charges and needs to be part of Council’s consideration of area-rating as required by s. 10 (2) (c.1) of the DCA.</p> <p>Affects water and wastewater requirements in particular.</p>
5.	<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. (underlining added)</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>

Para-graph	Subsection 5 (1) of the DCA (and associated Regulations)	Commentary
6.	<p>“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).
7.	<p>“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:</p> <p style="padding-left: 40px;">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 were allocated in s. 5 (1) 6.</p> <p>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; 	<p>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> <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. 2 (5)).</p> <p>Includes debt payments related to previously constructed growth-related works.</p>

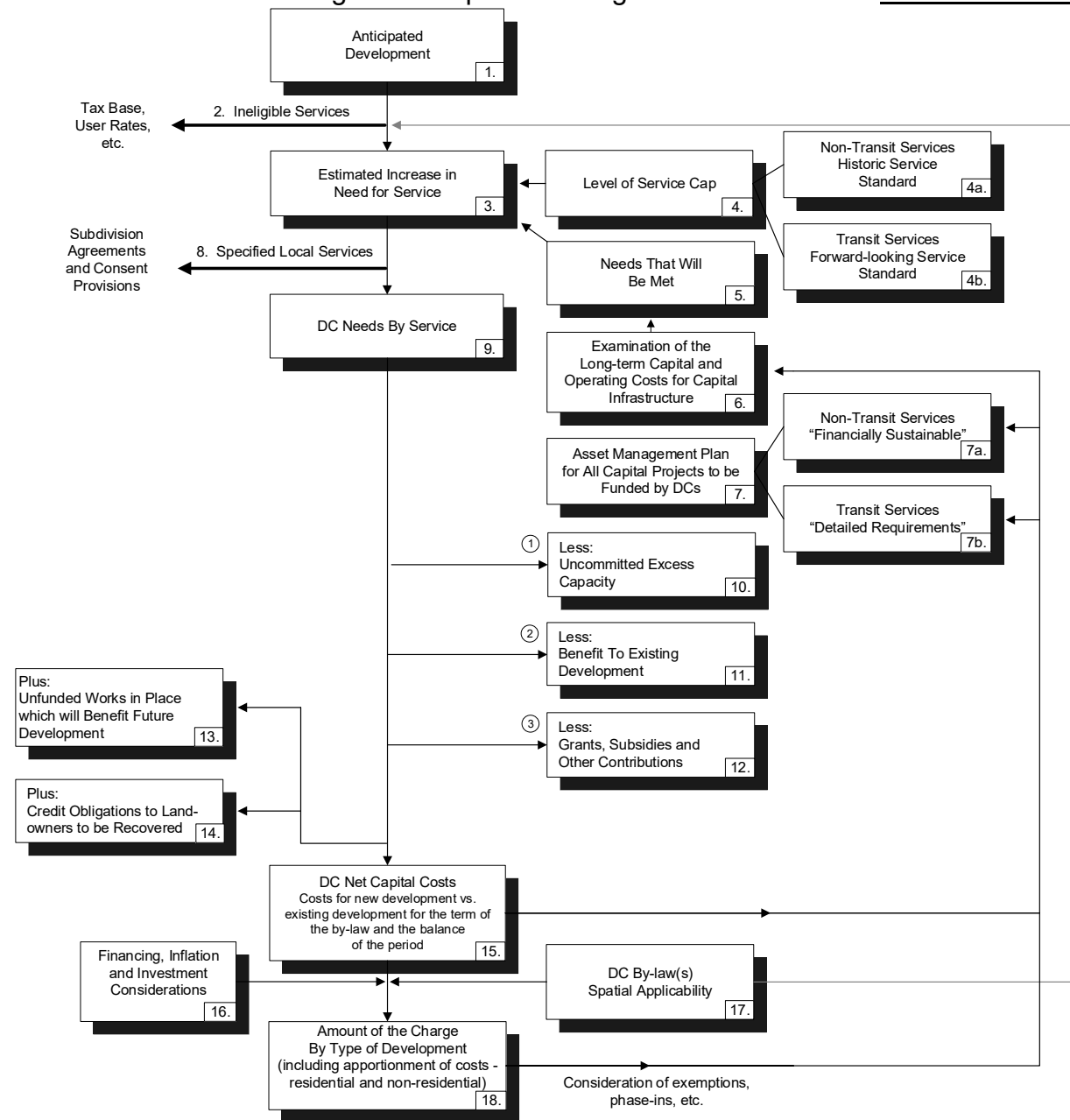
¹ The Act notes that the provisions may be further governed by regulations

Para-graph	Subsection 5 (1) of the DCA (and associated Regulations)	Commentary
	<ul style="list-style-type: none"> • 7+ year useful life rolling stock; • FFE, other than computer equipment; • library materials; • studies re above; • DC Background Studies; and • interest on related borrowings. 	
8.	Previously this section required a mandatory 10% deduction be applied to the DC calculations	This section has now been repealed as per the passage of Bill 197 (2020). This is discussed further in Section 1.4 of this study.
9.	<p>“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. 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 <u>determine 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</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>These are 3 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, then address via a reserve fund deduction in the DC calculation in the next round or other appropriate means).</p>

Para-graph	Subsection 5 (1) of the DCA (and associated Regulations)	Commentary
	<p><u>development charge by-law relates.</u></p> <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.</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>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>
10.	<p>“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</p>	<p>Optional by-law inclusions such as authority to set rules on discretionary exemptions, phasing in of DCs and indexing of DCs.</p>

Para-graph	Subsection 5 (1) of the DCA (and associated Regulations)	Commentary
	charges based on the prescribed index.”	

Figure 1-2
The Process of Calculating a Development Charge under the Act that Must be Followed



1.4 Changes to the DCA: Bill 108, 138, 137, and 213

1.4.1 *Bill 108: More Homes, More Choice Act – An Act to Amend Various Statutes with Respect to Housing, Other Development, and Various Matters*

On May 2, 2019, the Province introduced Bill 108, which proposed changes to the DCA. The Bill was introduced as part of the Province's "*More Homes, More Choice: Ontario's Housing Supply Action Plan*". The Bill received Royal Assent on June 6, 2019.

While having received royal assent, many of the amendments to the DCA would not come into effect until they are proclaimed by the Lieutenant Governor (many of these changes were revised through Bill 197). At the time of writing, the following provisions have been proclaimed:

- Effective January 1, 2020, rental housing and institutional developments will pay DCs in six equal annual payments commencing at occupancy. Non-profit housing developments will pay DCs in 21 equal annual payments. Interest may be charged on the instalments, and any unpaid amounts may be added to the property and collected as taxes.
- Effective January 1, 2020, the DC amount for all developments occurring within 2 years of a Site Plan or Zoning By-law Amendment planning approval (for application submitted after this section is proclaimed), shall be determined based on the DC in effect on the day of Site Plan or Zoning By-law Amendment application. If the development is not proceeding via these planning approvals, then the amount is determined the earlier of the date of issuance of a building permit.

On February 28, 2020, the Province released updated draft regulations related to the DCA and the Planning Act. A summary of these changes to take effect upon proclamation by the Lieutenant Governor is provided below:

Changes to Eligible Services – Prior to Bill 108, the DCA provided a list of ineligible services whereby municipalities could include growth related costs for any service that was not listed. With Bill 108, the changes to the DCA would now specifically list the services that are eligible for inclusion in the by-law. Further, the initial list of eligible services under Bill 108 was limited to "hard services", with the "soft services" being removed from the DCA. These services would be considered as part of a new

community benefits charge (discussed below) imposed under the Planning Act. As noted in the next section this list of services has been amended through Bill 197.

Mandatory 10% deduction - The amending legislation would have removed the mandatory 10% deduction for all services that remain eligible under the DCA.

Remaining Services to be Included in a New Community Benefits Charge (CBC) Under the Planning Act - It is proposed that a municipality may, by by-law, impose a CBC against land to pay for the capital costs of facilities, services and matters required because of development or redevelopment in the area to which the by-law applies. The CBC was proposed to include formerly eligible DC services that are not included in the above listing, in addition to parkland dedication and bonus zoning contributions.

1.4.2 Bill 138: Plan to Build Ontario Together Act, 2019

On November 6, 2019, the Province released Bill 138 which provided further amendments to the DCA and Planning Act. This Bill received Royal Assent on December 10, 2019 and was proclaimed which resulted in sections related to the DCA (schedule 10) becoming effective on January 1, 2020. The amendments to the DCA included removal of instalment payments for commercial and industrial developments that were originally included in Bill 108.

1.4.3 Bill 197: COVID-19 Economic Recovery Act

In response to the global pandemic that began affecting Ontario in early 2020, the Province released Bill 197 which provided amendments to a number of Acts, including the DCA and Planning Act. This Bill also revised some of the proposed changes identified in Bill 108. Bill 197 was tabled on July 8, 2020, received Royal Assent on July 21, 2020, and was proclaimed on September 18, 2020. The following provides a summary of the changes:

1.4.3.1 DC Related Changes

List of DC Eligible Services

As noted above, under Bill 108 some services were to be included under the DCA and some would be included under the CBC authority. Bill 197, however, revised this proposed change and has included all services (with some exceptions) under the DCA. These services are as follows:

- Water supply services, including distribution and treatment services.
- Wastewater services, including sewers and treatment services.
- Storm water drainage and control services.
- Services related to a highway.
- Electrical power services.
- Toronto-York subway extension.
- Transit services.
- Waste diversion services.
- Policing services.
- Fire protection services.
- Ambulance services.
- Library services.
- Long-term Care services
- Parks and Recreation services, but not the acquisition of land for parks.
- Public Health services.
- Childcare and early years services.
- Housing services.
- Provincial Offences Act services.
- Services related to emergency preparedness.
- Services related to airports, but only in the Regional Municipality of Waterloo.
- Additional services as prescribed.

Classes of Services – DC

Pre-Bill 108/197 legislation (i.e. DCA, 1997) allowed for categories of services to be grouped together into a minimum of two categories (90% and 100% services).

The Act (as amended) repeals and replaces the above with the four following subsections:

- A DC by-law may provide for any eligible service or capital cost related to any eligible service to be included in a class, set out in the by-law.
- A class may be composed of any number or combination of services and may include parts or portions of the eligible services or parts or portions of the capital costs in respect of those services.

- A DC by-law may provide for a class consisting of studies in respect of any eligible service whose capital costs are described in paragraphs 5 and 6 of s. 5 of the DCA.
- A class of service set out in the DC by-law is deemed to be a single service with respect to reserve funds, use of monies, and credits.

As well, the removal of the 10% deduction for soft services under Bill 108 has been maintained.

Note: additionally, a “sub-class” can include any group of services.

1.4.3.2 CBC Related Changes

CBC Eligibility

- The CBC is limited to lower-tier and single tier municipalities; upper-tier municipalities will not be allowed to impose this charge.
- A CBC may be imposed with respect to the services listed in s. 2 (4) of the DCA (eligible services), “provided that the capital costs that are intended to be funded by the community benefits charge are not capital costs that are intended to be funded under a development charge by-law.”
- Halton Region is an upper tier municipality and therefore the discussion around the CBC is not discussed further in this report.

1.4.4 Bill 213: Better for People, Smarter for Business Act, 2020

On December 8, 2020, Bill 213 received Royal Assent. One of the changes of the Bill that took effect upon Royal Assent included amending the Ministry of Training, Colleges and Universities Act by introducing a new section that would exclude the payment of DCs for developments of land intended for use by a university that receives operating funds from the Government.

Chapter 2

Current Region Policy

2. Current Region Policy

2.1 Summary of Halton's Current DC By-laws

2.1.1 Halton's current DC policies are based on the following by-laws:

- By-law No. 36-17, as amended, established water, wastewater, roads and general services DCs for the Regional Municipality of Halton (Greenfield and Built Boundary Areas). This by-law was passed on June 14, 2017, came into force on September 1, 2017, and will expire on August 31, 2022.

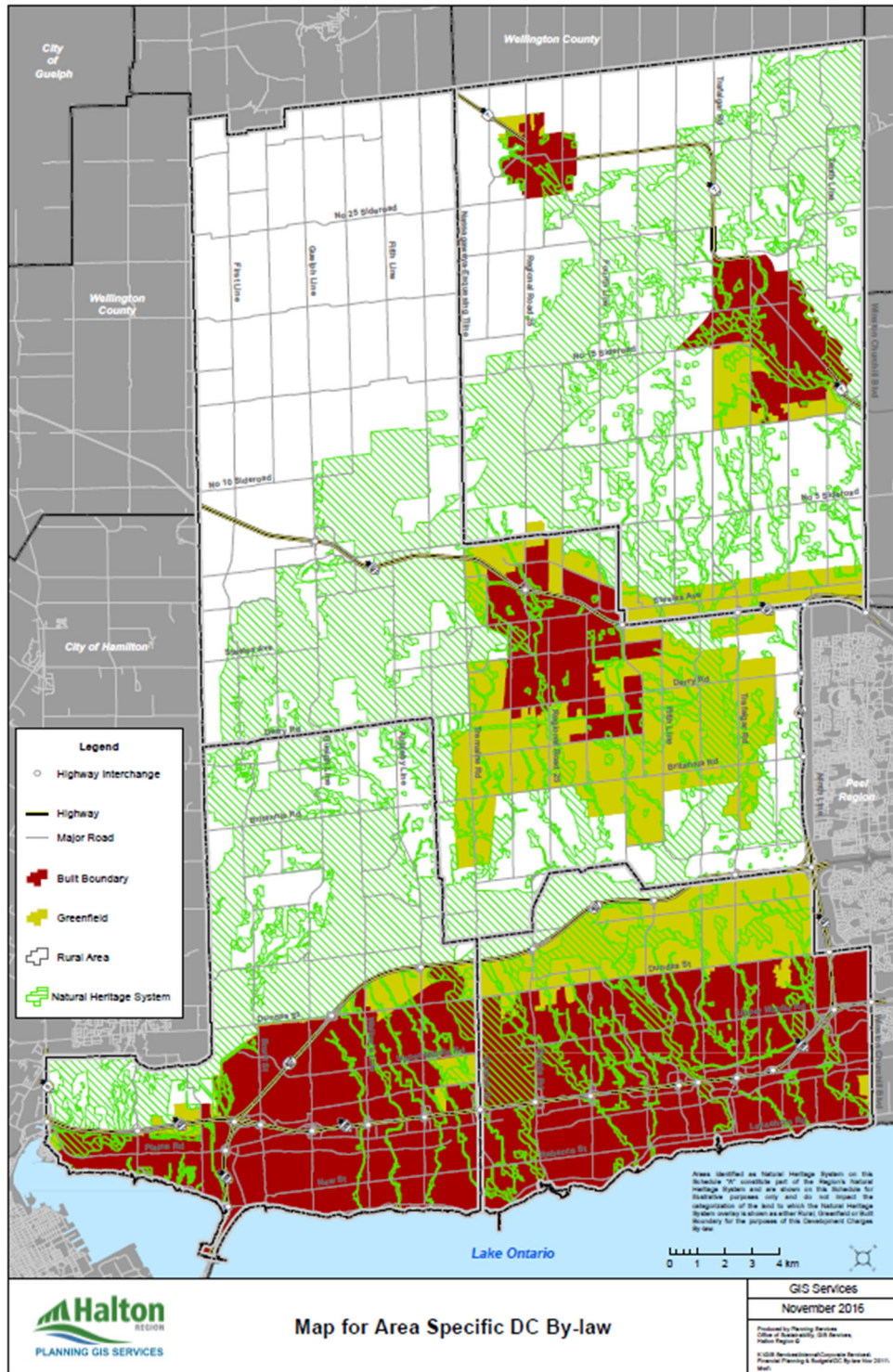
The areas to which this by-law applies are shown in Map 2-1. This includes the Greenfield area, Built Boundary area and Rural area.

It should be noted that the Study does not address GO Transit DC By-law No. 159-01, as amended, because the Province, through Ontario Regulation 451/19, extended the existing by-law to December 31, 2022 and has done so periodically. Imposition of a revised GO Transit DC by-law to replace the current by-law will require a separate study process.

Further the Study does not address the Recovery DC By-law No. 37-17 (Residential Recovery of the Early Payment of Estimated Future Water, Wastewater and Roads DCs for the Recovery Area). This by-law was updated under a separate study and the new Recovery DC By-law 48-21 comes into force January 1, 2022.

Additionally, this Study does not address the residential Front-ending recovery payment which commenced on January 1, 2017, and was established under the front-ending provision (section 44) of the DCA.

Map 2-1
 Schedule "A" to By-law No. 36-17
 Map of Region of Halton



2.1.2 By-law No. 36-17

By-law No. 36-17 establishes the area specific residential and non-residential water, wastewater (both Greenfield and Built Boundary as shown in Map 2-1), roads and general services DCs for the Regional Municipality of Halton.

The residential DCs applied to the Greenfield and Built Boundary areas are as follows:

Residential Development Type	Greenfield/ Built Boundary	Charge in By-Law					Current As Of April 1, 2021				
		Water	Wastewater	Roads	General Services	Total	Water	Wastewater	Roads	General Services	Total
Single & Semi-detached Dwelling	Greenfield	\$ 7,581.80	\$ 8,966.66	\$ 16,826.72	\$ 2,098.56	\$ 35,473.74	\$ 8,689.18	\$ 10,276.31	\$ 19,284.39	\$ 2,405.06	\$ 40,654.94
	Built Boundary	\$ 2,742.94	\$ 3,957.47	\$ 16,826.72	\$ 2,098.56	\$ 25,625.69	\$ 3,143.56	\$ 4,535.49	\$ 19,284.39	\$ 2,405.06	\$ 29,368.50
Multiple Dwelling (3 or more bedrooms)	Greenfield	\$ 6,079.53	\$ 7,193.63	\$ 13,446.01	\$ 1,582.28	\$ 28,301.45	\$ 6,967.49	\$ 8,244.31	\$ 15,409.90	\$ 1,813.39	\$ 32,435.09
	Built Boundary	\$ 2,183.68	\$ 3,142.12	\$ 13,446.01	\$ 1,582.28	\$ 20,354.09	\$ 2,502.62	\$ 3,601.05	\$ 15,409.90	\$ 1,813.39	\$ 23,326.96
Multiple Dwelling (less than 3 bedrooms)	Greenfield	\$ 4,419.81	\$ 5,230.15	\$ 9,770.23	\$ 1,171.26	\$ 20,591.45	\$ 5,065.36	\$ 5,994.05	\$ 11,197.25	\$ 1,342.32	\$ 23,598.98
	Built Boundary	\$ 1,586.89	\$ 2,283.57	\$ 9,770.23	\$ 1,171.26	\$ 14,811.95	\$ 1,818.67	\$ 2,617.10	\$ 11,197.25	\$ 1,342.32	\$ 16,975.34
Apartment Dwelling (2 or more bedrooms)	Greenfield	\$ 3,723.95	\$ 4,405.66	\$ 8,245.42	\$ 1,003.85	\$ 17,378.88	\$ 4,267.86	\$ 5,049.15	\$ 9,449.73	\$ 1,150.46	\$ 19,917.20
	Built Boundary	\$ 1,344.48	\$ 1,940.18	\$ 8,245.42	\$ 1,003.85	\$ 12,533.93	\$ 1,540.85	\$ 2,223.56	\$ 9,449.73	\$ 1,150.46	\$ 14,364.60
Apartment Dwelling (less than 2 bedrooms)	Greenfield	\$ 2,869.32	\$ 3,394.63	\$ 6,352.56	\$ 766.83	\$ 13,383.34	\$ 3,288.40	\$ 3,890.45	\$ 7,280.40	\$ 878.84	\$ 15,338.09
	Built Boundary	\$ 1,035.74	\$ 1,494.56	\$ 6,352.56	\$ 766.83	\$ 9,649.69	\$ 1,187.02	\$ 1,712.86	\$ 7,280.40	\$ 878.84	\$ 11,059.12
Special Care/Special Need Dwelling	Greenfield	\$ 2,369.06	\$ 2,801.76	\$ 5,257.95	\$ 660.03	\$ 11,088.80	\$ 2,715.08	\$ 3,210.98	\$ 6,025.91	\$ 756.43	\$ 12,708.40
	Built Boundary	\$ 857.60	\$ 1,237.83	\$ 5,257.95	\$ 660.03	\$ 8,013.41	\$ 982.86	\$ 1,418.62	\$ 6,025.91	\$ 756.43	\$ 9,183.82

The non-residential charges applied to Greenfield and Built Boundary areas are as follows:

Non-Residential Development Type	Charge in By-Law (per Sq. Ft.)					Current As Of April 1, 2021 (per Sq. Ft.)				
	Water	Waste-water	Roads	General Services*	Total	Water	Waste-water	Roads	General Services	Total
Greenfield Retail	\$2.762	\$ 3.542	\$ 26.420	\$ 0.343	\$33.067	\$3.166	\$4.060	\$ 30.279	\$ 0.393	\$ 37.898
Greenfield Non-Retail	\$2.762	\$ 3.542	\$ 5.216	\$ 0.343	\$11.863	\$3.166	\$4.060	\$ 5.978	\$ 0.393	\$ 13.597
Built Boundary Retail	\$1.072	\$ 1.748	\$ 26.420	\$ 0.343	\$29.583	\$1.229	\$2.004	\$ 30.279	\$ 0.393	\$ 33.905
Built Boundary Non-Retail	\$1.072	\$ 1.748	\$ 5.216	\$ 0.343	\$ 8.379	\$1.229	\$2.004	\$ 5.978	\$ 0.393	\$ 9.604

The DCs were indexed on April 1, 2018 and each year thereafter, on April 1, in accordance with the Statistics Canada Quarterly Construction Price Statistics.

In general, DCs shall be payable on the date a building permit is issued. In the case of residential development, the water services, wastewater services, and roads service components shall be payable with respect to an approval of a plan of subdivision or a consent at the time of execution of the subdivision agreement or the agreement entered into as a condition of a consent. With respect to high density apartment dwellings with a minimum of 4 storeys or containing more than 130 dwelling units per net hectare per approved plans under section 41 of the Planning Act, the water services, wastewater services, and roads services components along with the general services component of the DCs shall be payable on the date of building permit issuance.

DC exemptions beyond the statutory provisions include public hospitals, places of worship, designated conservation authority uses, agricultural development (excluding associated residential or commercial), temporary venues/seasonal structures, temporary buildings, garden suites, and parking garages.

2.1.3 Summary of Current DC Policies

Table 2-1 summarizes the DC policies included in the current DC by-law described above.

Table 2-1
Summary of Existing Halton Region DC Policies

DC Policies	Description
Residential Dwelling Categories	<ul style="list-style-type: none"> - Residential charge is based on 6 categories of dwelling units, including: Single/Semi Detached, Multiple (3 or more bedrooms), Multiple (less than 3 bedrooms), Apartment (2 or more bedrooms), Apartment (less than 2 bedrooms), Special Care/Special Need/Accessory.
Non-Residential Categories	<ul style="list-style-type: none"> - Non-residential charge is based on total floor area (TFA) (sq.ft./sq.m) and DCs categorized by: retail and non-retail.
Exemption for Intensification of Existing Housing including a structure ancillary to it (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Enlargement of an existing unit; - Creating 1 or 2 additional units in a single detached or 1 additional unit in any other type of dwelling provided the TFA of the new unit(s) does not exceed the existing unit; - Creating the greater of 1 or 1% of the existing units; in a rental residential building; or - The above restrictions apply whether an additional unit is in the residential building or a structure ancillary to it.
Exemption for Additional dwelling units in new residential buildings or a structure ancillary to it (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Creating 1 additional dwelling unit in a new residential building containing a single, semi-detached or row dwelling, (or in a building ancillary to each) provided the TFA of the additional 1 unit does not exceed the TFA of the initial unit.
Temporary Residential Building Exemption - Garden Suite - Other	<ul style="list-style-type: none"> - Garden Suite – through an agreement registered on title, exempt if removed within the period set by local municipality’s temporary use by-law and if not DCs go onto property tax. - Other – through an agreement, exempt if securities posted in amount of DC payable at building permit and if the building is removed within 3 years of building permit issuance (or any extension provided in writing by the Treasurer), the security is returned. If not, security deposited to the DC reserve funds.

DC Policies	Description
Timing of DC Payment	<ul style="list-style-type: none"> - Residential: <ul style="list-style-type: none"> o Collect water, wastewater and roads at subdivision or consent agreement (except for high density apartment); o Collect general services at building permit. - Non-residential: <ul style="list-style-type: none"> o Collect all DCs at building permit. - Notwithstanding the above, Region may enter into agreement under s.27 of the DCA to collect all or part of DCs earlier or later than they would otherwise be payable.
Industrial Expansion Exemption (Mandatory)	<ul style="list-style-type: none"> - If existing building is enlarged by 50% or less, expansion is exempt, and - Enlargement must be a bona fide increase in the size of the existing building, attached to and having direct entry to the existing building and used in connection with an industrial purpose. - Expansion calculated based on the cumulative areas of the existing building prior to expansion. - Expansion calculation is based on TFA which includes below grade floor area.
Commercial Expansion Exemption	<ul style="list-style-type: none"> - Provide an expansion exemption, for the first 278 m² (3,000 sq.ft.) for an expansion of the existing commercial building (attached or detached) on the site; - Expansion or accessory building on the lot must be incidental to or subordinate in purpose and exclusively devoted to the commercial use in the existing building; - There must be at least 6 months since issuance of the last building permit on the lot.
Municipal and School Board Exemptions (Mandatory)	<ul style="list-style-type: none"> - DCs exempt for "Land owned by and used for the purposes of a municipality or a board as defined in the <i>Education Act</i>" per DCA. - Unless buildings or part thereof are used for commercial purposes.
Demolition Credit	<ul style="list-style-type: none"> - Credit calculated by multiplying the number/type of dwelling units or the non-residential TFA being demolished, by the relevant DC in effect on the date when the DC is payable. - Given where a building permit is issued within 5 years from the date of the demolition permit. - Does not apply if the building is exempt under the current by-law. - Where the building cannot be demolished until the new building is constructed, DCs are payable on issuance of a building permit and a refund is made, without interest, if the demolition is made within 12 months of building permit issuance.

DC Policies	Description
	<ul style="list-style-type: none"> - Where a formal planning application (e.g. complete site plan application under the Planning Act) has been submitted to the local municipality but a building permit cannot be issued within the 5-year timeframe, the Treasurer, upon written request, may extend the credit. - Credit provided on a one-time basis unless there is an approved phasing plan.
Conversion Credit	<ul style="list-style-type: none"> - Credit calculated by multiplying the number/type of dwelling units or the non-residential TFA, being converted by the relevant DC in effect on the date when the DC is payable. - Does not apply if the original building (prior to conversion) is exempt under the current by-law. - Credit provided on a one-time basis unless there is an approved phasing plan. - Despite the above, where there is a conversion from a non-retail to a retail development an exemption of incremental DCs up to a conversion of either 10,000 sq.ft. (930 sq.m.) or 25% of TFA being converted, whichever is greater.
Lot Coverage Relief	<ul style="list-style-type: none"> - Provides a full DC exemption for non-residential when the non-residential development is greater than 1.0 times the lot size.
Parking Garages Exemption	<ul style="list-style-type: none"> - Parking garages (whether at, above or below grade) are exempt.
Temporary Non-Residential Building (i.e. sales trailers)	<ul style="list-style-type: none"> - Require securities posted in amount of DC payable at building permit. - If the building is removed within 3 years of building permit issuance (or any extension provided in writing by the Treasurer), the security is returned. If not, security deposited to the DC reserve funds.
Agricultural Exemption	<ul style="list-style-type: none"> - DCs are exempt when the use is considered a bona fide farming operation, including sod farms, breeding and boarding of horses, and green houses with no connection to the Regional water and wastewater. Residential and commercial uses in agricultural development are not exempt. - Staff review availability of Farm Business Registration (FBR) number in order to confirm the Agricultural use.
Other Exemptions	<ul style="list-style-type: none"> - Includes the following additional discretionary exemptions: <ul style="list-style-type: none"> ○ Hospitals (unless buildings or part thereof are used for commercial purposes); ○ Places of Worship; ○ Conservation Authorities (unless buildings or part thereof are used for commercial purposes); ○ Seasonal structures;

DC Policies	Description
	<ul style="list-style-type: none"> ○ Temporary venue.
Affordable Rental Housing	<ul style="list-style-type: none"> - Greater of 25% or 10 units at or below affordable rent, as defined (for min. 20 years) in State of Housing Report. - Deferral of DCs by annual payments over 20 years commencing at BP - No interest
Rental housing (excluding non-profit) (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Payment of DCs by 6 annual installments commencing at occupancy - Interest applies
Non-profit housing (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Payment of DCs by 21 annual installments commencing at occupancy - No interest
Institutional (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Payment of DCs by 6 annual installments commencing at occupancy - Interest applies
Non-Residential Payment Deferral	<ul style="list-style-type: none"> - Available for non-residential DCs through an agreement for all developments. - Deferral of DC's by annual payments over a 10year period commencing at building permit. - Interest applies

Chapter 3

Anticipated Development in Halton

3. Anticipated Development in Halton 2022-2031

3.1 Requirements of the Act (DCA)

Subsection 5(1) of the DCA sets out the method that must be used to determine DCs. 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 process.

The requirement of the DCA is for a development forecast that 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, and employment. This chapter, therefore, addresses both the anticipated increase in development and the users thereof. It covers all forms of development in order to spread the costs over the entirety of the benefiting development.

Short- and longer-term time horizons are generally utilized for the DC process. The DCA limits the planning horizon for transit services to a 10-year planning horizon. All other services can utilize a longer planning period if the municipality has identified the growth-related capital infrastructure needs associated with the longer-term growth planning period. For the purpose of this DC process, a 10-year (2022-2031) planning horizon is used for all services as the currently approved master planning documents identify capital needs to 2031.

3.2 Anticipated Development

The anticipated development in Halton over the 10-year planning horizon has been prepared based on the Halton Region Best Planning Estimates (BPE, 2011), updated in 2011. The Halton Region BPE, 2011 was developed by Regional staff in consultation with staff from local municipalities based on various demographic models, using parameters derived from Statistics Canada Census data.

The Halton Region BPE, 2011 population and employment forecast reflects the population and employment targets set out in Schedule 3 of the Provincial Growth Plan, Places to Grow and Regional Official Plan Amendment (ROPA) No. 39. Specifically, the Region is required to plan for a total of 780,000 people (752,537 excluding the Census undercount) and 390,000 jobs by 2031. Halton Region further allocated the provincial growth targets by local municipality as part of the Sustainable Halton process, which represents the growth management and land use response to the Province's Places to Grow Plan, the Provincial Policy Statement and the Greenbelt Plan.

The anticipated growth between 2022 and 2031 was used as a basis to establish the increase in needs for water, wastewater, roads, police and general services, such as growth studies, paramedic services, facilities, social housing, waste diversion, and waterfront parks.

In order to support the calculation of area specific water and wastewater charges, the growth to 2031 has also been presented on a Designated Greenfield Area (DGA) versus Built-Up Area (BUA) basis. The area specific charges are discussed in Chapter 6. Appendix A provides a detailed summary of the BPE, 2011 growth forecast.

Tables 3-1 and 3-2 provide a summary of anticipated development in Halton Region.

Table 3-1
Summary of Anticipated Residential Development

1. Housing Units

Total Housing Units	2021	2026	2031
Town of Oakville	81,580	88,109	93,550
City of Burlington	74,880	77,687	80,572
Town of Milton	55,711	68,375	80,293
Town of Halton Hills	22,284	28,279	34,141
Halton Region	234,455	262,450	288,556
Incremental Units	2022-2026	2027-2031	2022-2031
Town of Oakville	6,529	5,441	11,970
City of Burlington	2,807	2,885	5,692
Town of Milton	12,664	11,918	24,582
Town of Halton Hills	5,995	5,862	11,857
Halton Region	27,995	26,106	54,101

Source: Halton Region BPE, 2011.

2. Population

Total Population^{1,2}	2021	2026	2031
Town of Oakville	221,826	234,122	246,399
City of Burlington	178,847	182,034	186,169
Town of Milton	161,750	195,735	228,084
Town of Halton Hills	61,672	77,003	91,885
Halton Region	624,095	688,894	752,537
Incremental Population	2022-2026	2027-2031	2022-2031
Town of Oakville	12,296	12,277	24,573
City of Burlington	3,187	4,135	7,322
Town of Milton	33,985	32,349	66,334
Town of Halton Hills	15,331	14,882	30,213
Halton Region	64,799	63,643	128,442

¹ Includes institutional population.

² Excludes the Census undercount.

Source: Halton Region BPE, 2011.

Table 3-2
Summary of Anticipated Non-Residential Development

Total Employment	2021	2026	2031
Town of Oakville	120,796	122,578	128,359
City of Burlington	102,846	104,145	105,349
Town of Milton	81,106	96,631	114,330
Town of Halton Hills	22,936	32,356	41,962
Halton Region	327,684	355,710	390,000
Incremental Employment	2022-2026	2027-2031	Total
Town of Oakville	1,782	5,781	7,563
City of Burlington	1,299	1,204	2,503
Town of Milton	15,525	17,699	33,224
Town of Halton Hills	9,420	9,606	19,026
Halton Region	28,026	34,290	62,316

Source: Halton Region BPE, 2011

Chapter 4

Resultant Increase in the Need for Service

4. Resultant Increase in the Need for Service

4.1 Introduction

This chapter addresses the requirements of s. 5 (1) of the DCA with respect to the establishment of the estimated increased need for service attributable to the anticipated development, which underpins the DC calculation. These requirements were detailed in sections 1.2 and 1.3 and illustrated schematically in Figure 1-2.

4.2 Services Potentially Involved

Table 4-1 below lists the full range of DC-related municipal services categories. A number of these services are not referenced in s. 2 (4) of the DCA as being eligible for inclusion in DCs. These are shown as “ineligible” on Table 4-1. In addition, two ineligible costs defined in s. 5 (3) of the DCA are “computer equipment” and “rolling stock with an estimated useful life of (less than) seven years...”. Further, local water, wastewater and road works are recovered separately under subdivision agreements and related means (as are other local services). Appendix G sets out guidelines with respect to the size of water, wastewater, roads, and road related infrastructure that constitutes a DC project versus a local service. Services which are potentially eligible for inclusion in the Regional DC are indicated with an “R.”

This Study includes some of the rolling stock and computer equipment that is integral to, or part of, an eligible project included in the police and paramedic services programs. The supporting information is described in detail in Appendix F.

4.3 The Increase in the Need for Service

The DC calculation commences with an estimate of “the increase in the need for service attributable to the anticipated development,” for the services 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. 5 (1) 3 (and section 3 of the associated regulation), which requires Municipal 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 normally be applicable.

Table 4-1
Development Charge-Related Categories Of Municipal Services
and Halton Region Responsibilities

Categories of Municipal Services	Eligibility for Inclusion in the DC Calculation	Service Components	Maximum Potential DC Recovery %
1. Services Related to a Highway	R/ Area Municipal Area Municipal/ Dev. Agreements Dev. Agreements R/ Area Municipal R/ Area Municipal/ Dev. Agreements R/Area Municipal	1.1 Arterial roads	100
		1.2 Collector roads	100
		1.3 Local roads	0
		1.4 Traffic signals	100
		1.5 Sidewalks and streetlights	100
		1.6 Interchanges and Grade Separations	100
2. Other Transportation Services	Area Municipal Area Municipal Area Municipal Area Municipal R/ Area Municipal R/ Area Municipal n/a n/a	2.1 Transit vehicles & facilities	100
		2.2 Other transit infrastructure	100
		2.3 Municipal parking spaces - indoor	0
		2.4 Municipal parking spaces - outdoor	0
		2.5 Works yards	100
		2.6 Rolling stock ¹	100
		2.7 Ferries	100
		2.8 Airport	100
3. Stormwater Drainage ² and Control Services	Area Municipal/ <i>Municipal Act</i> Area Municipal Area Municipal	3.1 Main channels and drainage trunks	100
		3.2 Channel connections	100
		3.3 Retention/detention ponds	100
4. Fire Protection Services	Area Municipal Area Municipal Area Municipal	4.1 Fire stations	100
		4.2 Fire pumpers, aerials, and rescue vehicles	100
		4.3 Small equipment and gear	100
5. Parks Services (i.e. Parks and Open Space)	Ineligible Area Municipal Area Municipal Area Municipal Area Municipal R/ Area Municipal Area Municipal Ineligible	5.1 Acquisition of land for parks, woodlots and ESAs	0
		5.2 Development of area municipal parks	100
		5.3 Development of district parks	100
		5.4 Development of city-wide parks	100
		5.5 Development of special purpose parks	100
		5.6 Development of waterfront parks	100
		5.7 Parks rolling stock ¹ and yards	100
		5.8 Conservation authority facilities	0
6. Recreation Services	Area Municipal Area Municipal	6.1 Arenas, indoor pools, fitness facilities, community centres, etc. (including land)	100
		6.2 Recreation vehicles and equipment ¹	100
7. Library Services	Area Municipal Area Municipal Area Municipal	7.1 Public library space (incl. furniture and equipment)	100
		7.2 Library vehicles ¹	100
		7.3 Library materials	100
8. Electrical Power Services	Ineligible Ineligible Ineligible	8.1 Electrical substations	0
		8.2 Electrical distribution system	0
		8.3 Electrical system rolling stock ¹	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)	0
		9.2 Tourism facilities and convention centres	0
10. Wastewater Services	R R Dev. Agreements R	10.1 Treatment plants	100
		10.2 Sewage trunks	100
		10.3 Local systems	0
		10.4 Vehicles and equipment	100
11. Water Supply Services	R R Dev. Agreements R	11.1 Treatment plants	100
		11.2 Distribution systems	100
		11.3 Local systems	0
		11.4 Vehicles and equipment	100

Categories of Municipal Services	Eligibility for Inclusion in the DC Calculation	Service Components	Maximum Potential DC Recovery %
12. Waste Management Services	Ineligible	12.1 Collection, transfer vehicles and equipment	0
	Ineligible R	12.2 Landfills and other disposal facilities	0
		12.3 Other waste diversion facilities, vehicles, and equipment	100
13. Police Services	R	13.1 Police detachments	100
	R	13.2 Police rolling stock ¹	100
	R	13.3 Small equipment and gear	100
	R	13.4 Communications systems	100
14. Homes for the Aged	R	14.1 Homes for the aged space	100
15. Child Care	R	15.1 Child care space	100
16. Health	R	16.1 Health department space	100
	R	16.2 Health department vehicles ¹	100
17. Social Services	R	17.1 Social service operating space	0
	R	17.2 Social housing	100
18. Provincial Offences Act (POA)	Area Municipal	18.1 POA space	100
19. Paramedic Services	R	19.1 Ambulance station space	100
	R	19.2 Vehicles ¹	100
20. Hospital Provision	Ineligible	20.1 Hospital capital contributions	0
21. Provision of Headquarters for the General Administration of Municipalities and Area Municipal Boards	Ineligible	21.1 Office space	0
	Ineligible	21.2 Office furniture	0
	Ineligible	21.3 Computer equipment	0
22. Emergency Preparedness Services	No	22.1 Facility Space (incl. furniture and equipment)	100
	No	22.2 Vehicles ¹	100
	No	22.3 Equipment	100
23. Other Services	R/ Area Municipal	23.1 Studies in connection with acquiring buildings, rolling stock, materials and equipment, and improving land ³ and facilities, including the DC background study cost	0-100
	R/ Area Municipal	23.2 Interest on money borrowed to pay for growth-related capital	0-100

Note: computer equipment excluded throughout

¹ where a 7+ year life is involved

² could also be provided as part of the Regional road works where required

³ same percentage as service component to which it pertains

4.3.1 Water and Wastewater Needs

As part of the 2022 DC update process, the 2022 Development Charge Water/Wastewater Technical Report has been prepared by GM BluePlan Engineering Limited which provides the basis for the development of the costs and implementation timing of water and wastewater projects between 2023 and 2031 which are required to service growth in Halton Region between 2022 and 2031. The project costs and implementation timing set out in the 2011 Halton Water and Wastewater Master Plan and updated as part of the 2017 Development Charge Water/Wastewater Technical Report served as key inputs to the Technical Report. This report incorporates the most up to date water and wastewater system and cost information, including additional technical infrastructure review and analysis which has been completed since the 2017

Development Charge Water/Wastewater Technical update. This report identifies Halton's water and wastewater infrastructure requirements to service anticipated growth during the period between 2022 and 2031, and establishes the basis for allocating the related benefits for the purpose of DC calculations. Project costs were updated in the Technical Report to reflect best available estimated costs to construct as of January 1, 2022 using a unit cost approach, cost estimates from Class Environmental Assessment Studies, scoping studies or preliminary/detail design and/or cost indexing.

Appendix B of this Study provides information on the Region's water and wastewater program, including overview of the programs, DC calculation assumptions and detailed project lists and related costs. The estimated cost of the program totals to \$1.17 billion between 2023 and 2031 (in 2022\$). The program cost and cost allocations are summarized in Chapter 5 (subsection 5.8).

4.3.2 Roads and Related Needs

The 2022 Development Charge Transportation Technical Report has been prepared by EIIso Consulting Inc., using the 2011 Transportation Master Plan and 2017 Development Charge Transportation Technical Report as key inputs.

Halton Region uses a demand forecasting model for its long term transportation planning. The model is used for network-wide analysis and overview including comparison of the network characteristics between the current year and the 2031 planning horizon. As noted in the 2022 Development Charges Transportation Technical Report, this model was updated for the DC Study. Adjustments include review of demand forecasting model based on 2016 Transportation Tomorrow Study data, review of screenline capacities to 2031, updating costing based on best available estimated costs to construct as of January 1, 2022, cost estimates from Class Environmental Assessment Studies, preliminary/detail design and/or cost indexing.

The projects included in the Technical Report provides a sustainable and integrated capital plan that considered all modes of travel (automobile, transit, cycling, and walking) to accommodate growth in Halton Region to the year 2031 as established through Regional Official Plan Amendment (ROPA). ROPA 38 brought the Regional Official Plan into conformity with the Provincial Growth Plan for the Greater Golden Horseshoe and established a growth plan for Halton to accommodate 780,000 residents (752,537 excluding the Census undercount) and 390,000 jobs by 2031. Costs have been apportioned to growth/non-growth and residential/non-residential uses.

Appendix D of this Study provides information on the Region's roads program, including overview of the programs, DC calculation assumptions and detailed project lists and related costs. The estimated cost of the program totals to \$2.44 billion between 2023 and 2031 (in 2022\$). The program cost and cost allocations are summarized in Chapter 5.

4.3.3 General Service Needs

Similar descriptive material for the general services (i.e. growth studies, police, paramedic services, facilities, social housing, waste diversion, and waterfront parks) is provided in Appendix F and related costs are summarized in Chapter 5.

4.4 Credits Carried Forward

Section 8 paragraph 5 of O. Reg. 82/98 indicates that a DC background study must set out, "The estimated value of credits that are being carried forward relating to the service." Section 17 paragraph 4 of the same Regulation indicates that, "...The value of the credit cannot be recovered from future development charges," if the credit pertains to an ineligible service. This indicates that a credit for eligible services can be recovered from future DCs. A credit is, in effect, a Regional payment liability linked to the prior provision of infrastructure by a landowner. Credits need to be included in the DC calculation, in order to ensure that the necessary DC "funding room" has been provided.

The Region's outstanding credit obligations are relating to the non-residential development credits that were recognized under the previous DCA, section 14 as required by O. Reg. 82/98, and to the credits resulting from capital contributions provided by developers under DC agreements. Table 4-2 summarizes the outstanding credits that have been incorporated into the DC calculations.

Table 4-2
Region of Halton Outstanding Non-residential DC Credit (\$000s)

Cost Allocation	Total Credits				
	Water	Wastewater	Roads	Police	Total
Region-wide	\$ 1,648	\$ 3,589	\$ 145	\$ 18	\$ 5,400
Area Specific:					
Capacity	725	1,395	-	-	2,120
Distrib't'n/Collct'n:					
Greenfield	923	2,194	-	-	3,117
Built Boundary	-	-	-	-	-

1. Credits resulting from Section 14, DC Agreements and Minutes of Settlement

4.5 Eligible Debt and Committed Excess Capacity

4.5.1 Requirements of the Act

Section 66 of the DCA states that, for the purposes of developing a DC 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 DCA. Similarly, s.18 of O. Reg. 82/98 indicates that debt with respect to an ineligible service may be included as a capital cost, subject to several restrictions. It is therefore necessary to review the projects on which Regional long term debt is outstanding, in order to determine whether some or all of those costs are eligible for inclusion in the calculation of the charge.

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 DCs or other similar charges. For example, this may have been done as part of previous DC processes. This inclusion is referenced as Box 13 in Figure 1-2 (“Unfunded Works”) and includes internal borrowing or long-term debt.

4.5.2 Halton’s Unfunded Works

Most of the Region’s internal/external debt previously incurred, in support of growth within the planning horizon, is related to the water, wastewater, roads and police programs. External debt and internal borrowing from the Regional funds are used in order to temporarily finance the DC revenue shortfalls resulting from delayed timing of DC collection relative to growth-related capital expenditures. Additionally, the water,

wastewater and roads program includes the funding shortfall in allocation programs for expenditures approved and forecasted up to 2022. The DC calculations for water, wastewater, roads and other general services, as set out in Appendices C, E, and F include unfunded works carried forward as summarized in Tables 4-3a and 4-3b.

Table 4-3a
Residential Unfunded Works Carried Forward (\$000s)

Cost Allocation	Debt Carried in 2022 DC Update		
	Regional Debt/ Unfunded Works	External Debt	Total
Water			
Capacity	\$ 6,342	\$ -	\$ 6,342
Distribution:			
Greenfield	(30,883)	33,730	2,847
Built Boundary	8,164	1,855	10,019
Subtotal	\$ (16,377)	\$ 35,585	\$ 19,208
WasteWater			
Capacity	\$ 15,067	\$ -	\$ 15,067
Collection:			
Greenfield	35,696	43,699	79,394
Built Boundary	9,234	4,192	13,426
Subtotal	\$ 59,996	\$ 47,891	\$ 107,887
Total	\$ 43,619	\$ 83,476	\$ 127,095
Roads	84,647	-	84,647
Police	-	38,254	38,254
Gross	\$ 128,266	\$ 121,731	\$ 249,997

Note: May not add due to rounding

Table 4-3b
Non-Residential Unfunded Works Carried Forward (\$000s)

Cost Allocation	Debt Carried in 2022 DC Update		
	Regional Debt/ Unfunded Works	External Debt	Total
Water			
Capacity	\$ 63,469	\$ 951	\$ 64,420
Distribution:			
Greenfield	66,121	13,589	79,711
Built Boundary	1,400	723	2,123
Subtotal	\$ 130,990	\$ 15,264	\$ 146,254
WasteWater			
Capacity	\$ 111,731	\$ 552	\$ 112,283
Collection:			
Greenfield	121,417	20,956	142,373
Built Boundary	7,754	1,967	9,720
Subtotal	\$ 240,901	\$ 23,475	\$ 264,376
Total	\$ 371,892	\$ 38,739	\$ 410,630
Roads	375,406	-	375,406
Police	-	14,933	14,933
Gross	\$ 747,297	\$ 53,672	\$ 800,969

Note: May not add due to rounding

Debt payable to the Region represents the Regional interim financing previously provided for growth share of capital infrastructure costs, including a carrying cost, as set out in financial plans approved by Council (e.g. CS-73-08/PWE31-08 & CS-49-09/PW20-09/LPS80-09) and the annual budgets. External debt is related to financing of Employment Land Servicing projects (CS-33-11/PW-53-11/LPS58-11), plant expansions to service growth in intensification area (e.g. Skyway WWTP) and Police Headquarters as approved by Council.

4.5.3 Historic Post-period Benefit (Oversizing) Costs

As of 2021, a total of \$20.8 million in Regional financing (including carrying costs), as shown in Table 4-4, has been used to fund the water, wastewater and road programs that benefit growth beyond the planning horizon of previous DC by-laws (i.e. Post-period Benefit/Oversizing). This total included \$4.1 million for road oversizing and \$16.7 million for the water and wastewater program. Since these costs benefit the planning

horizon to 2031 based on BPE, 2011, they will be recovered from DCs and therefore included in the DC calculations.

Table 4-4
Summary of Post-period Benefit Cost Carried Forward (\$000's)

Cost Allocation	Total Post-period Benefit (w. Interest)			
	Water	Wastewater	Roads	Total
Residential:				
Region-wide	\$ 6,267	\$ 4,469	\$ 2,374	\$ 13,109
Area Specific:				
Capacity	138	1,873	-	2,011
Distrbt'n/Collct'n:				
Greenfield	6,129	2,596	-	8,725
Built Boundary	-	-	-	-
Non-Residential:				
Region-wide	\$ 2,723	\$ 3,278	\$ 1,726	\$ 7,726
Area Specific:				
Capacity	433	1,600	-	2,034
Distrbt'n/Collct'n:				
Greenfield	2,290	1,677	-	3,967
Built Boundary	-	-	-	-
Total	\$ 8,990	\$ 7,746	\$ 4,099	\$ 20,835

Note: May not add due to rounding

4.6 Council's Assurance

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. 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 section 3). Council's approval of the long-term capital forecast in Appendices B, D and F is therefore sought, which provides for the servicing of the development forecast contained in Appendix A.

Chapter 5

DCA Calculation Requirements

5. DCA Calculation Requirement

5.1 Introduction

Subsection 1.3.3 in the Introduction provided an overview of the method that must be used to determine DCs, including quotations directly from the DCA and associated Regulations. The intent of this chapter is to provide additional detail on the mandatory reductions to the increase in the need for service, as well as other adjustments to the capital cost to be incorporated in the DC calculation. For a detailed definition of “capital cost”, including specific works that are eligible for inclusion in the capital cost estimate, refer to section 7 of the tabular text in subsection 1.3.3.

Subsection 5 (1) of the DCA sets out the method that must be used to determine DCs. This method specifically calls for 4 different types of deductions to be made from municipal servicing costs which relate to the need for service attributable to new development anticipated over the planning period. These are:

- level of service cap;
- uncommitted excess capacity;
- benefit to existing development; and
- grants, subsidies and other contributions.

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

- post-period benefit;
- allocation of the total costs between residential and non-residential benefit.

The basis for, and nature of, each of the DC calculation deductions is outlined below, with the total cost, by service, presented in subsection 5.8.

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

An overview of Halton’s DC reserve fund balances and the use of these funds in the DC calculation is provided in subsection 5.9.

5.2 Level of Service Cap

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.

Section 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.
- a geographic Area of the municipality may be excluded in determining the average level of service, if the service is not provided there and the Area is identified in the by-law. However, the average level of service so determined, cannot exceed that which would be determined if the by-law applied to the whole municipality.

A commonly used quantity measure is units per capita (e.g. lane kms, square feet, cubic metres of capacity, hectares, etc.), while quality can be measured in terms of cost per unit, engineering standards or recognized performance measurement systems, depending on circumstances. Appendix F provides detailed schedules that outline the level of service that has been established for each of the General Services, in terms of both quantity and quality. Any resulting deductions are also provided on a project-specific basis.

With respect to water and wastewater servicing, the servicing standard is largely governed by regulatory requirements, and therefore no deductions have been made for this purpose (Appendix B and the Water and Wastewater Technical Report).

For the road program, the level of service has been measured by lane km per capita, volume over capacity (v/c) ratios, as well as roadway network replacement values, which together indicated no increase in service level over the 2031-planning period.

Therefore, no deductions have been made (Appendix D and the Transportation Technical Report).

In addition to the above, Appendix D has included an additional service standard calculation to show that the growth-related capital costs included in the calculations do not exceed the historical average service levels.

5.3 Uncommitted Excess Capacity

Paragraph 5 of 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 indicated a clear intention that it would be paid for by DCs or other similar charges, before or at the time the capacity was created (s. 5 of O. Reg. 82/98).

"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 of the anticipated development, 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 or is being provided via transit, then that widening would not be included as an increase in need, in the first instance.

The updated cost for Water/Wastewater and Transportation Master Plans (provided in the technical reports) and General Services Capital Programs have been prepared taking into consideration any excess capacity available in the system. Therefore, the long-term capital needs set out in this Study represent incremental capacity requirements as set out in Appendices B, D and F.

5.4 Benefit to Existing Development

Benefit to existing development deductions have been addressed on a service-specific and project-specific basis. The allocation method related to transportation service focuses on the residual value of the existing asset through the use of Tangible Capital Asset values. The methodology employed is discussed in greater detail in Appendices B, D and F and in the Transportation and Water/Wastewater Technical Reports. The results are summarized in subsection 5.8.

5.5 Grants, Subsidies and Other Contributions

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

Subsection 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.” (underlining added)

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. 5 (1) 7 capital costs in the same proportion as the increase in need was reduced under s. 5 (1), paragraph 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. Any grants, subsidies, developer and other contributions anticipated have been reflected in Appendices B, D and F, in accordance with the provisions of the Act and Regulation.

5.6 Post-period Benefit (Oversizing)

This is a term and a concept which is not specifically referenced in the DCA. It refers to the cost of development-related servicing capacity which is not required by development anticipated over the Region’s 2022 and 2031 planning periods, which will clearly benefit development in a subsequent planning period and, in some cases, should therefore be (partially) funded by such subsequent development.

For example if a sewage treatment plant is specifically sized to accommodate development to 2041, 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. 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 during 2022-2031. However, in the case of major facilities which have not been explicitly oversized, no post-period benefit deduction is provided.

With respect to water and wastewater programs, an appropriate deduction has been made for capacity to service development anticipated post-2031. The Post Period Benefit value are the same projects as were determined in the 2017 DC Update. The oversizing cost is calculated by the difference in cost for the recommended size of infrastructure and the size of infrastructure to meet the 2031 horizon. Identified oversizing is deducted from the 2031 DC recoverable costs and is to be recovered through subsequent DC by-law(s) covering the post 2031 period.

For the road program, a deduction for post planning period benefit has been made for a number of major infrastructure improvements in the last 5 years (2027-2031) of the capital improvement plan. This deduction is proportional to the degree to which the v/c ratio on a major road improvement in 2031 is less than the average v/c on the associated screenline.

The total cost attributed to post-period benefit is summarized for each service in subsection 5.8 and discussed in greater detail on a project specific basis in Appendices B, D and F, as well as in the Transportation and Water/Wastewater Technical Reports.

5.7 Residential vs. Non-Residential Benefit

Subsection 5 (6) 2 of the DCA requires that every “type” of development that is expressly identified in the DC by-law cannot be required to pay DCs that exceed the capital costs arising from the increase in the need for service attributable to that particular type of development.

In the first instance, this allocation involves a split between residential and non-residential benefit. Table 5-1 summarizes the ways in which these splits were made as part of the DC calculations contained herein. Additional detail supporting these methodologies, as well as project specific cost allocations between residential and non-residential, are provided in Appendices B, D and F, as well as in the Transportation and Water/Wastewater Technical Reports.

Table 5-1
Summary of Residential/ Non-residential Split Assumptions by Service

Service	Basis	Splits	
		Residential	Non-residential
Water ¹			
Capacity	Per 2022 Technical Report	76%	24%
Greenfield		73%	27%
Built Boundary		83%	17%
Wastewater ¹			
Capacity	Per 2022 Technical Report	76%	24%
Greenfield		73%	27%
Built Boundary		83%	17%
Roads	Per 2022 Technical Report	64%	36%
Growth Studies	Net population growth between 2022 and 2031 relative to employment growth for same period	72%	28%
Police	Net population growth between 2022 and 2031 relative to employment growth for same period	72%	28%
Paramedics	Net population growth between 2022 and 2031 relative to employment growth for same period, with residential weighted at three times employment.	88%	12%
Facilities ²	Based on review of specific usage of facility space, varies by program.	85%	15%
Social Housing	Fully allocated to residential since program is directly related to population.	100%	0%
Waste Diversion	Primarily allocated to residential use	95%	5%
Waterfront Parks	Primarily allocated to residential use	95%	5%

¹ Detailed description for infrastructure categories (ie. Capacity, Greenfield, Built Boundary) are provided in Chapter 6 and Appendix B

² Weighted average res/nres split presented here for all program areas (ie Health, Social Services & Operations). Detail supporting each areas specific split is provided in Appendix F, part 5)

5.8 Summary of Estimated Capital Expenditures

Based on the above guidelines, Table 5-2 summarizes the estimated Regional capital expenditures for the period 2022-2031 for the water, wastewater, roads, and general services.

Table 5-2
Summary of Capital Costs for all Eligible Programs (2022 \$, millions)

Services	Gross Cost	Less:				Net Growth		
		Benefit to Existing Dev't	Post Period Capacity	Subsidy, Dev Contbt'n	Other Deduc't	Total	Res	N-res
W/WW (2023-2031):								
Water	\$ 562.2	\$ 12.0	\$ 46.9	\$ -	\$ -	\$ 503.4	\$ 373.9	\$ 129.5
Wastewater	608.6	175.1	24.5	-	-	408.9	300.8	108.1
Sub-Total	\$ 1,170.8	\$ 187.1	\$ 71.4	\$ -	\$ -	\$ 912.3	\$ 674.6	\$ 237.6
Roads (2023-2031)	\$ 2,441.1	\$ 400.0	\$ 238.0	\$ -	\$ -	\$ 1,803.0	\$ 1,153.9	\$ 649.1
General Service (2022-2031):								
Growth Studies	\$ 16.1	\$ 6.3	\$ -	\$ -	\$ 0.8	\$ 9.0	\$ 6.5	\$ 2.5
Police*	83.6	19.5	27.5	-	-	36.6	26.3	10.3
Paramedics	32.6	11.4	8.4	-	-	12.8	11.3	1.5
Facilities	12.3	4.0	1.3	-	-	7.0	6.0	1.1
Social Housing	100.1	50.1	-	-	-	50.1	50.1	-
Waste Diversion	14.9	8.1	1.0	-	0.4	5.4	5.1	0.3
Waterfront Parks	37.6	14.9	14.8	-	-	7.9	7.5	0.4
Sub-Total	\$ 297.2	\$ 114.2	\$ 53.1	\$ -	\$ 1.2	\$ 128.7	\$ 112.7	\$ 16.0
Total	\$ 3,909.1	\$ 701.3	\$ 362.6	\$ -	\$ 1.2	\$ 2,844.0	\$ 1,941.3	\$ 902.7

Note: May not add due to rounding

* Includes discounted debt payments

Table 5-3 summarizes the water/wastewater costs allocated between plant capacity, distribution/collection-Greenfield, and distribution/collection-Built Boundary areas.

Table 5-3
Water & Wastewater Project Costs by Area (2022 to 2031) (2022 \$, millions)

Service	Gross Cost	Less: Benefit to Existing Dev't	Less: Post Period Benefit	Net Growth	Residential Share				Non-residential Share			
					Capacity	Distrb'n /Collect'n - Greenfield	Distrb'n /Collect'n - Built bndry	Total	Capacity	Distrb'n /Collect'n - Greenfield	Distrb'n /Collect'n - Built bndry	Total
Water	\$ 562.2	\$ 12.0	\$ 46.9	\$ 503.4	\$ 139.8	\$ 226.8	\$ 7.3	\$ 373.9	\$ 44.1	\$ 83.9	\$ 1.5	\$ 129.5
Wastewater	608.6	175.1	24.5	408.9	65.2	213.5	22.1	300.8	20.6	83.0	4.5	108.1
Total	\$ 1,170.8	\$ 187.1	\$ 71.4	\$ 912.3	\$ 205.0	\$ 440.3	\$ 29.4	\$ 674.6	\$ 64.7	\$ 166.9	\$ 6.0	\$ 237.6

Note: May not add due to rounding

5.9 DC Reserve Fund Balances

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

The table below summarizes the projected balances of the Region's DC reserves as of the end of 2021.

Table 5-4
Summary of DC Reserve Fund Projected Balances at December 31, 2021

DC Reserve Fund	Residential	Non-Residential	Total
Water and Wastewater	\$ 465	\$ -	\$ 465
Roads	8,555	-	8,555
Growth Studies	(71,114)	(2,945,576)	(3,016,690)
Police	2,177,442	(6,370,577)	(4,193,135)
Paramedic Services	(853,200)	(800,854)	(1,654,054)
Facilities	1,717,869	(252,240)	1,465,629
Social Housing	7,236,810	n/a	7,236,810
Waste Diversion	1,023,185	(12,351)	1,010,834
Waterfront Parks	(1,594,338)	(292,838)	(1,887,176)
Total	\$ 9,645,674	\$ (10,674,437)	\$ (1,028,763)

In addition, the Region's DC Reserve Fund continuity between 2017 and 2021 is provided by service in Tables 5-4a and 5-4b below. The resulting reserve balances have been incorporated into the related DC calculations as opening balances of the cash flows (Appendices C, E and F).

Table 5-4a
Residential DC
Reserve Fund Continuity

Water Capacity – Residential (516260)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ 50,756,346	\$ 50,850,902	\$ 51,110,892	\$ 54,151,398	\$ 50,319,296
DC Revenues	2,983,007	857,013	1,931,542	5,868,263	(3,074,989)
Interest Earnings	1,666,313	1,503,906	1,635,633	-	-
Expenditures Draws*	(4,554,764)	(2,100,929)	(526,669)	(9,700,365)	(14,550,318)
Closing Balance	\$ 50,850,902	\$ 51,110,892	\$ 54,151,398	\$ 50,319,296	\$ 32,693,989

Water Distribution - Greenfield – Residential (516270)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ 37,736,690	\$ 19,588,520	\$ 9,038,239	\$ 2,226,219	\$ (2,208,918)
DC Revenues	134,587	1,510,095	430,205	25,302,763	33,649,384
Interest Earnings	1,011,389	433,245	167,148	-	-
Expenditures Draws*	(19,294,145)	(12,493,621)	(7,409,373)	(29,737,900)	(5,864,537)
Closing Balance	\$ 19,588,520	\$ 9,038,239	\$ 2,226,219	\$ (2,208,918)	\$ 25,575,930

Water Distribution - Built Boundary – Residential (516280)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (3,528,022)	\$ (4,267,522)	\$ (4,312,827)	\$ (2,918,281)	\$ (4,895,629)
DC Revenues	876,173	524,801	1,709,302	252,976	2,430,578
Interest Earnings	-	-	-	-	-
Expenditures Draws*	(1,615,674)	(570,105)	(314,756)	(2,230,324)	(1,422,478)
Closing Balance	\$ (4,267,522)	\$ (4,312,827)	\$ (2,918,281)	\$ (4,895,629)	\$ (3,887,528)

Wastewater Capacity – Residential (516360)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (88,608,641)	\$ (33,921,556)	\$ (9,602,981)	\$ 430,274	\$ (2,780,913)
DC Revenues	3,296,501	594,112	942,229	2,398,026	21,571,143
Interest Earnings	-	-	-	-	-
Expenditures Draws*	51,390,584	23,724,464	9,091,026	(5,609,213)	(22,583,207)
Closing Balance	\$ (33,921,556)	\$ (9,602,981)	\$ 430,274	\$ (2,780,913)	\$ (3,792,977)

Wastewater Distribution - Greenfield – Residential (516370)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ 24,420,479	\$ (209,983)	\$ (16,220,533)	\$ (25,877,599)	\$ (23,105,287)
DC Revenues	186,160	1,149,435	417,400	34,222,217	45,618,210
Interest Earnings	322,707	-	-	-	-
Expenditures Draws*	(25,139,329)	(17,159,985)	(10,074,467)	(31,449,904)	(61,644,586)
Closing Balance	\$ (209,983)	\$ (16,220,533)	\$ (25,877,599)	\$ (23,105,287)	\$ (39,131,662)

Wastewater Distribution - Built Boundary – Residential (516380)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (13,159,314)	\$ (21,650,179)	\$ (22,854,441)	\$ (16,753,561)	\$ (17,332,178)
DC Revenues	1,894,020	1,302,146	4,238,260	623,225	6,023,659
Interest Earnings	-	-	-	-	-
Expenditures Draws ²	(10,384,886)	(2,506,407)	1,862,620	(1,201,841)	(148,767)
Closing Balance	\$ (21,650,179)	\$ (22,854,441)	\$ (16,753,561)	\$ (17,332,178)	\$ (11,457,286)

Roads - Residential (516060)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (39,996,081)	\$ (91,279,556)	\$ (51,637,259)	\$ (52,079,611)	\$ 75,895
DC Revenues	32,751,529	41,045,200	32,801,516	89,487,073	328,098,035
Interest Earnings	-	-	-	-	1,248
Expenditures Draws ²	(84,035,004)	(1,402,902)	(33,243,869)	(37,331,567)	(328,166,623)
Closing Balance	\$ (91,279,556)	\$ (51,637,259)	\$ (52,079,611)	\$ 75,895	\$ 8,555

Growth Studies - Residential (516080)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (2,965,030)	\$ (2,846,741)	\$ (3,171,981)	\$ (3,139,816)	\$ 1,473,828
DC Revenues	924,204	414,319	419,540	5,171,579	750,547
Interest Earnings	-	-	-	-	20,730
Expenditures Draws ²	(805,916)	(739,559)	(387,375)	(557,935)	(2,316,219)
Closing Balance	\$ (2,846,741)	\$ (3,171,981)	\$ (3,139,816)	\$ 1,473,828	\$ (71,114)

Police - Residential (516040)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (662,690)	\$ (555,660)	\$ (2,730,079)	\$ (3,911,359)	\$ 6,403,423
DC Revenues	1,474,855	983,103	995,601	12,250,747	1,741,570
Interest Earnings	-	-	-	31,232	126,811
Expenditures Draws ²	(1,367,825)	(3,157,522)	(2,176,881)	(1,967,198)	(6,094,361)
Closing Balance	\$ (555,660)	\$ (2,730,079)	\$ (3,911,359)	\$ 6,403,423	\$ 2,177,442

Paramedic Services - Residential (516015)

	2017	2018	2019	2020	Projected 2021
Opening Balance	\$ (1,555,633)	\$ (1,361,331)	\$ (3,641,641)	\$ (3,646,527)	\$ (528,931)
DC Revenues	346,018	268,691	272,114	3,346,596	476,267
Interest Earnings	-	-	-	-	-
Expenditures Draws ²	(151,716)	(2,549,000)	(277,000)	(229,000)	(800,536)
Closing Balance	\$ (1,361,331)	\$ (3,641,641)	\$ (3,646,527)	\$ (528,931)	\$ (853,200)

Facilities - Residential (516025)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (717,655)	\$ (623,329)	\$ (632,058)	\$ (637,839)	\$ 2,010,528
DC Revenues	334,759	232,005	234,953	2,890,707	417,142
Interest Earnings	-	-	-	20,894	55,099
Expenditures Draws ²	(240,433)	(240,734)	(240,734)	(263,234)	(764,900)
Closing Balance	\$ (623,329)	\$ (632,058)	\$ (637,839)	\$ 2,010,528	\$ 1,717,869

Social Housing - Residential (516035)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ 1,078,835	\$ 1,493,605	\$ 1,325,246	\$ 549,240	\$ 9,044,855
DC Revenues	1,980,975	1,493,152	1,512,158	18,599,064	2,640,967
Interest Earnings	33,795	38,489	11,835	271,551	240,616
Expenditures Draws ²	(1,600,000)	(1,700,000)	(2,300,000)	(10,375,000)	(4,689,628)
Closing Balance	\$ 1,493,605	\$ 1,325,246	\$ 549,240	\$ 9,044,855	\$ 7,236,810

Waste Diversion - Residential (516420)

	2017	2018	2019	2020	Projected 2021
Opening Balance	\$ -	\$ (48,304)	\$ (69,224)	\$ (157,210)	\$ 931,324
DC Revenues	50,210	102,811	104,138	1,278,132	207,531
Interest Earnings	-	-	-	11,445	28,884
Expenditures Draws ²	(98,514)	(123,731)	(192,124)	(201,043)	(144,554)
Closing Balance	\$ (48,304)	\$ (69,224)	\$ (157,210)	\$ 931,324	\$ 1,023,185

Waterfront Parks - Residential (516430)

	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ (2,691,215)	\$ (4,845,111)	\$ (5,922,618)	\$ (1,955,734)
DC Revenues	156,862	321,182	325,306	3,992,961	571,752
Interest Earnings	-	-	-	-	-
Expenditures Draws ²	(2,848,078)	(2,475,078)	(1,402,813)	(26,078)	(210,356)
Closing Balance	\$ (2,691,215)	\$ (4,845,111)	\$ (5,922,618)	\$ (1,955,734)	\$ (1,594,338)

1. The Region's 2021 year-end financial reporting has not been completed at the time of completing this study. Accordingly, the 2021 year-end balances represent the best information available at this time.

2. Expenditure Draws consist of transfer (to)/from capital project accounts and reserves, capital closures as well as development charge refunds.

Source: 2020 DCRF, 2021 Approved Budget

Table 5-4b
Non-Residential DC
Reserve Fund Continuity

Water Capacity – Non-Residential (517260)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
DC Revenues	1,774,067	1,408,679	2,676,707	1,769,462	1,348,160	2,662,500
Interest Earnings	10,766	1,062	3,052	-	-	-
Expenditures Draws*	(1,784,833)	(1,409,741)	(2,679,759)	(1,769,462)	(1,348,160)	(2,662,500)
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Water Distribution - Greenfield – Non-Residential (517270)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
DC Revenues	1,716,085	369,461	3,307,929	1,773,043	1,658,818	3,325,799
Interest Earnings	4,159	34,121	1,447	-	3,380	-
Expenditures Draws*	(1,720,244)	(403,582)	(3,309,376)	(1,773,043)	(1,662,198)	(3,325,799)
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Water Distribution - Built Boundary – Non-Residential (517280)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
DC Revenues	217,290	403,199	3,603,357	155,394	78,339	150,395
Interest Earnings	3,452	5,032	13,116	1,062	406	-
Expenditures Draws*	(220,743)	(408,231)	(3,616,472)	(156,456)	(78,746)	(150,395)
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Wastewater Capacity – Non-Residential (517360)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
DC Revenues	2,348,111	1,876,944	3,603,357	2,375,377	1,816,512	3,585,000
Interest Earnings	21,891	11,630	13,116	19,163	5,181	-
Expenditures Draws*	(2,370,002)	(1,888,574)	(3,616,472)	(2,394,540)	(1,821,693)	(3,585,000)
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Wastewater Distribution - Greenfield – Non-Residential (517370)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ -	\$ (770,112)	\$ -	\$ -	\$ -
DC Revenues	1,749,846	421,663	4,132,336	2,214,934	2,072,232	4,156,853
Interest Earnings	598	-	-	-	11,254	-
Expenditures Draws*	(1,750,444)	(1,191,775)	(3,362,224)	(2,214,934)	(2,083,485)	(4,156,853)
Closing Balance	\$ -	\$ (770,112)	\$ -	\$ -	\$ -	\$ -

Wastewater Distribution - Built Boundary – Non-Residential (517380)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
DC Revenues	489,392	871,432	544,582	478,618	272,301	522,713
Interest Earnings	7,445	9,681	3,216	12,963	1,856	-
Expenditures Draws*	(496,836)	(881,113)	(547,799)	(491,582)	(274,157)	(522,713)
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Roads - Non-Residential (517030)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
DC Revenues	11,945,100	8,599,782	22,342,223	13,540,622	8,274,195	11,500,000
Interest Earnings	215,960	118,033	245,263	176,642	93,686	-
Expenditures Draws ²	(12,161,060)	(8,717,815)	(22,587,486)	(13,717,264)	(8,367,881)	(11,500,000)
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Growth Studies Reserve Fund - Non-Residential (517040)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (1,391,346)	\$ (2,149,931)	\$ (2,341,184)	\$ (2,282,849)	\$ (2,202,472)	\$ (2,221,686)
DC Revenues	180,896	143,783	366,224	245,649	188,752	116,524
Interest Earnings	-	-	-	-	-	-
Expenditures Draws ²	(939,482)	(335,036)	(307,888)	(165,272)	(207,966)	(840,413)
Closing Balance	\$ (2,149,931)	\$ (2,341,184)	\$ (2,282,849)	\$ (2,202,472)	\$ (2,221,686)	\$ (2,945,576)

Police Reserve Fund - Non-Residential (517020)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (1,344,415)	\$ (1,621,584)	\$ (2,204,882)	\$ (3,365,537)	\$ (4,177,907)	\$ (4,994,613)
DC Revenues	262,595	202,137	457,888	308,368	236,202	145,007
Interest Earnings	-	-	-	-	-	-
Expenditures Draws ²	(539,764)	(785,436)	(1,618,543)	(1,120,738)	(1,052,907)	(1,520,972)
Closing Balance	\$ (1,621,584)	\$ (2,204,882)	\$ (3,365,537)	\$ (4,177,907)	\$ (4,994,613)	\$ (6,370,577)

Paramedic Services - Non-Residential (517015)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (129,758)	\$ (292,469)	\$ (305,893)	\$ (728,868)	\$ (719,705)	\$ (715,217)
DC Revenues	16,289	16,007	69,025	46,163	35,488	21,827
Interest Earnings	-	-	-	-	-	-
Expenditures Draws ²	(179,000)	(29,430)	(492,000)	(37,000)	(31,000)	(107,464)
Closing Balance	\$ (292,469)	\$ (305,893)	\$ (728,868)	\$ (719,705)	\$ (715,217)	\$ (800,854)

Facilities - Non-Residential (517025)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ (15,438)	\$ (18,594)	\$ (23,055)	\$ 15,095	\$ 34,565	\$ 38,241
DC Revenues	16,077	14,772	57,417	38,312	29,574	18,207
Interest Earnings	-	-	-	424	867	-
Expenditures Draws ²	(19,233)	(19,233)	(19,266)	(19,266)	(26,766)	(308,688)
Closing Balance	\$ (18,594)	\$ (23,055)	\$ 15,095	\$ 34,565	\$ 38,241	\$ (252,240)

Waste Diversion - Non-Residential (517420)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ -	\$ (4,219)	\$ (3,075)	\$ (4,746)	\$ (7,693)
DC Revenues	-	777	8,534	5,700	4,424	2,713
Interest Earnings	-	-	-	-	-	-
Expenditures Draws ²	-	(4,996)	(7,390)	(7,371)	(7,371)	(7,371)
Closing Balance	\$ -	\$ (4,219)	\$ (3,075)	\$ (4,746)	\$ (7,693)	\$ (12,351)

Waterfront Parks - Non-Residential (517430)

	2016	2017	2018	2019	2020	Projected 2021 ¹
Opening Balance	\$ -	\$ -	\$ (147,749)	\$ (249,404)	\$ (304,353)	\$ (290,881)
DC Revenues	-	2,623	28,718	19,084	14,844	9,114
Interest Earnings	-	-	-	-	-	-
Expenditures Draws ²	-	(150,373)	(130,373)	(74,033)	(1,373)	(11,071)
Closing Balance	\$ -	\$ (147,749)	\$ (249,404)	\$ (304,353)	\$ (290,881)	\$ (292,838)

1. The Region's 2021 year-end financial reporting has not been completed at the time of completing this study. Accordingly, the 2021 year-end balances represent the best information available at this time.

2. Expenditure Draws consist of transfer (to)/from capital project accounts and reserves, capital closures as well as development charge refunds.

Source: 2020 DCRF, 2021 Approved Budget

Chapter 6

DC Rules and Long-Term Capital and Operating Cost Examples

6. DC Rules and Long-term Capital and Operating Cost Examples

6.1 Introduction

Subsection 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 DCs.

Subsection 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 s. 5 (1) paragraphs 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.
- If the rules provide for a type of development to have a lower DC than is allowed, the rules for determining DCs may not provide for any resulting shortfall to be made up by DCs imposed on other development.

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

- Costs applicable to residential uses have been assigned to different types of residential units based on the average occupancy for each housing type constructed during the first 10-20 years of occupancy (as outlined in Appendix A).
- The residential vs. non-residential split is made based on factors relevant to each service (e.g. water flow in the case of water and trip generation in the case of roads) as outlined in Appendices B, D and F.

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 subsection 5(1) paragraph 9 and 10, as well as how the rules apply to the redevelopment of land.

The rules for determining if DCs are payable in any particular case and for determining the amount of the DCs involved are outlined in Table 6-1 in this chapter and set out in the proposed by-law in Appendix I. Table 6-1 also compares Halton’s proposed DC policies with its current policies.

This chapter also includes a review of a water/wastewater DC rate structure (subsection 6.10), Asset Management Plan (subsection 6.11) and the long-term capital and operating cost examination (subsection 6.12).

6.2 The Amount of the DC Payable in Any Particular Case

The quantum of the DC is as calculated in Appendices C, E and F and summarized in the Executive Summary and Schedules “B” and “C” of the proposed by-law in Appendix I.

The rules for determining if DCs are payable in any particular case are addressed in this chapter and in the proposed by-law (Appendix I). These rules deal with matters such as: the list of services for which charges are being imposed, types of development approval triggering the need for the imposition of DCs, the requirements for the installation of local services in addition to payment of the DC, the method used in calculating DCs for individual developments, the quantum of the charge, the timing of calculation and payment, and the alternative means of payment.

6.3 DC Exemptions

Subsection 5 (1) 10 of the DCA requires that “The rules may provide for full or partial exemptions for types of development.” Subsection 6.2 of the DCA also requires that a DC by-law must set out an express statement indicating how, if at all, the rules provide for exemptions.

The DCA mandates a number of exemptions or equivalent, as follows:

- The following development cannot be charged for:
 - the enlargement of an existing dwelling unit;

- Creating 1 or 2 additional dwelling units in an existing residential building containing a single dwelling unit provided the TFA of the additional 1 or 2 units does not exceed the TFA of the existing unit.
- Creating 1 additional dwelling unit in existing residential buildings each of which contain a single dwelling unit, that have one (semi-detached dwelling) or two (row dwelling) vertical walls, but no other parts, attached to other buildings, provided the TFA of the additional 1 unit does not exceed the TFA of the existing units.
- Creating the greater of 1 or 1% of the existing units in a rental residential building which contains four or more dwelling units.
- Creating 1 additional dwelling unit in any other existing residential building not in the classes of buildings listed above, provided the TFA of the additional 1 unit does not exceed the TFA of the smallest existing unit.
- The above restrictions apply whether an additional dwelling unit is in the residential building or a structure ancillary to it.
- Creating 1 additional dwelling unit in a new residential building containing a single dwelling unit provided the TFA of the additional unit does not exceed the TFA of the initial unit.
- Creating 1 additional dwelling unit in a new residential building each of which contain a single dwelling unit, that have one (semi-detached dwelling) or two (row dwelling) vertical walls, but no other parts, attached to other buildings, provided the TFA of the additional unit does not exceed the TFA of the initial units.
- Creating 1 dwelling unit in a building ancillary to a proposed new detached dwelling, semi-detached dwelling or row dwelling and that are permitted to contain a single dwelling unit, provided the TFA of the additional unit does not exceed the TFA of the initial unit.
- An exemption applies to all land owned by and used for purposes of a municipality or a school board (Education Act);
- An exemption for industrial development applies to the enlargement of the gross floor area (GFA) of an existing industrial building by up to 50%;
- Bill 213: Better for People, Smarter for Business Act, 2020, introduced an exclusion from payment of DCs for Colleges and Universities that receive operating funds from the government). As such DC legislation does not apply and it is not necessary to include as a rule in the DC By-law.

- Provincial and Federal Governments are not subject to the DCA and therefore do not have to pay DCs, but may agree to pay the charge or a “grant-in-lieu” thereof under the Municipal Grants Act or equivalent.

The rules for exemptions, relief and adjustments for the charge are as set out in the proposed by-law in Appendix I. Table 6-1 outlines the Region’s current and proposed DC policies.

6.4 Indexing of DCs

The rules with respect to the indexing of the DCs are as set out in the proposed by-law in Appendix I, that is, that the charges are to be adjusted annually, as of April 1st of each year, commencing April 1, 2023 in accordance with the Statistics Canada Quarterly, Non-Residential Building “Construction Price Statistics” (Table 18-10-0135-01 or successor thereof)¹ for the most recent year-over-year. This is consistent with the Region’s current policy.

6.5 Interest

The Region pays interest on a refund under subsection 18(3) and 25(2) of the DCA at a rate equal to the Bank of Canada rate on the date the by-law came into force and effect.

Further, Report No. FN-08-20 (Re: Implications of Amendments to the *Development Charges Act, 1997* S. O. 1997 c.27) approved the prime lending rate for the Region’s bank as the interest to be applied to developments that are subject to subsection 26.1 and 26.2 and deferral agreements under section 27 of the DCA, unless identified in a Regional policy (as outline in Chapter 6). This policy may be updated from time to time or could be superseded by a prescribed maximum interest.

6.6 The Application of DCs to Redevelopment

The rules with respect to redevelopment are as set out in Table 6-1 below and in the proposed by-law in Appendix I. The demolition policy provides a demolition credit in the

¹ O. Reg. 82/98 referenced “The Statistics Canada Quarterly, Construction Price Statistics, catalogue number 62-007” as the index source. Since implementation, Statistics Canada has modified this index twice and the above-noted index is the most current. The draft by-law provided herein refers to O. Reg. 82/98 to ensure traceability should this index continue to be modified over time.

circumstance where a building permit is issued within 5 years from the date the associated demolition permit has been issued. The conversion credit is provided where there is a conversion of space in a residential or non-residential building to another use. The rules also include expansion exemptions for industrial development and for commercial (non-retail) development.

6.7 Summary of Halton DC Policies

Based on the above, Table 6-1 summarizes the existing DC policies in the current DC By-law No. 36-17, and highlights proposed changes to the policies. The proposed changes are detailed in section 6.8. The existing DC policies that will remain unchanged are detailed in section 6.9.

Table 6-1
Summary of Existing and Proposed DC Policies

DC Policies	Existing Policies	Proposed Changes
Industrial Expansion Exemption <i>(Mandatory)</i>	<ul style="list-style-type: none"> - If existing building is enlarged by 50% or less, expansion is exempt, and - Enlargement must be a bona fide increase in the size of the existing building, attached to and having direct entry to the existing building and used in connection with an industrial purpose. - Expansion calculated based on the cumulative areas of the existing building prior to expansion. - Expansion calculation is based on TFA which includes below grade area. - Does not include retail warehouses. 	<ul style="list-style-type: none"> - As part of the 50% exemption, include up to 278.7 sq.m. (3,000 sq. ft.) for a separate accessory building - (see 6.8.1)
Commercial (Non-Retail) Expansion Exemption	<ul style="list-style-type: none"> - Provide expansion exemption for first 278.7 sq.m. (3,000 sq. ft.), for an expansion of the existing commercial building (attached or detached) on the site; - Existing commercial building, as defined under by-law, must be occupied and must be at least 6 months since issuance of last permit on the lot. - (see 6.9.1). 	<ul style="list-style-type: none"> - No change.
Non-Residential Lot Coverage Relief	<ul style="list-style-type: none"> - Provides a full DC exemption for the portion of the non-residential development that is greater than 1.0 times the lot area. - (see 6.9.2) 	<ul style="list-style-type: none"> - No change.

DC Policies	Existing Policies	Proposed Changes
Demolition Credit	<ul style="list-style-type: none"> - Credit calculated by multiplying the number/type of dwelling units or the non-residential TFA being demolished, by the relevant DC in effect on the date when the DC is payable. - Given where a building permit is issued within 5 years from the date of the demolition permit. - Does not apply if the building is exempt under the current by-law. - Where the building cannot be demolished until the new building is constructed, DCs are payable on issuance of a building permit and a refund is made, without interest, if the demolition is made within 12 months of building permit issuance. - Where a formal planning application (e.g. complete site plan application under the Planning Act) has been submitted to the local municipality but a building permit cannot be issued within the 5-year timeframe, the Treasurer, upon written request, may extend the credit. Credit provided on a one-time basis unless there is an approved phasing plan. - (see 6.9.3) 	- No change
Conversion Credit	<ul style="list-style-type: none"> - Credit calculated by multiplying the number/type of dwelling units or the non-residential TFA, being converted by the relevant DC in effect on the date when the DC is payable. - Does not apply if the original building (prior to conversion) is exempt under the current by-law. - Credit provided on a one-time basis unless there is an approved phasing plan. - Despite the above, where there is a conversion from a non-retail to a retail development an exemption of incremental DCs up to a conversion of either 10,000 sq.ft (930 sq.m) or 25% of TFA being converted, whichever is greater. - (see 6.9.4). 	- No Change
Exemption for Intensification of Existing Housing including a structure ancillary to it (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Enlargement of an existing unit. - Creating 1 or 2 additional units in a single detached or 1 additional unit in any other type of dwelling provided the TFA of the new unit(s) does not exceed the existing unit. - Creating the greater of 1 or 1% of the existing units in a rental residential building. 	- No Change

DC Policies	Existing Policies	Proposed Changes
	<ul style="list-style-type: none"> - The above restrictions apply whether an additional unit is in the residential building or a structure ancillary to it - (see 6.9.5). 	
Exemption for Additional dwelling units in new residential buildings or a structure ancillary to it (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Creating 1 additional dwelling unit in a new residential building containing a single, semi-detached or row dwelling, (or in a building ancillary to each) provided the TFA of the additional 1 unit does not exceed the TFA of the initial unit - Creating 1 or 2 additional units in a single detached or 1 additional unit in any other type of dwelling provided the TFA of the new unit(s) does not exceed the existing unit. - (see 6.9.6). 	- No Change
High Density Apartment	<ul style="list-style-type: none"> - Collect all DCs at building permit provided development is an apartment dwelling with a minimum of 4 storeys or containing more than 130 units per net ha per plans approved under section 41 of the Planning Act. - (see 6.9.7). 	- No change.
Affordable Rental Housing	<ul style="list-style-type: none"> - Greater of 25% or 10 units at or below affordable rent, as defined (for min. 20 years) in the Region's State of Housing Report. - Deferral of DCs by annual payments over 20 years commencing at BP - No interest - (See 6.9.8) 	- No change.
Rental housing (excluding non-profit) (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Payment of DCs by 6 annual installments commencing at occupancy - Interest applies - (see 6.9.9) 	- No change.
Non-profit housing (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Payment of DCs by 21 annual installments commencing at occupancy - No interest - (see 6.9.10) 	- No change
Institutional (<i>Mandatory</i>)	<ul style="list-style-type: none"> - Payment of DCs by 6 annual installments commencing at occupancy - Interest applies - (see 6.9.11) 	- No change
Non-Residential Payment Deferral	<ul style="list-style-type: none"> - Available for non-residential DCs through an agreement for all developments. 	- No change.

DC Policies	Existing Policies	Proposed Changes
	<ul style="list-style-type: none"> - Deferral agreement with security by LC or agreement registered on title. - Deferral of DC's by annual payments over a 10-year period commencing at building permit - Interest applies. - (see 6.9.12). 	
Non-Residential DC Categories	<ul style="list-style-type: none"> - Categorize DC's by: Retail and Non-Retail. - (see 6.9.13). 	- No change.
Temporary Non-Residential Building	<ul style="list-style-type: none"> - Require securities posted in amount of DC payable at building permit. If the building is removed within 3 years of building permit issuance, the security is returned. If not, security deposited to the DC reserve funds. - (see 6.9.14). 	- No change.
Municipal and School Board Exemptions (<i>Mandatory</i>)	<ul style="list-style-type: none"> - DCs exempt for "Land owned by and used for the purposes of a municipality or a board as defined in the <i>Education Act</i>" per the DCA. - Unless buildings or part thereof are used for commercial/retail purposes. - (see 6.9.15). 	- No change.
Parking Garages Exemption	<ul style="list-style-type: none"> - Parking garages (whether at, above or below grade) are exempt. - (see 6.9.16). 	- No change.
Temporary Residential Building Exemption- Garden Suite, Other	<ul style="list-style-type: none"> - a) Garden Suite - through an agreement registered on title, exempt if removed within the period set by local's temporary use by-law and if not DC onto property tax. - b) Other - through an agreement, exempt if securities posted in amount of DC payable at building permit and if the building is removed within 3 years of building permit issuance, the security is returned. If not, security deposited to the DC reserve funds. - (see 6.9.17). 	- No change.
Agricultural Exemption	<ul style="list-style-type: none"> - DCs are exempt when the use is considered a bona fide farming operation, including sod farms, breeding and boarding of horses, and green houses with no connection to Regional water and wastewater. Residential, commercial and retail uses in agricultural development are not exempt. 	<ul style="list-style-type: none"> - Exempt first 278.7 sq.m. (3,000 sq.ft.) of accessory industrial/retail/commercial TFA - (see 6.8.2).

DC Policies	Existing Policies	Proposed Changes
	<ul style="list-style-type: none"> - Confirm the Agricultural use based on the zoning and availability of Ontario Farm Business Registration Number (FBR#). 	
Other Exemptions	<ul style="list-style-type: none"> - Includes other discretionary exemptions: <ul style="list-style-type: none"> o Hospitals (unless buildings or part thereof are used for commercial/retail purposes); o Places of Worship Conservation Authorities (unless buildings or part thereof are used for commercial/retail purposes); o Seasonal structures; o Temporary venues; - (see 6.9.18). 	<ul style="list-style-type: none"> - No change.
Timing of DC Payment	<ul style="list-style-type: none"> - Residential: <ul style="list-style-type: none"> o Collect water, wastewater and roads at subdivision or consent agreement. (except for high density apartment at building permit); o Collect other services at building permit. o Collection is in accordance with Section 26 of the Act as may be applicable - Non-Residential: <ul style="list-style-type: none"> o Collect all DCs at building permit. o Collection is in accordance with Section 26 of the Act as may be applicable - Notwithstanding the above, the Region may enter into agreement under s.27 of DCA to collect all or part of DC earlier (i.e. allocation program) or later (i.e. non-residential deferral). <p>(see 6.9.19).</p>	<ul style="list-style-type: none"> - No change.

6.8 Proposed DC Policy Changes

The proposed by-law will continue to include the current rules and policies as outlined above save and except for the following changes based on issues that were raised during the implementation of the current By-law No. 36-17.

6.8.1 Industrial Expansion Exemption (Mandatory)

The Act requires a DC exemption to an existing industrial building expansion on the following basis:

- If the GFA of the existing building is enlarged by 50% or less, the expansion would be exempt from DCs.
- If the GFA of the existing industrial building is enlarged by more than 50%, DCs would be payable on the amount by which the enlargement exceeds 50% of the GFA before the enlargement.
- For the purpose of applying the industrial expansion exemption the terms “GFA” and an “existing industrial building” are based on the definitions used in the O. Reg. 82/98 to the Act as amended. In applying the exemption, the following is required:
 - The GFA of an existing industrial building is enlarged where there is a bona fide increase in the size of the existing building and the enlarged area is attached to the existing industrial building, there is a direct means of ingress and egress between the existing and enlarged area and it is used for, or in connection with, an industrial purpose as set out in s. 1 (1) of O. Reg. 82/98. Further, the exemption does not apply where the enlarged area is attached to the existing industrial building by means only of a tunnel, bridge, canopy, corridor or other passage-way, or through a shared below-grade connection such as a service tunnel, foundation, footing or a parking facility;
 - GFA as defined in the DCA, includes above grade floor area only;
 - Under the current by-law, the Region uses TFA which includes below grade floor area, to calculate the industrial expansion exemption.

The current mandatory industrial expansion does not include separate buildings, which are sometimes required for storage tanks and garbage enclosures. However, the commercial expansion (up to 3,000 sq. ft.) under the by-law does not require the expansion to be attached to the existing building, as long as it is incidental to or subordinate in purpose and exclusively devoted to the use in the existing building.

It is being proposed to amend the expansion exemption of existing industrial buildings to allow up to 278.7 sq.m. (3,000 sq.ft.). located in a separate building to be exempt from DCs. This exemption can be used at the same time as the mandatory expansion however the overall DC exemption will be capped at 50% of existing industrial TFA.

6.8.2 Agricultural Exemption

Under the current by-law, Agricultural uses are exempt when the use is considered to be a bona fide farming operation, which currently includes greenhouses that are not

connected to Regional water services or wastewater services, sod farms, and farms for the breeding and boarding of horses. Residential, commercial and retail uses in agricultural development are not exempt.

In the interest of supporting the agricultural sector, it is being recommended to provide some relief for on-farm diversification. This will allow on-farm diversification to be exempt from DCs for:

- First 278.7 sq.m. (3,000 sq.ft.) of accessory industrial/retail/commercial;
- As long as at least 6 months have elapsed since the last building permit;
- The owner provides written confirmation that the existing farming operation is continuing; and
- Additionally, a bone fide farm operation may extend beyond multiple legal lots so long as the lots are adjoining and form part of the bona fide farm operation.

In order to assist in confirming a bona fide farming operation for exemption, a review of the availability of a Farm Business Registration Number (FBR) is requested.

6.9 Existing DC Policies to Remain in Place

6.9.1 Commercial (Non-Retail) Expansion Exemption

The current by-law provides for an expansion exemption on the first 278.7 sq.m. (3,000 sq.ft.) of the expansion of the existing commercial building (attached or detached) on the site. In order to apply for this exemption, the expansion building should meet the definition of commercial use (e.g. non-industrial, non-retail) in the by-law and the related building permit must be at least 6 months after the last building permit on the site and the existing building(s) must be occupied.

6.9.2 Non-Residential Lot Coverage Relief

Under the current by-law, partial DC exemptions are provided for non-residential development which exceeds its lot size. This relief is provided when the following conditions are met:

- For the portion of the TFA of non-residential development that is less than or equal to 1.0 times the area of the lot, the current non-residential DC applies;
- For the portion of the TFA that is greater than 1.0 times the area of the lot, the DC does not apply.

6.9.3 Demolition Credit

A demolition credit is currently provided where a residential or non-residential building has been (or is being) demolished. It is calculated by multiplying the number/type of dwelling units or the non-residential TFA being demolished, by the relevant DC in effect on the date when the DC is payable. A credit is given where a building permit is issued within 5 years from the date of the demolition permit and it does not apply if the building is exempt under the current by-law. A demolition credit is provided on a one-time basis unless there is a phasing plan in place approved by the Regional Treasurer or designate.

In situations where a developer is engaged in a formal planning application (e.g. complete site plan application under the Planning Act) but is not in a position to get their building permit issued within the 5-year timeframe the Regional Treasurer or designate may approve a 12-month extension to the demolition credit, upon submission by the developer of a written request for an extension, including proof that a formal planning application has been accepted and is in process by the local municipality.

In cases where the building cannot be demolished until the new building is constructed (i.e. redevelopment of the site where the businesses must continue to operate until the new building can be occupied), DCs are payable on issuance of a building permit and a refund is made, without interest, if the demolition is made within 12 months of building permit issuance. In situations where 12 months is not sufficient time to complete construction, occupy the new building and complete the full demolition of the original building, the policy allows for the Regional Treasurer or designate to approve an extension to the time allowed to obtain a refund beyond the 12 months. This approval is required prior to obtaining the first building permit for the new development, and is only considered upon submission of a written request by the developer.

6.9.4 Conversion Credit

Under the current By-law, a conversion credit is provided where there is a proposed conversion of space in a residential or non-residential building. The current by-law provides for conversion credits under the following conditions:

- Credit is applied for the portion of the building that is being converted;
- Credit is calculated by multiplying the number and type of dwelling units or the non-residential TFA, being converted by the relevant DC in effect on the date when the DC is payable;

- Credit shall not exceed, in total, the amount of DCs payable for the building permit;
- Credit does not apply if the original building is exempt under the current by-laws;
- Credit is provided on a one-time basis unless any excess credit is expressly permitted by a phasing plan for the redevelopment that is acceptable to and approved by the Region.

Despite the above, where there is a conversion from non-retail to retail development an exemption will be provided for the incremental DC's for the greater of 10,000 sq. ft. (930 sq. m) or 25% of the TFA being converted. This exemption will be provided on a one-time basis.

6.9.5 Exemption for Intensification of Existing Housing or a structure ancillary to it (Mandatory)

The Act requires a DC exemption related to the redevelopment of existing residential buildings, including structures ancillary to existing residential buildings, for the following:

- Enlargement of an existing dwelling.
- Creating 1 or 2 additional dwelling units in an existing residential building containing a single dwelling unit provided the TFA of the additional 1 or 2 units does not exceed the TFA of the existing unit.
- Creating 1 additional dwelling unit in existing residential buildings each of which contain a single dwelling unit, that have one (semi-detached dwelling) or two (row dwelling) vertical walls, but no other parts, attached to other buildings, provided the TFA of the additional 1 unit does not exceed the TFA of the existing units.
- Creating the greater of 1 or 1% of the existing units in a rental residential building which contains four or more dwelling units.
- Creating 1 additional dwelling unit in any other existing residential building not in the classes of buildings listed above, provided the TFA of the additional 1 unit does not exceed the TFA of the smallest existing unit.

The above restrictions apply whether as additional dwelling unit is in the residential building or a structure ancillary to it.

6.9.6 Exemption for Additional dwelling units in new residential buildings or a structure ancillary to it (Mandatory)

The Act also requires a DC exemption related to the development of new residential buildings, including structures ancillary to new residential buildings for the following:

- Creating 1 additional dwelling unit or ancillary dwelling in a new residential building containing a single dwelling unit provided the TFA of the additional unit does not exceed the TFA of the initial unit.
- Creating 1 additional dwelling unit in a new residential building each of which contain a single dwelling unit, that have one (semi-detached dwelling) or two (row Dwelling) vertical walls, but no other parts, attached to other buildings, provided the TFA of the additional 1 unit does not exceed the TFA of the initial units.
- Creating 1 dwelling unit in a building ancillary to a proposed new detached dwelling, semi-detached dwelling or row dwelling and which must only contain one dwelling unit, provided the TFA of the additional 1 unit does not exceed the TFA of the initial unit

6.9.7 Definition of High Density Apartment & Timing of Payment (Residential)

Generally residential developments are required to pay their water, wastewater and roads DCs prior to building permit. For high density development with a minimum of 4 storeys or containing more than 130 dwelling units per net hectare per approved plans under s.41 of the Planning Act, these charges are deferred to the building permit stage. The intention of this policy is to promote high density residential development by addressing cash flow issues that are particular to multi-story residential developments.

6.9.8 Affordable Rental Housing Deferral

To support development of affordable rental housing, the Region has a deferral policy which allows DC payments over 20 annual payments (commencing at building permit) for developments that can demonstrate specific affordability targets. The provisions are as follow:

- At least 25% of the development or 10 units, whichever is greater, must be operated at or below the affordable rent threshold as defined in the Region's annual State of Housing Report;
- Affordable requirements must be met for a minimum of 20 years;

- No interest;
- Unpaid DC's will be placed on tax roll.

It should be noted that the provisions of this policy may be subject to the Region's financial plan requirements.

6.9.9 Rental Housing (excluding non-profit) (Mandatory)

Section 26.1 of the DCA provides for a deferral of DCs over 6 annual payments commencing at occupancy for a building with 4 or more dwelling units all of which are intended for use as rented residential premises as defined in the DCA. These deferral agreements will be subject to interest based on the Region's current policy approved through Report No. FN-08-20 (DC interest and deferral policies) or at a rate not exceeding the prescribed maximum if applicable.

It should be noted that the provisions of this policy may be subject to the Region's financial plan requirements.

6.9.10 Non-profit Housing (Mandatory)

Section 26.1 of the DCA provides for a deferral of DCs over 21 annual payments commencing at occupancy for a building or structure intended for use as residential premises by a corporation without share capital to which the *Corporations Act* or the *Canada not-for-profit Corporations Act* applies, that is in good standing and whose primary purpose is to provide housing; or a non-profit housing co-operative that is in good standing under the *Co-operative Corporations Act*. These deferral agreements will not be subject to interest based on the Region's current policy approved through Report No. FN-08-20 (DC interest and deferral policies).

It should be noted that the provisions of this policy may be subject to the Region's financial plan requirements.

6.9.11 Institutional (Mandatory)

Section 26.1 of the DCA provides for a deferral of DCs over 6 annual payments commencing at occupancy for a building or structure intended for use as institutional as defined in the DCA. These deferral agreements will be subject to interest based on the Region's current policy approved through Report No. FN-08-20 (DC Interest and Deferral Policies) or at a rate not exceeding the prescribed maximum if applicable.

6.9.12 Non-Residential Payment Deferral

The Region will continue to provide an option to defer non-residential DCs to all developments, redevelopments and building expansions. This policy has been in place since Council's approval in 1995 (Report No. CS-04-95). The intent of the policy is to help to alleviate cash flow problems relating to DC payments since such payment is required before a building is constructed and the revenues from it materialize. To provide businesses with greater flexibility, the deferral program permits payments to be made annually over a 10-year period at the prime lending rate of the Region's bank. The owner is required to enter into a deferral agreement and a security is required by way of providing a Letter of Credit or the agreement must be registered on title. For non-residential institutional development as defined in O. Reg. 82/98 section 26.1 of DCA may apply.

6.9.13 Non-Residential DC Categories

In 2012, the Region established differentiated non-residential DC rates for retail and non-retail development in the interest of continued economic development in employment areas. The transportation DC was differentiated for retail and non-retail uses based on technical information that provides different trip generation rates relating to each category.

The 2022 DC by-law will continue to differentiate Transportation DCs between retail and non-retail development based on a similar methodology detailed in Appendix D.

6.9.14 Temporary Non-Residential Building

The current by-law provides exemptions for temporary non-residential buildings as long as the building is removed within a specified timeframe. This policy is designed for development that is required on a site before a permanent structure is erected (e.g. sales trailers). The applicant is required to post securities in the amount of the DC payable at building permit. If the building is removed within 3 years of building permit issuance, the security is returned. If not, the DC is collected by depositing the security into the appropriate DC reserve funds.

6.9.15 Municipal and School Board Exemptions (Mandatory)

The Act requires that the following institutions be exempt from payment of DCs:

- Buildings or structures owned by and used for the purposes of any area municipality or the Region; and
- Buildings or structures owned by a public or separate board of education (as defined in the Education Act) and used only for school purposes;
- Unless such buildings or parts thereof are used primarily for commercial or retail purposes.

The current practice of exempting partnerships between a private entity and municipality or school board (providing municipal/school boards' services) is appropriate in light of the DCA requirement. In its review of such partnership development, the Region takes into consideration the land ownership and the nature of the services provided by the applicant. In order for the DC exemption to apply, the land must be owned by a municipality or a school board and the services provided should be for a municipal or a school board purpose authorized by the applicable legislation.

6.9.16 Parking Garages Exemption

Under the current by-law parking garages, whether at, above or below grade, are exempt from DCs.

6.9.17 Temporary Residential Building Exemption

The current by-law includes special policies for the following 2 types of temporary residential dwelling units:

- Garden suite - a temporary accommodation for a family member, usually a senior.
- Other - a temporary accommodation for resident workers.

a) Temporary Dwelling - Garden Suites

Under the Planning Act, garden suites are only permitted when a temporary use by-law (a form of zoning by-law) is enacted by the Council of the local municipality. The temporary by-law specifies the subject land and the duration of the usage of the garden suite. The initial period cannot exceed 3 years, but the timeframe can be extended by local Council. Regardless of the duration of the by-law, the Planning Act does not allow the garden suite to become a legal conforming use.

The current policy for a garden suite type temporary dwelling unit is as follows:

- The garden suite has been authorized by a temporary use by-law passed by the local municipality pursuant to sections 39 and 39.1 of the Planning Act and such by-law is in full force and effect;
- The owner is required to enter into an agreement with the Region, to be registered on title, prior to building permit issuance;
- Under the agreement, DCs are exempt if the owner removes the building within 60 days following the expiration of the temporary use by-law (or any extensions thereof), and provides evidence of the removal to the Region within 30 days following the removal (up to 90 days total). The onus of notifying the Region of the removal is on the applicant;
- If the owner does not provide satisfactory evidence of removal within the timeframe, it will no longer be considered as a garden suite and the Region will add the DCs to the tax roll;
- If the lot with the garden suite is sold, unless the purchaser agrees to assume the responsibility by entering into an identical agreement or remove the building, the entire amount of DC should be paid to the Region prior to the completion of the sales transaction;
- The amount of DC payable is the DC rate for an accessory dwelling on the date that the building permit was issued.

b) Temporary Dwelling - Other

This policy applies in situations where a temporary use by-law is not available. Examples include a seasonal residential use or a short-term residential use to accommodate resident workers, such as farm workers. In most cases once these dwellings are removed, there are no plans for redevelopment on the site, and therefore the applicant cannot take advantage of the demolition credit.

The current policy for this type of temporary dwelling unit is as follows:

- Before the building permit issuance, the applicant must enter into an agreement with the Region and provide a security in the amount equal to the DCs otherwise payable;
- The security may be in the form of cash or Letter of Credit;
- A refund of cash or a return of Letter of Credit will be made, without interest, if the applicant submits an application for refund, accompanied by proof of the removal of the temporary building to the Region's satisfaction, within 3 years from the building permit issuance;

- If there is no application received within the 3 years, the Region collects the DCs by depositing the security (or cash) into the Regional reserve funds on the day following the 3-year anniversary date.

6.9.18 Other Discretionary Exemptions

Under the current by-law parking garages, whether at, above or below grade, are exempt from DCs.

- The following are additional discretionary exemptions that are included in the current by-law:
- Hospitals - Buildings used as hospitals governed by the Public Hospitals Act, R.S.O. 1990; c. P.40, unless such buildings or parts thereof are used primarily for commercial or retail purposes;
- Place of Worship - Buildings that are exempt from taxation as a place of worship;
- Conservation Authorities - Buildings/structures owned by and used for the purpose of a conservation authority, except for buildings/structures used primarily for recreational purposes for which the conservation authority charges admission and/or fees or any other commercial or retail purposes;
- Seasonal Structures as defined in the by-law;
- Temporary Venues as defined in the by-law.

6.9.19 Timing of DC Payment

Unless 26.1 of the DCA applies, DCs for all services are currently calculated in accordance with section 26.2 of the DCA and payable on the day of building permit issuance, except for the water, wastewater and roads component for residential uses, which are currently payable upon execution of a subdivision agreement, rather than prior to building permit issuance, as the Region is required to have the necessary infrastructure constructed before the development occurs. For high density apartments and non-residential uses, all DCs are payable at building permit.

Notwithstanding the above, an owner and the Region may enter into an agreement under section 27 of the DCA requiring all or part of the DCs to be paid before (i.e. residential allocation program) or after (i.e. non-residential deferral) they would otherwise be payable. The terms of such agreement may not amend or alter any other provisions or sections of the by-law.

6.9.20 Exemptions, Relief, Credits and Adjustments Not Cumulative

It must be noted that only one of the applicable exemption(s), relief, credit(s) or adjustment(s) set out in the by-law shall be applicable to a development or redevelopment. Where the circumstances of a development or redevelopment are such that more than one type of exemption, relief, credit or adjustment could apply, only one type shall apply and it shall be the exemption, relief, credit or adjustment that results in the lowest DCs being payable.

6.10 By-law Structure

Bill 73 has introduced 2 new sections where Council must consider the use of area specific charges:

- Subsection 2 (9) of the Act now requires a municipality to implement area specific DCs for either specific services which are prescribed and/or for specific municipalities which are to be regulated.
- Subsection 10 (2) c.1 of the DCA requires that “the development charges background study shall include consideration of the use of more than one DC by-law to reflect different needs for services in different areas”.

For the 2022 DC by-law update, consideration has been given to area specific charges as required under the DCA (as amended by Bill 73). In regard to the first item, there are no services or specific municipalities identified in the regulations which must be area rated. The second item requires Council to consider the use of area rating.

The most common approach to structuring DC by-laws in Ontario is to implement a uniform or a municipal-wide charge. Currently Halton has Region-wide DC rates for all services except water/wastewater (W/WW).

Since 1999, the Region’s W/WW DCs have been charged on an area specific basis to recognize the higher average costs in servicing the Greenfield areas compared to the Built Boundary areas. The current area specific W/WW DC was established in 2012 (By-law No. 48-12), based on distribution/collection infrastructure required to service growth planned within the Built Boundary and Greenfield areas. The Built Boundary for the Greater Golden Horseshoe was established by the provincial Growth Plan based on the 2006 Built Boundary. The remainder of the Regional urban area (i.e. outside the Built Boundary) was classified as Greenfield area. The DC rates relating to the water and wastewater capacity (plant expansions for example) were calculated on a Region-

wide basis given the difficulty in identifying Area specific infrastructure related to capacity projects.

The remaining services (roads, growth studies, police, paramedic services, facilities, social housing, waste diversion and waterfront parks) are not restricted to one specific area and are often used/required by all residents/business. For example, the entire road network is used by new development depending on their travel requirements.

For the reasons noted above, the Region will continue to calculate the distribution/collection component of the W/WW DCs on an area specific basis and the capacity component of W/WW and all other services (transportation and general services) on a Region-wide basis.

Table 6-2 below illustrates the by-law structure:

Table 6-2
2022 DC By-law Structure

	Areas Applied	Planning Period
1. Water/Wastewater:		
A. Capacity	Region-wide	2022-2031
B. Distribution/Collection:	Area-specific	2022-2031
(i) Greenfield		
(ii) Built Boundary		
2. Roads	Region-wide	2022-2031
3. Police	Region-wide	2022-2031
4. Other General Services	Region-wide	2022-2031

6.11 Asset Management Plan

The recent changes to the DCA (new clause 10 (2) (c.2)) require that the background study must include an asset management plan (AMP) related to new infrastructure. Subsection 10 (3) of the DCA provides:

The AMP shall,

- deal with all assets whose capital costs are proposed to be funded under the DC by-law;

- demonstrate that all the assets mentioned in clause (a) are financially sustainable over their full life cycle;
- contain any other information that is prescribed; and
- be prepared in the prescribed manner.

At a broad level, the AMP provides for the long-term investment in an asset over its entire useful life along with the funding. For growth-related works, the majority of capital costs will be funded by DCs. Non-growth-related expenditures will then be funded from non-DC sources through the state of good repair program. During the useful life of the asset, there will be minor maintenance costs to extend the life of the asset along with additional program related expenditures to provide the full services to the residents. At the end of the life of the asset, it will be replaced by non-DC financing sources.

Having a financial plan is critical for putting an AMP into action. By having a strong financial plan, municipalities can also demonstrate that they have made a concerted effort to integrate the AMP with financial planning and municipal budgeting and are making full use of all available infrastructure financing tools.

It has been the Region's long-standing practice to prepare the Region's ten-year budget forecast based on the asset management plan. The ten-year budget forecast is updated through the annual budget process based on the latest information available including the existing long-term asset management plan, building condition assessments, results of studies such as master plans, optimization studies, etc. For the purpose of the 2022 DC by-law update, the ten-year budget forecast is to cover the planning horizon based on the long-term asset management plan, incorporating the infrastructure identified for the 2022 update and building condition assessments. As detailed in Appendix H, the analysis demonstrates that the Regional property tax and water and wastewater utility rate impacts are projected to stay at a level consistent to the current (2022) and previous budgets.

6.12 Long Term Capital and Operating Cost Examination

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

One standard that could be used in scrutinizing the above-referenced costs is the current level of operating costs per capita. Another more detailed standard that goes

beyond the specific requirements of the Act would be the anticipated impact on tax and user rate levels, as determined by the application of a full fiscal impact model. As discussed in Appendix H, Halton's assessment is based on the latter method.

The revenue to be generated by the DC by-law during its life of up to 5 years will be determined by the quantum of the charge, the amount and type of development occurring and the impact of the rules regarding exemptions, indexing, land redevelopment, etc. The net stream of revenue which results will determine the rate at which the Region is able to construct the works which underlie the DC. Consideration of these revenue streams would normally occur as part of the Region's annual Capital Budget and Forecasting process.

Appendix H contains Halton's Long-Term Capital and Operating Cost examination. The Region intends to implement the projects set out in this Study through its usual practice of preparing financial plans prior to the release of water and wastewater capacity. These plans will consider the projects (including roads) to be financed under the Plan and may use a combination of various financing techniques. The financial plan may also consider the staging of projects and, therefore, the timing and sequence of development to achieve the fiscal objectives of the Region under the Region's current Official Plan. Accordingly, the timing of some of the projects which are to be DC funded may be modified from what is shown in this background study. These modifications may be necessitated by the specifics of the financial plans to be prepared for water, wastewater and road servicing.

Chapter 7

By-law Adoption and Implementation

7. By-law Adoption and Implementation

7.1 Introduction

This chapter outlines the comprehensive process that the Region has carried out as part of arriving at DC rates and policies which are fair and legally defensible, and have full regard for public comments and concerns and any possible economic or development implications.

As part of this process, Regional staff in Public Works, Finance, Legislative and Planning Services, and other departments deployed substantial resources, in addition to engaging specialists in transportation, water/wastewater servicing, legal, economics and development charges to prepare separate inputs to the study.

This chapter discusses the consultation and by-law adoption process.

7.2 Consultation

Halton Region has followed an organized and comprehensive consultation process consisting of the Development Charges Advisory Committee (DCAC) which provided advice on the preparation of the DC background study and an extensive public consultation process to be carried out once the DC background study is released to the public.

7.2.1 Development Charges Advisory Committee (DCAC)

The purpose of the DCAC is to provide advice and assistance with respect to the preparation of the DC background study by reviewing the methodology and assumptions used in formulating the DC policies. The terms of reference and selection criteria for the DCAC were updated and approved by Council in Report No. LPS14-21 / FN-04-21 (re: 2022 Development Charge (DC) Update Work Plan, Terms of Reference and Council Appointments to the 2021-2022 Development Charges Advisory Committee (DCAC)). The Committee consists of 15 members representing developers, builders, businesses, councillors and rate payers. As shown in the following table, the DCAC held 4 meetings during September and October 2021, involving discussions regarding the growth plan and capital costs, DC calculations, competitive analysis and DC policies.

Table 7-1
DCAC Consultation Process

Item Discussed	Date
1. DC 101/Growth Plan	September 24, 2021
2. DC Policies/Adjusted Growth/ General Services Capital Costs and Calculations	October 8, 2021
3. Water/Wastewater & Transportation Capital Costs and Calculations	October 21, 2021
4. Cost of Growth, Final Review and Competitiveness	October 29, 2021

During this process relevant information was provided through staff presentations. Further supplementary information was also provided as requested by the Committee. The information presented at the DCAC, including supplementary information, technical reports, minutes and agendas, is available on Halton's website (www.halton.ca).

The key items reviewed and feedback provided by the DCAC was highlighted in Regional Report No. FN-36-21 (re: Update on the Activity of the Development Charges Advisory Committee (DCAC)).

7.2.2 Public Consultation Process

Once the DC background study is complete and released to the public, the work of the DCAC comes to an end and the broad public consultation occurs. As shown in the following table the DC background study is planned to be released to the public on December 15, 2021.

Table 7-2
Summary of Public Consultation Process

Process	Date
1. Release of DC Background Study to the Public	December 15, 2021
2. Public Meeting under the DCA, 1997	February 16, 2022
3. Final DC Proposals & Comments to Council	March 23, 2022
4. Proposed Passing of DC By-law(s) by Council	April 20, 2022
5. Advertise Notice of Passage of DC By-law(s)	Within 20 days of passage
6. Last day for DC By-law(s) Appeal	40 days after passage

Halton's website will continue to be updated to keep the public informed during the public consultation process on meeting dates and information provided during the process.

Finally, consultation with the four local municipalities continually takes place through the Area Treasurers with the aim to promote consistency in DC policies among the Region and the local municipalities, which in turn would improve customer service and administrative efficiency.

7.3 The By-law Adoption Process

Section 12 of the DCA indicates that before passing a DC by-law, Council must hold at least one public meeting, giving at least 20 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 2 weeks prior to the (first) public meeting. Further, the DC study must be made available at least 60 days prior to the passage of the DC by-law. Any person who attends such a meeting may make representations related to the proposed by-law.

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 OLT.

As discussed in the previous sections, following the completion of the DCAC process and release of the DC background study on December 15, 2021, the Region will undertake an extensive public consultation process beyond standard practice and the requirement of the DCA. Further, as shown in Table 7-2, the Region's consultation process will continue until the by-law is adopted. The legislated Public Meeting will be held February 16, 2022.

All of the public input will be reviewed and taken into consideration to finalize the Region's DC proposal. The final report containing the DC proposal will be presented to the Council on March 23, 2022. The DC by-law will then be considered for passage by Council on April 20, 2022, with the last date for appeal of the by-law then being 40 days after the passage of the by-law.

7.4 By-law Implementation

7.4.1 Introduction

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 Transitional Period

Although the by-law is scheduled to be passed on April 20, 2022, this study proposes that the by-law come into force September 1, 2022 to allow for a transitional period to the new rates prior to expiration of By-law No. 36-17 on August 31, 2022.

7.4.3 Notice of Passage

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 or the mailing of the notice).

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. 10 (4) lists the persons/organizations who must be given notice.
- s.10 (5) lists the 8 items which the notice must cover.

7.4.4 By-law Pamphlet

In addition to the "notice" information, the municipality must prepare a "pamphlet" explaining each DC by-law in force, setting out:

- a description of the general purpose of the DCs;
- 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 DCs relate; and
- a general description of the general purpose of the Treasurer's statement and where it may be obtained by the public.

Where a by-law is not appealed to the OLT, 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.

7.4.5 Appeals

Sections 13 to 19 of the DCA set out requirements relative to making and processing of a DC by-law appeal and OLT Hearing in response to an appeal. Any person or organization may appeal a DC by-law to the OLT 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.

7.4.6 Complaints

A person required to pay a DC, or his agent, may complain to the Regional Council imposing the charge that:

- the amount of the charge was incorrectly determined;

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

Sections 20 to 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. Further a complainant may appeal if the municipality does not deal with the complaint within 60 days of the complaint being filed with the clerk. A complainant may appeal the decision of Regional Council to the OLT.

Appendix A

Anticipated Development in the Region 2022-2031

Appendix A: Part 1

Residential Growth Forecasts

1. Residential Growth Forecasts

Table A-1 provides an estimate for growth commencing in 2022, which is the starting point for this forecast and DC calculation. The forecast extends over a 10-year planning horizon from 2022 to 2031, and is based on the Halton Region BPE, 2011. Over the 2022-2031 planning period, the Region's population is forecasted to reach 752,537 persons (excludes Census undercount), an increase of 128,443 persons from 2022 to 2031.¹

The 2031 target population and employment figures for the Halton Region BPE, 2011 are consistent with section 3 of the 2006 Growth Plan for the Greater Golden Horseshoe (Places to Grow) and ROPA 39. Local knowledge regarding development activity and designated vacant urban land supply, as well as Official Plan (OP) policies related to future housing mix, are reflected in the forecasts, with extensive input from the local municipalities.

It is noted that based on a detailed review of the 2021 population and housing base for Halton Region, the Region is approximately 21,340 persons and 16,460 households below the 2021 estimates as per the Halton Region BPE, 2011. This residential shortfall has been adjusted for accordingly in the DC calculation (Table A-6a to Table A-6c).

Figure A-1 graphs the anticipated annual increase in the number of occupied dwelling units over the forecast period, with additional details provided in Table A-2 for the 2011-2020 period. Historical annual housing activity is based on Canadian Mortgage and Housing Corporation (CMHC) completion data, while the forecast of occupied dwelling units by type from 2021-2031 is based on the Halton Region BPE, 2011. Historically, housing activity in Halton averaged 3,743 residential completions per year during the 2016 to 2020 period, which is above the average residential housing activity experienced during the 2011-2015 period (i.e. 3,166 residential completions/year), and comparable to the 10-year average residential housing activity of 3,703 residential completions per year during the 2006-2015 period. In accordance with the Halton Region BPE, 2011, the level of housing construction activity during the short-term

¹ The Statistics Canada population undercount represents the net number of persons who are missed (i.e. over-coverage less under-coverage) during Census enumeration.

forecast period (i.e. 2022-2026) is forecast to average approximately 5,599 units annually, which is well above historical trends from 2006-2020. The relatively high level of forecast housing activity during the 2021-2025 period is largely a result of significant DGA development in North Oakville and Milton anticipated over this time period. Growth within Halton Region is projected to decline slightly thereafter to approximately 5,221 units/year from 2027-2031. This gradual decline corresponds with the buildout of large portions of the Region's currently designated residential lands, both DGA and BUA lands.

With respect to housing activity by structure type, single detached and semi-detached units comprised 40% of total permits issued over the past 10 years (2011-2020). The remaining 60% of the completions issued over this time period were in the form of medium-density (28%) and high-density (32%) housing. The percentage of low-density and medium-density housing units over the forecast period (2022-2031) is projected to be 45% and 21%, respectively, while high-density units are projected to increase comprise 34%.

Table A-3 sets out the persons per unit (PPU) data as per the 2016 Census by type and age of unit in Halton. In comparison to the 2017 DC Background Study, housing occupancies in new low, medium and high-density housing units are forecasted to increase. Over the 2022-2031 forecast period, the average PPU for new low-density housing units is 3.77. For medium- and high-density housing units, the forecast average PPU are 2.85 and 1.66, respectively. The analysis in Table A-3 reveal that low-, medium- and high-density dwelling occupancies for new units in Halton will gradually decline over the 10-year forecast period

Table A-4 summarizes the PPU assumptions established for calculating DC rates for different types of dwelling units, based on Census data over the 2022-2031 period. The PPU assumption presented is used in calculating the which utilized a 10-year planning period. For multiple dwellings, average PPU levels are further summarized between units with less than and equal to or more than 3 bedrooms. For apartment dwellings, average PPU levels are summarized between units with less than and equal to or greater than 2 bedrooms.

Table A-5 summarizes the Regional population forecast from 2022-2031. PPU assumptions used for the 10-year gross population forecast are based on Table A-4. The net population increase over the 10-year period is based on the BPE, 2011.

Tables A-5a through A-5c summarizes the 10-year gross/net population forecast for the Halton's BUA (in accordance with ROPA 38), DGA and Rural Areas.

Table A-6a provides the annual growth summary for the 10-year growth period from 2022-2031. This forecast is used for the DC calculation as it relates to general services. Adjustments have been made for the difference between the 2022 beginning balance based on Halton Region BPE, 2011 and actual residential development. Further, adjustments have been made to include institutional units due to institutional population related growth (e.g. long-term care development) being accounted for in residential growth. A unit deduction has also been made to account for the units that have already paid DCs but have not yet occupied, in addition to a deduction for oversubscription under the 2020 allocation program.

Table A-6b provides the annual growth summary for the 10-year growth period from 2022-2031. This forecast is used for the DC calculation as it relates to roads services. Adjustments for actual growth, institutional units, prepaid units and over allocated units have been made as noted above.

Table A-6c provides the annual growth summary for the 10-year growth period from 2022-2031. This forecast is used for the DC calculation as it relates to water and wastewater services. In Table A-6c, the annual growth forecast has been allocated between DGA and BUA lands. Rural areas have been deducted from the growth forecast as they are not serviceable by water and wastewater. Adjustments for, institutional units, prepaid unit and over allocated units have been made as noted above. The shortfall for water/wastewater is offset by the number of prepaid units as all residential units have prepaid units through existing agreements.

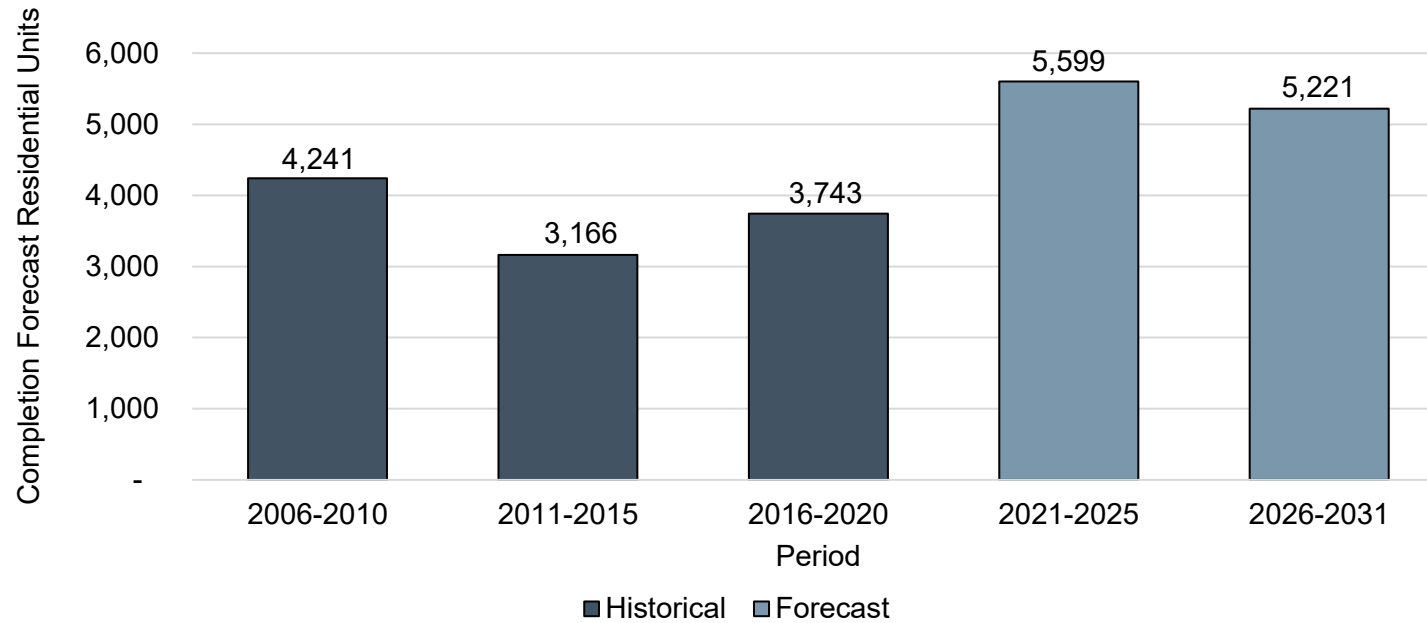
Table A-1
Halton Region
Residential Growth Forecast Summary

Year	Population ¹	Institutional Population	Population Net of Institutional	Dwelling Units			Total
				Singles & Semis (Low-Density)	Multiples (Medium-Density)	Apartments (High-Density)	
2021	624,094	8,618	615,476	142,759	42,255	49,440	234,455
2026	688,895	9,531	679,363	153,615	48,655	60,180	262,449
2031	752,537	10,436	742,101	166,913	53,708	67,935	288,556
2022-2026	64,801	914	63,887	10,856	6,400	10,739	27,995
2022-2031	128,443	1,818	126,625	24,154	11,453	18,495	54,102
% Housing Mix							
2022-2026				39%	23%	38%	100%
2022-2031				45%	21%	34%	100%

Source: Population and housing forecasts explicitly based on June 2011 Halton Best Planning Estimates.

¹ Population figure excludes net Census undercount.

Figure A-1
Halton Region
Occupied Residential Dwelling Unit Forecast vs. Historical Completions



Period	Low Density	Medium Density	High Density	Total
2006-2020	1,904	1,110	808	3,716
2021-2031	2,415	1,145	1,850	5,410

Table A-2
Halton Region
Historical Residential Housing Completions
Years 2011-2020

Year	Residential Completions			
	Low Density (Singles & Semis)	Medium Density (Townhouses)	High Density (Apartments)	Total
2011	1,389	1,018	491	2,898
2012	1,910	957	1,021	3,888
2013	1,315	1,298	599	3,212
2014	1,320	1,030	1,269	3,619
2015	1,079	553	599	2,231
Sub-total	7,013	4,856	3,979	15,848
Average (2011-2015)	1,403	971	796	3,170
% Breakdown	44.3%	30.6%	25.1%	100.0%
2016	1,288	718	1,403	3,409
2017	1,229	1,072	1,966	4,267
2018	1,744	1,562	1,186	4,492
2019	1,462	576	1,170	3,208
2020	991	932	1,415	3,338
Sub-total	6,714	4,860	7,140	18,714
Average (2016-2020)	1,343	972	1,428	3,743
% Breakdown	35.9%	26.0%	38.2%	100.0%
2011-2020 Total	13,727	9,716	11,119	34,562
Average	1,373	972	1,112	3,456
% Breakdown	39.7%	28.1%	32.2%	100.0%

Source:

Completions- Canada Mortgage and Housing Corporation (CMHC) Ontario Housing Market Report.

Table A-3
Halton Region
Summary of 10-year Housing Occupancy Rates by Dwelling Type in New Units (PPU), 2022-2031

Municipality	Forecast Period	Low Density			Medium Density		
		Units	PPU	Population	Units	PPU	Population
TOTAL HALTON REGION	2022-2026	10,856	3.837	41,652	6,400	2.894	18,524
	2027-2031	13,298	3.719	49,459	5,053	2.796	14,129
	Total 10-year	24,154	3.772	91,111	11,453	2.851	32,652

Municipality	Forecast Period	High Density			Total		
		Units	PPU	Population	Units	PPU	Population
TOTAL HALTON REGION	2022-2026	10,739	1.667	17,907	27,995	2.789	78,082
	2027-2031	7,756	1.638	12,706	26,107	2.922	76,295
	Total 10-year	18,495	1.655	30,613	54,102	2.853	154,377

Source: Halton Region Best Planning Estimates, June 2011. Forecast housing occupancy rates (persons per unit) by housing type are derived by Watson & Associates based on 2016 Statistics Canada custom tabulation.

Table A-4
Halton Region 2022 Development Charge Study
Housing occupancy Rates by Dwelling Type in New Units (PPU)¹

<u>Residential Unit Category</u>	<u>Region Wide</u>	<u>Area Specific</u>	
	2022-2031	2022-2031 (Built Boundary)	2022-2031 (Greenfield)
Single Family and Semi-Detached	3.772	3.750	3.777
Total Multiples ²			
Multiples- Less Than 3 Bedrooms	2.018	2.012	2.022
Multiples - 3 or More Bedrooms	3.054	3.044	3.059
Total Apartments			
Apartments - Less than 2 Bedrooms	1.356	1.355	1.359
Apartments - 2 or More Bedrooms	1.831	1.831	1.835
Special Care or Special Need	1.100	1.100	1.100

¹ Forecast occupancy rates (Persons Per Unit) by unit category and number of bedrooms are based on 2016 Statistics Canada custom tabulation provided by dwelling type and dwelling age.

² Multiples are defined as townhomes and apartments in duplexes.

Table A-5
Halton Region
10 Year (Long Term) Growth Forecast
2022-2031

		Population (Net of Institutional)
Population to 2021 (1)		615,476
Occupants of New Housing Units, 2022 to 2031	<i>Units</i>	54,102
	<i>multiplied by persons per unit (2)</i>	2.853
<i>gross population increase</i>		154,377
Decline in Housing Unit Occupancy, 2022 to 2031	<i>Units</i>	234,455
	<i>multiplied by ppu decline rate (3)</i>	-0.118
	<i>total decline in population</i>	-27,752
Population Estimate to 2031 (4)		742,101
<i>Net Population Increase, From 2022 To 2031</i>		126,625

(1) Population and housing forecasts explicitly based on June 2011 Halton Best Planning Estimates. 2021 population estimate is net of institutional, which is estimated at 8,618.

(2) Average number of persons per unit (ppu) is assumed to be:

Residential Unit Category	Persons Per Unit	% Distribution of Estimated Units	Weighted Persons Per Unit Average
<i>Single family & semi-detached</i>	3.772	45%	1.684
<i>Multiples except apartments</i>	2.851	21%	0.604
<i>Apartments</i>	1.655	34%	0.566
Total		100%	2.853

Source: Unit mix derived from Halton Region Best Planning Estimates, 2011. Forecast persons per unit by residential unit category based on 2016 Statistics Canada custom tabulation provided by dwelling type and dwelling age.

(3) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.

(4) 2031 Population derived from Halton Region Best Planning Estimates, 2011. Note: 2031 population estimate is net of institutional population, which is estimated at 10,436

Table A-5a
Halton Region (Built Boundary)
10 Year (Long Term) Growth Forecast
2022-2031

		Population (Net of Institutional)
Population to 2021 (1)		440,580
Occupants of New Housing Units, 2022 to 2031	<i>Units</i>	23,242
	<i>multiplied by persons per unit (2)</i>	2.188
	<i>gross population increase</i>	50,850
Decline in Housing Unit Occupancy, 2022 to 2031	<i>Units</i>	175,713
	<i>multiplied by ppu decline rate (3)</i>	(0.046)
	<i>total decline in population</i>	(7,997)
Population Estimate to 2031 (4)		483,433
<i>Net Population Increase, From 2022 To 2031</i>		42,853

(1) Population and housing forecasts explicitly based on June 2011 Halton Best Planning Estimates. 2021 population estimate is net of institutional, which is estimated at 6,578.

(2) Average number of persons per unit (ppu) is assumed to be:

	Persons Per Unit	% Distribution of Estimated Units	Weighted Persons Per Unit Average
<i>Single family & semi-detached</i>	3.750	15%	0.571
<i>Multiples except apartments</i>	2.842	18%	0.512
<i>Apartments</i>	1.655	67%	1.104
Total		100%	2.188

Source: Unit mix derived from on Halton Region Best Planning Estimates, 2011. Forecast persons per unit by residential unit category based on 2016 Statistics Canada custom tabulation provided by dwelling type and dwelling age.

(3) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.

(4) 2031 Population derived from Halton Region Best Planning Estimates, 2011. Note: 2031 population estimate is net of institutional population, which is estimated at 7,529.

Table A-5b
Halton Region (Greenfield)
10 Year (Long Term) Growth Forecast
2022-2031

			Population (Net of Institutional)
Population to 2021 (1)			151,897
Occupants of New Housing Units, 2022 to 2031	<i>Units</i>	31,023	
	<i>multiplied by persons per unit (2)</i>	3.357	
	<i>gross population increase</i>	104,153	104,153
Decline in Housing Unit Occupancy, 2022 to 2031	<i>Units</i>	50,530	
	<i>multiplied by ppu decline rate (3)</i>	(0.377)	
	<i>total decline in population</i>	(19,045)	(19,045)
Population Estimate to 2031 (4)			237,005
<i>Net Population Increase, From 2022 To 2031</i>			<i>85,108</i>

(1) Population and housing forecasts explicitly based on June 2011 Halton Best Planning Estimates. 2021 population estimate is net of institutional, which is estimated at 1,651.

(2) Average number of persons per unit (ppu) is assumed to be:

	Persons Per Unit	% Distribution of Estimated Units	Weighted Persons Per Unit Average
<i>Single family & semi-detached</i>	3.777	67%	2.529
<i>Multiples except apartments</i>	2.856	23%	0.669
<i>Apartments</i>	1.658	10%	0.160
Total		100%	3.357

Source: Unit mix derived from on Halton Region Best Planning Estimates, 2011. Forecast persons per unit by residential unit category based on 2016 Statistics Canada custom tabulation provided by dwelling type and dwelling age.

(3) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.

(4) 2031 Population derived from Halton Region Best Planning Estimates, 2011. Note: 2031 population estimate is net of institutional population, which is estimated at 2,526

Table A-5c
Halton Region (Rural)
10 Year (Long Term) Growth Forecast

		Population (Net of Institutional)
Population to 2022 (1)		22,999
Occupants of New Housing Units, 2022 to 2031	<i>Units</i>	-163
	<i>multiplied by persons per unit (2)</i>	3.830
	<i>gross population increase</i>	-626
Decline in Housing Unit Occupancy, 2022 to 2031	<i>Units</i>	8,211
	<i>multiplied by ppu decline rate (3)</i>	(0.087)
	<i>total decline in population</i>	(710)
Population Estimate to 2031 (4)		21,662
<i>Net Population Increase, From 2022 To 2031</i>		(1,336)

(1) Population and housing forecasts explicitly based on June 2011 Halton Best Planning Estimates. 2021 population estimate is net of institutional, which is estimated at 389.

(2) Average number of persons per unit (ppu) is assumed to be:

	Persons Per Unit	% Distribution of Estimated Units	Weighted Persons Per Unit Average
<i>Single family & semi-detached</i>	3.892	97%	3.785
<i>Multiples except apartments</i>	2.842	0%	0.000
<i>Apartments</i>	1.655	3%	0.045
Total		100%	3.830

Source: Unit mix derived from on Halton Region Best Planning Estimates, 2011. Forecast persons per unit by residential unit category based on 2016 Statistics Canada custom tabulation provided by dwelling type and dwelling age.

(3) Decline occurs due to aging of the population and family life cycle changes, lower fertility rates and changing economic conditions.

(4) 2031 Population derived from Halton Region Best Planning Estimates, 2011. Note: 2031 population estimate is net of institutional population, which is estimated at 381

Table A-6a
Halton Region Anticipated Annual Residential Growth for the Period 2022 to 2031
(for General Services Development Charge Calculation)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total 2022-2031
Region Wide											
BPE:											
Incremental Total New Units	5,599	5,599	5,599	5,599	5,599	5,221	5,221	5,221	5,221	5,221	54,102
Adjusted for SDE Units (3.772 PPU)	4,070	4,070	4,070	4,070	4,070	4,103	4,103	4,103	4,103	4,103	40,864
Add Unit Shortfall ¹	13,712	1,376	1,376	-	-						16,463
Less Prepaid ²	(9,711)										(9,711)
Less Over Allocated ³	(1,706)	(1,706)	(1,706)								(5,119)
Add Institutional Population Unit	52	52	52	52	52	52	52	52	52	52	520
Adjusted for SDE Units (3.772 PPU)	6,416	3,791	3,791	4,122	4,122	4,155	4,155	4,155	4,155	4,155	43,017

¹ Represents shortfall in units against BPEs.

² Represents pre-paid DCs under 2020 Allocation Agreement.

³ Represents oversubscription under 2020 Allocation Program.

Note: Figures may not add precisely due to rounding.

Table A-6b
Halton Region Anticipated Annual Residential Growth for the Period 2022 to 2031
(For Roads Development Charge Calculation)

Adjustments	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total 2022-2031
Dwelling Units per BPE:											
Urban Units	5,904	5,582	5,582	5,582	5,582	5,207	5,207	5,207	5,207	5,207	54,265
Rural Units	(305)	17	17	17	17	15	15	15	15	15	(163)
Incremental Total New Units per BPE	5,599	5,599	5,599	5,599	5,599	5,221	5,221	5,221	5,221	5,221	54,102
Adjusted for SDE Units (3.772 PPU)	4,070	4,070	4,070	4,070	4,070	4,103	4,103	4,103	4,103	4,103	40,864
Add Unit Shortfall ¹	13,712	1,376	1,376	-	-	-	-	-	-	-	16,463
Less Prepaid Units ²	(10,501)	(790)	(790)								(12,081)
Less Over Allocated ³	(1,706)	(1,706)	(1,706)								(5,119)
Add Institutional Population Unit	52	52	52	52	52	52	52	52	52	52	520
Adjusted for SDE Units (3.772 PPU)	5,626	3,001	3,001	4,122	4,122	4,155	4,155	4,155	4,155	4,155	40,647

¹ Represents shortfall in SDE's against BPEs.

² Represents pre-paid DCs under 2020 Allocation Agreement, non-allocation SDE earmarked to finance the 2020 Allocation Program.

³ Represents oversubscription under 2020 Allocation Program.

Note: Figures may not add precisely due to rounding.

Table A-6c
Halton Region Anticipated Annual Residential Growth for the Period 2022 to 2031
(for Water & Wastewater Development Charge Calculation)

Adjustments	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total 2022-2031
GREENFIELD AREA											
DC Calculation											
Incremental Total New Units per BPE	3,590	3,268	3,268	3,268	3,268	2,872	2,872	2,872	2,872	2,872	31,023
Adjusted for SDE Units (3.777 PPU)	3,185	2,862	2,862	2,862	2,862	2,589	2,589	2,589	2,589	2,589	27,577
Add Unit Shortfall ¹	12,336										12,336
Less Prepaid Units ²	(12,336)										(12,336)
Less Over Allocated ³	(1,706)	(1,706)	(1,706)								(5,119)
Add Institutional Population Unit	30	26	26	26	26	24	24	24	24	24	254
Net Greenfield Area	1,509	1,181	1,181	2,888	2,888	2,613	2,613	2,613	2,613	2,613	22,712
BUILT BOUNDARY											
DC Calculation:											
Incremental Total New Units per BPE	2,314	2,314	2,314	2,314	2,314	2,334	2,334	2,334	2,334	2,334	23,242
Adjusted for SDE Units (3.750 PPU)	1,265	1,265	1,265	1,265	1,265	1,447	1,447	1,447	1,447	1,447	13,560
Add Unit Shortfall ¹	790	790	790								2,370
Less Allocated 2020 Program ²	(790)	(790)	(790)								(2,370)
Add Institutional Population Unit	26	26	26	26	26	28	28	28	28	28	270
Net Built Boundary	1,291	1,291	1,291	1,291	1,291	1,475	1,475	1,475	1,475	1,475	13,830
TOTAL REGION	2,800	2,472	2,472	4,179	4,179	4,088	4,088	4,088	4,088	4,088	36,542

¹ Represents shortfall in SDE's against BPEs

² Represents pre-paid DC's under 2012 and 2020 Allocation Agreement

³ Represents oversubscription under 2020 Allocation Program

⁴ Represents SDE's earmarked to finance the 2020 Allocation Program

Note: Figures may not add precisely due to rounding.

APPENDIX A – PART 2

NON-RESIDENTIAL GROWTH FORECASTS

2. NON-RESIDENTIAL GROWTH FORECASTS

Table A-7 summarizes the Halton Region BPE, 2011 employment forecast by major employment sector from 2022-2031 in five-year increments. Major employment sectors include industrial, commercial/population related, and institutional employment. Work at home (WAH) employment and no fixed place of work (NFPOW) employment have also been separately identified but excluded from the non-residential growth forecast when calculating the non-residential DC. Statistics Canada defines no fixed place of work (NFPOW) employees as "persons who do not go from home to the same work place location at the beginning of each shift". Such persons include building and landscape contractors, travelling salespersons, independent truck drivers, etc.

The impact on municipal services from WAH employees has already been included in the population forecast. The need for municipal services related to NFPOW employees has largely been included in the employment forecast by usual place of work i.e. employment and total floor area (TFA) in the retail and accommodation sectors generated from NFPOW construction employment. Furthermore, since these employees have no fixed work address, they cannot be captured in the non-residential TFA calculation. For these reasons, work-at-home and NFPOW employment has been excluded from the capital needs.

Over the 10-year forecast period, Halton Region's existing employment base is forecast to increase by approximately 62,300 employees, which represents an annual forecast employment growth rate of 1.8%. The largest share of employment growth within Halton Region is forecast in the industrial sector, which is anticipated to comprise approximately 37% of total forecasted employment growth from 2022-2031. The commercial sector also represents a large share of forecasted employment growth across Halton Region, comprising approximately 30% of total employment growth over the 15-year employment forecast.

Based on a detailed review of the Halton Region 2021 employment base, it is estimated that the Halton Region employment base is approximately 46,400 employees below the 2021 employment estimate as per the Halton Region BPE, 2011. This employment shortfall is concentrated in the industrial sector, followed by the commercial sector,

while the institutional sector is estimated to be collectively tracking above the Halton Region BPE, 2011 employment forecast.

In order to estimate the percentage of industrial employment shortfall which is anticipated to occur in existing versus new industrial space, a review of recent industrial employment trends within existing industrial building as well as a review of recent industrial vacancy rate trends was undertaken. Based on this review, it is estimated that no industrial shortfall should be accommodated within existing industrial buildings over the 2022-2031 forecast period. The remaining 100% of the 2021 industrial employment shortfall is forecast to be accommodated in new industrial space. With respect to the commercial and institutional sectors, 100% of the employment shortfall/surplus has been applied to new commercial/institutional space. This non-residential shortfall has been adjusted for accordingly in the DC calculation (Table A-11a to Table A-11c).

Figure A-2 graphs the anticipated annual increase in the amount of TFA over the forecast period. Historical annual non-residential building activity (2007-2020) is based on Halton Region non-residential building permit data. Forecast TFA by sector is a derived total based on the Halton Region BPE, 2011. The incremental TFA increase for the Halton Region is an additional 45.4 million sq.ft. over the 10-year period. Industrial construction is expected to comprise approximately 71% of the added TFA, while commercial and institutional are anticipated to comprise 17% and 12%, respectively.

Table A-8 summarizes both employment growth and TFA for Halton Region annually from 2022-2031. TFA estimates are calculated in square feet, based on the following Region-wide employee density assumptions:

- 1,390 sq.ft. per employee for industrial;
- 400 sq.ft. per employee for commercial; and
- 740 sq.ft. per employee for institutional employment.

Forecast assumptions regarding average sq.ft. per employee by major sector and municipality remain unchanged from the previous 2017 Development Charges Background Study, with the exception of the industrial density assumption for the Town of Milton. The Town of Milton industrial average sq. ft. per employee was reduced to account for a greater share of prestige industrial development identified within the Agerton Secondary Plan. The employee density assumptions above reflect a "bottom-up" approach to the forecast. For example, the average sq.ft. per employee for industrial development in the BUA (800 to 1,750) is lower than the DGA and Rural Areas (800 to 2,000). In part, this accounts for the steady forecast of new industrial construction along

the Highway 401 corridor in the warehousing and distribution sector. Typically, the average number of sq.ft. per employee within the warehousing and distribution sector is much higher than the industrial average. The result of using this "bottom-up" approach is that the average number of sq.ft. per employee varies from year to year depending on the weighting of employment growth by local municipality.

As previously discussed, over the 2022-2031 forecast period, a total of 45.4 million sq.ft. of non-residential TFA is forecasted to be added to Halton Region accordance with the Halton Region BPE, 2011 employment forecast and the above-referenced floor space per worker (FSW) assumptions by major sector. In addition, to the non-residential TFA forecast derived from the 2022-2031 BPE forecast, an additional 50.5 million sq.ft. of non-residential TFA is forecast, associated with the 2021 employment shortfall illustrated in Table A-10b. Lastly, 0.75 million sq.ft. of TFA has been removed from the institutional employment forecast to account for institutional space related to special care facilities, which have already been captured in the population forecast.

Tables A-8a to A-8c provides similar information for Halton Region by DGA, BUA and Rural Area.

Table A-9 provides the employment sectors in the Halton Region BPE forecast revised to the following sectors: retail; and non-retail (office and other employment). Retail and office employment have been disaggregated from the commercial/population-related total based on 2016 Census allocations of 73% retail and 27% office. It is reasonable to assume that over the forecast period a greater percentage of commercial development will shift towards the office sector due to increased market demand for office development, largely in Oakville and Burlington, in addition to the rise of e-commerce. Therefore, a gradual shift of commercial employees has been allocated to the office sector over the growth forecast period (i.e. retail employees are 69% of the commercial total in 2021, and decrease to 67% by 2031; based on the 2022-2031 increment, 55% is allocated to retail, and 45% is allocated to office). Based on the revised employment sectors, the largest share of employment growth within Halton Region is forecast in the industrial employment sector, which is anticipated to comprise approximately 37% of total forecast employment growth from 2022-2031. The institutional sector is forecast to comprise 12% of total forecast employment growth from 2022-2031.

Table A-9a summarizes both employment growth and TFA for Halton Region annually from 2022-2031 based on the revised employment sectors (i.e. retail vs. non-retail).

- **Retail** - As per Table A-9a, the average sq.ft. per employee for retail is approximately 470 sq.ft. per employee. The assumptions by municipality remain unchanged from the previous 2017 Development Charges Background Study.
- **Non-retail** - The average sq.ft. per employee for non-retail (i.e. office, industrial, and institutional) is approximately 1,040 sq.ft. per employee, which is the weighted average for all non-retail employment by usual place of work (i.e. industrial, office and institutional development).

Retail construction is expected to comprise approximately 11% of the added TFA (45.4 million), while non-retail is anticipated to comprise 89%.

Tables A-9b through A-9d provides similar information for Halton Region by DGA, BUA and Rural Area.

Tables A-10a through A-10c provides total non-residential TFA used for DC Calculations. Adjustments have been made for the difference between the 2022 beginning balance based on the Halton Region BPE, 2011 and actual non-residential development. Further, adjustments have been made to the institutional TFA forecast due to special care/special needs (e.g. long term care development) being accounted for in residential growth.

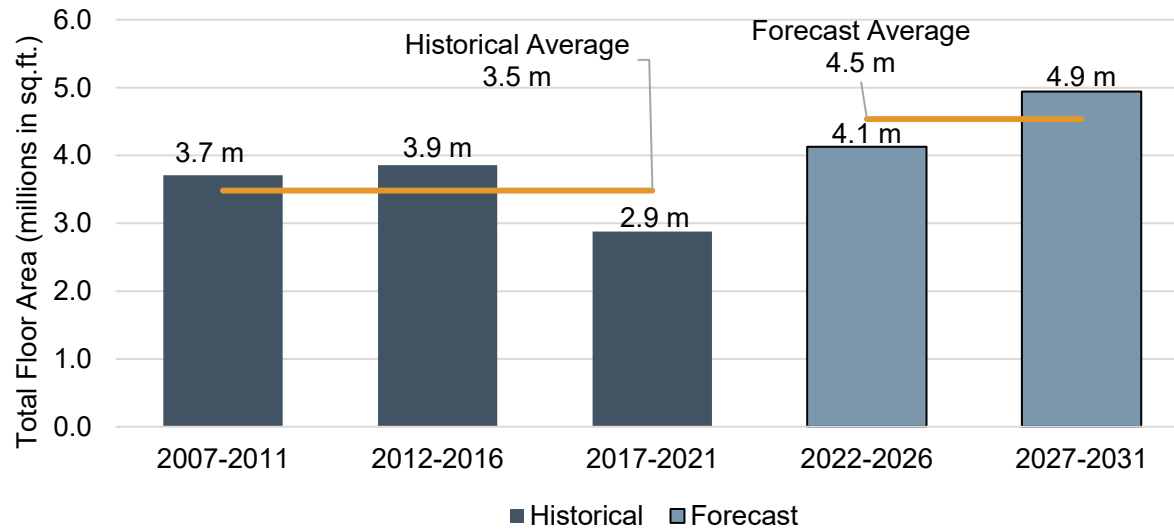
Table A-7
Halton Region
Anticipated Annual Non-residential Growth for the Period 2022 to 2031

Year	Employment					
	Commercial	Industrial	Institutional	Work at Home	No Fixed Place of Work	Total Employment
2021	119,285	111,832	34,735	29,206	32,625	327,683
2026	126,611	121,511	39,853	31,945	35,789	355,709
2031	137,976	135,065	42,241	35,429	39,289	390,000
2022-2026	7,325	9,679	5,119	2,739	3,164	28,026
2022-2031	18,691	23,232	7,506	6,223	6,664	62,316

Source: 2021-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011.

Adjustments by employment sector have been made to account for Work at Home and No Fixed Place of Work Employment.

Figure A-2
Halton Region
Anticipated Annual Non-residential Growth for the Period 2022 to 2031



Source: 2007-2021 derived from Halton Region non-residential DC database data by Watson & Associates Economists Ltd. Forecast derived based on Halton Region Best Planning Estimates, June 2011.

Table A-8
Halton Region - Employment/Total Floor Area Forecast, 2022 to 2031

Cumulative Year	Employment						TFA Estimate (Sq.Ft.)			
	Commercial	Industrial	Institutional	Work at Home	No Fixed Place of Work	Total Employment	Commercial	Industrial	Institutional	Total Floor Area (TFA)
2021	119,285	111,832	34,735	29,206	32,625	327,683				
2022	120,606	113,763	35,743	29,757	33,419	333,288				
2023	122,107	115,700	36,771	30,304	34,012	338,894				
2024	123,608	117,637	37,798	30,851	34,604	344,499				
2025	125,110	119,574	38,826	31,398	35,197	350,104				
2026	126,611	121,511	39,853	31,945	35,789	355,709				
2027	128,884	124,222	40,331	32,642	36,489	362,567				
2028	131,157	126,932	40,808	33,339	37,189	369,425				
2029	133,430	129,643	41,286	34,035	37,889	376,283				
2030	135,703	132,354	41,763	34,732	38,589	383,141				
2031	137,976	135,065	42,241	35,429	39,289	390,000				
Incremental										
2021-2022	1,321	1,931	1,009	552	794	5,605	532,448	3,038,879	783,539	4,354,866
2022-2023	1,501	1,937	1,028	547	593	5,605	611,607	2,660,476	799,035	4,071,118
2023-2024	1,501	1,937	1,028	547	593	5,605	611,607	2,660,476	799,035	4,071,118
2024-2025	1,501	1,937	1,028	547	593	5,605	611,607	2,660,476	799,035	4,071,118
2025-2026	1,501	1,937	1,028	547	593	5,605	611,607	2,660,476	799,035	4,071,118
2026-2027	2,273	2,711	477	697	700	6,858	910,517	3,719,170	314,576	4,944,263
2027-2028	2,273	2,711	477	697	700	6,858	910,517	3,719,170	314,576	4,944,263
2028-2029	2,273	2,711	477	697	700	6,858	910,517	3,719,170	314,576	4,944,263
2029-2030	2,273	2,711	477	697	700	6,858	910,517	3,719,170	314,576	4,944,263
2030-2031	2,273	2,711	477	697	700	6,858	910,517	3,719,170	314,576	4,944,263
2022-2031	18,691	23,232	7,506	6,223	6,664	62,316	7,531,461	32,276,629	5,552,561	45,360,650

Source: 2021-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011.

Adjustments by employment sector have been made to account for Work at Home and No Fixed Place of Work Employment.

Notes:

Figures may not add precisely due to rounding.

Sq.Ft. per Employee Assumptions (2022-2031):

Commercial	403
Industrial	1,389
Institutional	740

Note: Average sq. ft. per employee varies on annual basis.

Table A-8a
Halton Region (Built Boundary) - Employment/Total Floor Area Forecast, 2022 to 2031

Cumulative Year	Employment						TFA Estimate (Sq.Ft.)			
	Commercial	Industrial	Institutional	Work at Home	No Fixed Place of Work	Total Employment	Commercial	Industrial	Institutional	Total Floor Area (TFA)
2021	96,201	88,466	26,662	22,949	25,904	260,181				
2022	96,617	88,625	26,862	23,046	26,019	261,168				
2023	97,032	88,784	27,062	23,143	26,134	262,155				
2024	97,448	88,942	27,262	23,240	26,250	263,142				
2025	97,864	89,101	27,462	23,338	26,365	264,129				
2026	98,280	89,260	27,661	23,435	26,480	265,116				
2027	98,862	89,871	27,854	23,603	26,662	266,851				
2028	99,445	90,481	28,046	23,770	26,844	268,586				
2029	100,028	91,092	28,238	23,938	27,025	270,321				
2030	100,611	91,702	28,430	24,106	27,207	272,056				
2031	101,193	92,313	28,622	24,274	27,389	273,791				
Incremental										
2021-2022	416	159	200	97	115	987	166,321	198,374	133,302	497,997
2022-2023	416	159	200	97	115	987	166,321	198,374	133,302	497,997
2023-2024	416	159	200	97	115	987	166,321	198,374	133,302	497,997
2024-2025	416	159	200	97	115	987	166,321	198,374	133,302	497,997
2025-2026	416	159	200	97	115	987	166,321	198,374	133,302	497,997
2026-2027	583	610	192	168	182	1,735	233,093	797,865	98,625	1,129,582
2027-2028	583	610	192	168	182	1,735	233,093	797,865	98,625	1,129,582
2028-2029	583	610	192	168	182	1,735	233,093	797,865	98,625	1,129,582
2029-2030	583	610	192	168	182	1,735	233,093	797,865	98,625	1,129,582
2030-2031	583	610	192	168	182	1,735	233,093	797,865	98,625	1,129,582
2022-2031	4,993	3,847	1,960	1,325	1,485	13,610	1,997,070	4,981,196	1,159,631	8,137,897

Source: 2021-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011.

Adjustments by employment sector have been made to account for Work at Home and No Fixed Place of Work Employment.

Notes:

Figures may not add precisely due to rounding.

Sq.Ft. per Employee Assumptions (2022-2031):

Commercial	400
Industrial	1,295
Institutional	592

Note: Average sq. ft. per employee varies on annual basis.

Table A-8b
Halton Region (Greenfield Area) - Employment/Total Floor Area Forecast, 2022 to 2031

Cumulative Year	Employment						TFA Estimate (Sq.Ft.)			
	Commercial	Industrial	Institutional	Work at Home	No Fixed Place of Work	Total Employment	Commercial	Industrial	Institutional	Total Floor Area (TFA)
2021	22,178	20,902	7,521	5,829	6,138	62,567				
2022	23,094	22,952	8,338	6,313	6,860	67,558				
2023	24,165	24,725	9,163	6,760	7,334	72,147				
2024	25,237	26,497	9,987	7,207	7,808	76,736				
2025	26,308	28,270	10,811	7,654	8,282	81,325				
2026	27,380	30,042	11,635	8,100	8,756	85,913				
2027	29,068	32,133	11,920	8,628	9,272	91,022				
2028	30,757	34,225	12,204	9,156	9,789	96,130				
2029	32,446	36,316	12,488	9,684	10,305	101,239				
2030	34,135	38,407	12,772	10,212	10,822	106,348				
2031	35,824	40,499	13,056	10,740	11,338	111,456				
Incremental										
2021-2022	915	2,051	818	485	723	4,991	366,126	2,840,505	650,237	3,856,869
2022-2023	1,072	1,772	824	447	474	4,589	428,608	2,450,637	661,610	3,540,855
2023-2024	1,072	1,772	824	447	474	4,589	428,608	2,450,637	661,610	3,540,855
2024-2025	1,072	1,772	824	447	474	4,589	428,608	2,450,637	661,610	3,540,855
2025-2026	1,072	1,772	824	447	474	4,589	428,608	2,450,637	661,610	3,540,855
2026-2027	1,689	2,091	284	528	516	5,109	675,515	2,903,424	214,624	3,793,563
2027-2028	1,689	2,091	284	528	516	5,109	675,515	2,903,424	214,624	3,793,563
2028-2029	1,689	2,091	284	528	516	5,109	675,515	2,903,424	214,624	3,793,563
2029-2030	1,689	2,091	284	528	516	5,109	675,515	2,903,424	214,624	3,793,563
2030-2031	1,689	2,091	284	528	516	5,109	675,515	2,903,424	214,624	3,793,563
2022-2031	13,645	19,597	5,535	4,911	5,200	48,889	5,458,135	27,160,175	4,369,795	36,988,105

Source: 2021-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011.

Adjustments by employment sector have been made to account for Work at Home and No Fixed Place of Work Employment.

Notes:

Figures may not add precisely due to rounding.

Sq.Ft. per Employee Assumptions (2022-2031):

Commercial	400
Industrial	1,386
Institutional	789

Note: Average sq. ft. per employee varies on annual basis.

Table A-8c
Halton Region (Rural Area) - Employment/Total Floor Area Forecast, 2022 to 2031

Cumulative Year	Employment					Total Employment	TFA Estimate (Sq.Ft.)			
	Commercial	Industrial	Institutional	Work at Home	No Fixed Place of Work		Commercial	Industrial	Institutional	Total Floor Area (TFA)
2021	906	2,465	551	428	584	4,935				
2022	896	2,186	543	398	540	4,562				
2023	910	2,191	546	401	543	4,591				
2024	924	2,197	550	404	547	4,621				
2025	938	2,203	553	407	550	4,650				
2026	951	2,209	556	410	554	4,680				
2027	953	2,218	558	411	555	4,694				
2028	955	2,227	559	412	557	4,709				
2029	956	2,235	560	413	559	4,723				
2030	958	2,244	561	415	560	4,738				
2031	959	2,253	562	416	562	4,753				
Incremental										
2021-2022	(11)	(279)	(9)	(31)	(44)	(373)	-	-	-	-
2022-2023	14	6	3	3	3	29	16,677	11,465	4,124	32,266
2023-2024	14	6	3	3	3	29	16,677	11,465	4,124	32,266
2024-2025	14	6	3	3	3	29	16,677	11,465	4,124	32,266
2025-2026	14	6	3	3	3	29	16,677	11,465	4,124	32,266
2026-2027	2	9	1	1	2	15	1,909	17,880	1,328	21,117
2027-2028	2	9	1	1	2	15	1,909	17,880	1,328	21,117
2028-2029	2	9	1	1	2	15	1,909	17,880	1,328	21,117
2029-2030	2	9	1	1	2	15	1,909	17,880	1,328	21,117
2030-2031	2	9	1	1	2	15	1,909	17,880	1,328	21,117
2022-2031	53	(211)	10	(13)	(22)	(182)	76,256	135,259	23,135	234,649

Source: 2021-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011.

Notes:

Figures may not add precisely due to rounding.

Industrial FSW for rural employment has not been calculated herein due to decline in industrial employment from 2022-2031.

Sq.Ft. per Employee Assumptions (2022-2031):

Commercial 1,439
Institutional 2,213

Note: Average sq. ft. per employee varies on annual basis.

Table A-9
Halton Region - Summary of Employment Growth Forecast by Retail and Non-Retail,
2022 to 2031

Year	Employment				Total Employment
	Retail	Non-Retail	Work @ Home	No Fixed Place of Work	
2021	81,762	184,090	29,206	32,625	327,683
2026	86,036	201,939	31,945	35,789	355,709
2031	92,084	223,198	35,429	39,289	390,000
2022-2026	4,274	17,849	2,739	3,164	28,026
2022-2031	10,321	39,108	6,223	6,664	62,316

Source: 2021-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011.

Adjustments by employment sector have been made to account for Work at Home and No Fixed Place of Work Employment.

Table A-9a
Halton Region - Employment/Total Floor Area Forecast, 2022 to 2031

Cumulative Year	Employment				Total Employment	TFA Estimate (Sq.Ft.)		
	Retail	Non-Retail	Work @ Home	No Fixed Place of Work		Retail	Non-Retail	Total Floor Area (TFA)
2021	81,762	184,090	29,206	32,625	327,683			
2022	82,523	187,589	29,757	33,419	333,288			
2023	83,407	191,170	30,304	34,012	338,894			
2024	84,287	194,756	30,851	34,604	344,499			
2025	85,164	198,346	31,398	35,197	350,104			
2026	86,036	201,939	31,945	35,789	355,709			
2027	87,269	206,167	32,642	36,489	362,567			
2028	88,491	210,407	33,339	37,189	369,425			
2029	89,700	214,659	34,035	37,889	376,283			
2030	90,898	218,922	34,732	38,589	383,141			
2031	92,084	223,198	35,429	39,289	390,000			
Incremental								
2021-2022	761	3,499	552	794	5,605	349,633	4,005,233	4,354,866
2022-2023	884	3,582	547	593	5,605	411,017	3,660,100	4,071,118
2023-2024	880	3,586	547	593	5,605	409,755	3,661,363	4,071,118
2024-2025	876	3,590	547	593	5,605	408,492	3,662,626	4,071,118
2025-2026	872	3,593	547	593	5,605	407,229	3,663,888	4,071,118
2026-2027	1,233	4,228	697	700	6,858	572,531	4,371,732	4,944,263
2027-2028	1,221	4,240	697	700	6,858	568,690	4,375,572	4,944,263
2028-2029	1,210	4,252	697	700	6,858	564,850	4,379,413	4,944,263
2029-2030	1,198	4,264	697	700	6,858	561,010	4,383,253	4,944,263
2030-2031	1,186	4,275	697	700	6,858	557,170	4,387,093	4,944,263
2022-2031	10,321	39,108	6,223	6,664	62,316	4,810,378	40,550,273	45,360,650

Source: 2021-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011.

Adjustments by employment sector have been made to account for Work at Home and No Fixed Place of Work Employment.

Notes:

Figures may not add precisely due to rounding.

Sq.Ft. per Employee Assumptions (2022-2031):

Retail 466
Non-Retail 1,037

Note: Average sq. ft. per employee varies on annual basis.

Table A-9b
Halton Region (Built Boundary) - Employment/Total Floor Area Forecast, 2022 to 2031

Cumulative Year	Employment					TFA Estimate (Sq.Ft.)		
	Retail	Non-Retail	Work @ Home	No Fixed Place of Work	Total Employment	Retail	Non-Retail	Total Floor Area (TFA)
2021	65,636	145,692	22,949	25,904	260,181			
2022	65,794	146,309	23,046	26,019	261,168			
2023	65,951	146,926	23,143	26,134	262,155			
2024	66,107	147,545	23,240	26,250	263,142			
2025	66,262	148,165	23,338	26,365	264,129			
2026	66,416	148,786	23,435	26,480	265,116			
2027	66,553	150,034	23,603	26,662	266,851			
2028	66,686	151,286	23,770	26,844	268,586			
2029	66,817	152,540	23,938	27,025	270,321			
2030	66,945	153,798	24,106	27,207	272,056			
2031	67,070	155,059	24,274	27,389	273,791			
Incremental								
2021-2022	158	616	97	115	987	82,566	415,431	497,997
2022-2023	157	618	97	115	987	82,215	415,782	497,997
2023-2024	156	619	97	115	987	81,863	416,134	497,997
2024-2025	155	620	97	115	987	81,512	416,485	497,997
2025-2026	154	621	97	115	987	81,161	416,836	497,997
2026-2027	137	1,249	168	182	1,735	88,152	1,041,431	1,129,582
2027-2028	134	1,252	168	182	1,735	87,167	1,042,416	1,129,582
2028-2029	131	1,255	168	182	1,735	86,182	1,043,400	1,129,582
2029-2030	128	1,258	168	182	1,735	85,197	1,044,385	1,129,582
2030-2031	125	1,261	168	182	1,735	84,212	1,045,370	1,129,582
2022-2031	1,433	9,367	1,325	1,485	13,610	840,227	7,297,670	8,137,897

Source: 2021-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011

Adjustments by employment sector have been made to account for Work at Home and No Fixed Place of Work Employment.

Notes:

Figures may not add precisely due to rounding.

Sq.Ft. per Employee Assumptions (2022-2031):

Retail 586

Non-Retail 779

Note: Average sq. ft. per employee varies on annual basis.

Table A-9c
Halton Region (Greenfield Area) - Employment/Total Floor Area Forecast, 2022 to 2031

Cumulative Year	Employment				TFA Estimate (Sq.Ft.)			
	Retail	Non-Retail	Work @ Home	No Fixed Place of Work	Total Employment	Retail	Non-Retail	Total Floor Area (TFA)
2021	15,520	35,080	5,829	6,138	62,567			
2022	16,131	38,253	6,313	6,860	67,558			
2023	16,848	41,205	6,760	7,334	72,147			
2024	17,562	44,158	7,207	7,808	76,736			
2025	18,274	47,115	7,654	8,282	81,325			
2026	18,982	50,075	8,100	8,756	85,913			
2027	20,078	53,044	8,628	9,272	91,022			
2028	21,164	56,021	9,156	9,789	96,130			
2029	22,242	59,008	9,684	10,305	101,239			
2030	23,311	62,003	10,212	10,822	106,348			
2031	24,371	65,008	10,740	11,338	111,456			
Incremental								
2021-2022	611	3,173	485	723	4,991	267,067	3,589,802	3,856,869
2022-2023	717	2,951	447	474	4,589	313,403	3,227,452	3,540,855
2023-2024	714	2,954	447	474	4,589	312,498	3,228,357	3,540,855
2024-2025	711	2,957	447	474	4,589	311,592	3,229,263	3,540,855
2025-2026	709	2,959	447	474	4,589	310,687	3,230,168	3,540,855
2026-2027	1,095	2,969	528	516	5,109	482,619	3,310,945	3,793,563
2027-2028	1,086	2,978	528	516	5,109	479,764	3,313,799	3,793,563
2028-2029	1,078	2,987	528	516	5,109	476,910	3,316,653	3,793,563
2029-2030	1,069	2,995	528	516	5,109	474,056	3,319,507	3,793,563
2030-2031	1,060	3,004	528	516	5,109	471,202	3,322,361	3,793,563
2022-2031	8,850	29,927	4,911	5,200	48,889	3,899,799	33,088,305	36,988,105

Source: 2016-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011

Adjustments by employment sector have been made to account for Work at Home and No Fixed Place of Work Employment.

Notes:

Figures may not add precisely due to rounding.

Sq.Ft. per Employee Assumptions (2022-2031):

Retail 441
Non-retail 1,106

Note: Average sq. ft. per employee varies on annual basis.

Table A-9d
Halton Region (Rural Intensification Areas) - Employment/Total Floor Area Forecast, 2022 to 2031

Cumulative Year	Employment					TFA Estimate (Sq.Ft.)		
	Retail	Non-Retail	Work @ Home	No Fixed Place of Work	Total Employment	Retail	Non-Retail	Total Floor Area (TFA)
2021	606	3,317	428	584	4,935			
2022	598	3,026	398	540	4,562			
2023	608	3,039	401	543	4,591			
2024	618	3,053	404	547	4,621			
2025	628	3,066	407	550	4,650			
2026	638	3,079	410	554	4,680			
2027	639	3,089	411	555	4,694			
2028	640	3,100	412	557	4,709			
2029	641	3,110	413	559	4,723			
2030	642	3,121	415	560	4,738			
2031	643	3,131	416	562	4,753			
Incremental								
2021-2022	(8)	(291)	(31)	(44)	(373)	-	-	-
2022-2023	10	13	3	3	29	15,399	16,866	32,266
2023-2024	10	13	3	3	29	15,394	16,872	32,266
2024-2025	10	13	3	3	29	15,388	16,878	32,266
2025-2026	10	13	3	3	29	15,382	16,884	32,266
2026-2027	1	11	1	2	15	1,760	19,357	21,117
2027-2028	1	11	1	2	15	1,759	19,358	21,117
2028-2029	1	11	1	2	15	1,758	19,360	21,117
2029-2030	1	11	1	2	15	1,756	19,361	21,117
2030-2031	1	11	1	2	15	1,755	19,362	21,117
2022-2031	38	(186)	(13)	(22)	(182)	70,351	164,298	234,649

Source: 2017-2031 employment derived explicitly from the Halton Region Best Planning Estimates, 2011. Adjustments by employment sector have been made to account for Work at Home and No Fixed Place of Work Employment.

Notes:

Figures may not add precisely due to rounding.

Non-retail FSW for rural employment has not been calculated herein due to decline in non-retail employment from 2022-2031.

Sq.Ft. per Employee Assumptions (2022-2031):

Retail 1,862

Note: Average sq. ft. per employee varies on annual basis.

Table A-10a
 Halton Region Anticipated Annual Non-Residential Growth for the Period, 2022 to 2031
 (for General Services Development Charge Calculation)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total 2022-2031
Incremental Total Sq.ft. per BPE	4,354,866	4,071,118	4,071,118	4,071,118	4,071,118	4,944,263	4,944,263	4,944,263	4,944,263	4,944,263	45,360,650
Less Institutional Population Related Sq.ft.	(100,310)	(102,201)	(102,201)	(102,201)	(102,201)	(47,490)	(47,490)	(47,490)	(47,490)	(47,490)	(746,564)
Total	4,254,555	3,968,917	3,968,917	3,968,917	3,968,917	4,896,773	4,896,773	4,896,773	4,896,773	4,896,773	44,614,086

Table A-10b
 Halton Region Anticipated Annual Non-Residential Growth for the Period, 2022 to 2031
 (for Police and Roads Development Charge Calculation)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total 2022-2031
Incremental Total Sq.ft. per BPE	4,354,866	4,071,118	4,071,118	4,071,118	4,071,118	4,944,263	4,944,263	4,944,263	4,944,263	4,944,263	45,360,650
Add Sq.ft. Shortfall						10,100,331	10,100,331	10,100,331	10,100,331	10,100,333	50,501,657
Less Institutional Population Related Sq.ft.	(100,310)	(102,201)	(102,201)	(102,201)	(102,201)	(47,490)	(47,490)	(47,490)	(47,490)	(47,490)	(746,564)
Total	4,254,555	3,968,917	3,968,917	3,968,917	3,968,917	14,997,104	14,997,104	14,997,104	14,997,104	14,997,106	95,115,744

Table A-10c
 Halton Region Anticipated Annual Non-Residential Growth for the Period, 2022 to 2031
 (for Water & Wastewater Development Charge Calculation)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total 2022-2031
GREENFIELD AREA											
Incremental Total Sq.ft. per BPE	3,856,869	3,540,855	3,540,855	3,540,855	3,540,855	3,793,563	3,793,563	3,793,563	3,793,563	3,793,563	36,988,105
Add Sq.ft. Shortfall						5,535,578	5,535,578	5,535,578	5,535,578	5,535,580	27,677,892
Less Institutional Population Related Sq.ft.	(49,697)	(46,733)	(46,861)	(47,010)	(47,150)	(30,395)	(30,088)	(29,800)	(29,520)	(29,254)	(386,507)
Net Greenfield Area	3,807,172	3,494,122	3,493,994	3,493,846	3,493,705	9,298,746	9,299,053	9,299,342	9,299,621	9,299,889	64,279,489
BUILT BOUNDARY											
Incremental Total Sq.ft. per BPE	497,997	497,997	497,997	497,997	497,997	1,129,582	1,129,582	1,129,582	1,129,582	1,129,582	8,137,897
Add Sq.ft. Shortfall						4,564,753	4,564,753	4,564,753	4,564,753	4,564,754	22,823,766
Less Institutional Population Related Sq.ft.	(50,614)	(55,468)	(55,340)	(55,192)	(55,051)	(17,095)	(17,402)	(17,690)	(17,970)	(18,236)	(360,057)
Net Built Boundary	447,383	442,529	442,657	442,805	442,946	5,677,241	5,676,933	5,676,645	5,676,365	5,676,100	30,601,605
Total Region	4,254,555	3,936,651	3,936,651	3,936,651	3,936,651	14,975,987	14,975,987	14,975,987	14,975,987	14,975,989	94,881,095

Appendix B

The 2022-2031 Water and Wastewater Servicing Program and Development Charge Recoverable Costs

Appendix B: The 2022-2031 Water and Wastewater Servicing Program and Development Charge Recoverable Cost

This Appendix discusses the water and wastewater servicing program and related DC recoverable costs included in this Study.

Part 1 of this Appendix provides an overview of the 2022-2031 water and wastewater servicing program as set out in the proposed Water and Wastewater 2022 Capital Budget and the “2022 Development Charges Update Water/Wastewater Technical Report” dated September 2021 (Technical Report).

Part 2 of this Appendix outlines the basis for allocating the related benefits for the purposes of DC calculations.

Part 3 of this Appendix sets out the detailed 2023-2031 water and wastewater servicing program, including project descriptions, project cost, project-specific deductions for post-period benefit (oversizing) and benefit to existing development, and cost allocations for residential/non-residential benefit and Greenfield/Built Boundary.

Appendix B - Part 1
Overview of Water and Wastewater Servicing
Program (2022-2031)

1. OVERVIEW OF WATER AND WASTEWATER SERVICING PROGRAM (2022-2031)

As part of the 2022 DC update process, a Technical Report has been prepared by GM BluePlan Engineering Limited which provides the basis for the development of costs and implementation timing of water and wastewater projects required to service population and employment growth in Halton Region between 2022 and 2031 according to the 2011 BPEs. The project costs and implementation timing set out in the Technical Report are based on work undertaken as part of the Sustainable Halton Water and Wastewater Master Plan, 2012 DC Update Technical Report and the 2017 DC Update Technical Report as well as:

- Updated information related to the current capacities of water and wastewater facilities
- Updates to the water and wastewater hydraulic models
- Recent construction costs and trends
- Updated studies and technical reviews.

This report identifies Halton's water and wastewater infrastructure requirements to service anticipated growth during the period between 2023 and 2031 (Appendix B – Parts 1 & 3), and establishes the basis for allocating the related benefits for the purpose of DC calculations (Appendix B – Part 2). An appropriate deduction has also been made from the capital expenditure program for capacity to service development anticipated post 2031.

It should be noted that the water and wastewater capital program excludes projects that will be approved in the 2022 Capital Budget as these are subject to an approved financing plan, and any projected funding shortfall will be included in the reserve balances or unfunded capital.

The estimated cost of the water and wastewater capital program totals to \$1.17 billion between 2023 and 2031 (in 2022\$).

The following summarizes the water and wastewater servicing program set out in the Technical Report, with detailed projects shown in Maps B-1 and B-2.

1.1. 2023-2031 Water Capital Program

1.1.1. Milton Water Servicing

- Milton lake-based service area includes areas outside the Milton Core groundwater service area. The lake-based service area consists of new Zones TWL=267m, TWL=250 m and a portion of new Zone TWL 223.5 m.
- Water supply to this service area is via the existing lake-based water purification plants (WPPs), (Burlington, Oakville, Burloak) and is pumped through the existing booster pumping stations (BPSs) and reservoirs to Milton.
- The existing groundwater service area (Zone M5G) is expected to remain on groundwater through 2031. The next Water and Wastewater Master Plan will establish a long-term water servicing strategy for the Town of Milton.

Components of the servicing strategy include:

- Upgrades within Burlington and Oakville to supply water to the north.
- Sub-trunk distribution network within Milton Greenfield growth including areas along Trafalgar corridor, south of Britannia and Tremaine Road.
- Local infrastructure upgrades within the Milton Core to meet demand projections and fire flow needs related to intensification growth.

1.1.2. Oakville Water Servicing

- North Oakville east of Sixteen Mile Creek will ultimately lie within Zone TWL=223.5m (with a small area within Zone TWL=250m) and will be predominantly serviced by the Oakville supply system with supplemental flow from Burloak/Burlington WPPs into the transmission network.
- North Oakville west of Sixteen Mile Creek lies within existing Zone O3 and will be serviced via Zone O3 pumping from Oakville (Kitchen Zone O3 BPS) and Burlington (Washburn and Appleby Zone B3 BPSs) via Dundas Street crossing.
- Oakville (Central Area) is generally located east of Bronte Creek and South of Dundas Street. These lands are serviced by Zones O1, O2 and parts of O3 and will continue to be serviced by the Oakville supply system.

Components of the servicing strategy include:

- Burloak WPP expansion to provide additional treated water supply for growth – common to all lakebased service areas experiencing growth.

- Sub-trunk distribution network within North Oakville Greenfield growth area.
- Modifications to the Burnhamthorpe Water Tower.
- Zone O2 interconnection along Wyecroft Road
- Kitchen Zone O3 BPS expansion.

1.1.3. Burlington Water Servicing

- The Burlington water servicing areas is within Zones B1 to B5 and B1A, generally south of the Hwy 407 and Dundas Street.
- Water supply is provided mainly from the Burlington WPP through existing transmission watermains, BPSs and reservoirs in the Burlington system.

Components of the servicing strategy include:

- Trunk linear and BPS infrastructure in east Burlington.
- Local infrastructure upgrades to meet demand projections and fire flow needs related to intensification growth.

1.1.4. North Aldershot Water Servicing

- The North Aldershot Policy Area is located in the City of Burlington and occupies a portion of Zone B2 and Zones B3B, B4A, and B5A. Due to topography this area requires servicing via several pressure zones.
- The North Aldershot water system is currently supplied by the City of Hamilton through an interconnection to their distribution system on Waterdown Road.
- Currently, transmission, pumping and storage upgrades are recommended; however, this area will require a separate study to refine infrastructure upgrades.

1.1.5. Georgetown Water Servicing

- Provide new lake-based water supply to new Greenfield growth area in southwest Georgetown as well as transfer South Georgetown and Stewarttown to lake-based supply. This will enable the groundwater system to remain within sustainable yields.
- New lake-based pressure zone, Zone G6L, to be introduced.
- Lake-based water supply will be from the existing lake-based WPPs and will be pumped through the existing BPSs and reservoirs throughout the distribution system.
- Water treatment capacity provisions for Norval and Glen Williams (currently only parts of these areas are serviced).

Components of the servicing strategy include:

- Upgrades within Burlington, Oakville and Milton to supply water to the north.
- Trafalgar Road Zone 6 Feeder mains and sub-trunk distribution network within south Georgetown.
- New Zone 6 Reservoir at 22nd Side Road.
- Local infrastructure upgrades to meet demand projections and fire flow needs related to intensification growth.

1.1.6. Acton Water Servicing

- Acton is supplied by local groundwater wells and operates under a single pressure zone, Zone A9G.
- Increase transmission redundancy from the Third Line Reservoir.

Components of the servicing strategy include:

- Transmission water mains on No. 32 Side Road and Regional Road 25 to support growth.

1.2. 2023-2031 Wastewater Capital Program

1.2.1. Milton Wastewater Servicing

- The wastewater strategy for Milton is to maintain conveyance to the Mid-Halton Wastewater Treatment Plant (WWTP) via the existing Boyne Trunk wastewater main and various Wastewater Pumping Stations (WWPSs).
- Milton Greenfield growth will be serviced by various new trunk wastewater mains and WWPSs to convey flows to the Mid-Halton WWTP.

Components of the servicing strategy include:

- South Tremaine WWPS and Forcemain – servicing areas generally west of Regional Road 25 and south of Britannia Road, including Milton Education Village.
- Trunk wastewater main infrastructure along Fifth Line and Lower Baseline.
- Lower Baseline WWPS and Forcemains – servicing growth areas in Georgetown, Halton Hills 401 Corridor and Milton (Trafalgar Corridor and south of Britannia Road).

- Local infrastructure upgrades to meet flow projections related to intensification growth.

1.2.2. Oakville Wastewater Servicing

- The wastewater strategy for Oakville is to maintain conveyance to the existing WWTPs within the Town.
- Greenfield growth will be directed to the Mid-Halton WWTP.
- Oakville Urban Growth Centre (UGC), which is anticipated to experience intensification growth will be serviced by the Rebecca Trunk wastewater main, which ultimately outlets to the Oakville Southwest WWTP.

Components of the servicing strategy include:

- Mid-Halton WWTP and North WWPS expansion to provide additional capacity for growth – common to all lake-based service areas in Milton and Georgetown experiencing growth.
- Local WWPS and linear infrastructure upgrades through intensification program to meet flow projections related to intensification growth

1.2.3. Burlington Wastewater Servicing

- The wastewater strategy for Burlington is to maintain conveyance to the Skyway WWTP via existing trunk wastewater mains and WWPSs throughout the City.
- Growth flows within the Skyway WWTP catchment area are predominantly generated by intensification growth.

Components of the servicing strategy include:

- Trunk wastewater main upgrades parallel to the QEW just upstream of the Skyway WWTP.
- Junction Street WWPS Capacity Upgrades.

1.2.4. North Aldershot Wastewater Servicing

- The North Aldershot Policy Area is located in the City of Burlington.
- The North Aldershot wastewater system is located in the service area of the Skyway WWTP in Burlington. The system is currently servicing the Bridgeview Area and lower portions of Waterdown Road and the East sector.

- Currently, new gravity wastewater mains are identified to service the area; however, this area will require a separate study to further refine these infrastructure upgrades.

1.2.5. Georgetown Wastewater Servicing

- Georgetown is currently serviced exclusively by the stream-based Georgetown WWTP.
- Upon completion of the lake-based trunk wastewater main infrastructure, the Georgetown WWTP will be decommissioned, and the service areas can be transferred to the Mid-Halton WWTP catchment area.
- New Greenfield growth areas in southwest Georgetown will be serviced by the lake-based trunk wastewater main infrastructure.

Components of this servicing strategy include:

- New WWPS and forcemain to pump flows from Greenfield growth areas in southeast Georgetown.
- Decommissioning of the Georgetown WWTP.
- Lake-based infrastructure: trunk wastewater mains, WWPSs and forcemains along Fifth Line and Lower Base Line.

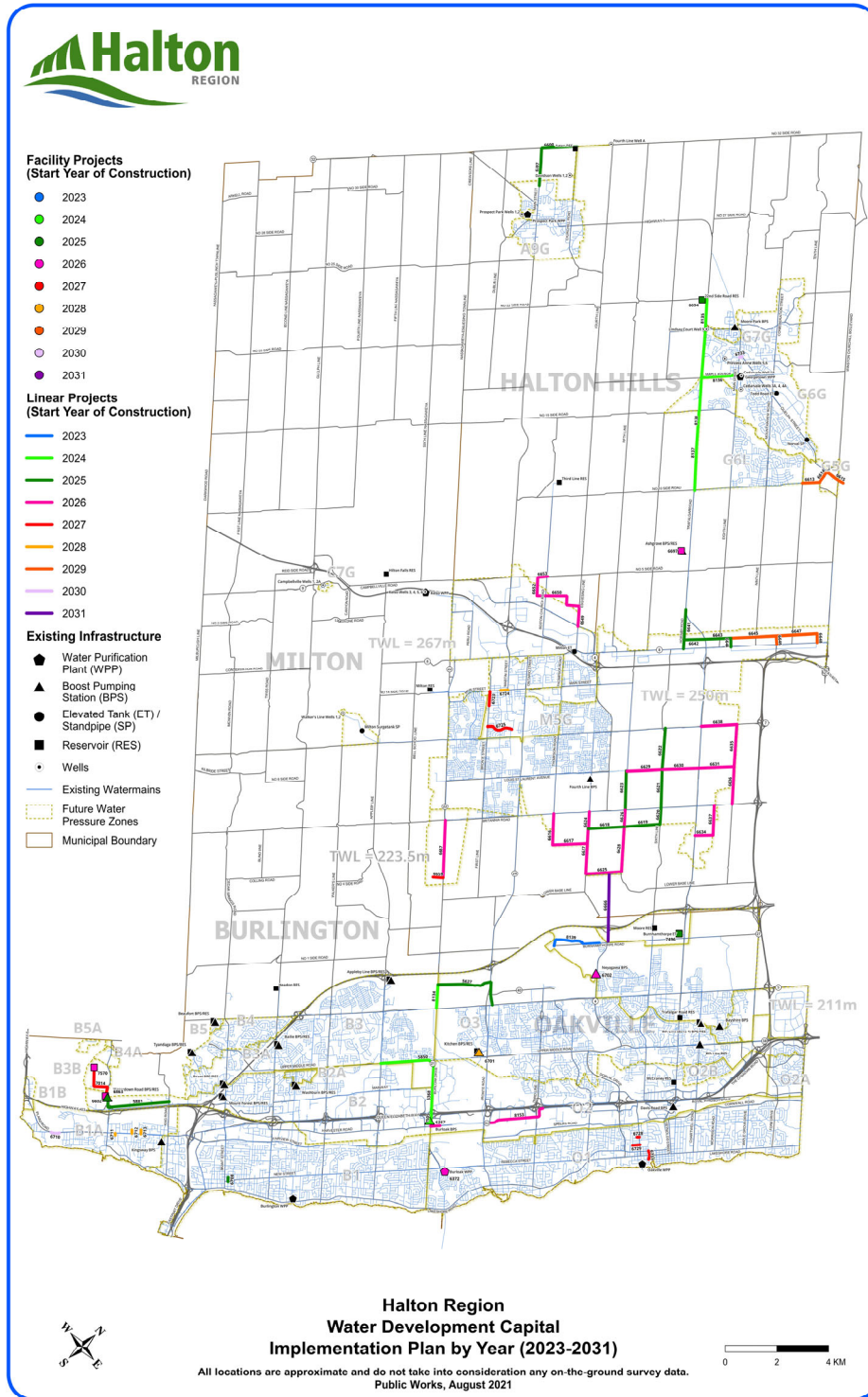
1.2.6. Acton Wastewater Servicing

- The Wastewater strategy for Acton is to maintain conveyance to the Acton WWTP via existing and upgraded trunk wastewater mains and WWPSs.

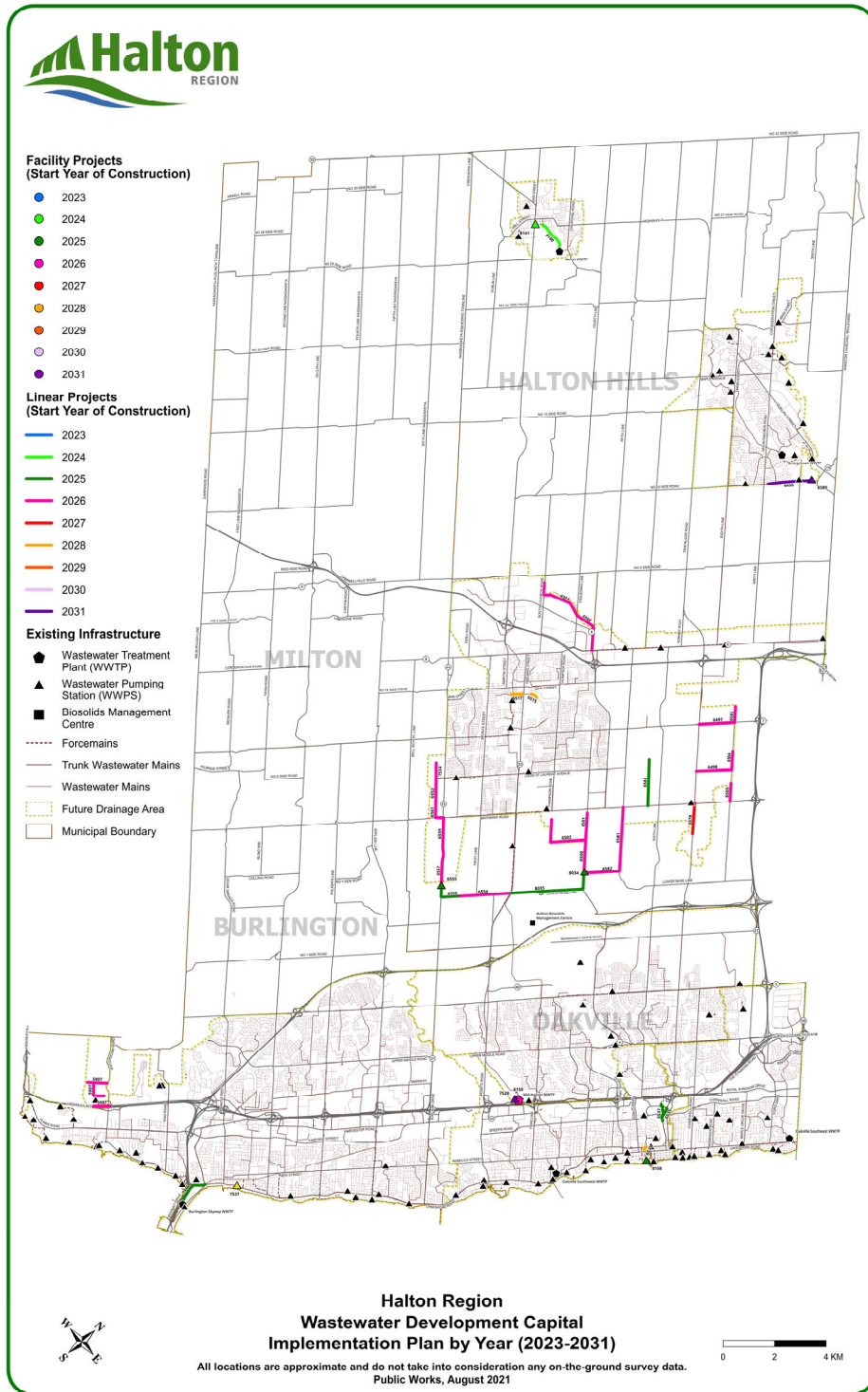
Components of this servicing strategy include:

- Service updates at the Agnes Street WWPS and Black Creek wastewater mains.

Map B-1 Water Development Capital Implementation Plan (2023-2031)



Map B-2 Wastewater Development Capital Implementation Plan (2023-2031)



**APPENDIX B – PART 2
WATER AND WASTEWATER DC
CALCULATION ASSUMPTIONS**

2. WATER AND WASTEWATER DC CALCULATION ASSUMPTIONS

This section of Appendix B includes excerpts from GM BluePlan Engineering Limited's Technical Report that established DCA mandated assumptions for the DC calculation. Assuming local services are factored out, the statutory requirements of the calculation include:

- the Level of Service being provided;
- the Non-Growth or Benefit to Existing Development Deduction;
- the Post-Period Benefit or Oversizing Deduction;
- the Residential/Non-Residential Split;

In addition, this section outlines the methodology followed to allocate project costs between the Greenfield and Built Boundary areas, in order to present area specific DC calculations in this Study.

2.1. Level of Service

The 2022 DC Update Technical Report water demand criteria and the wastewater flow criteria remains consistent with the criteria developed by Halton Region for the 2017 DC Update Technical Report.

The water demand and design criteria for system components are summarized in Table B-1 and Table B-2 respectively. Water demand from existing serviced areas is calculated from measured data.

**Table B-1
Water Demand Criteria**

Average Day Water Design Criteria			
L/cap/d*	Residential	265	
L/emp/d**	Employment	225	
Max Day and Peak Hour Water Design Criteria		Max Day Peaking Factor	Peak Hour Peaking Factor
Lake-Based	Oakville, Burlington, Milton, Georgetown	1.9	3
Groundwater Based	Milton, Georgetown, Acton	1.6	3

* Litres per capita per day

** Litres per employee per day

For areas with sufficient storage volume, the water supply requirements are based on Maximum Day Demands (MDD), while areas without sufficient storage base their water supply requirements on Peak Hour Demands (PHD).

Water system capacity needs were developed on the considerations summarized in Table B-2.

Table B-2
Water Design Criteria for System Components

Component	Condition / Description	Design Criteria
Feeder mains	Flow Capacity	Convey maximum day demand while achieving water velocity guidelines
Local Water mains	Flow Capacity	Convey the greater of: • Maximum day demand plus fire flow demand, or • Peak hour demand while achieving water velocity guidelines
Booster Pumping Stations	With adequate zone storage available	Supply maximum day demand to zone and all subsequent zones
	Without adequate storage available	Supply peak hour demand to zone and maximum day demand to all subsequent zones
Storage (reservoirs, water towers)	A – Equalization	25% of maximum day demand
	B – Fire	Largest expected fire in zone (Based on land use)
	C – Emergency	Minimum of 25% of (A+B)
	Total volume	= A + B + C
Fire Flow	Minimum flow (Residential)	5,500 L/min for 2 hours @ minimum 140 kPa (20 Psi)
	Minimum Flow (Industrial / Commercial / Institutional)	15,000 L/min for 3 hours @ minimum 140 kPa (20 Psi)
System Pressure	Minimum and maximum operating conditions	280 kPa (40 Psi) to 700 kPa (100 Psi)

The wastewater system flow criteria for WWTPs and for system components are summarized in Table B-3. Wastewater generation from existing serviced areas is calculated from measured data.

Table B-3
Wastewater Flow Criteria

Wastewater Treatment Plants

Design Criteria		Average Day Flow
L/cap/d*	Residential	360
L/emp/d**	Employment	310

* Litres per capita per day

** Litres per employee per day

System (Booster Pumping Stations and Wastewater Mains)

Design Criteria		
L/cap/d*	Residential	215 x PF
L/emp/d**	Employment	185 x PF
L/s/ha***	Inflow and Infiltration Design Allowance	0.286

* Litres per capita per day

** Litres per employee per day

*** Litres per second per hectare

Total peak flows for new development are calculated by multiplying total dry weather flows by the peaking factors (PF) specified in the Halton Linear Design Manual (based on Harmon formula) and adding the Inflow and Infiltration Design Allowance.

The wastewater design criteria outlined in Table B-3 were used to estimate the current and future wastewater flows for each service area. Future flow rates for existing catchments and service areas were calculated by adding the projected increase in flows (calculated with the above criteria) to the measured flow from existing service areas. Wastewater capacity needs were developed on the following basis:

- Wastewater mains and WWPS were sized for peak wet weather flow rate.
- WWTP rated treatment capacity needs were sized based on the average day flow which includes an average level of the extraneous flow within the system.

2.2. **Benefit to Existing Development**

The non-growth components of servicing strategies are usually identified for projects which benefit the existing service area. Examples of these components are upgrades to the existing systems or facilities necessary to maintain service levels to existing residential and non-residential users. These projects can also increase capacity to meet

growth in service areas through upgrades and expansions. When evaluating intensification, critical security/redundancy requirements and impacts on critical existing trunk infrastructure needed to be identified, as well as additional projects within the existing service area. Some Benefit to Existing (non-growth) components were identified in a small number of infrastructure capital projects that are primarily required to service growth in new urban areas.

With triggers ranging from growth to security/redundancy requirements, the growth-related and non-growth related needs and corresponding capacity and costs for each of these projects have been separately identified in Tables B-7 and B-8.

2.3. Residential vs. Non-Residential Split

The DC eligible share of the water and wastewater development capital implementation plan (2023 to 2031) has been split between benefit to residential development and benefit to non-residential development within each DC by-law category. The residential/non-residential split is calculated from the percentage of total anticipated demand/flow that will be generated by each class of development. This is the standard approach used by other municipalities for calculating the split and this approach was used for Halton Region's 2004, 2008, 2012 and 2017 DC Updates.

The Capacity category is based on Region-wide calculated demands/flows. The Distribution-Greenfield category is based on demands/flows calculated from the Greenfield areas only, while the Distribution-Built Boundary category is based on demand/flows calculated for growth within the Urban Built Boundary (2006) only.

The water project splits are based on maximum day demand created from the growth between years 2021 to year 2031. The wastewater project splits are based on average day flows for the growth from 2021 to 2031. The water and wastewater calculation and employment demand forecast does not include employees associated with working at home (WAH) because the impact on water and wastewater services from WAH employees is generated from the home which is already accounted for in the population/unit forecast.

For No Fixed Place of Work (NFPOW) employees, the need for water and wastewater services related to these employees has largely been included in the employment forecast by usual place of work (i.e. employment and gross floor area (G.F.A.) in retail and accommodation sectors generated from NFPOW construction employment). Since these employees have no fixed work address, they cannot be captured in the non-

residential G.F.A. calculation. Accordingly, NFPOW employees have been removed from the water and wastewater DC employment forecast and calculation as well as the forecasted water and wastewater demands.

The WAH and NFPOW approach for the calculation of forecasted water demands and wastewater flows is consistent with the methodology in the 2017 DC Update Technical Report.

Table B-4 summarizes the urban employment forecast excluding WAH, NFPOW and institutional population related employment, which is the basis for the water and wastewater demand and DC employment forecast.

**Table B-4
Urban Residential and Non-residential Growth**

Year	Pop/Empl.	WAH	NFPOW	Institutional Employment Adjustment	Total
Residential					
2021	600,706				600,706
2031	730,493				730,493
Non-Residential					
2021	322,748	(28,777)	(32,042)	(5,399)	256,530
2031	385,247	(35,013)	(38,727)	(6,420)	305,086

Note: May not add due to rounding

The residential/non-residential contributions based on water demands and wastewater flows can be seen in Table B-5 and B-6 respectively.

**Table B-5
Water Demand Project Splits for Halton Region**

Category	Projected Increase in Water Demand, 2021-2031 (MLD*)	Percentage
Capacity (Region Wide)		
Residential	65.3	76%
Non-Residential	20.8	24%
Total	86.1	100%
Distribution (Greenfield)		
Residential	43.3	73%
Non-Residential	16.4	27%
Total	59.6	100%
Distribution (Built Boundary)		
Residential	22.1	83%
Non-Residential	4.4	17%
Total	26.5	100%

*Million Litres per day

Note: May not add due to rounding

**Table B-6
Wastewater Project Splits for Halton Region**

Category	Projected Increase in Wastewater Generation, 2021-2031 (MLD*)	Percentage
Capacity (Region Wide)		
Residential	46.7	76%
Non-Residential	15.1	24%
Total	61.8	100%
Distribution (Greenfield)		
Residential	31.0	72%
Non-Residential	11.9	28%
Total	42.8	100%
Distribution (Built Boundary)		
Residential	15.8	83%
Non-Residential	3.2	17%
Total	19.0	100%

*Million Litres per day

Note: May not add due to rounding

2.4. Existing Excess Capacity

The servicing strategies were developed in accordance with servicing policies identified in the 2011 Master Plan. Strategies focused on major facilities are generally developed from the following:

- Maximizing existing capacity in the facilities,
- Scheduling facility capacity expansions when a threshold of approximately 90% of existing rated capacity has been reached,
- Ensuring operational effectiveness, flexibility and security of supply,
- Maintaining appropriate level of service

The servicing strategies for facility expansions ensure that existing capacity remains, typically ranging from 5 to 10%. Existing capacity is required to provide and maintain an adequate level of service throughout the systems. Each DC period has benefitted from previous existing capacity remaining, and future expansion will provide the same benefit. Under this program there is no allowance for existing capacity remaining at the existing facilities.

2.5. Post-period Benefit (Oversizing)

Since most water and wastewater infrastructure has a service life of up to 50+ years, it is good engineering practice to strategically size certain projects to meet potential growth beyond the 2031 planning horizon. The sizing and capacity set for 2031 must also provide a sufficient level of service to new growth areas, ensure efficient integration with existing infrastructure, and not negatively impact current system operations.

Projects in the 2022 DC Update Technical Report that have been assigned a Post Period Benefit value are the same projects as were determined in the 2017 DC Update Technical Report. The oversizing cost is calculated by the difference in cost for the recommended size of infrastructure and the size of infrastructure to meet the 2031 horizon. Identified oversizing is deducted from the 2031 DC recoverable costs and is to be recovered through subsequent DC by-law(s) covering the post 2031 period.

It should be noted that the 2002 Master Plan as well as the 2007 Master Plan Update considered infrastructure sizing to an urban boundary built out scenario (2031) and post 2021 considerations respectively. Some projects previously oversized to meet the 2031

horizon are now integrated into the current program based on the 2011 Master Plan and are not considered oversized based on the current 2031 by-law period.

2.6. DC Eligible Infrastructure

Watermains, wastewater mains and water and wastewater infrastructure are DC eligible depending on criteria presented in the Local Service Guidelines. The linear infrastructure eligibility is summarized below and provided in more detail in Appendix G of this report.

The minimum size for DC eligible watermains is:

- Greater than 400 mm diameter internal to the development.
- Greater than or equal to 400 mm diameter external to the development.

The minimum size for DC eligible wastewater mains is:

- Greater than 450 mm diameter.

Further information is available in Appendix G: Local Service Guidelines. Please note that this information is subject to change.

2.7. DC By-law Structure

For the 2022 DC Study, an area specific charge is being proposed for the Greenfield and Built Boundary areas to support the Region's Growth Plan. The area specific W/WW DC rates were calculated based on the distribution/collection infrastructure required to service growth planned within the Greenfield and Built Boundary areas. The DC rates relating to the water and wastewater capacity (plant expansions for example) are calculated on a Region-wide basis given the difficulty in identifying area specific infrastructure related to capacity projects. The area specific charge calculations are shown in Appendix C, E and F. The distribution/collection portion of the water and wastewater services (Appendix C) has been identified geographically to create an area specific charge for each type of development to be located in the Greenfield area vs the Built Boundary area.

Since 1999, the Region's W/WW DCs have been charged on an area specific basis to recognize the higher average costs in servicing the Greenfield areas compared to the Built Boundary areas. The current area specific W/WW DC was established in 2017

(By-law No. 36-17), based on distribution/collection infrastructure required to service growth planned within the Built Boundary and Greenfield areas. The Built Boundary for the Greater Golden Horseshoe was established by the Provincial Growth Plan based on the 2006 Built Boundary. The remainder of the Regional urban area (i.e. outside the Built Boundary) was classified as Greenfield area.

The table below illustrates the by-law structure based on area specific water (distribution) and wastewater (collection) charges:

1. Water/Wastewater:	Areas Applied	Planning Period	Infrastructure Period
A. Capacity	Region-wide	2022-2031	2023-2031*
B. Distribution/Collection:	Area-specific	2022-2031	2023-2031*
(i) Greenfield			
(ii) Built Boundary			
2. Roads	Region-wide	2022-2031	2023-2031*
3. Police	Region-wide	2022-2031	2022-2031
4. Other General Services	Region-wide	2022-2031	2022-2031

* The Capital requirements for 2022 are part of the current allocation and only the shortfall will be captured as part of the calculation

Accordingly, the total infrastructure program included in the revised Water and Wastewater Masterplan has been categorized to meet the DC by-law structure as follows:

- Capacity
- Distribution/Collection – Greenfield
- Distribution/Collection – Built Boundary

The definition of infrastructure to be included in each DC by-law structure category is described below.

Capacity

This category includes projects related to Region-wide needs of water supply/treatment and wastewater treatment. This category also includes projects that support the transfer/conveyance of capacity and the deferral/elimination of the need for immediate treatment plant or well field expansions.

The projects included under this definition are:

- Studies
- Projects related to water purification plants and groundwater well fields, such as
 - Burloak WPP expansion from 55 MLD to 165 MLD
- Projects related to wastewater treatment plants, such as
 - Mid-Halton WWTP Expansion from 125 MLD to 175 MLD
- Major trunk infrastructure that services broader greenfield and intensification areas such as:
 - Modifications to the Burnhamthorpe Water Tower
 - New Sewer Inlet to Skyway WWTP

Distribution/Collection – Greenfield

This category includes projects that support Greenfield growth outside the current Urban Built Boundary (2006) and within the Sustainable Halton Urban Boundary (2031).

The projects under this definition can include:

- Infrastructure located in the Greenfield service area
- Infrastructure located within the Built Boundary that convey flow to or from future growth areas
- Infrastructure includes, but is not limited to pipes, pumping stations and storage facilities

Distribution/Collection – Built Boundary

This category represents projects that support growth within the current Urban Built Boundary (2006). This includes growth to 2031 associated with infill within the Urban Built Boundary as well as intensification within the specific areas, such as the UGCs and corridors as identified under the 2011 Master Plan.

Projects within this category include:

- Infrastructure located within the Urban Built Boundary (2006).
- Infrastructure servicing only infill growth and intensification within the Urban Built Boundary (2006).
- Infrastructure identified under the UGCs and corridors servicing reviews.

APPENDIX B – PART 3
THE DETAILED WATER AND WASTEWATER
CAPITAL PROGRAM (2022–2031)

3. THE DETAILED WATER AND WASTEWATER CAPITAL PROGRAM (2022-2031)

Table B-7 sets out the 2023-2031 Water Capital Program. The table provides project descriptions, an expenditure forecast in single year increments from 2023-2027, a 2023-2031 expenditure forecast in 5 and 4 year increments, a 2023-2031 consolidated forecast, project-specific deductions for post-period benefit (oversizing) and “Non-Growth” (Benefit to Existing Development) and a division of the net growth cost between residential and non-residential. The DC recoverable cost (“Net Growth”) is then allocated between Capacity, Greenfield and Built Boundary benefiting areas.

Table B-8 sets out similar information as described above for the 2023-2031 Wastewater Capital Program.

The water and wastewater program costs (\$2022, \$000s) involved are summarized as follows.

Service	Gross Cost	Less: Benefit to Existing Dev't	Less: Post Period Benefit	Net Growth	Residential Share				Non-residential Share			
					Capacity	Distr'b'n /Collet'n - Greenfield	Distr'b'n /Collet'n - Built bndry	Total	Capacity	Distr'b'n /Collet'n - Greenfield	Distr'b'n /Collet'n - Built bndry	Total
Water	\$ 562.2	\$ 12.0	\$ 46.9	\$ 503.4	\$ 139.8	\$ 226.8	\$ 7.3	\$ 373.9	\$ 44.1	\$ 83.9	\$ 1.5	\$ 129.5
Wastewater	608.6	175.1	24.5	408.9	65.2	213.5	22.1	300.8	20.6	83.0	4.5	108.1
Total	\$ 1,170.8	\$ 187.1	\$ 71.4	\$ 912.3	\$ 205.0	\$ 440.3	\$ 29.4	\$ 674.6	\$ 64.7	\$ 166.9	\$ 6.0	\$ 237.6

Note: May not add due to rounding

Halton Region
2022 Development Charge Study
Water Capital Projects - Total (\$2022, \$000's)

Table B-7

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total (2023-2031)	Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							(2023-2027)	(2028-2031)						
Capacity - Region Wide (Plants, Reservoirs, Pipes & Studies)														
5951	Design of Burloak WPP Phase 2 Expansion from 55 to 165ML/d (OAK)	-	14,734	-	-	-	14,734	-	14,734	-	-	14,734	11,198	3,536
6372	Construction of Burloak WPP Phase 2 Expansion from 55 to 165ML/d (OAK)	-	-	-	160,688	-	160,688	-	160,688	-	-	160,688	122,123	38,565
7496	Modifications to the Burnhamthorpe Water Tower (OAK)	1,145	-	4,580	-	-	5,725	-	5,725	-	286	5,439	4,134	1,305
8150	Halton Water Master Plan (2023 and 2028) (REG)	800	-	-	-	-	800	800	1,600	-	-	1,600	1,216	384
8151	Water Distribution System Analysis (2023 to 2031) (REG)	110	110	110	110	110	550	440	990	-	-	990	756	234
8152	Water Supply Capacity Annual Monitoring Report (2023 to 2031) (REG)	50	50	50	50	50	250	200	450	-	-	450	342	108
Capacity - Total		2,105	14,894	4,740	160,848	160	182,747	1,440	184,187	-	286	183,901	139,769	44,132
Greenfield														
5627	800mm WM through North Oakville Lands from Tremaine Rd to Bronte Rd (Zone O3) (OAK)	2,265	-	9,061	-	-	11,326	-	11,326	-	-	11,326	8,268	3,058
5850	1050mm WM on Upper Middle Rd from Burloak Drive to Appleby Line (Zone B2) (Construction) (BUR)	-	14,546	-	-	-	14,546	-	14,546	4,046	-	9,600	7,008	2,592
5881	400 mm WM from Waterdown booster pumping station along North Service Rd to King Rd (Zone B2) (BUR)	1,881	-	7,526	-	-	9,407	-	9,407	-	-	9,407	6,867	2,540
6367	Burloak Booster Pumping Station Phase 1, 60 ML/d (Zone B2) - Construction (BUR)	-	16,848	-	-	-	16,848	-	16,848	10,783	-	6,065	4,427	1,638
6368	1050mm WM on Burloak Dr from the QEW to Upper Middle Rd (Zone B2) - Construction (OAK)	-	13,975	-	-	-	13,975	-	13,975	5,870	-	8,105	5,917	2,188
6597	300mm WM on RR 25 from No. 32 Side Rd to 640 m north of Wallace St. (Zone A9G) (HHACT)	390	-	1,562	-	-	1,952	-	1,952	-	-	1,952	1,425	527
6600	300 mm WM on No. 32 Side Rd from RR 25 to 3rd Line Reservoir (Zone A9G) (HHACT)	408	-	1,630	-	-	2,038	-	2,038	-	-	2,038	1,488	550
6613	600mm WM on No 10 Side Rd from 10th Line to Adamson St S (Zone G6L) (HHGEO)	-	-	-	-	508	508	2,031	2,539	-	-	2,539	1,854	685
6614	600 mm WM on Adamson St from 10th Side Rd to Guelph St (Zone G6L) (HHGEO)	-	-	-	-	718	718	2,874	3,592	-	-	3,592	2,622	970
6615	600mm WM on Guelph St from Adamson St to Bovaird Dr (Region of Peel) (Zone G6L) (HHGEO)	-	-	-	-	1,377	1,377	5,507	6,884	-	-	6,884	5,025	1,859
6616	400mm WM on Thompson Rd South from Britannia Rd to approx. 1,211m south (Zone M4) (MIL)	-	543	-	2,173	-	2,716	-	2,716	-	-	2,716	1,982	734
6617	400mm WM on new roadway south of Britannia Rd from Thompson Rd South to 4th Line (Zone M4) (MIL)	-	672	-	2,688	-	3,360	-	3,360	-	-	3,360	2,453	907
6618	400mm WM on new roadway south of Britannia Rd from 4th Line to 5th Line (Zone M4) (MIL)	684	-	2,737	-	-	3,421	-	3,421	-	-	3,421	2,497	924
6619	400mm WM on new roadway south of Britannia Rd from 5th Line to 6th Line (Zone M4) (MIL)	532	-	2,126	-	-	2,658	-	2,658	-	-	2,658	1,940	718
6620	400mm WM on 6th Line from Britannia Rd to 600 m south (Zone M4) (MIL)	325	-	1,298	-	-	1,623	-	1,623	-	-	1,623	1,185	438
6621	400mm WM on 6th Line from Britannia Rd to future Louis St. Laurent Blvd. (Zone M4) (MIL)	833	-	3,330	-	-	4,163	-	4,163	-	-	4,163	3,039	1,124
6622	400mm WM on 6th Line from Derry Rd to future Louis St. Laurent Blvd (Zone M4) (MIL)	925	-	3,700	-	-	4,625	-	4,625	-	-	4,625	3,376	1,249
6623	400mm WM on 5th Line from Britannia Rd to future Louis St. Laurent Blvd (Zone M4) (MIL)	641	-	2,564	-	-	3,205	-	3,205	-	-	3,205	2,340	865
6624	400mm WM on 4th Line from Britannia Rd to 650 m south (Zone M4) (MIL)	-	441	-	1,766	-	2,207	-	2,207	-	-	2,207	1,611	596
6625	400mm WM on Lower Base Line (East) from 4th Line to 5th Line (Zone M4) (MIL)	-	768	-	3,072	-	3,840	-	3,840	-	-	3,840	2,804	1,036
6626	400mm WM on 5th Line from Britannia Rd to 650 m south (Zone M4) (MIL)	-	261	-	1,043	-	1,304	-	1,304	-	-	1,304	952	352
6627	400mm WM on 4th Line from 650 m south of Britannia Rd to Lower Base Line (West) (Zone M4) (MIL)	-	739	-	2,958	-	3,697	-	3,697	-	-	3,697	2,698	999
6628	400mm WM on 5th Line from 650 m south of Britannia Rd to Lower Base Line (West) (Zone M4) (MIL)	-	894	-	3,575	-	4,469	-	4,469	-	-	4,469	3,263	1,206

Halton Region
2022 Development Charge Study
Water Capital Projects - Total (\$2022, \$000's)

Table B-7

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total (2023-2031)	Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							(2023-2027)	(2028-2031)						
Greenfield														
6629	600mm WM on Louis St. Laurent Ave from 5th Line to 6th Line (Zone M4) (MIL)	-	882	-	3,527	-	4,409	-	4,409	-	-	4,409	3,219	1,190
6630	600mm WM on Louis St. Laurent Ave from 6th Line to Trafalgar Rd (Zone M4) (MIL)	-	1,186	-	4,748	-	5,932	-	5,932	-	-	5,932	4,331	1,601
6631	400mm WM on Louis St. Laurent Ave from Trafalgar Rd to 8th Line (Zone M4) (MIL)	-	772	-	3,089	-	3,861	-	3,861	-	-	3,861	2,819	1,042
6634	400mm WM on new Milton Rd from Trafalgar Rd to approximately 700 m east (Zone M4) (MIL)	-	441	-	1,762	-	2,203	-	2,203	-	-	2,203	1,608	595
6635	400mm WM on 8th Line from Derry Rd. to future Louis St. Laurent Blvd (Zone M4) (MIL)	-	848	-	3,392	-	4,240	-	4,240	-	-	4,240	3,095	1,145
6636	400mm WM on 8th Line from Britannia Rd to future Louis St. Laurent Blvd (Zone M4) (MIL)	-	740	-	2,961	-	3,701	-	3,701	-	-	3,701	2,702	999
6637	400mm WM on new roadway from Britannia Rd to approx. 1,200 m south (Zone M4) (MIL)	-	520	-	2,080	-	2,600	-	2,600	-	-	2,600	1,898	702
6638	400mm WM on Derry Rd from Trafalgar Rd to 8th Line (Zone M4) (MIL)	-	511	-	2,048	-	2,557	-	2,557	-	-	2,557	1,867	690
6641	400 mm WM on Homby Rd from Steeles Ave to Trafalgar Rd (Zone 250) (HHS)	751	-	3,003	-	-	3,754	-	3,754	-	-	3,754	2,740	1,014
6642	400 mm WM in the 401 growth corridor north of Steeles from Homby Rd to Trafalgar Rd (Zone 250) (HHS)	1,199	-	4,796	-	-	5,995	-	5,995	-	-	5,995	4,376	1,619
6643	400 mm WM in the 401 growth corridor north of Steeles from Trafalgar Rd to approximately 400m east of 8th Line (Zone 250) (HHS)	996	-	3,983	-	-	4,979	-	4,979	-	-	4,979	3,635	1,344
6644	400mm WM in the 401 growth corridor from Steeles Ave to approximately 300 m north (Zone 250) (HHS)	342	-	1,368	-	-	1,708	-	1,708	-	-	1,708	1,247	461
6645	400mm WM in the 401 growth corridor north of Steeles Ave. from 1,000 m west of 9th Line to 900 m east of 9th Line (Zone 250) (HHS)	-	-	-	-	658	658	2,634	3,292	-	-	3,292	2,403	889
6646	400mm WM in the 401 growth corridor from Steeles Ave to approximately 330 m north (Zone 250) (HHS)	-	-	-	-	331	331	1,324	1,655	-	-	1,655	1,209	446
6647	400mm WM in the 401 growth corridor north of Steeles Ave. from 600 m west of 10th Line to 1,000 m east of 10th Line (Zone 250) (HHS)	-	-	-	-	676	676	2,703	3,379	-	-	3,379	2,466	913
6648	400mm WM in the 401 growth corridor from Steeles Ave to 340 m north (Zone 250) (HHS)	-	-	-	-	416	416	1,662	2,078	-	-	2,078	1,517	561
6649	400mm WM on Esquesing Line from James Snow Parkway to approximately 800 m north (Zone 267) (MIL)	-	390	-	1,562	-	1,952	-	1,952	-	-	1,952	1,425	527
6650	400mm WM on new roadway from Esquesing Line to approximately 360 m west of Boston Church Rd (Zone 267) (MIL)	-	998	-	3,991	-	4,989	-	4,989	-	-	4,989	3,642	1,347
6652	400mm WM on new roadway from 400 m west of Third Line to No 5 Side Rd (Zone 267) (MIL)	-	358	-	1,434	-	1,792	-	1,792	-	-	1,792	1,308	484
6653	400mm WM on No 5 Side Rd from approximately 400 m west of 3rd Line to 3rd Line (Zone 267) (MIL)	-	168	-	674	-	842	-	842	-	-	842	615	227
6657	400mm WM on Tremaine Rd from Britannia Rd to 2,200 m south of Britannia Rd (Zone 223.5) (MIL)	-	1,062	-	4,247	-	5,309	-	5,309	-	-	5,309	3,875	1,434
6659	400mm WM on new road alignment from Tremaine Rd to approximately 360 m west (Zone 223.5) (MIL)	-	-	169	-	677	846	-	846	-	-	846	617	229
6666	750mm WM on Neyagawa Blvd. from Burnhamthorpe Rd W to Lower Base Line W (MIL)	-	-	-	-	-	-	12,505	12,505	11,256	-	1,250	913	337
6694	10 ML Zone G&L Storage at 22nd Side Rd (HHGEO)	3,357	-	13,426	-	-	16,783	-	16,783	-	-	16,783	12,252	4,531
6697	15 ML storage expansion at Zone M4 Reservoir (TWL = 250m) (HHGEO)	-	5,036	-	20,139	-	25,174	-	25,174	-	-	25,174	18,377	6,797
6701	Kitchen Zone O3 Booster Pumping Station Expansion by 80 ML/d (OAK)	-	150	-	3,007	-	3,157	12,629	15,786	10,577	-	5,209	3,803	1,406
6702	40 ML/d Expansion at the Neyagawa Booster Pumping Station (OAK)	-	1,772	-	7,087	-	8,859	-	8,859	-	-	8,859	6,468	2,391
6863	Waterdown Road Booster Pumping Station Expansion (Zones B2, B3A & B5A) (BUR)	1,385	-	5,541	-	-	6,926	-	6,926	-	-	6,926	5,056	1,870

Table B-7

Halton Region
2022 Development Charge Study
Water Capital Projects - Total (\$2022, \$000's)

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total (2023-2031)	Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							(2023-2027)	(2028-2031)						
Greenfield														
7014	400 mm WM from Waterdown Reservoir Booster Pumping Station to new North Aldershot Reservoir (Zone B3A) (BUR)	-	-	726	-	2,905	3,631	-	3,631	-	-	3,631	2,651	980
7505	1050mm WM on Burloak Dr from Burloak Booster Pumping Station to the QEW - Construction (OAK)	-	8,231	-	-	-	8,231	-	8,231	3,457	-	4,774	3,485	1,289
7570	4.5 ML North Aldershot in ground Reservoir (Zone B3B) (BUR)	200	1,470	-	5,882	-	7,552	-	7,552	-	-	7,552	5,513	2,039
8134	600mm WM on Tremaine Rd from Dundas St to approximately 950 m north-Construction (North Oakville Lands) (Zone O3) (OAK)	-	2,540	-	-	-	2,540	-	2,540	-	-	2,540	1,854	686
8135	750mm WM on Trafalgar from 15th Side Rd to 22nd Side Rd Lake Based Reservoir - Construction (Zone G6L) (HHGEO)	-	16,907	-	-	-	16,907	-	16,907	-	-	16,907	12,342	4,565
8136	400mm WM on 17th Side Rd from Trafalgar Rd to Main St - Construction (Zone G6L) (HHGEO)	-	2,528	-	-	-	2,528	-	2,528	-	-	2,528	1,845	683
8137	750mm WM on Trafalgar Rd from 10th Side Rd to approximately 1,700 m north of 10th Side Rd- Construction (Zone G6L) (HHGEO)	-	5,486	-	-	-	5,486	-	5,486	-	-	5,486	4,005	1,481
8138	750mm WM on Trafalgar from 1,700 m north of 10th Side Rd to 15th Side Rd -Construction (Zone G6L) (HHGEO)	-	4,881	-	-	-	4,881	-	4,881	-	-	4,881	3,563	1,318
8139	400mm WM on new North Oakville Rd west of Neyagawa Blvd. - Construction (OAK)	3,993	-	-	-	-	3,993	-	3,993	-	-	3,993	2,915	1,078
8153	600mm WM on Wycroft Rd from Burloak Dr to the 900mm WM on the SE corner of Third Line and QEW. Phase 2 (OAK)	-	3,861	-	15,443	-	19,304	-	19,304	-	-	19,304	14,092	5,212
Greenfield - Total		21,107	111,424	68,544	104,344	8,266	313,685	43,869	357,554	46,888	-	310,666	226,789	83,877
Built Boundary														
6602	7.5 ML storage expansion at Waterdown Reservoir (existing site) (Zone B1A) (BUR)	-	2,517	-	10,070	-	12,587	-	12,587	-	11,706	881	731	150
6708	300mm WM on Elizabeth St from James St to approximately 95 m north (BUR)	41	-	164	-	-	205	-	205	-	-	205	170	35
6710	300mm WM on Plains Rd East (Twinning adjacent to 6709) (BUR)	-	-	-	-	-	-	680	680	-	-	680	565	115
6711	300mm WM on Birchwood Avenue from Plains Rd East southwards towards Fairwood Place East (BUR)	-	-	-	25	-	25	100	125	-	-	125	104	21
6712	300mm WM on Gallagher Rd from Plains Rd East to 160 m Northerly (BUR)	-	-	-	54	-	54	214	268	-	-	268	223	45
6713	300mm WM on Downsview Rd from Plains Rd East to Dowland Crescent (BUR)	-	-	-	60	-	60	240	300	-	-	300	249	51
6723	400mm WM on Bronte St between Main St West and Barton St (MIL)	-	-	285	-	1,141	1,426	-	1,426	-	-	1,426	1,184	242
6724	300mm WM on Main St East between James St and Martin St (MIL)	-	-	-	117	-	117	468	585	-	-	585	485	100
6725	300mm WM on Laurier Avenue between Bronte St and Commercial St (MIL)	-	-	428	-	1,711	2,139	-	2,139	-	-	2,139	1,775	364
6728	300mm WM on Cowan Ave between Kerr St and Inglewood Drive (OAK)	-	-	75	-	300	375	-	375	-	-	375	311	64
6729	300mm WM on Deane Ave between Kerr St and Felan Ave (OAK)	-	-	154	-	615	769	-	769	-	-	769	638	131
6731	300mm WM on Forsythe St between Rebecca St and Burnet St (OAK)	-	-	163	-	650	813	-	813	-	-	813	675	138
6733	300 mm WM Replacement on Cross St from Guelph St to Main St (HHGEO)	-	-	-	-	-	-	228	228	-	-	228	189	39
Built Boundary - Total		41	2,517	1,269	10,326	4,417	18,570	1,930	20,500	-	11,706	8,794	7,299	1,495
Total Water Projects		23,253	128,835	74,553	275,518	12,843	515,002	47,239	562,241	46,888	11,992	503,361	373,857	129,504

Note: May not add due to rounding

Halton Region
2022 Development Charge Study
Wastewater Capital Projects - Total (\$2022, \$000's)

Table B-8

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total (2023-2031)	Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							(2023-2027)	(2028-2031)						
Capacity - Region Wide														
7528	North WWPS expansion of 2,000 L/s at Mid-Halton WWTP (OAK)	-	-	-	-	-	-	69,782	69,782	-	47,139	22,643	17,208	5,435
7548	Mid-Halton WWTP expansion from 175 ML/d to 225 ML/d (Design)	-	-	-	-	-	-	24,549	24,549	24,549	-	-	-	-
7946	New 2400mm WWM inlet to Skyway WWTP parallel to QEW. Design and Construction (BUR)	6,427	-	25,710	-	-	-	32,137	32,137	-	29,887	2,250	1,710	540
8154	Halton Wastewater Master Plan (2023 and 2028) (REG)	800	-	-	-	-	-	800	800	-	-	1,600	1,216	384
8155	Wastewater Collection System Analysis (2023 to 2031) (REG)	110	110	110	110	110	-	550	440	-	-	990	756	234
8156	Wastewater Treatment Capacity Annual Monitoring Report (2023 to 2031) (REG)	50	50	50	50	50	-	250	200	-	-	450	342	108
8157	Black Creek Monitoring Program (2023 to 2026) (HHACT)	50	50	50	50	-	-	200	-	-	-	200	152	48
8159	Mid-Halton WWTP expansion from 125 ML/d to 175 ML/d. Design and Construction (OAK)	-	24,549	-	98,195	-	-	122,744	-	-	65,054	57,690	43,845	13,845
Capacity - Total		7,437	24,759	25,920	98,405	160	156,681	95,771	252,452	24,549	142,080	85,823	65,229	20,594
Greenfield														
5907	300 mm WWM North Aldershot Servicing (BUR)	-	2,360	-	9,440	-	-	11,800	-	-	-	11,800	8,496	3,304
6496	Twinned 250mm WWFM from Norval WWPS to new WWM at Mountainview Rd (HHGEO)	-	-	-	-	-	-	-	2,503	-	-	2,503	1,802	701
6497	300 mm WWM on Derry Rd from 8th Line to Trafalgar Rd (MIL)	-	349	-	1,398	-	-	1,747	-	-	-	1,747	1,258	489
6498	450 mm WWM on new road from 8th Line to Trafalgar Rd (MIL)	-	571	-	2,283	-	-	2,854	-	-	-	2,854	2,055	799
6500	600 mm WWM on 4th Line from new road to Lower Base Line WWPS (MIL)	-	1,651	-	6,602	-	-	8,253	-	-	-	8,253	5,942	2,311
6501	450 mm WWM on 4th Line from south of Britannia Rd to new road (MIL)	-	1,255	-	5,018	-	-	6,273	-	-	-	6,273	4,517	1,756
6502	525 mm WWM on Thompson Rd and new internal road from south of Britannia to 4th Line (MIL)	-	875	-	3,499	-	-	4,374	-	-	-	4,374	3,149	1,225
6503	300 mm WWM on 8th Line from north of Derry Rd to Derry Rd (MIL)	-	209	-	837	-	-	1,046	-	-	-	1,046	753	293
6504	450 mm WWM on 8th Line from north of new road to new road (MIL)	-	300	-	1,198	-	-	1,498	-	-	-	1,498	1,079	419
6505	300 mm WWM on 8th Line from north of Britannia Rd to Britannia Rd (MIL)	-	165	-	659	-	-	824	-	-	-	824	593	231
6552	450mm WWM on new road alignment in Milton Education Village from Louis St Laurent extension to 1115 m south (MIL)	-	330	-	1,322	-	-	1,652	-	-	-	1,652	1,190	462
6554	600 mm WWM on Lower Base Line from WWFM discharge approx. 650 m west of 1st Line (MIL)	-	3,081	-	12,245	-	-	15,306	-	-	-	15,306	11,020	4,286
6555	New 225 L/s WWPS on Tremaine Rd at Lower Base Line (MIL)	2,172	-	8,668	-	-	-	10,858	-	-	-	10,858	7,818	3,040
6556	Twin 400 mm WWFM from Tremaine WWPS to Lower Base Line, approx. 650 m west of 1st Line (MIL)	1,039	-	4,158	-	-	-	5,197	-	-	-	5,197	3,742	1,455
6557	600 mm WWM on Tremaine Rd from approximately 1500 m north of South Tremaine Rd WWPS to South Tremaine Rd WWPS (MIL)	-	2,497	-	9,990	-	-	12,487	-	-	-	12,487	8,991	3,496
6559	525 mm WWM on Tremaine Rd from Britannia Rd to 1050 m south of Britannia Rd (MIL)	-	1,511	-	6,043	-	-	7,554	-	-	-	7,554	5,439	2,115
6560	525 mm WWM on James Snow Pkwy and new road alignment from Steeles Ave to Esquesing Line (MIL)	-	705	-	2,820	-	-	3,525	-	-	-	3,525	2,538	987
6561	450 mm WWM on new road and Britannia Rd from Milton Education Village to Tremaine Rd (MIL)	-	211	-	842	-	-	1,053	-	-	-	1,053	758	295
6564	525 mm WWM on new alignment from Esquesing Line to 3rd Line (MIL)	-	1,039	-	4,158	-	-	5,197	-	-	-	5,197	3,742	1,455
6578	525 WWM on Trafalgar Rd from south of Britannia Rd to Britannia Rd/ Trafalgar Rd WWPS (MIL)	-	-	1,475	-	5,901	-	7,376	-	-	-	7,376	5,311	2,065
6581	1500 mm WWM on 5th Line from Britannia Rd to Lower Base Line (MIL)	-	5,992	-	23,970	-	-	29,962	-	-	1,602	28,360	20,419	7,941

Table B-8

Halton Region
2022 Development Charge Study
Wastewater Capital Projects - Total (\$2022, \$000's)

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total (2023-2031)	Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							(2023-2027)	(2028-2031)						
Greenfield														
6582	1500 mm WWM on Lower Base Line from 5th Line to 4th Line (MIL)	-	3,530	-	14,120	-	17,650	-	17,650	-	849	16,801	12,097	4,704
6583	525 mm WWM on new road from 1400 m north of Britannia Rd to Britannia Rd (MIL)	1,888	-	7,542	-	-	9,428	-	9,428	-	-	9,428	6,788	2,640
6589	35 L/s WWPS on 10th Side Rd in Norval (HHGEO)	-	-	-	-	-	-	4,550	4,550	-	-	4,550	3,276	1,274
7534	450 mm WWM on new road in Milton Education Village from 800m north of Louis St Laurent extension to Louis St Laurent extension (MIL)	-	237	-	949	-	1,186	-	1,186	-	-	1,186	854	332
8034	2350 L/s WWPS at Lower Base Line and 4th Line (MIL)	-	16,280	65,122	-	-	81,402	-	81,402	-	18,093	63,309	45,583	17,726
8035	Twinning 900 mm WWFM from WWPS at Lower Base Line to Regional Rd 25 (MIL)	-	12,945	51,778	-	-	64,723	-	64,723	-	3,236	61,487	44,271	17,216
Greenfield Total		5,097	56,073	138,761	107,393	5,901	313,225	7,053	320,278	-	23,780	296,498	213,481	83,017
Built Boundary														
6515	300 mm WWM on Childs Drive between the south entrance of Satok Crescent and Nipissing Road (MIL)	-	-	-	129	-	129	516	645	-	-	645	535	110
6517	450 mm WWM on Oak St between Ontario St South and Fulton St (MIL)	-	-	-	271	-	271	1,086	1,357	-	-	1,357	1,126	231
6531	250 mm WWM on Chisholm/Rebecca St between Forsyth St and Chisholm St on Rebecca St and on Chisholm St between Rebecca St and 45 m north of Lakeshore Rd West (OAK)	-	-	-	58	-	58	226	282	-	-	282	234	48
6535	450 mm WWM on Trafalgar Rd from 10 m north of Inglehart Street North to Cross Ave (OAK)	259	-	1,038	-	-	1,297	-	1,297	-	-	1,297	1,077	220
6537	675 mm WWM on Trafalgar Rd, through GO lot and on Argus St from Spruce St to 60 m north of Cross Ave (OAK)	1,265	-	5,062	-	-	6,327	-	6,327	-	-	6,327	5,251	1,076
7537	Junction St WWPS Capacity Upgrade to 150 L/s WWPS - Design and Construction (BUR)	-	-	-	2,252	-	2,252	9,006	11,258	-	-	11,258	9,344	1,914
8140	Twinning of 525 - 600 mm WWM from Elgin St South along Black Creek alignment to Acton WWTP -Construction (HHACT)	-	3,503	-	-	-	3,503	-	3,503	-	2,137	1,366	1,134	232
8141	Agnes St WWPS Strategy - Construction (HHACT)	-	8,577	-	-	-	8,577	-	8,577	-	7,119	1,458	1,210	248
8158	Walker St WWPS - I/I reduction Program to gain capacity at the station. Design and Construction (OAK)	520	-	2,082	-	-	2,602	-	2,602	-	-	2,602	2,160	442
Built Boundary - Total		2,044	12,080	8,182	2,708	-	25,014	10,834	35,848	-	9,256	26,592	22,071	4,521
Total Waste Water Projects		14,578	92,912	172,863	208,506	6,061	494,920	113,658	608,578	24,549	175,116	408,913	300,781	108,132

Note: May not add due to rounding

Appendix C

Calculation of the Water and Wastewater DC Applicable to Development in Halton

APPENDIX C: PART 1

OVERVIEW OF THE WATER AND WASTEWATER DC CALCULATION

1. OVERVIEW OF THE WATER AND WASTEWATER DC CALCULATION

1.1. DC Cash Flow Methodology

- 1.1.1. DC Reserve Fund Opening Balance – the full uncommitted DC reserve fund balance is shown as the opening balance in the cash flow calculation. The DC is calculated so as to fully consume that amount, leaving a nil reserve fund balance at the end of the period in 2031. Tables 5-4a and 5-4b in Chapter 5 provide detailed schedules of the DC reserve fund continuity.
- 1.1.2. Project Costs – the nominal cost is in 2022\$, as per Appendix B. The inflated cost (commencing in 2018) allows for average inflation of 2.0%/year, consistent with the increase in the Statistics Canada Table 18-10-0135-01 Building Construction Price Indexes, by Non-residential buildings over the previous 10-year period. This rate may vary, up or down, in any year or sequence of years. It will be matched by the change in the DC quantum, which is determined by the same index.
- 1.1.3. DC Credits – are added to the development-related expenditures, as they represent the equivalent of Regional expenditures for works previously provided by developers which are not part of the capital program and must be funded (Chapter 4).
- 1.1.4. External Debt – represent debt charges resulting from external debt previously incurred to fund the growth share of the water and wastewater infrastructure costs (Chapter 4) included in the Total Unfunded Capital Costs.
- 1.1.5. Internal Debt – represents the outstanding balance owing to Regional Reserve for the previously funded growth share of water and wastewater infrastructure costs (Chapter 4) included in the Total Unfunded Capital Costs.

1.1.6. Historical Post-period Benefit (Oversizing) – is the cost share of previously funded water and wastewater infrastructure that, under the existing DC by-laws, was considered to benefit growth beyond the eligible planning horizon. This cost share is recoverable under the 2022 DC by-law as these costs benefit the planning horizon to 2031 based on BPE, 2011 (Chapter 4).

1.1.7. SDE/Sq.Ft. Per Year – SDE are single-detached unit equivalents per year, i.e. the annual gross increase in serviced population divided by the average occupancy for single detached units. This is the number of serviced SDE's that are expected to be subject to the DC (36,542 in total) (Table A-6c).

In the case of the non-residential DC calculation, the charge is per square foot of non-residential TFA and the costs are allocated over a total of 94,881,095 sq.ft. (Table A-10c).

1.1.8. DC Rates – A DC is calculated, such that when it is inflated at 2.0%/year, the cash flow will produce a zero reserve fund balance in 2031.

1.1.9. Anticipated Revenues – is the number of single detached equivalent units (SDE) or sq.ft. of non-residential TFA, multiplied by the required DC charge per SDE, or per square foot of non-residential TFA.

1.1.10. DC Reserve Fund Closing Balance Before Interest – The opening balance, less the inflated development-related expenditures, credits, debt charges, oversizing, and other commitments, plus the anticipated DC revenues.

1.1.11. Interest Earnings/Costs – provides for interest earnings on positive reserve fund balances at 3.0% per year and borrowing costs on negative balances at 3.0% per year.

1.1.12. DC Reserve Fund Closing Balance After Interest – is the DC reserve fund closing balance before interest, plus interest incurred during the year on the average balance.

The water and wastewater DC rates have been calculated on an area specific basis and are presented in Parts 2 and 3 of Appendix C.

APPENDIX C – PART 2

CASH FLOWS FOR RESIDENTIAL

WATER AND WASTEWATER DCs

Summary of Calculation Results – Per SDE

Service	As of April 1, 2021		New Calculated	
	Greenfield	Built Boundary	Greenfield	Built Boundary
Water	\$ 8,689	\$ 3,144	\$ 12,276	\$ 4,503
Wastewater	10,276	4,535	17,261	5,718
Total	\$ 18,965	\$ 7,679	\$ 29,537	\$ 10,221

Note: May not add due to rounding

Table C-1

Halton Region
 2022 Development Charges Study
 Water - Capacity Residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		Total Unfunded Capital Costs	Historical Oversizing	SDE per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	2012 Allocation Front End Interim Payback	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)									
2022	32,693,989	-	-	(10,713,788)		2,800	2,936.48	8,223,282	10,040,635	40,244,117	1,094,072	41,338,189
2023	41,338,189	(1,557,000)	(1,588,140)	-	(138,243)	2,472	2,995.21	7,405,489		47,017,295	1,325,332	48,342,627
2024	48,342,627	(11,320,000)	(11,777,328)	-		2,472	3,055.12	7,553,599		44,118,897	1,386,923	45,505,820
2025	45,505,820	(3,429,000)	(3,638,882)	-		4,179	3,116.22	13,021,982		54,888,920	1,505,921	56,394,841
2026	56,394,841	(122,245,000)	(132,321,919)	-		4,179	3,178.55	13,282,421		(62,644,657)	(93,747)	(62,738,404)
2027	(62,738,404)	(122,000)	(134,698)	-		4,088	3,242.12	13,253,029		(49,620,073)	(1,685,377)	(51,305,450)
2028	(51,305,450)	(730,000)	(822,099)	-		4,088	3,306.96	13,518,090		(38,609,459)	(1,348,724)	(39,958,183)
2029	(39,958,183)	(122,000)	(140,140)	-		4,088	3,373.10	13,788,451		(26,309,871)	(994,021)	(27,303,892)
2030	(27,303,892)	(122,000)	(142,942)	-		4,088	3,440.56	14,064,220		(13,382,614)	(610,298)	(13,992,912)
2031	(13,992,912)	(122,000)	(145,801)	-		4,088	3,509.37	14,345,505		206,792	(206,792)	0
Total		(139,769,000)	(150,711,949)	(10,713,788)	(138,243)	36,542		118,456,067	10,040,635		373,290	

Table C-2

Halton Region
 2022 Development Charges Study
 Water - Greenfield Residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		Total Unfunded Capital Costs	Historical Oversizing	SDE per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)								
2022	25,575,930	-	-	25,342,171		1,509	9,339.21	14,094,388	65,012,490	1,358,826	66,371,316
2023	66,371,316	(15,407,000)	(15,715,140)	(1,971,260)	(6,128,927)	1,181	9,525.99	11,252,296	53,808,286	1,802,694	55,610,980
2024	55,610,980	(62,978,000)	(65,522,311)	(1,971,260)		1,181	9,716.51	11,477,342	(405,249)	828,086	422,837
2025	422,837	(50,038,000)	(53,100,726)	(1,971,260)		2,888	9,910.84	28,618,092	(26,031,057)	(384,123)	(26,415,180)
2026	(26,415,180)	(74,699,000)	(80,856,600)	(1,971,260)		2,888	10,109.06	29,190,454	(80,052,586)	(1,597,016)	(81,649,603)
2027	(81,649,603)	(6,034,000)	(6,662,024)	(1,971,260)		2,613	10,311.24	26,944,093	(63,338,793)	(2,174,826)	(65,513,619)
2028	(65,513,619)	(3,043,000)	(3,426,912)	(1,971,260)		2,613	10,517.47	27,482,975	(43,428,816)	(1,634,137)	(45,062,953)
2029	(45,062,953)	(13,677,000)	(15,710,574)	(1,971,260)		2,613	10,727.82	28,032,634	(34,712,152)	(1,196,627)	(35,908,779)
2030	(35,908,779)	(183,000)	(214,414)	(1,971,260)		2,613	10,942.37	28,593,287	(9,501,166)	(681,149)	(10,182,315)
2031	(10,182,315)	(730,000)	(872,418)	(17,959,943)		2,613	11,161.22	29,165,153	150,478	(150,478)	(0)
Total		(226,789,000)	(242,081,118)	(8,387,850)	(6,128,927)	22,712		234,850,714		(3,828,749)	

Table C-3

Halton Region
 2022 Development Charges Study
 Water - Built Boundary Residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		Total Unfunded Capital Costs	SDE per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)							
2022	(3,887,528)	-	-	(8,291,953)	1,291	1,566.89	2,023,204	(10,156,277)	(210,657)	(10,366,934)
2023	(10,366,934)	(34,000)	(34,680)	(108,410)	1,291	1,598.23	2,063,668	(8,446,356)	(282,199)	(8,728,556)
2024	(8,728,556)	(146,000)	(151,898)	(108,410)	1,291	1,630.20	2,104,941	(6,883,923)	(234,187)	(7,118,110)
2025	(7,118,110)	(1,053,000)	(1,117,452)	(108,410)	1,291	1,662.80	2,147,040	(6,196,932)	(199,726)	(6,396,658)
2026	(6,396,658)	(798,000)	(863,781)	(108,410)	1,291	1,696.06	2,189,981	(5,178,868)	(173,633)	(5,352,501)
2027	(5,352,501)	(3,666,000)	(4,047,560)	(108,410)	1,475	1,729.98	2,551,182	(6,957,289)	(184,647)	(7,141,936)
2028	(7,141,936)	(999,000)	(1,125,036)	(108,410)	1,475	1,764.58	2,602,206	(5,773,176)	(193,727)	(5,966,903)
2029	(5,966,903)	-	-	(108,410)	1,475	1,799.87	2,654,250	(3,421,063)	(140,819)	(3,561,882)
2030	(3,561,882)	(603,000)	(706,511)	(108,410)	1,475	1,835.86	2,707,335	(1,669,468)	(78,470)	(1,747,939)
2031	(1,747,939)	-	-	(987,711)	1,475	1,872.58	2,761,481	25,832	(25,832)	0
Total		(7,299,000)	(8,046,918)	(10,146,944)	13,830		23,805,287		(1,723,897)	

Table C-4

Halton Region
 2022 Development Charges Study
 Wastewater - Capacity Residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		Total Unfunded Capital Costs	Historical Oversizing	SDE per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	2012 Allocation Front End Interim Payback	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)									
2022	(3,792,977)	-	-	(27,813,255)		2,800	2,124.72	5,950,032	21,644,633	(4,011,567)	(117,068)	(4,128,635)
2023	(4,128,635)	(1,110,000)	(1,132,200)	-	(1,872,582)	2,472	2,167.22	5,358,310		(1,775,107)	(88,556)	(1,863,663)
2024	(1,863,663)	(8,929,000)	(9,289,732)	-		2,472	2,210.56	5,465,477		(5,687,918)	(113,274)	(5,801,192)
2025	(5,801,192)	(1,528,000)	(1,621,526)	-		4,179	2,254.77	9,422,176		1,999,459	(57,026)	1,942,433
2026	1,942,433	(35,236,000)	(38,140,580)	-		4,179	2,299.87	9,610,620		(26,587,527)	(369,676)	(26,957,204)
2027	(26,957,204)	(122,000)	(134,698)	-		4,088	2,345.86	9,589,353		(17,502,549)	(666,896)	(18,169,445)
2028	(18,169,445)	(730,000)	(822,099)	-		4,088	2,392.78	9,781,140		(9,210,404)	(410,698)	(9,621,102)
2029	(9,621,102)	(3,563,000)	(4,092,767)	-		4,088	2,440.64	9,976,762		(3,737,106)	(200,373)	(3,937,479)
2030	(3,937,479)	(122,000)	(142,942)	-		4,088	2,489.45	10,176,298		6,095,876	32,376	6,128,252
2031	6,128,252	(13,889,000)	(16,598,641)	-		4,088	2,539.24	10,379,824		(90,565)	90,565	0
Total		(65,229,000)	(71,975,184)	(27,813,255)	(1,872,582)	36,542		85,709,991	21,644,633		(1,900,626)	

Table C-5

Halton Region
 2022 Development Charges Study
 Wastewater - Greenfield Residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		Total Unfunded Capital Costs	Historical Oversizing	SDE per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)								
2022	(39,131,662)	-	-	(42,605,532)		1,509	15,136.14	22,842,901	(58,894,294)	(1,470,389)	(60,364,683)
2023	(60,364,683)	(3,670,000)	(3,743,400)	(2,553,862)	(2,595,948)	1,181	15,438.86	18,236,698	(51,021,195)	(1,670,788)	(52,691,983)
2024	(52,691,983)	(36,950,000)	(38,442,780)	(2,553,862)		1,181	15,747.64	18,601,431	(75,087,194)	(1,916,688)	(77,003,881)
2025	(77,003,881)	(87,623,000)	(92,986,229)	(2,553,862)		2,888	16,062.59	46,381,598	(126,162,374)	(3,047,494)	(129,209,868)
2026	(129,209,868)	(75,911,000)	(82,168,508)	(2,553,862)		2,888	16,383.84	47,309,230	(166,623,008)	(4,437,493)	(171,060,501)
2027	(171,060,501)	(4,249,000)	(4,691,239)	(2,553,862)		2,613	16,711.52	43,668,532	(134,637,069)	(4,585,464)	(139,222,533)
2028	(139,222,533)	-	-	(2,553,862)		2,613	17,045.75	44,541,903	(97,234,492)	(3,546,855)	(100,781,347)
2029	(100,781,347)	(1,016,000)	(1,167,065)	(2,553,862)		2,613	17,386.67	45,432,741	(59,069,532)	(2,397,763)	(61,467,295)
2030	(61,467,295)	-	-	(2,553,862)		2,613	17,734.40	46,341,396	(17,679,761)	(1,187,206)	(18,866,967)
2031	(18,866,967)	(4,062,000)	(4,854,466)	(23,267,969)		2,613	18,089.09	47,268,224	278,822	(278,822)	(0)
Total		(213,481,000)	(228,053,686)	(86,304,395)	(2,595,948)	22,712		380,624,654		(24,538,962)	

Table C-6

Halton Region
 2022 Development Charges Study
 Wastewater - Built Boundary Residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		Total Unfunded Capital Costs	SDE per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)							
2022	(11,457,286)	-	-	(11,221,876)	1,291	3,592.87	4,639,185	(18,039,977)	(442,459)	(18,482,436)
2023	(18,482,436)	(1,697,000)	(1,730,940)	(245,008)	1,291	3,664.73	4,731,969	(15,726,414)	(513,133)	(16,239,547)
2024	(16,239,547)	(2,344,000)	(2,438,698)	(245,008)	1,291	3,738.02	4,826,608	(14,096,644)	(455,043)	(14,551,687)
2025	(14,551,687)	(6,791,000)	(7,206,664)	(245,008)	1,291	3,812.78	4,923,141	(17,080,218)	(474,479)	(17,554,697)
2026	(17,554,697)	(2,247,000)	(2,432,225)	(245,008)	1,291	3,889.04	5,021,603	(15,210,326)	(491,475)	(15,701,802)
2027	(15,701,802)	-	-	(245,008)	1,475	3,966.82	5,849,834	(10,096,975)	(386,982)	(10,483,957)
2028	(10,483,957)	(8,992,000)	(10,126,452)	(245,008)	1,475	4,046.15	5,966,831	(14,888,587)	(380,588)	(15,269,175)
2029	(15,269,175)	-	-	(245,008)	1,475	4,127.08	6,086,167	(9,428,015)	(370,458)	(9,798,473)
2030	(9,798,473)	-	-	(245,008)	1,475	4,209.62	6,207,891	(3,835,590)	(204,511)	(4,040,101)
2031	(4,040,101)	-	-	(2,232,241)	1,475	4,293.81	6,332,049	59,706	(59,706)	0
Total		(22,071,000)	(23,934,979)	(15,414,180)	13,830		54,585,278		(3,778,833)	

APPENDIX C – PART 3

CASH FLOWS FOR NON-RESIDENTIAL

WATER AND WASTEWATER DCs

Summary of Calculation Results – Per sq.ft. (TFA)

Service	As of April 1, 2021				New Calculated			
	Greenfield		Built Boundary		Greenfield		Built Boundary	
	Non-Retail	Retail	Non-Retail	Retail	Non-Retail	Retail	Non-Retail	Retail
Water	\$ 3.166	\$ 3.166	\$ 1.229	\$ 1.229	\$ 3.897	\$ 3.897	\$ 1.340	\$ 1.340
Wastewater	4.060	4.060	2.004	2.004	5.245	5.245	2.053	2.053
Total	\$ 7.226	\$ 7.226	\$ 3.233	\$ 3.233	\$ 9.142	\$ 9.142	\$ 3.393	\$ 3.393

Table C-7

Halton Region
 2022 Development Charges Study
 Water - Capacity Non-residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		DC Credits	Total Unfunded Capital Costs	Historical Oversizing	Sq. Ft. per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)									
2022	-	-	-	(46,965)	(65,561,228)	(433,321)	4,254,555	1.219	5,187,355	(60,854,159)	(912,812)	(61,766,971)
2023	(61,766,971)	(491,000)	(500,820)	(346,114)	-		3,936,651	1.244	4,895,746	(57,718,159)	(1,792,277)	(59,510,436)
2024	(59,510,436)	(3,574,000)	(3,718,390)	(91,262)	-		3,936,651	1.269	4,993,661	(58,326,426)	(1,767,553)	(60,093,979)
2025	(60,093,979)	(1,082,000)	(1,148,227)	(91,262)	-		3,936,651	1.294	5,093,534	(56,239,933)	(1,745,009)	(57,984,942)
2026	(57,984,942)	(38,603,000)	(41,785,129)	(91,262)	-		3,936,651	1.320	5,195,405	(94,665,927)	(2,289,763)	(96,955,690)
2027	(96,955,690)	(38,000)	(41,955)	(46,965)	-		14,975,987	1.346	20,159,888	(76,884,722)	(2,607,606)	(79,492,328)
2028	(79,492,328)	(230,000)	(259,017)	(2,668)	-		14,975,987	1.373	20,563,086	(59,190,928)	(2,080,249)	(61,271,177)
2029	(61,271,177)	(38,000)	(43,650)	(2,668)	-		14,975,987	1.401	20,974,347	(40,343,148)	(1,524,215)	(41,867,363)
2030	(41,867,363)	(38,000)	(44,523)	(2,668)	-		14,975,987	1.429	21,393,834	(20,520,720)	(935,821)	(21,456,541)
2031	(21,456,541)	(38,000)	(45,414)	(2,668)	-		14,975,989	1.457	21,821,714	317,092	(317,092)	0
Total		(44,132,000)	(47,587,124)	(724,501)	(65,561,228)	(433,321)	94,881,095		130,278,571		(15,972,397)	

Table C-8

Halton Region
 2022 Development Charges Study
 Water - Greenfield Non-residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		DC Credits	Total Unfunded Capital Costs	Historical Oversizing	Sq. Ft. per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)									
2022	-	-	-	(68,347)	(68,409,096)	(2,289,790)	3,807,172	2.678	10,196,387	(60,570,846)	(908,563)	(61,479,409)
2023	(61,479,409)	(5,700,000)	(5,814,000)	(371,027)	(730,711)		3,494,122	2.732	9,545,136	(58,850,012)	(1,804,941)	(60,654,953)
2024	(60,654,953)	(23,289,000)	(24,229,876)	(131,431)	(730,711)		3,493,994	2.786	9,735,682	(76,011,290)	(2,049,994)	(78,061,283)
2025	(78,061,283)	(18,506,000)	(19,638,715)	(131,431)	(730,711)		3,493,846	2.842	9,929,973	(88,632,168)	(2,500,402)	(91,132,570)
2026	(91,132,570)	(27,630,000)	(29,907,601)	(131,431)	(730,711)		3,493,705	2.899	10,128,165	(111,774,148)	(3,043,601)	(114,817,749)
2027	(114,817,749)	(2,232,000)	(2,464,308)	(68,347)	(730,711)		9,298,746	2.957	27,495,973	(90,585,144)	(3,081,043)	(93,666,187)
2028	(93,666,187)	(1,125,000)	(1,266,933)	(5,264)	(730,711)		9,299,053	3.016	28,046,819	(67,622,276)	(2,419,327)	(70,041,603)
2029	(70,041,603)	(5,058,000)	(5,810,052)	(5,264)	(730,711)		9,299,342	3.076	28,608,643	(47,978,987)	(1,770,309)	(49,749,296)
2030	(49,749,296)	(67,000)	(78,501)	(5,264)	(730,711)		9,299,621	3.138	29,181,693	(21,382,079)	(1,066,971)	(22,449,050)
2031	(22,449,050)	(270,000)	(322,675)	(5,264)	(6,657,436)		9,299,889	3.201	29,766,183	331,759	(331,759)	(0)
Total		(83,877,000)	(89,532,661)	(923,071)	(80,912,223)	(2,289,790)	64,279,489		192,634,654		(18,976,909)	

Table C-9

Halton Region
 2022 Development Charges Study
 Water - Built Boundary Non-residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		Total Unfunded Capital Costs	Sq. Ft. per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)							
2022	-	-	-	(1,485,852)	447,383	0.121	54,173	(1,431,678)	(21,475)	(1,453,154)
2023	(1,453,154)	(7,000)	(7,140)	(40,186)	442,529	0.124	54,657	(1,445,822)	(43,485)	(1,489,307)
2024	(1,489,307)	(30,000)	(31,212)	(40,186)	442,657	0.126	55,766	(1,504,938)	(44,914)	(1,549,852)
2025	(1,549,852)	(216,000)	(229,221)	(40,186)	442,805	0.129	56,901	(1,762,358)	(49,683)	(1,812,041)
2026	(1,812,041)	(163,000)	(176,436)	(40,186)	442,946	0.131	58,057	(1,970,606)	(56,740)	(2,027,345)
2027	(2,027,345)	(751,000)	(829,165)	(40,186)	5,677,241	0.134	759,001	(2,137,695)	(62,476)	(2,200,170)
2028	(2,200,170)	(205,000)	(230,863)	(40,186)	5,676,933	0.136	774,139	(1,697,080)	(58,459)	(1,755,539)
2029	(1,755,539)	-	-	(40,186)	5,676,645	0.139	789,582	(1,006,142)	(41,425)	(1,047,567)
2030	(1,047,567)	(123,000)	(144,114)	(40,186)	5,676,365	0.142	805,334	(426,533)	(22,112)	(448,645)
2031	(448,645)	-	-	(366,127)	5,676,100	0.145	821,402	6,630	(6,630)	(0)
Total		(1,495,000)	(1,648,151)	(2,173,464)	30,601,605		4,229,013		(407,398)	

Table C-10

Halton Region
 2022 Development Charges Study
 Wastewater - Capacity Non-Residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		DC Credits	Total Unfunded Capital Costs	Historical Oversizing	Sq. Ft. per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)									
2022	-	-	-	(92,272)	(115,876,249)	(1,600,205)	4,254,555	1.546	6,575,535	(110,993,191)	(1,664,898)	(112,658,088)
2023	(112,658,088)	(350,000)	(357,000)	(653,595)	-		3,936,651	1.576	6,205,889	(107,462,794)	(3,301,813)	(110,764,607)
2024	(110,764,607)	(2,819,000)	(2,932,888)	(180,951)	-		3,936,651	1.608	6,330,007	(107,548,439)	(3,274,696)	(110,823,134)
2025	(110,823,134)	(482,000)	(511,502)	(180,951)	-		3,936,651	1.640	6,456,607	(105,058,981)	(3,238,232)	(108,297,212)
2026	(108,297,212)	(11,126,000)	(12,043,140)	(180,951)	-		3,936,651	1.673	6,585,739	(113,935,564)	(3,333,492)	(117,269,056)
2027	(117,269,056)	(38,000)	(41,955)	(92,272)	-		14,975,987	1.706	25,554,845	(91,848,438)	(3,136,762)	(94,985,201)
2028	(94,985,201)	(230,000)	(259,017)	(3,593)	-		14,975,987	1.741	26,065,942	(69,181,869)	(2,462,506)	(71,644,375)
2029	(71,644,375)	(1,125,000)	(1,292,271)	(3,593)	-		14,975,987	1.775	26,587,261	(46,352,978)	(1,769,960)	(48,122,939)
2030	(48,122,939)	(38,000)	(44,523)	(3,593)	-		14,975,987	1.811	27,119,006	(21,052,048)	(1,037,625)	(22,089,673)
2031	(22,089,673)	(4,386,000)	(5,241,676)	(3,593)	-		14,975,989	1.847	27,661,390	326,448	(326,448)	0
Total		(20,594,000)	(22,723,973)	(1,395,363)	(115,876,249)	(1,600,205)	94,881,095		165,142,222		(23,546,432)	

Table C-11

Halton Region
 2022 Development Charges Study
 Wastewater - Greenfield Non-Residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		DC Credits	Total Unfunded Capital Costs	Historical Oversizing	Sq. Ft. per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)									
2022	-	-	-	(176,340)	(125,147,228)	(1,677,337)	3,807,172	3.699	14,083,594	(112,917,310)	(1,693,760)	(114,611,070)
2023	(114,611,070)	(1,427,000)	(1,455,540)	(776,388)	(1,139,011)		3,494,122	3.773	13,184,064	(104,797,946)	(3,291,135)	(108,089,081)
2024	(108,089,081)	(14,367,000)	(14,947,427)	(346,100)	(1,139,011)		3,493,994	3.849	13,447,253	(111,074,366)	(3,287,452)	(114,361,818)
2025	(114,361,818)	(34,075,000)	(36,160,663)	(346,100)	(1,139,011)		3,493,846	3.926	13,715,614	(138,291,978)	(3,789,807)	(142,081,784)
2026	(142,081,784)	(29,521,000)	(31,954,480)	(346,100)	(1,139,011)		3,493,705	4.004	13,989,363	(161,532,013)	(4,554,207)	(166,086,220)
2027	(166,086,220)	(1,652,000)	(1,823,941)	(176,340)	(1,139,011)		9,298,746	4.084	37,978,366	(131,247,146)	(4,460,000)	(135,707,147)
2028	(135,707,147)	-	-	(6,579)	(1,139,011)		9,299,053	4.166	38,739,214	(98,113,523)	(3,507,310)	(101,620,833)
2029	(101,620,833)	(395,000)	(453,731)	(6,579)	(1,139,011)		9,299,342	4.249	39,515,223	(63,704,931)	(2,479,886)	(66,184,817)
2030	(66,184,817)	-	-	(6,579)	(1,139,011)		9,299,621	4.334	40,306,740	(27,023,667)	(1,398,127)	(28,421,794)
2031	(28,421,794)	(1,580,000)	(1,888,246)	(6,579)	(10,377,411)		9,299,889	4.421	41,114,058	420,027	(420,027)	(0)
Total		(83,017,000)	(88,684,028)	(2,193,684)	(144,636,728)	(1,677,337)	64,279,489		266,073,489		(28,881,711)	

Table C-12

Halton Region
 2022 Development Charges Study
 Wastewater - Built Boundary Non-residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		Total Unfunded Capital Costs	Sq. Ft. per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)							
2022	-	-	-	(8,670,031)	447,383	0.507	226,842	(8,443,189)	(126,648)	(8,569,837)
2023	(8,569,837)	(347,000)	(353,940)	(109,272)	442,529	0.517	228,868	(8,804,181)	(260,610)	(9,064,791)
2024	(9,064,791)	(480,000)	(499,392)	(109,272)	442,657	0.528	233,513	(9,439,943)	(277,571)	(9,717,514)
2025	(9,717,514)	(1,391,000)	(1,476,140)	(109,272)	442,805	0.538	238,263	(11,064,663)	(311,733)	(11,376,396)
2026	(11,376,396)	(461,000)	(499,001)	(109,272)	442,946	0.549	243,106	(11,741,563)	(346,769)	(12,088,333)
2027	(12,088,333)	-	-	(109,272)	5,677,241	0.560	3,178,207	(9,019,399)	(316,616)	(9,336,015)
2028	(9,336,015)	(1,842,000)	(2,074,391)	(109,272)	5,676,933	0.571	3,241,595	(8,278,083)	(264,211)	(8,542,295)
2029	(8,542,295)	-	-	(109,272)	5,676,645	0.582	3,306,259	(5,345,308)	(208,314)	(5,553,622)
2030	(5,553,622)	-	-	(109,272)	5,676,365	0.594	3,372,218	(2,290,676)	(117,664)	(2,408,341)
2031	(2,408,341)	-	-	(995,570)	5,676,100	0.606	3,439,502	35,591	(35,591)	0
Total		(4,521,000)	(4,902,865)	(10,539,781)	30,601,605		17,708,374		(2,265,728)	

Appendix D

The 2022-2031 Roads Servicing Program and Development Charge Recoverable Costs

APPENDIX D: PART 1

OVERVIEW OF ROADS CAPITAL PROGRAM (2022-2031)

1. OVERVIEW OF ROADS CAPITAL PROGRAM (2022-2031)

“Halton Region 2022 Transportation Development Charges Technical Report” by EIIso Consulting Inc. (the Technical Report), sets out the methodology involved in detail, in identifying the Region’s 2022-2031 development-related transportation capital program. A project-specific listing is contained in Part 3 of this Appendix.

Halton Region uses a demand forecasting model for its long-term transportation planning. The Halton Region Model has been updated to include the release of the TTS, 2016 data and 2016 Census information. The updated model maintains the core functions, procedures, and updated network. Within the context of the 2022 Transportation DC Technical Report, the model is used for network-wide analysis and overview, including comparison of the network characteristics between 2016 and the 2031 planning horizon.

The Region undertook a Transportation Master Plan in 2011 - the Halton Region Transportation Master Plan (2031) – The Road to Change (2011 TMP). The 2011 TMP developed a sustainable and integrated plan that considered all modes of travel (automobile, transit, cycling and walking) to accommodate growth in Halton Region to the year 2031, as established through Regional Official Plan Amendment (ROPA) 38. The 2011 TMP provides strategies, policies and tools required to meet the Region’s transportation needs in a safe and cost-effective manner. The 2011 TMP was developed in accordance with the requirements of the Municipal Class Environmental Assessment (MCEA) process. Through this process existing problems/opportunities were defined, alternative solutions evaluated, and an optimum transportation system was identified to the year 2031.

A technical review of the transportation network and capital projects identified in the 2011 TMP was undertaken which focused on the following key elements:

- Updating the transportation demand forecasting model with current travel pattern characteristics (based on 2016 Transportation Tomorrow Survey and 2016 Census);

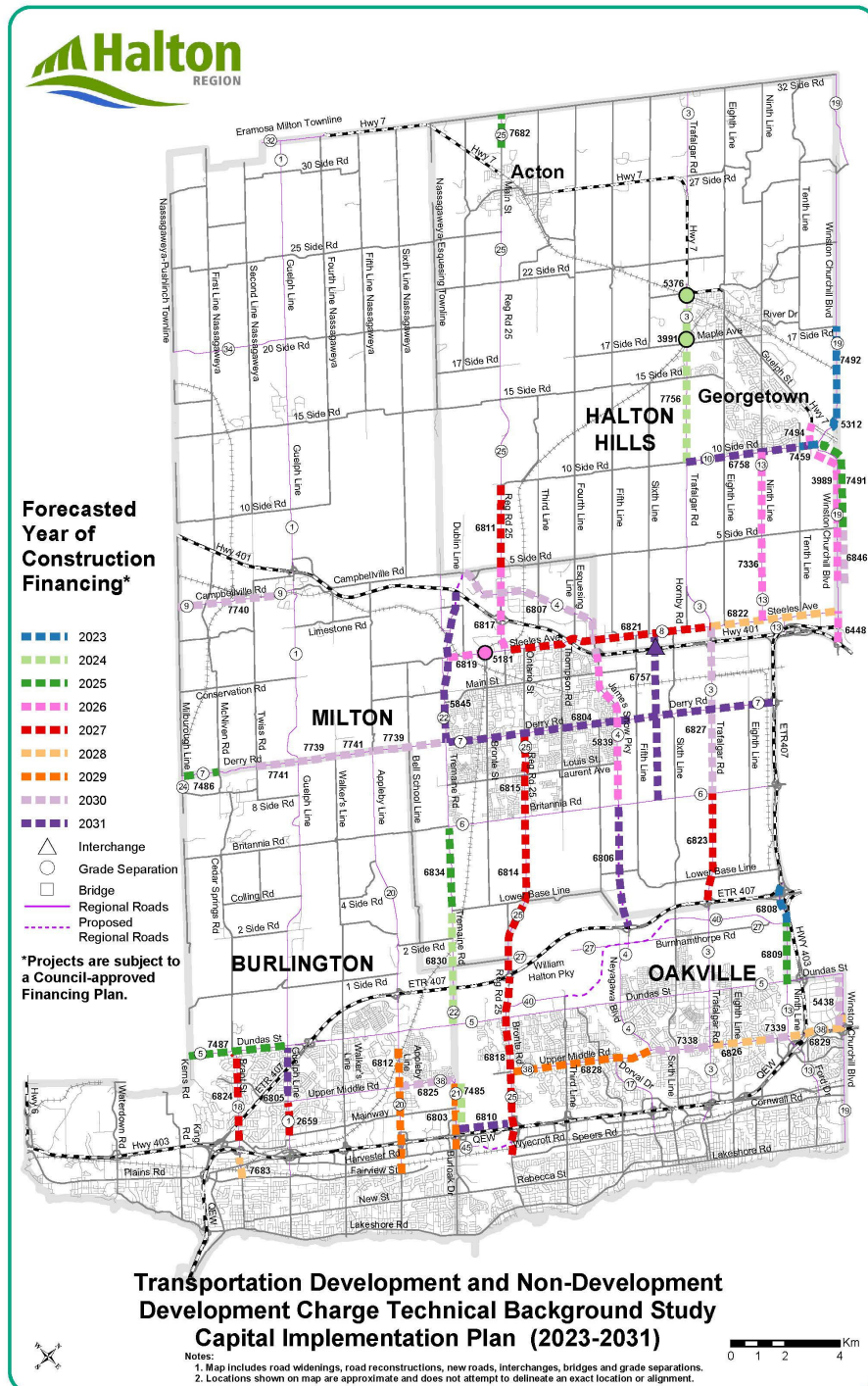
- Validating the long range Transportation Capital Implementation Plan to 2031 (i.e. project scope, timing, need and cost) as identified in the 2011 TMP, including minor timing shifts of previously identified infrastructure projects.
- Updated costing from recently completed and on-going Municipal Class Environmental Assessment (MCEA) Studies;
- Updated Costing from on-going detailed design projects;
- Updated Costing for Master Plan Costed projects (formerly referred to as Benchmarked projects) based on recent regional data and construction tenders, and tenders from neighbouring municipalities; and
- Updates to costing for annual programs and studies, based on industry and regional experience.

The resultant Capital Roads Plan includes the following types of projects:

- Reconstruction (no widening)
- Road Widening without Reconstruction
- Road Widening with Reconstruction
- New Alignment
- Traffic Management
- Provincial Freeway Interchanges
- Railway Grade Separations
- Structures (bridges and culverts)
- Studies and Programs

These initiatives are presented in Map D-1 below. The estimated cost of the program totals to \$2.44 billion between 2022 and 2031 (in 2022\$).

MAP D-1: ROADS DC PROJECTS (2023-2031)



Public Works
 TRM_DC_16-PLW_2022_001

APPENDIX D – PART 2

ROADS DC CALCULATION ASSUMPTIONS

2. ROADS DC CALCULATION ASSUMPTIONS

This appendix includes excerpts from EIIso Consulting Inc’s 2022 Transportation Development Charges Technical Report (the Technical Report) that established DCA mandated assumptions for the DC calculation.

2.1. Benefit to Existing Development

2.1.1. Road Reconstruction (No Widening)

Costs of road reconstruction without widening have been allocated to Benefit to Existing (BTE), and therefore 100% of the cost has been removed from the DC calculation, as these projects are not considered to involve significant capacity-related improvements.

2.1.2. Road Widening without Reconstruction

Road widening projects are undertaken to accommodate increased traffic volumes associated with new growth; however, existing lanes are typically resurfaced as part of the widening. As a result, existing residents (Non-Growth) benefit from the renewal of the road surface, as well as improved intersections, signals, and other assets that exist in the corridor.

The following sub-sections present the calculation of BTE for existing pavement replacement and other cost components from which there would be a benefit to non-growth.

2.1.2.1. Value of Resurfacing Existing Pavement

The BTE of the resurfacing is considered to be the Used Value of the pavement, which is to be resurfaced to its original (unused) condition. The corresponding benefit to Growth is the cost associated with new lanes, plus any Residual Value remaining in existing roads.

First, the value of resurfacing the existing lanes was calculated with the following equation:

$$\frac{\text{Value of Resurfacing}}{\text{Existing Lanes}} = \text{Master Plan (MP) cost for resurfacing (\$/km)} \times \text{length of project (km)} \quad (1)$$

To allocate this value between Growth and Non-Growth, the Residual Value of the existing lanes was based on the net book value remaining in the asset per accounting and reporting of Tangible Capital Assets (TCA). More specifically, the current condition of the road surface was determined based on the Region's road asset inventory, and the cumulative depreciation to the proposed year of construction was estimated based on a linear rate of depreciation. The asset's proportions of Residual Value and Used Value were then calculated using the following equations:

$$\% \text{ Residual Value} = \frac{\text{Original Book Value} - \text{Cumulative Depreciation}}{\text{Original Book Value}} \times 100\% \quad (2)$$

$$\% \text{ Used Value} = 100\% - \% \text{ Residual Value} \quad (3)$$

The BTE of resurfacing the existing lanes was then calculated with the following equation:

$$BTE_{\text{Resurfacing Existing Lanes}} = \% \text{ Used Value} \times \text{Value of Resurfacing Existing Lanes} \quad (4)$$

2.1.2.2. Additional Cost Components

Since roads are widened primarily to accommodate Growth, the Engineering and Contingency costs were allocated entirely to Growth. However, modifications to intersections and signals associated with the widening, benefit both Growth and Non-Growth, and were allocated 50% BTE.

Where widening work includes rehabilitation of existing bridges, grade separations and culverts, the BTE would typically reflect the existing asset value, with TCA-based calculations similar to those done for pavement. However, because the amounts were small relative to the total project cost, BTE of 100% was allocated for simplicity.

For projects where costs were available from more detailed studies (i.e., Municipal Class Environmental Assessment studies), these values were used in place of the Master Plan cost estimates. The costs were broken down into Engineering, Design, Property, Utility Relocates and Construction. Engineering, Design, Property and Utility Relocates were assigned 0% BTE. These factors are consistent with the factors applied where base cost breakdowns were used. Further, Construction costs were assigned 13% BTE, based on the average BTE calculated for widening projects where the Master Plan cost breakdowns were used.

2.1.2.3. Overall BTE

The resulting BTE for each project was obtained by summing the BTE credit for existing pavement value with the credits for each additional cost component, as described in the following equation:

$$\begin{aligned}
 BTE = & BTE_{\text{Resurfacing Existing Lanes}} \\
 & + BTE_{\text{Intersection Modifications}} \\
 & + BTE_{\text{New Signals and Signal Modifications}} \\
 & + BTE_{\text{Bridge Rehabilitation}} \\
 & + BTE_{\text{Grade Separation Rehabilitation}} \\
 & + BTE_{\text{Culvert Rehabilitation}}
 \end{aligned} \tag{5}$$

Where

$$\begin{aligned}
 BTE_{\text{Resurfacing Existing Lanes}} &= \% \text{ Used Value} \times \text{Value of Resurfacing Existing Lanes} \\
 BTE_{\text{Intersection Modifications}} &= 50\% \times \text{Cost of Intersection Modifications} \\
 BTE_{\text{New Signals and Signal Modifications}} &= 50\% \times \text{Cost of New Signals and Signal Modifications} \\
 BTE_{\text{Bridge Rehabilitation}} &= 100\% \times \text{Cost of Bridge Rehabilitation} \\
 BTE_{\text{Grade Separation Rehabilitation}} &= 100\% \times \text{Cost of Grade Separation Rehabilitation} \\
 BTE_{\text{Culvert Rehabilitation}} &= 100\% \times \text{Cost of Culvert Rehabilitation}
 \end{aligned}$$

2.1.3. Road Widening with Reconstruction

Road widening projects are primarily undertaken to accommodate increased traffic volumes associated with new growth. In some cases, the increased development changes the character of the corridor from rural to urban, so road widening projects may be accompanied by reconstruction of the roadway to an urban cross-section. When widening projects include reconstruction of existing lanes, existing residents (Non-Growth) benefit from the renewal of the roadway, intersection improvements, signals and other assets, as well as the engineering and design associated with reconstruction.

The following sub-sections present the calculation of BTE for existing pavement replacement and other cost components from which there would be a benefit to non-growth from a road widening with reconstruction of the existing lanes.

2.1.3.1. Value of Reconstructing Existing Pavement and Sub-Base

The BTE of the reconstruction of existing lanes is calculated using the methodology previously explained for road widenings in Equation (1). Then the proportions of

Residual and Used Values of the existing lanes were calculated using Equations (2) and (3). The BTE of reconstructing the existing lanes was then calculated using Equation (6), below.

$$TE_{\text{Reconstructing Existing Lanes}} = \% \text{ Used Value} \times \text{Value of Reconstructing Existing Lanes} \quad (6)$$

2.1.3.2. Additional Cost Components

Since projects involving widening with reconstruction benefit both Growth and Non-Growth, the following cost components have been assigned 50% BTE:

- Engineering and Design
- Contingency
- Intersection and Signal Modifications

Where widening work includes rehabilitation of existing bridges, grade separations and culverts, the BTE would typically reflect the existing asset value, with TCA-based calculations similar to those done for pavement. However, because the amounts were small relative to the total project cost, BTE of 100% were assigned for simplicity.

For projects where costs were available from more detailed studies (i.e., Municipal Class Environmental Assessment studies), these values were used in place of the Master Plan cost estimates. Engineering and Design were assigned 50% BTE, and costs for Property and Utility Relocates were assigned 0% BTE. These factors are consistent with the factors applied where Master Plan costing was used. Further, Construction costs were assigned 25% BTE, based on the average BTE calculated for this project type for projects where the detailed cost breakdown was used.

2.1.3.3. Overall BTE

The resulting BTE for each project was obtained by summing the BTE for existing pavement value with the BTE for each additional cost component, as shown in Equation (7) below.

$$\begin{aligned}
 & BTE_{\text{Reconstructing Existing Lanes}} \\
 & + BTE_{\text{Intersection Modifications}} \\
 & + BTE_{\text{New Signals and Signal Modifications}} \\
 BTE = & + BTE_{\text{Bridge Rehabilitation}} \\
 & + BTE_{\text{Grade Separation Rehabilitation}} \\
 & + BTE_{\text{Culvert Rehabilitation}} \\
 & + BTE_{\text{Engineering Design and Contingency}}
 \end{aligned} \tag{7}$$

Where

$$\begin{aligned}
 BTE_{\text{Reconstructing Existing Lan}} &= \% \text{ Used Value} \times \text{Value of Reconstructing Existing Lanes} \\
 BTE_{\text{Intersection Modifications}} &= 50\% \times \text{Cost of Intersection Modifications} \\
 BTE_{\text{New Signals and Signal Mod}} &= 50\% \times \text{Cost of New Signals and Signal Modifications} \\
 BTE_{\text{Bridge Rehabilitation}} &= 100\% \times \text{Cost of Bridge Rehabilitation} \\
 BTE_{\text{Grade Separation Rehabilite}} &= 100\% \times \text{Cost of Grade Separation Rehabilitation} \\
 BTE_{\text{Culvert Rehabilitation}} &= 100\% \times \text{Cost of Culvert Rehabilitation} \\
 BTE_{\text{Engineering Design and Cor}} &= 50\% \times \text{Cost of Engineering Design and Contingency}
 \end{aligned}$$

2.1.4. New Alignments

New alignments are constructed to accommodate the increased capacity needs associated with Growth. As such, the costs of new alignment projects were allocated 0% BTE (100% to Growth).

2.1.5. Traffic Management

The Roads Capital Program 2022-2031 includes several projects in the Traffic Management category, for example:

- Traffic signal (new, modifications)
- New intersections or improvements to existing intersections (i.e., turn lanes)

These projects are required to accommodate the additional traffic created by growth and for existing development. As such, traffic management projects were allocated 50% to Growth and 50% to Existing.

2.1.6. Provincial Freeway Interchanges

The Region attributes the cost of provincial freeway interchange projects 100% to Growth.

Some projects in the Roads Capital Program may involve the Region's share of costs for new or improved interchanges on the provincial freeway system. These improvements create new access points and reduce congestion at upstream and downstream interchanges. The projects are implemented to provide additional capacity in the road network to serve Growth. An existing road user might benefit from these interchanges (if the trip length is reduced) but the benefit is offset in most cases by the increased traffic congestion created by growth. For new or improved freeway interchanges, the provincial share is typically to accommodate long distance travel and to improve operational issues at existing interchanges, with the Region's share of costs to accommodate transportation pressures due to growth only. The Region attributes the regional share of provincial freeway interchange project costs 100% to Growth.

2.1.7. Railway Grade Separations

There are 17 existing and planned railway crossings in Halton Region. One of these crossings is of an abandoned line (Steeles Avenue between Regional Road 25 and Ontario Street), ten are already grade separated and five are planned for grade separation by 2031, under the current Regional Roads Capital Projects. The remaining crossing (Guelph Line between McLaren Rd and Campbell Ave) does not currently meet the grade separation warrant by 2031.

2.1.7.1. Widening of Existing Railway Grade Separations

Railway grade separations are widened to accommodate increased capacity needs associated with Growth; however, Non-Growth benefits from a renewal of the existing deck of the grade separation structure. The BTE of the rehabilitation of the existing grade separation deck structure is calculated using the same methodology as explained for road widenings. For grade separations, the value of the existing deck replacement has been calculated using the Master Plan cost for deck reconstruction, as shown in Equation (8).

$$\text{Value of Existing Deck} = \text{MP cost for deck reconstruction } (\$/m^2) \times \text{existing surface area } (m^2) \quad (8)$$

Then the proportions of Residual and Used Values were calculated using equations (9) and (10)

$$\% \text{ Residual Value} = \frac{\text{Original Book Value} - \text{Cumulative Depreciation}}{\text{Original Book Value}} \times 100\% \quad (9)$$

$$\% \text{ Used Value} = 100\% - \% \text{ Residual Value} \quad (10)$$

The BTE of reconstructing the existing deck was then calculated using Equation (11).

$$BTE_{\text{Reconstruction of Existing Deck}} = \% \text{ Used Value} \times \text{Value of Rehabilitating Existing Deck} \quad (11)$$

Since railway grade separations are primarily widened to accommodate Growth, no BTE deductions are allocated for other cost components, such as engineering, design, and construction.

2.1.7.2. Construction of New Grade Separations

Where there is currently a level crossing in place, construction of a grade-separation benefits Growth by increasing the capacity of the roadway, but also benefits existing development in terms of safety improvement and the elimination for existing road users of the possibility of delays due to train movements. The number of train movements per day times the average annual daily traffic is correlated to a Benefit to Existing for the grade separation.

Consistent with the 2012 and 2017 DC Technical Study methodology for new railway grade separations, the Region allocates a BTE credit to the full grade separation cost according to Table D-1. The allocation applied at each level rail crossing is based on the actual product (daily train movements times roadway traffic) and a prorating between the ranges.

Table D-1
Grade Separation Benefit to Existing

Daily Train Movements x Daily Roadway Traffic	Benefit to Existing
200,000	5%
400,000	10%
600,000	15%
800,000	20%
1,000,000	25%

2.1.8. Structures (Bridges and Culverts)

The capital roads plan may include rehabilitation and replacement of road-related structures, such as bridges. In cases where the structures are being replaced or installed to allow for roadway capacity increases, such as new roads or road widening, the residual value method has been applied to determine BTE. New structures are

constructed when roads are widened or realigned to accommodate growth. As such, costs of new structures are allocated 100% to Growth.

2.1.9. Studies and Programs

The Region allocates costs for studies and programmes as presented in Table D-2 below.

Table D-2
Cost Allocating for Studies and Programmes

Studies and Programs	Growth	BTE
Transportation Master Plan	100%	0%
Active Transportation Master Plan	100%	0%
Data Management Group	100%	0%
Transportation Tomorrow Survey	100%	0%
Cordon Counts (TTS, 2016)	100%	0%
Traffic and Screenline Counts	50%	50%
Urban Design Guidelines	100%	0%
Development Charges Transportation Background Study	100%	0%
Travel Demand Management	50%	50%
Active Transportation Initiatives	50%	50%
Other Growth-Related Studies	100%	0%
Operational Improvement and Studies	0%	100%

2.1.10. Summary of Cost Allocation

Halton Region's allocation of cost to Growth as presented in this appendix is summarized in Table D-3.

Further Table D-13 presents the cost allocation between Growth and Non-Growth for the 2023-2031 Roads Capital Projects, per the methodology presented in this chapter.

**Table D-3
Cost Allocation Summary**

Project Type	Growth Share (%)
Road Reconstruction (no Widening)	0%
Road Widening (no Reconstruction)	100% with the following deductions: <ul style="list-style-type: none"> • deduction for existing roadway based on the used value of the existing lanes and the Master Plan* cost of resurfacing • 50% deduction for intersection modifications and additions • 50% deduction for signal modifications • 100% deduction for rehabilitation of bridges, grade separations and culverts • If non-Master Plan costing is used, a 13% deduction is assigned to construction costs
Road Widening with Reconstruction	100% with the following deductions: <ul style="list-style-type: none"> • deduction for existing roadway based on the used value of the existing lanes and the Master Plan cost of reconstruction • 50% deduction for engineering and contingency costs • 50% deduction for intersection modifications and additions • 50% deduction for signal modifications • 100% deduction for rehabilitation of bridges, grade separations and culverts • if non-Master Plan costing is used, a 50% deduction is assigned for engineering and design, and a 25% deduction is assigned to construction costs
New Roads and Alignments	100%
Traffic Management	50%
Provincial Freeway Interchanges	100%
Grade Separations – Widening	100% less deduction for rehabilitation of the existing structure, based on used value of the structure and the Master Plan cost of rehabilitation
Grade Separations – New	100% less BTE per Table D-1
Structures – Widening	100% less deduction for rehabilitation of the existing structure, based on used value of the structure and the Master Plan cost of rehabilitation
Structures – New	100%
Studies and Programs	BTE based on type of study or program

* Master Plan Costed projects (formerly referred to as Benchmarked projects)

2.2. Previous 10-Year Service Level

The DCA requires that the future level of service created by the infrastructure capacity improvement program that generated DCs does not exceed the average level of service that has been provided in the previous 10-year period. The level of service is measured in terms of both Quantity (lane km per capita) and Quality (undepreciated replacement cost, as well as volume/capacity ratios (v/c) or operating speed on regional roads).

Based on the Service Level analysis for Quantity and Quality, there is no increase in the 10-year service level, as discussed below. The 10-year Service Level review is consistent with the methodologies presented in the 2012 and 2017 DC Transportation Technical Study.

2.2.1. Service Level – Quantity

The lane km per capita of DC eligible roads was calculated as 1.94 lane km per 1,000 population in 2017 and estimated at 1.86 lane km per 1,000 population in 2021 (with an estimated population of 624,094). The average for the 10-year period is 1.93 lane km per 1,000 population. Table D-4a presents the lane km and population for the past 10 years from 2012 to 2021.

Table D-4a
Historical Population and Regional Roadway Lane Kilometres (2012-2021)

Year	Lane kms ⁽¹⁾	Population ⁽²⁾	Lane kms per 1,000 population
2012	980.40	509,929	1.92
2013	1,013.60	519,144	1.95
2014	1,047.60	527,866	1.98
2015	1,080.20	536,287	2.01
2016 ^{b)}	1,097.20	565,000	1.94
2017	1,108.91	573,000	1.94
2018	1,115.84	584,000	1.91
2019	1,131.41	598,000	1.89
2020	1,154.42	611,000	1.89
2021 ⁽²⁾	1,163.43	624,094	1.86
Average =			1.93

Notes:

(1) Lane kms are from Halton Region Roads Needs Study

(2) Lane kms and Population are estimated for 2021

The DC eligible roads calculation for 2031 is 1.89 lane kilometres per 1,000 population (2031 population of 752,537 and 1,428.4 lane kilometres). This value is lower than the average for 2012 to 2021 presented in Table D-4a (1.93).

Therefore, there is no Quantity increase over the previous 10-year service level.

2.2.2. Service Level – Quality (Regional Roadway Network Replacement Value)

Ontario Regulation 82/98, an amendment to the DCA, states in subsection 4 (1) under Level of Service that:

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. O. Reg. 82/98, s. 4(1).

(1.1) In determining the quality of a service under subsection (1), the replacement cost of municipal capital works, exclusive of any allowance for depreciation, shall be the amount used. O. Reg. 206/04, s. 1.

This regulation is to ensure the design standards and replacement cost of Regional roadways is not exceeded in the 10-year history analysed through the DC process.

As reported in previous DC Technical Reports, the Region is shifting to a more urban municipality where the rural lane kilometres represented about 70% of the network in 2002, to where there is an almost even split between the Region's rural and urban lane kilometres in 2011. By 2031, the urban lane kilometres will make up almost 90% of the Region's lane-kilometres.

The road design characteristics that make up the base costs have not changed. The change is purely a result of increases in unit costing, a market condition, not through any changes to design or materials.

Therefore, the Quality (Replacement Value) has not changed or improved as a result of regional undertakings.

2.2.3. Service Level – Quality (Additional Measures)

The transportation network was also measured based on the volume/capacity (v/c) and Mean Speed for Provincial, Regional, and Local roads, as well as Network-wide.

2.2.3.1 Volume to Capacity Ratio

If the v/c is increasing, it means that the roads are more congested, the operating speed is generally lower and a typical trip takes longer to accomplish. Hence the service level is lower if the v/c is increasing.

The base year (TTS, 2016) performance measures result in a Regional Road Mean v/c of 0.67 and a Total Network (Provincial, Regional and Local) Mean v/c of 0.70, as shown in Table D-5.

The 2031 road network, with all infrastructure capacity improvements in place, yields a projected Mean v/c of 0.65 and 0.69 for the regional roads and Total Network, respectively. The level of service will essentially remain the same for both networks. Hence, the previous 10-year period service level has not been exceeded.

2.2.3.2 Mean Speed

The base year (TTS, 2016) performance measures result in a Regional Road Mean Speed of 53 km/h and a Total Network (Provincial, Regional and Local) Mean Speed of 51 km/h, as shown in Table D-5.

The 2031 road network, with all infrastructure capacity improvements in place, yields a projected Mean Speed of 56 km/h and 53 km/h for the regional roads and Total Network, respectively. The level of service will essentially remain the same for both networks. Hence, the previous 10-year period service level has not been exceeded.

2.2.4. Service Level – Quality and Quantity (Additional Measures)

In addition to the Quality and Quantity standards noted above, the Region has carried out an additional analysis to calculate historical 10- year average level of service to determine the eligible recovery amount.

According to the DCA, the 10-year historical average service level defines an upper limit on the road improvements that are eligible to be included in the development charge. The growth-related share of the capital works to be included in the development charge may be no higher than this upper limit or “service level cap”.

As shown in Table D-4b below, the Region currently owns and maintains 1,161 lane km of road network. The amount provided over the historical 10-year period equates to an average level of investment of \$15,642 per capita, resulting in a D.C. eligible recovery amount of \$1,980,668,250 over the 2022-2031 forecast period.

The eligible recovery amount includes the cost of roads, bridges, culverts, intersections and land.

Table D-4b

Halton Region
2022 Development Charges Background Study
Average Level of Service

Service: Roads

Description	Quantity - lane km of roadways										2022 Value (incl land)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	(\$/lane km)
Lane-km	980	1,014	1,048	1,080	1,103	1,109	1,116	1,131	1,154	1,161	\$ 7,998,000
Total	980	1,014	1,048	1,080	1,103	1,109	1,116	1,131	1,154	1,161	

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.0019	0.0019	0.0020	0.0020	0.0020	0.0020	0.0019	0.0019	0.0019	0.0019

10 Year Average	2012-2021
Quantity Standard	0.0019
Quality Standard	\$ 8,232,632
Service Standard	\$ 15,642

DC Amount (before deductions)	10-year
Forecast Population (net)	126,625
\$ per Capita	\$ 15,642
Eligible Amount	\$ 1,980,668,250

Summary

The 2031 Service Level created by the DC eligible infrastructure improvements has been assessed on both a Quality and Quantity basis and compared to the average service levels in the previous 10-year period. As discussed above, there are minor changes between 2016 and 2031 which, within the context of the model accuracy, are insignificant. Overall, the planned capital projects do not result in a tangible increase in service level over the previous 10-year period; therefore, there is no basis for a level of service deduction.

Table D-5
Road Jurisdictions (Centroid Connectors Excluded)

	Provincial	Regional	Local	Total
One-way links - 2016				
Total length (km)	146	321	1,146	1,613
Lane km	432	497	1,298	2,227
Mean v/c	0.92	0.67	0.57	0.70
Mean speed (km/h)	55	53	45	51
One-way links – 2031				
Total length (km)	153	361	1,160	1,674
Lane km	519	773	1,351	2,643
Mean v/c	0.87	0.65	0.60	0.69
Mean speed (km/h)	62	56	39	53
One-way links – Change (2016 vs 2031)				
Total length (km)	7	40	14	61
Lane km	87	276	53	416
Mean v/c	-0.05	-0.02	0.02	-0.01
Mean speed (km/h)	7	3	-6	1
One-way links - % Change				
Total length (km)	4.75%	12.43%	1.21%	3.76%
Lane km	20.13%	55.59%	4.05%	18.67%
Mean v/c	-4.97%	-2.50%	4.25%	-1.44%
Mean speed (km/h)	12.08%	6.40%	-12.55%	2.23%

2.3. Traffic Flow Through Analysis

Travel on the Regional Road network includes trips that are Internal; Internal/External or Through. “Through” trips are defined as the trips, which travel through the Region without stopping (i.e. both trip origin and destination are outside the Region). Future “through” trips have been produced from the Travel Demand Forecasting Model based on the analysis of origin/destination patterns of the traffic zones that are external to the Region, including zones in the rest of the GTA, Hamilton, Guelph, Waterloo, and Wellington.

The current and future capacity potential of provincial highways in Halton Region relative to the existing and forecasted through trips has been assessed. In general, there is sufficient capacity on the provincial highway system in Halton Region to accommodate “through” trips now and in the future. People travelling between Hamilton and Peel Region, for instance, certainly have the capacity available on provincial

highways to make this long distance trip. In fact, people making “through” trips in the PM peak may choose to use Halton Regional roads for part of their trip. Reasons might include incidents or congestion on the provincial highways.

To the extent that some “through” trips use regional roads and hence add to the pressure to improve the Regional Road network, this effect is more than offset by the larger number of internal or internal/external trips that use the provincial highways and hence reduce the pressure to improve the Regional Road network.

The function of 407 ETR is considered the same as a provincial highway in accommodating longer distance (through) trips in that the province still owns the corridor and has built “expansion triggers” into the agreement with the private operator to ensure that additional capacity will be provided as growth in travel occurs.

In reviewing the total road network in Halton Region, it is clear that provincial facilities have or can be expanded to provide sufficient capacity for all “through” trips up to the 2031-planning horizon. The impact that some “through” trips cause by choosing to use regional roads is more than offset by internal and internal/external trips that choose to use provincial facilities and hence reduce the pressure for regional road improvements.

The Region creates the capacity in its road network to accommodate internal and internal/external trips. Some of these trips choose to use the provincial facilities, which create the opportunity for some through trips to use the regional road system. To gauge these effects, a simulation of PM peak hour road use within Halton Region was conducted and the vehicle km for each trip pattern on provincial, regional and municipal roads is summarized in Table D-6.

On an absolute basis there are 55,383 vehicle-kilometres of “through” trips on regional roads vs. 85,524 vehicle-kilometres of internal Halton trips on provincial roads and 460,863 vehicle-kilometres of trips on provincial roads where either the trip origin or destination is in Halton Region in 2031. These figures have been highlighted in Table D-6 for ease of reference.

Based on the assessment in this section, it is recommended that there be no deduction in DC Charges for “through” trips.

Table D-6
PM Peak Hour Road Use within Halton Region

2016 Simulation						
	Trips	Provincial	Regional	Local	Total	Reg+Local
Vehicle km by Jurisdiction (Excludes centroid connectors)						
Internal	59,633	63,971	149,408	204,866	418,246	354,275
Inbound	32,685	187,213	138,218	106,951	432,382	245,170
Outbound	25,458	173,649	96,108	94,270	364,027	190,378
Through	N/A	485,276	48,742	40,793	574,812	89,535
Total	117,776	910,109	432,477	446,881	1,789,467	879,357
Distribution of vehicle km						
Internal	51%	7%	35%	46%	23%	40%
Inbound	28%	21%	32%	24%	24%	28%
Outbound	22%	19%	22%	21%	20%	22%
Through		53%	11%	9%	32%	10%
Total	100%	100%	100%	100%	100%	100%
Mean travel distance per trip (km)						
Internal	1.1		2.5	3.4	7.0	5.9
Inbound		5.7	4.2	3.3	13.2	7.5
Outbound		6.8	3.8	3.7	14.3	7.5
2031 Simulation						
	Trips	Provincial	Regional	Local	Total	Reg+Local
Vehicle km by Jurisdiction (Excludes centroid connectors)						
Internal	86,569	85,524	290,058	297,697	673,280	587,756
Inbound	33,142	200,897	142,321	121,734	464,953	264,055
Outbound	31,479	259,966	133,532	126,046	519,543	259,577
Through	N/A	617,011	55,383	83,706	756,101	139,090
Total	151,190	1,163,398	621,295	629,184	2,413,877	1,250,478
Distribution of vehicle km						
Internal	57%	7%	47%	47%	28%	47%
Inbound	22%	17%	23%	19%	19%	21%
Outbound	21%	22%	21%	20%	22%	21%
Through		53%	9%	13%	31%	11%
Total	100%	100%	100%	100%	100%	100%
Mean travel distance per trip (km)						
Internal		1.0	3.4	3.4	7.8	6.8
Inbound		6.1	4.3	3.7	14.0	8.0
Outbound		8.3	4.2	4.0	16.5	8.2
Change (2031-2016)						
	Trips	Provincial	Regional	Local	Total	Reg+Local
Vehicle km by Jurisdiction (Excludes centroid connectors)						
Internal	26,936	21,553	140,650	92,831	255,034	233,481
Inbound	457	13,685	4,103	14,783	32,570	18,886
Outbound	6,021	86,317	37,424	31,775	155,516	69,199
Through	N/A	131,735	6,641	42,913	181,289	49,554
Total	33,414	253,289	188,818	182,303	624,410	371,121
Distribution of vehicle km						
Internal	81%	9%	74%	51%	41%	63%
Inbound	1%	5%	2%	8%	5%	5%
Outbound	18%	34%	20%	17%	25%	19%
Through		52%	4%	24%	29%	13%
Total	100%	100%	100%	100%	100%	100%
Mean travel distance per trip (km)						
Internal		-0.1	0.8	0.0	0.8	0.8
Inbound		0.3	0.1	0.4	0.8	0.5
Outbound		1.4	0.5	0.3	2.2	0.8

2.4. Residential and Non-Residential Splits

2.4.1. Calculation of Split based on Number of Trips Associated with New Residents and Employment

In the past, Growth-Related DCs were allocated between residential and non-residential land uses based on trips attributed to Population and Employment Growth. Through the 2017 DC Transportation Technical Report jobs in the Work-at-Home (WAH) and No-Fixed-Place-of-Work (NFPOW) category was considered such that jobs generate trips from a “residential” unit as opposed to a non-residential facility. This approach was applied in the 2022 DC Transportation Technical Report consistent with the methodology used in the 2017 DC Transportation Technical Report.

Table D-8 summarizes the employment forecast excluding WAH, NFPOW employment, which is the basis for the transportation trip generation and DC employment forecast.

Since the impact on transportation services from WAH employees is generated from the home and the population/unit forecast already includes these individuals, the calculations do not include employees associated with WAH.

For NFPOW employees, the need for service related to these employees has largely been included in the employment forecast by usual place of work (i.e., employment and Gross Floor Area (GFA)) in the retail and accommodation sectors generated from NFPOW construction employment). Furthermore, since these employees have no fixed work address, they cannot be captured in the non-residential gross floor area calculation. Accordingly, NFPOW employees have been removed from the employment forecast and calculation.

Table D-7
Residential and Non-Residential Growth

Residential and Non-Residential Growth				
Year	Pop. / Empl.	WAH	NFPOW	Total
Residential				
2021	624,094	-	-	624,094
2031	752,537	-	-	752,537
Non Residential				
2021	327,683	(29,206)	(32,625)	265,852
2031	390,000	(35,429)	(39,289)	315,282

For the period 2022-2031, the anticipated levels of growth in Residential and Non-Residential categories are:

Residential:	752,537 – 624,094 = 128,443
Non-Residential:	315,282 – 265,852 = 49,430

Table D-8 contains the trip rates derived from the Region’s travel demand model to represent a mean trip rate for Halton Region for Residential and Non-Residential trips. These trip rates include WAH and NFPOW as generating trips from “Residential”.

Table D-8
Mean Trip Rates

Trip type	Trip Rate - Residential	Trip Rate - Non-Res
Origins in Halton Region	(2022)	(2022)
Work	0	0.56
Home	0.091	0
Other	0.157	0.26
Destinations in Halton Region		
Home	0.208	0
Non-Home	0.139	0.142
Total Origins + Destinations	0.595	0.962

Using the updated trip rates and the growth projections, as modified, the Residential/Non-Residential split can be calculated as shown below. This equation shows that the employment trip rate was adjusted by 10% to better balance trip characteristics between these trip types in the AM and PM conditions.

$$\text{Residential Share} = \frac{(128,443 \times 0.595) \times 100}{(128,443 \times 0.595) + (49,430 \times 0.962)/1.1 \text{ AM Peak Factor}} = 63.9\%$$

Based on the above calculation, the Residential/Non-Residential split is calculated at 64% and 36%, respectively.

2.4.2. Non-Residential Distribution Among Retail / Non-Retail

The non-residential DC share (36%) may be further divided among different types of non-residential land uses to reflect the differences in associated trip-making behaviour. The non-residential DC share was distributed among 2 different land use types:

- Retail
- Non-Retail

The methodology for allocating the non-residential DC share among the non-residential land use categories followed the steps as outlined below:

- Obtain the automobile Peak hour of generator trip rate for each land use type
- Adjust the automobile trip rates to account for transit trips as appropriate for each land use. These rates reflect targets established by the TMP, with adjustments made to reflect travel behaviour differences associated with each land use type.
- Adjust the automobile trip rates for Pass-by and Diverted trips as appropriate for each land use category.
- Define the forecasted Growth for each land use for 2022-2031
- Calculate the total number of automobile trips associated with Growth of each land use by multiplying the adjusted trip generation rate by the Growth forecasted for 2022-2031.
- Calculate the total non-residential trips by summing the number of automobile trips generated by each land use type.
- Calculate the percentage of trips contributed by each land use type by dividing the number of trips for that land use type by the total non-residential trips.
- Prorate the percentages such that they sum to the non-residential share by multiplying by the non-residential component.

Following the above methodology, the Peak hour of generator trip rate and adjustments were made as presented in Table D-9. The allocation among the 2 non-residential land uses was derived and with the growth for each land use type defined, the individual land use trip contribution could then be determined as presented in Table D-10.

Table D-9
Weighted Trip Generation Rates

(1) Category	(2) Rate ¹	(3) Transit/ Pass-By Trip Reduction	(4) Net Rate (Auto) (100%-3) x (2)	(5) Category Weight ²	(6) Trip Gen. X GFA Weight (4x5)
Retail					
Retail Trade (eg. Shopping Centre)	4.50	10%	4.05	48%	1.93
Finance & Insurance (eg. Bank and Financial Office)	3.48	13%	3.03	11%	0.35
Entertainment/Recreation (eg. Cinemas, fitness, recreation)	6.40	0%	6.40	7%	0.45
Food Services (eg. Restaurant, fast food)	19.53	54%	8.94	22%	1.99
Other Services (eg. auto care/personal services)	4.06	4%	3.88	12%	0.45
Total Retail					5.17
Non-Retail					
Industrial (eg. Light, Warehouse, Manufacturing)	0.90	0%	0.89	91%	0.82
Institutional (eg. Schools, Community centres, hospitals, place of worship)	3.26	21%	2.58	1%	0.03
Office (eg. general office, medical office)	2.05	16%	1.73	7%	0.13
Accommodation (eg. hotel/motel)	0.76	0%	0.76	0%	0.00
Total Non-Retail					0.98

May not add due to rounding

¹ Derived from Institute of Transportation Engineers Trip Generation Manual

² Weighting derived from Halton Region Employment Survey

Table D-10
Calculation of Retail / Non-Retail Split

(1) Category	(2) Sq. Ft	(3) Peak Trip Rates	(4) Peak Trips (1) x (2)	(5) % Trips	(6) Revenue (Uninflated) (Total Revenues x (4))	(7) \$DC (5) / (1)
Retail	6,281,583	5.17	32,461,889	27%	\$ 289,258,056	\$ 46.049
Non-Retail	88,834,161	0.98	86,787,941	73%	762,673,010	\$ 8.585
Total	95,115,744		119,249,830		\$ 1,051,931,066	

2.5. Grants, Subsidies and Developer Contributions

The transportation improvement costs, which are to form the basis for DCs in Halton Region, must include deductions for any financial considerations through grants, subsidies or developer contributions. Where contributions have been provided, the cost was subtracted from the gross cost of the project.

Where projects in the Roads Capital Projects involve new or improved interchanges with the provincial freeway system, only costs to be borne by the Region are included in the DC calculation and the sharing of these costs between Existing development and Growth is as set out in the BTE methodology.

2.6. Post-period Benefit (Oversizing)

Post period benefit (Oversizing) has been applied where clear upsizing for future benefit is involved. Post period benefit deductions allowed during the current DC update will be recovered in DC updates for the post-2031 period. Correspondingly, the current DC update will recover post period benefit deductions allowed in earlier DC updates.

Post period benefit was determined by consideration of the recommended timing of the project relative to the planning period for the DC Background Study and is consistent with the methodologies presented in the 2012 & 2017 DC Transportation Technical Study.

Post planning period capacity for major infrastructure improvements is calculated only for projects with the last five years (2027 to 2031, inclusive) of the capital improvement plan. This calculation is proportional to the degree to which the v/c on the major improvement in 2031 is less than the average v/c on the associated screenline.

As an example, if a road widening scheduled for 2029 results in a v/c of 0.75 in 2031 and the average v/c on the associated screenline in 2031 is 0.85, then a deduction for excess capacity is appropriate. The deduction applied to the project's DC chargeable component would be:

$$\frac{.85 - .75}{.85} \times 100 = 12\%.$$

APPENDIX D – PART 3

THE DETAILED ROADS AND RELATED CAPITAL PROGRAM

3. THE DETAILED ROADS AND RELATED CAPITAL PROGRAM

3.1 Table D-11 sets out the 2022-2031 Roads Capital Program. The table provides project descriptions, a 2022-2026 annualized expenditure forecast, 2022-2031 consolidated forecasts, project-specific deductions for post-period benefit (oversizing) and “Non-Growth” (Benefit to Existing Development). The DC recoverable cost (“Net Growth”) is then allocated between Residential and Non-residential benefit.

The Region-wide roads program costs (\$2022, \$000s) involved are summarized as follows:

Service	Gross Cost	Less: Benefit to Existing	Less: Post-Period Benefit	Net Growth	Residential Share	Residential Share
Roads	\$ 2,441,079	\$ 400,035	\$ 238,006	\$ 1,803,038	\$ 1,153,937	\$ 649,101

Note: May not add due to rounding

Halton Region
2022 Development Charge Study
Roads Capital Projects - Total (\$2022, \$000's)

Table D-11

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total 2023-2031	Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							2023-2027	2028-2031						
7567	Miscellaneous R.O.W. Purchases and Road Dedication Engineering & Surveys (REG)	100	100	-	-	-	200	-	200	-	200	-	-	-
7853	Traffic Signal Interconnect (REG)	150	150	150	150	150	750	600	1,350	-	1,350	-	-	-
7854	Operational Improvements (REG)	200	200	200	200	200	1,000	1,100	2,100	-	2,100	-	-	-
2659	Guelph Line - Widening from 4 to 6 lanes from Mainway to Upper Middle Road (BUR) (Reg. Rd. 1)	850	-	2,498	9,582	17,196	30,128	-	30,128	-	3,917	26,209	16,774	9,435
6805	Guelph Line - Widening from 4 to 6 lanes from Upper Middle Road to Dundas Street (Regional Road 1) (BUR)	-	-	-	-	850	850	28,408	29,258	8,191	2,317	18,748	11,999	6,749
3991	Trafalgar Rd - Grade Separation at CN Crossing north of Maple Ave (HHS) (Regional Road 3)	70	32,994	-	-	-	33,064	-	33,064	-	4,298	28,766	18,410	10,356
5376	Trafalgar Rd - Grade Separation at Metrolinx Crossing south of Hwy 7 (HHS) (Regional Road 3)	70	21,016	-	-	-	21,086	-	21,086	-	2,952	18,134	11,605	6,529
6823	Trafalgar Road - Widening from 4 to 6 lanes from Highway 407 to Britannia Road (MIL) (Regional Road 3)	-	5,003	2,203	648	34,851	42,705	-	42,705	-	4,270	38,435	24,598	13,837
6827	Trafalgar Road - Widening from 4 to 6 lanes from Britannia Road to Steeles Avenue including Highway 401 Structure (MIL) (Regional Road 3)	-	-	-	9,164	5,030	14,194	66,847	81,041	-	6,483	74,558	47,717	26,841
7756	Trafalgar Road Widening from 2 to 4 Lanes from 10 Side Road to Hwy 7 (HHS) (Regional Road 3)	234	60,419	-	-	-	60,653	-	60,653	-	12,737	47,916	30,666	17,250
5839	James Snow Parkway - Widening from 4 to 6 lanes from Highway 401 to Britannia Road (MIL) (Regional Road 4)	-	3,916	23,663	30,426	-	58,005	-	58,005	-	4,060	53,945	34,524	19,421
6806	James Snow Parkway - New 6 lane road from Highway 407 to Britannia Road (MIL) (Regional Road 4)	-	1,100	-	-	4,966	6,066	80,207	86,273	6,039	-	80,234	51,351	28,883
6807	James Snow Parkway - Widening from 4 to 6 lanes from Highway 401 to Tremaine Road (MIL) (Regional Road 4)	850	-	9,515	31,598	1,179	43,142	67,396	110,538	-	3,316	107,222	68,621	38,601
7487	Dundas Street - Widening from 4 to 6 lanes from Guelph Line to Halton/Hamilton Boundary, including improvements at Brant Street (BUR) Regional Road 5	-	192	28,465	-	-	28,657	-	28,657	-	9,456	19,201	12,289	6,912
6757	"5 1/2 Line" - New 6 lane road from Britannia Road to Steeles Avenue & Interchange at Highway 401 (MIL)	1,600	-	11,031	-	91,042	103,673	79,138	182,811	3,657	-	179,154	114,659	64,495
6804	Derry Road - Widening from 4 to 6 lanes from Tremaine Road to Highway 407 (MIL) (Regional Road 7)	-	-	-	850	-	850	131,360	132,210	6,611	12,561	113,038	72,345	40,693

Halton Region

2022 Development Charge Study

Roads Capital Projects - Total (\$2022, \$000's)

Table D-11

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total	Byrd 2031 (Ovrzng)	Non-Growth	Net Growth	Residential	Non Residential
							2023-2027	2028-2031						
5181	Steeles Avenue - Grade Separation at CN crossing west of Bronte Street (ML) (Regional Road 8)	-	-	-	20,219	-	20,219	-	20,219	-	-	20,219	12,940	7,279
6819	Steeles Avenue - Widening from 2 to 4 lanes from Tremaine Road to Industrial Drive (ML) (Regional Road 8)	6,635	12,935	313	32,537	-	52,420	-	52,420	-	7,339	45,081	28,851	16,230
6821	Steeles Avenue - Widening from 4 to 6 lanes from Regional Road 25 to Trafalgar Road (ML) (Regional Road 8)	-	-	18,082	-	64,964	83,046	-	83,046	19,931	7,574	55,541	35,547	19,994
6822	Steeles Avenue - Widening from 4 to 6 lanes (with RBL) from Trafalgar Road to Winston Churchill Boulevard (HHS) (Regional Road 8)	850	-	5,568	13,287	763	20,466	39,968	60,434	23,571	1,843	35,020	22,413	12,607
6758	10 Side Road - Widening from 2 to 4 lanes from Trafalgar Road to Winston Churchill Boulevard (HHS) (Regional Road 10)	-	-	850	-	4,944	5,794	59,238	65,032	7,803	4,007	53,222	34,061	19,161
6808	Ninth Line - Widening from 2 to 4 lanes from Burnhamthorpe Road to Highway 407 (OAK) (Regional Road 13)	15,261	-	-	-	-	15,261	-	15,261	-	3,815	11,446	7,325	4,121
6809	Ninth Line - Widening from 2 to 4 lanes from Dundas Street to Burnhamthorpe Road (OAK) (Regional Road 13)	-	1,475	11,919	-	-	13,394	-	13,394	-	1,741	11,653	7,458	4,195
7338	Ninth Line - Widening from 2 to 4 lanes from Steeles Avenue to 10 Side Road (HHS) Regional Road 13	-	967	-	46,166	-	47,133	-	47,133	-	11,784	35,349	22,623	12,726
6824	Brant Street Widening from 4 to 6 lanes from North Service Road to Dundas Street (BUR) (Regional Road 18)	850	-	3,902	26,993	28,059	59,804	-	59,804	3,589	5,622	50,593	32,380	18,213
3989	Winston Churchill Blvd - Widening from 2 to 4 lanes from 2km south of 5 Side Road to potential by-pass (Halton's Share) (HHS) (Regional Rd 19)	800	1,782	-	10,172	-	12,754	-	12,754	-	3,827	8,927	5,713	3,214
5438	Winston Churchill Boulevard - Widening from 4 to 6 lanes from Dundas Street to Upper Middle Road/QEW (Halton's Share) (OAK) (Regional Road 19)	304	-	1,266	-	2,955	4,525	6,802	11,327	1,700	1,926	7,701	4,928	2,773
6448	Winston Churchill Boulevard - Widening from 4 to 6 lanes from Highway 401 to Steeles Avenue (Halton's Share) (HHS) (Regional Road 19)	-	-	-	2,742	-	2,742	-	2,742	-	576	2,166	1,386	780
6846	Winston Churchill Boulevard - Widening from 4 to 6 lanes from 2km south of 5 Side Road to 5 Side Road (Halton's Share) (HHS) (Regional Road 19)	-	-	797	-	-	797	5,944	6,741	-	1,820	4,921	3,149	1,772
6847	Winston Churchill Boulevard Widening 5-7 lanes from Steeles Avenue to 2 km South of 5 Side Road (Halton's Share) (HHS) (Regional Road 19)	-	-	-	-	-	-	1,035	1,035	-	135	900	576	324
7494	Norval Bypass (HHS)	2,317	4,282	374	26,677	-	33,650	-	33,650	-	-	33,650	21,535	12,115
6812	Appleby Line - Widening from 4 to 6 lanes from Fairview Street to Taywood Drive (BUR) (Regional Road 20)	-	-	7,560	-	5,835	13,195	54,209	67,404	-	18,199	49,205	31,492	17,713

Halton Region
2022 Development Charge Study
Roads Capital Projects - Total (\$2022, \$000's)

Table D-11

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total			Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							2023-2027	2028-2031	2023-2031					
7689	Appleby Line at Harvester Road (Intersection Improvements) (BUR) (Regional Road 20)	-	-	603	4,019	-	4,622	-	4,622	-	2,312	2,310	1,479	831
6803	Burloak Drive - Widening from 4 to 6 lanes from Harvester Road to Upper Middle Road (BUR) (Regional Road 21)	-	-	850	4,491	6,041	11,382	31,895	43,277	9,089	9,573	24,615	15,753	8,862
7485	Burloak Drive - (CONSTRUCTION ONLY) 4 lane urbanization from north of QEW to Upper Middle Road (BUR) Regional Road 21	-	3,442	-	-	-	3,442	-	3,442	-	447	2,995	1,917	1,078
6810	North Service Road - New 4 lanes from Burloak Drive to Bronte Road (OAK)	-	-	-	1,100	-	1,100	92,311	93,411	76,597	-	16,814	10,762	6,052
5845	Tremaine Road - Widening from 4 to 6 lanes from Highway 401 to Derry Road (MIL) (Regional Road 22)	-	-	-	-	-	-	95,868	95,868	2,876	16,738	76,252	48,802	27,450
6830	Tremaine Road - Widening from 2 to 4 lanes from Dundas Street to Lower Base Line (OAK) (Regional Road 22)	28,262	36,402	-	-	-	64,664	-	64,664	-	7,759	56,905	36,419	20,486
6834	Tremaine Road - Widening from 2 to 4 lanes from Lower Base Line to Britannia Road (MIL) (Regional Road 22)	8,425	501	27,938	-	-	36,864	-	36,864	-	2,581	34,283	21,940	12,343
6811	Regional Road 25 - Widening from 2 to 4 lanes from 5 Side Road to 10 Side Road (HHS) (Regional Road 25)	-	1,123	10,005	485	8,077	19,690	-	19,690	-	2,757	16,933	10,837	6,096
6814	Regional Road 25 - Widening from 4 to 6 lanes from Highway 407 to Britannia Road (MIL) (Regional Road 25)	-	-	13,421	964	52,383	66,768	-	66,768	4,673	7,452	54,643	34,972	19,671
6815	Regional Road 25 - Widening from 4 to 6 lanes from Britannia Road to Derry Road (MIL) (Regional Road 25)	-	-	4,338	498	23,445	28,281	-	28,281	-	4,525	23,756	15,204	8,552
6817	Regional Road 25 - Widening from 4 to 6 lanes from Steeles Avenue to 5 Side Road (MIL) (Regional Road 25)	-	1,119	-	51,567	-	52,686	-	52,686	-	7,376	45,310	28,999	16,311
6818	Bronte Road - Widening from 4 to 6 lanes from Speers Road to Highway 407 (OAK) (Regional Road 25)	-	-	22,720	1,050	61,034	84,804	-	84,804	-	7,633	77,171	49,389	27,782
6825	Upper Middle Road - Widening from 4 to 6 lanes from Appleby Line to Burloak Drive (BUR) (Regional Road 38)	-	-	850	-	2,367	3,217	17,206	20,423	5,923	1,740	12,780	8,167	4,593
6826	Upper Middle Road - Widening from 4 to 6 lanes from Trafalgar Road to Grand Boulevard (OAK) (Regional Road 38)	-	850	2,564	8,472	326	12,212	18,153	30,365	11,538	2,259	16,568	10,604	5,964
6828	Upper Middle Road - Widening from 4 to 6 lanes from Bronte Road to Neyagawa Boulevard (OAK) (Regional Road 38)	-	850	-	5,798	3,103	9,751	42,034	51,785	15,018	4,411	32,356	20,708	11,648
6829	Upper Middle Road - Widening from 4 to 6 lanes from Ninth Line to Winston Churchill Boulevard (OAK) (Regional Road 38)	850	-	3,150	2,000	414	6,414	22,160	28,574	20,289	911	7,374	4,718	2,656

Halton Region
 2022 Development Charge Study
 Roads Capital Projects - Total (\$2022, \$000's)

Table D-11

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total 2023-2031	Byrd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							2023-2027	2028-2031						
7338	Upper Middle Road - Widening from 4 to 6 lanes from Neyagawa Boulevard to Trafalgar Road (OAK) Regional Road 38	-	850	-	2,490	-	3,340	33,858	37,198	7,068	2,712	27,418	17,548	9,870
7339	Upper Middle Road - Widening from 4 to 6 lanes from Grand Boulevard to Ninth Line (OAK) Regional Road 38	-	850	-	1,028	-	1,878	8,235	10,113	3,843	878	5,392	3,452	1,940
5428	Active Transportation Initiatives (REG)	50	50	50	50	50	250	200	450	-	225	225	144	81
7375	Active Transportation Infill Projects (REG)	223	-	-	-	-	223	-	223	-	112	111	71	40
7928	Active Transportation Master Plan (REG)	372	-	-	-	-	372	372	744	-	-	744	476	268
5641	Traffic Signal Controller, timer and signing upgrades - Various Intersections (REG)	1,000	1,000	1,000	1,000	1,000	5,000	4,170	9,170	-	4,586	4,584	2,934	1,650
6854	New Traffic Signals - Development (REG)	1,719	1,719	1,719	1,719	1,719	8,595	6,876	15,471	-	-	15,471	9,900	5,571
6855	New Signalized Intersections (REG)	1,256	628	1,256	628	1,256	5,024	3,768	8,792	-	4,396	4,396	2,814	1,582
5196	Travel Demand Management Initiative (REG)	50	50	50	50	50	250	200	450	-	225	225	144	81
5431	Traffic and Screen Line Counts & Studies (REG)	332	157	157	261	157	1,064	628	1,692	-	850	842	539	303
5444	Transportation Master Plan Study (REG)	1,046	-	-	-	-	1,046	1,046	2,092	-	-	2,092	1,338	754
6832	Data Management Group (REG)	157	157	157	157	157	785	628	1,413	-	-	1,413	900	513
6833	Transportation Tomorrow Survey (REG)	-	-	-	105	-	105	105	210	-	-	210	134	76
6837	Development Charge Background Study (REG)	-	-	-	471	-	471	471	942	-	-	942	602	340
6838	Growth Management Studies (REG)	523	523	523	523	523	2,615	2,092	4,707	-	-	4,707	3,015	1,692
6858	Cordon Count Data (REG)	52	52	52	105	52	313	261	574	-	-	574	365	209

Halton Region
2022 Development Charge Study
Roads Capital Projects - Total (\$2022, \$000's)

Table D-11

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total	Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							2023-2027	2028-2031						
7568	MTO Highway Studies (REG)	131	131	131	131	131	655	524	1,179	-	-	1,179	756	423
7569	Urban Design Guidelines (REG)	157	-	-	-	-	157	157	314	-	-	314	200	114
7486	Derry Road - Reconstruction from Milborough Line to McNiven Road (MIL) Regional Road 7	389	-	2,324	-	-	2,713	-	2,713	-	2,713	-	-	-
7739	Derry Road Reconstruction from Guelph Line to Walkers Line, and Derry Road Reconstruction from Appleby Line to Tremaine Road (MIL)	-	-	-	-	-	-	7,213	7,213	-	7,213	-	-	-
7741	Derry Road Reconstruction from Twiss to Guelph Line, and Derry Road Reconstruction from Walkers Line to Appleby Line (BUR)	-	-	-	-	-	-	5,389	5,389	-	5,389	-	-	-
7740	Campbellville Road Reconstruction from Milborough Line to Campbell Avenue (MIL)	-	-	-	-	-	-	5,391	5,391	-	5,391	-	-	-
7459	Winston Churchill Blvd. Roundabout and Realignment (10th Line to WCB) (HHS) (Regional Road 10)	2,114	-	-	-	-	2,114	-	2,114	-	2,114	-	-	-
7683	Brant Street Reconstruction from Fairview Street to QEW (BUR) (Regional Road 18)	-	-	-	567	-	567	5,297	5,864	-	5,864	-	-	-
5312	Winston Churchill Blvd - from Old Pine Crest Road to Credit River (HHS) (Regional Road 19)	1,215	-	-	-	-	1,215	-	1,215	-	1,215	-	-	-
7491	Winston Churchill Boulevard - 2 lane Reconstruction from 10 Side Road to 5 Side Road (Halton's Share) - 2 (HHS) Regional Road 19	500	-	4,397	-	-	4,897	-	4,897	-	4,897	-	-	-
7492	Winston Churchill Blvd - 17 Side Road to Old Pine Crest Road - 1 (HHS) Regional Road 19	1,758	-	-	-	-	1,758	-	1,758	-	1,758	-	-	-
7682	Regional Road 25 Reconstruction from North of Main Street to No. 32 Side Road (HHS) (Regional Road 25)	384	-	2,138	-	-	2,522	-	2,522	-	2,522	-	-	-
7666	Storm Pump Stations (REG)	-	200	-	560	160	920	504	1,424	-	1,424	-	-	-
7671	Storm System Construction (REG)	300	300	-	-	-	600	-	600	-	600	-	-	-
7808	Regional Road Tree Replacement Program (REG)	100	100	-	-	-	200	-	200	-	200	-	-	-
7850	Streetlight Program (REG)	50	100	50	50	50	300	250	550	-	550	-	-	-

Halton Region
2022 Development Charge Study
Roads Capital Projects - Total (\$2022, \$000's)

Table D-11

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total	Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							2023-2027	2028-2031						
7851	Retaining Wall Rehabilitation & Replacement Program - Various Locations (REG)	560	-	-	16	175	751	-	751	-	751	-	-	-
7856	Miscellaneous Capital Works Related to Road Resurfacing (REG)	1,123	1,426	1,244	1,023	944	5,760	3,743	9,503	-	9,503	-	-	-
7919	Road Resurfacing Capital Program (REG)	11,233	14,263	12,442	10,226	9,438	57,602	37,427	95,029	-	95,029	-	-	-
7960	Miscellaneous Bridges and Culverts Rehabilitation & Replacement Program (REG)	473	3,313	100	3,707	-	7,593	-	7,593	-	7,593	-	-	-
7674	Replacement Noise Attenuation Barriers (REG)	231	2,740	1,310	2,251	-	6,532	-	6,532	-	6,532	-	-	-
6885	Vehicle Replacements - Transportation (REG)	41	-	125	-	-	166	47	213	-	213	-	-	-
5644	Region-wide Traffic Operations Study Update (REG)	-	300	-	-	-	300	300	600	-	600	-	-	-
7672	Replacement Noise Attenuation Studies (REG)	50	100	50	100	50	350	300	650	-	650	-	-	-
7675	Storm Sewer Inspections, Studies, and Condition Assessments (REG)	100	100	100	100	100	500	400	900	-	900	-	-	-
7844	Transportation Infrastructure Management System (REG)	-	-	150	-	-	150	300	450	-	450	-	-	-
7846	Speed Reduction Education & Enforcement Campaign (REG)	135	135	50	50	50	420	200	620	-	620	-	-	-
7847	Road Needs Study Update (REG)	50	50	50	50	50	250	200	450	-	450	-	-	-
7848	Bridge and Culvert Inspections, Condition Assessments & Evaluation Studies (REG)	50	147	50	153	50	450	406	856	-	856	-	-	-
7849	Traffic Operations & Safety Related Studies (REG)	105	85	85	105	85	465	360	825	-	825	-	-	-
7907	Retaining Wall Inspections, Condition Assessments and Evaluation Studies (REG)	-	40	-	40	-	80	80	160	-	160	-	-	-
7958	Road Weather Information Systems (RWIS) Region-wide (REG)	-	-	-	50	-	50	50	100	-	100	-	-	-

Halton Region
 2022 Development Charge Study
 Roads Capital Projects - Total (\$2022, \$000's)

Table D-11

Unique ID	Description	2023	2024	2025	2026	2027	Sub-total		Total	Bynd 2031 (Ovrszng)	Non-Growth	Net Growth	Residential	Non Residential
							2023-2027	2028-2031						
7959	Road Weather Information Systems (RWIS) Inspections & Evaluation Studies (REG)	15	-	-	15	-	30	15	45	-	45	-	-	-
8123	Guiderail Rehabilitation & Replacement Program (REG)	-	75	-	75	-	150	75	225	-	225	-	-	-
	Total	96,722	220,459	244,553	369,711	436,221	1,367,666	1,073,413	2,441,079	238,006	400,035	1,803,038	1,153,937	649,101

Note: May not add due to rounding.

Appendix E

Calculation of Roads DC Applicable to Development in Halton

APPENDIX E: PART 1

OVERVIEW OF ROADS DC CALCULATION

1. OVERVIEW OF ROADS DC CALCULATION

1.1. DC Cash Flow Methodology

- 1.1.1. DC Reserve Fund Opening Balance – the full uncommitted DC reserve fund balance is shown as the opening balance in the cash flow calculation. The DC is calculated so as to fully consume that amount, leaving a nil reserve fund balance at the end of the period in 2031. Tables 5-4a and 5-4b in Chapter 5 provide detailed schedules of the DC reserve fund continuity.
- 1.1.2. Project Costs – The nominal cost is in 2022\$, as per Appendix D. The inflated cost (commencing in 2018) allows for average inflation of 2%/year, as approximated by the increase in the Statistics Canada Table 18-10-0135-01 Building Construction Price Indexes, by Non-residential buildings over the previous 10-year period. This rate may vary, up or down, in any year or sequence of years. It will be matched by the change in the DC quantum, which is determined by the same index.
- 1.1.3. DC Credits – are added to the development-related expenditures, as they represent the equivalent of Regional expenditures for works previously provided by developers which are not part of the capital program and must be funded (Chapter 4).
- 1.1.4. External Debt Charges – represent debt charges resulting from external debt previously incurred to fund the non-residential share of the road infrastructure costs (Chapter 4) included in the Total Unfunded Capital Costs.
- 1.1.5. Internal Debt Charges – represent the balance owing to the Regional reserve for previously incurred Regional funding of the non-residential share of the road infrastructure costs (Chapter 4) included in the Total Unfunded Capital Costs.
- 1.1.6. Historical Post-period Benefit (Oversizing) – is the cost share of previously funded roads infrastructure that, under the existing DC by-laws, was considered to benefit growth beyond the eligible planning horizon. This cost share is recoverable under the 2022 DC by-law as these costs benefit the planning horizon to 2031 based on the 2011 Best Planning Estimates (Chapter 4).
- 1.1.7. SDE/Sq.Ft. Per Year – are single-detached unit equivalents per year, i.e. the annual gross increase in population divided by the average occupancy for single detached units. This is the number of SDE's that are expected to be subject to the Roads DC (40,647 in total) (Table A-6b).

In the case of the non-residential DC calculation, the charge is per square foot of non-residential TFA and the costs are allocated over a total of 95,115,744 sq.ft. (Table A-10b).

- 1.1.8. DC Rates – A DC is calculated, such that when it is inflated at 2%/year, the cash flow will produce a zero balance in 2031.
- 1.1.9. Anticipated Revenues – is the number of SDE or sq.ft. of non-residential TFA, multiplied by the required DC charge per SDE, or per square foot of non-residential TFA.
- 1.1.10. DC Reserve Fund Closing Balance Before Interest – The opening balance, less the inflated development-related expenditures, credits, debt charges and other commitments, plus the anticipated DC revenues.
- 1.1.11. Interest Earnings/Costs – provides for interest earnings on positive reserve fund balances at 3.5% per year and borrowing costs on negative balances at 3.5% per year.
- 1.1.12. DC Reserve Fund Closing Balance After Interest – is the DC reserve fund closing balance before interest, plus interest incurred during the year on the average balance.

The cash flow calculations for roads are presented in Parts 2 and 3 of this appendix. The non-residential roads DC rate has also been calculated based on a retail/non-retail split and are presented in Part 3 (Table E-3) of this Appendix.

APPENDIX E – PART 2 CASH FLOWS FOR REGION-WIDE RESIDENTIAL ROADS DCs

SUMMARY OF CALCULATION RESULTS

	Per SDE
New Calculated	\$30,366
Existing Charge (As of April 2021)	\$19,284

Table E-1

Halton Region
 2022 Development Charges Study
 Roads - Residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		DC Credits	Unfunded Capital	External Debt Charges	Historical Oversizing	SDE per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)										
2022	8,555		-	-	(84,647,227)	-		5,626	30,365.68	170,841,930	86,203,258	1,293,177	87,496,435
2023	87,496,435	(40,585,000)	(41,396,700)	-	-	-	(2,373,559)	3,001	30,972.99	92,963,964	136,690,140	3,362,799	140,052,939
2024	140,052,939	(105,913,000)	(110,191,885)	-	-	-	-	3,001	31,592.45	94,823,244	124,684,298	3,971,059	128,655,356
2025	128,655,356	(115,082,000)	(122,125,939)	-	-	-	-	4,122	32,224.30	132,832,405	139,361,822	4,020,258	143,382,080
2026	143,382,080	(187,765,000)	(203,242,875)	-	-	-	-	4,122	32,868.78	135,489,053	75,628,258	3,285,155	78,913,413
2027	78,913,413	(230,596,000)	(254,596,617)	-	-	-	-	4,155	33,526.16	139,289,397	(36,393,807)	637,794	(35,756,013)
2028	(35,756,013)	(72,869,000)	(82,062,329)	-	-	-	-	4,155	34,196.68	142,075,185	24,256,843	(172,488)	24,084,356
2029	24,084,356	(85,559,000)	(98,280,397)	-	-	-	-	4,155	34,880.62	144,916,689	70,720,647	1,422,075	72,142,722
2030	72,142,722	(110,353,000)	(129,296,128)	-	-	-	-	4,155	35,578.23	147,815,022	90,661,617	2,442,065	93,103,682
2031	93,103,682	(205,215,000)	(245,250,921)	-	-	-	-	4,155	36,289.79	150,771,323	(1,375,916)	1,375,916	0
Total		(1,153,937,000)	(1,286,443,791)	-	(84,647,227)	-	(2,373,559)	40,647	332,496	1,351,818,212		21,637,810	

APPENDIX E – PART 3 CASH FLOWS FOR REGION-WIDE NON-RESIDENTIAL ROADS DCs

SUMMARY OF CALCULATION RESULTS

	Per Sq.ft. TFA
New Calculated:	
Retail	\$46.049
Non-Retail	\$8.585
Existing Charge (As of April 2021):	
Retail	\$30.279
Non-Retail	\$5.978

Table E-2

Halton Region
 2022 Development Charges Study
 Roads - Non-residential

Year	DC Reserve Fund Opening Balance	Dev't Related Expenditures		DC Credits	Unfunded Capital	Internal Debt Charges	External Debt Charges	Historical Oversizing	Sq. Ft. per Year	DC Rates w. Inflation (2%/Yr)	Anticipated Revenues	DC Reserve Fund Closing Balance before Interest	Interest Earnings (3%) / Costs (3%)	DC Reserve Fund Closing Balance after Interest
		Nominal	Inflated (2%/Yr)											
2022	(0)		-	(28,968)	(47,436,000)	(327,969,811)	-	(1,725,584)	4,254,555	11.059	47,053,185	(330,107,178)	(4,951,608)	(335,058,786)
2023	(335,058,786)	(22,835,000)	(23,291,700)	(28,968)					3,968,917	11.28	44,772,053	(313,607,401)	(9,729,993)	(323,337,394)
2024	(323,337,394)	(59,576,000)	(61,982,870)	(28,968)					3,968,917	11.51	45,667,494	(339,681,738)	(9,945,287)	(349,627,025)
2025	(349,627,025)	(64,737,000)	(68,699,422)	(28,968)					3,968,917	11.74	46,580,844	(371,774,571)	(10,821,024)	(382,595,595)
2026	(382,595,595)	(105,620,000)	(114,326,485)	(28,968)					3,968,917	11.97	47,512,461	(449,438,587)	(12,480,513)	(461,919,099)
2027	(461,919,099)	(129,712,000)	(143,212,529)	-					14,997,104	12.21	183,123,102	(422,008,527)	(13,258,914)	(435,267,441)
2028	(435,267,441)	(40,986,000)	(46,156,893)	-					14,997,104	12.45	186,785,564	(294,638,770)	(10,948,593)	(305,587,364)
2029	(305,587,364)	(48,127,000)	(55,282,795)	-					14,997,104	12.70	190,521,275	(170,348,884)	(7,139,044)	(177,487,927)
2030	(177,487,927)	(62,074,000)	(72,729,584)	-					14,997,104	12.96	194,331,700	(55,885,811)	(3,500,606)	(59,386,417)
2031	(59,386,417)	(115,434,000)	(137,954,316)	-					14,997,106	13.22	198,218,365	877,632	(877,632)	(0)
Total		(649,101,000)	(723,636,595)	(144,840)	(47,436,000)	(327,969,811)	-	(1,725,584)	95,115,744	121.10	1,184,566,043		(83,653,213)	

Table E-3

Halton Region
 2022 Development Charges Study
 Roads - Non-residential

	Revenue (Uninflated)	Sq. Ft	Calculated Rate
Total Non-Residential	\$ 1,051,931,066	95,115,744	\$ 11.059

Non-Residential Category	Trip Gen. %	Revenue (Uninflated)	Sq. Ft	DC Rate \$
Retail	27%	\$ 289,258,056	6,281,583	\$ 46.049
Non-Retail	73%	\$ 762,673,010	88,834,161	\$ 8.585

Appendix F

Calculation of General Services DC Applicable to Development in Halton

APPENDIX F: CALCULATION OF GENERAL SERVICES DEVELOPMENT CHARGES APPLICABLE TO DEVELOPMENT IN HALTON (2022 TO 2031)

(i.e. Growth Studies, Police, Paramedic Services, Facilities, Social Housing, Waste Diversion and Waterfront Parks)

1. DC Calculation Overview
 2. Growth Studies
 3. Halton Regional Police Service
 4. Paramedic Services
 5. Facilities
 6. Social Housing
 7. Waste Diversion
 8. Waterfront Parks
-

F.1 DC CALCULATION OVERVIEW

F.1 SUMMARY OF THE CHARGE

The DCs in this section have been calculated on the same cash flow basis as described in Appendix B. The charges are determined for the services in this section to produce a zero reserve fund balance at the end of 2031 for each of the services involved.

The following (Table F-1) summarizes the estimated total project cost over the next 10-year planning horizon (2022-2031) for all services). Table F-2 summarizes the proposed DCs.

Table F-1
Summary of Capital Project Costs for General Services (\$2022, \$000s)

Services	Total Cost 2022-2031	Less:				Net Growth	Net Growth	
		Non-Growth	Post Period Benefit	Grants, Subsidies & Contributions	Other Deductions		Residential	Non- Residential
Growth Studies	\$ 16,050	\$ 6,275	\$ -	\$ -	\$ 795	\$ 8,980	\$ 6,459	\$ 2,521
Police*	83,586	19,508	27,521	-	-	36,557	26,293	10,264
Paramedics	32,635	11,431	8,400	-	-	12,804	11,330	1,474
Facilities	12,306	3,950	1,316	-	-	7,040	5,972	1,068
Social Housing	100,100	50,050	-	-	-	50,050	50,050	-
Waste Diversion	14,942	8,095	1,027	-	430	5,391	5,116	275
Waterfront Parks	37,620	14,868	14,848	-	-	7,905	7,510	395
Total	\$ 297,239	\$ 114,176	\$ 53,112	\$ -	\$ 1,225	\$ 128,727	\$ 112,729	\$ 15,998

Note: May not add due to rounding

* Includes discounted debt payments

Table F-2
Proposed General Services Development Charges

Services	Residential (SDE)	Non- Residential (Sq.Ft.)
Growth Studies	\$ 150.82	\$ 0.060
Police	603.71	0.189
Paramedics	286.51	0.025
Facilities	98.01	0.014
Social Housing	985.82	
Waste Diversion	95.72	0.003
Waterfront Parks	218.69	0.008
Total	\$ 2,439.28	\$ 0.299

F.2 CALCULATION ASSUMPTIONS AND LEVEL OF SERVICE FOR GROWTH STUDIES

F.2 GROWTH STUDIES

The Region of Halton will be required to undertake a number of studies over the 2022-2031 period related to its proposed capital program for accommodating new development. These studies include growth studies (DC, feasibility, financing and service allocation studies), and Official Plan update and implementation studies.

Section 7 of the DCA states that a DC by-law may provide for any DC eligible service or the capital costs with respect to those services. Further, a class may be composed of any number or combination of services and may include parts or portions of each DC eligible service. With respect to growth-related studies, Section 7(3) of the D.C.A. states that:

“For greater certainty, a development charge by-law may provide for a class consisting of studies in respect of any service listed in subsection 2 (4) whose capital costs are described in paragraphs 5 and 6 of subsection 5 (3).”

These provisions allow for services to be grouped together to create a class for the purposes of the DC by-law and DC reserve funds. The DC calculations and by-law provided herein include a class for growth studies. This class of service includes all services included in the DC by-law.

No deduction has been made for benefit to existing development for the growth studies, as these are directly related to meeting the needs of growth. Official Plan studies are required to manage growth and development within the Region; however, not all components are related exclusively to growth (e.g. healthy communities, environmentally sensitive and natural areas, etc.). For this reason, and based on practice elsewhere, a 50% deduction for benefit to existing development has been made for Official Plan update and implementation studies. There is no post-period benefit (oversizing) resulting from these projects. An additional deduction has been made to reflect the share of the Growth Studies (5%) and Regional Official Plan Updates (10%) to recognize services that are no longer DC eligible.

The residential/non-residential cost allocation was based on the ratio of forecast net population growth (including institutional population) from 2022-2031 to population plus employment growth (excluding work at home and no fixed place of work) for the same period:

$$\frac{126,625 \text{ additional persons}}{126,625 \text{ persons} + 49,429 \text{ additional employees}} = 71.9\% \text{ residential and } 28.1\% \text{ non-residential}$$

Table F-3

**Halton Region
2022 Development Charges Background Study
Infrastructure Costs Covered in the DC Calculation - Growth Studies**

SERVICE: Growth Studies

Increased Service Needs Attributable to Anticipated Development 2022-2031	Timing	2022 \$ Gross Capital Cost Est.	Benefit to Existing Development/ U.E.C.	Eligible Increase in Need	Less:			Less: Other Deductions (to recognize benefit to non-D.C. services)	Potential DC Recoverable Cost		
					Post Period Benefit	Grants, Subsidies & Other Contributions Attrib. to New Development	Sub Total		Net Costs Benefiting New Development	Residential Share 71.9%	Non-Res. Share 28.1%
Cost to be Incurred During											
Term of Proposed By-law											
Growth Studies	2022	\$ 350,000	\$ -	\$ 350,000			\$ 350,000	\$ 17,500	\$ 332,500	\$ 239,147	\$ 93,353
Growth Studies	2023	500,000	75,000	425,000			425,000	17,500	407,500	293,090	114,410
Regional OP Updates	2023	100,000	50,000	50,000			50,000	5,000	45,000	32,366	12,634
Growth Studies	2024	350,000	-	350,000			350,000	17,500	332,500	239,147	93,353
Regional OP Updates	2024	1,100,000	550,000	550,000			550,000	55,000	495,000	356,024	138,976
Growth Studies	2025	350,000	-	350,000			350,000	17,500	332,500	239,147	93,353
Regional OP Updates	2025	2,200,000	1,100,000	1,100,000			1,100,000	110,000	990,000	712,047	277,953
Growth Studies	2026	350,000	-	350,000			350,000	17,500	332,500	239,147	93,353
Regional OP Updates	2026	1,700,000	850,000	850,000			850,000	85,000	765,000	550,218	214,782
Cost to be Incurred											
Post By-law Term											
By-law Term (i.e. beyond 2026)											
Growth Studies	2027	\$ 350,000	\$ -	\$ 350,000			\$ 350,000	\$ 17,500	\$ 332,500	\$ 239,147	\$ 93,353
Regional OP Updates	2027	1,200,000	600,000	600,000			600,000	60,000	540,000	388,389	151,611
Growth Studies	2028	350,000	-	350,000			350,000	17,500	332,500	239,147	93,353
Regional OP Updates	2028	1,700,000	850,000	850,000			850,000	85,000	765,000	550,218	214,782
Growth Studies	2029	350,000	-	350,000			350,000	17,500	332,500	239,147	93,353
Regional OP Updates	2029	1,700,000	850,000	850,000			850,000	85,000	765,000	550,218	214,782
Growth Studies	2030	350,000	-	350,000			350,000	17,500	332,500	239,147	93,353
Regional OP Updates	2030	1,200,000	600,000	600,000			600,000	60,000	540,000	388,389	151,611
Growth Studies	2031	350,000	-	350,000			350,000	17,500	332,500	239,147	93,353
Regional OP Updates	2031	1,500,000	750,000	750,000			750,000	75,000	675,000	485,487	189,513
Total Estimated Capital Cost		\$ 16,050,000	\$ 6,275,000	\$ 9,775,000	\$ -	\$ -	\$ 9,775,000	\$ 795,000	\$ 8,980,000	\$ 6,458,771	\$ 2,521,229

Table F-4

**Halton Region
2022 Development Charges Background Study
Cash Flow - Growth Studies - Residential**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Single Detached Unit Equivalents (Building Permits)	\$150.82 SDE per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ (71,114)	\$ (239,147)	\$ (239,147)	6,416	\$ 150.82	\$ 967,653	\$ 657,391	\$ 19,722	\$ 677,113
2023	677,113	(325,456)	(331,965)	3,791	153.83	583,244	928,392	27,852	956,244
2024	956,244	(595,171)	(619,216)	3,791	156.91	594,909	931,938	27,958	959,896
2025	959,896	(951,194)	(1,009,415)	4,122	160.05	659,729	610,210	18,306	628,517
2026	628,517	(789,365)	(854,435)	4,122	163.25	672,924	447,006	13,410	460,417
2027	460,417	(627,537)	(692,851)	4,155	166.51	691,799	459,364	13,781	473,145
2028	473,145	(789,365)	(888,954)	4,155	169.84	705,635	289,827	8,695	298,522
2029	298,522	(789,365)	(906,733)	4,155	173.24	719,748	111,536	3,346	114,883
2030	114,883	(627,537)	(735,259)	4,155	176.70	734,143	113,766	3,413	117,179
2031	117,179	(724,634)	(866,005)	4,155	180.24	748,825	0	0	0
Total		\$ (6,458,771)	\$ (7,143,978)	43,017		\$ 7,078,610		\$ 136,483	

Note: Numbers may not add due to rounding

Table F-5

**Halton Region
2022 Development Charges Background Study
Cash Flow - Growth Studies - Non-Residential**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Sq. Ft. of Gross Floor Area	\$0.060 per Sq. Ft. per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ (2,945,576)	\$ (93,353)	\$ (93,353)	4,254,556	\$0.060	\$ 253,352	\$ (2,785,577)	\$ (83,567)	\$ (2,869,144)
2023	(2,869,144)	(127,044)	(129,585)	3,968,917	0.061	241,069	(2,757,660)	(82,730)	(2,840,390)
2024	(2,840,390)	(232,329)	(241,715)	3,968,917	0.062	245,890	(2,836,215)	(85,086)	(2,921,302)
2025	(2,921,302)	(371,306)	(394,033)	3,968,917	0.063	250,808	(3,064,526)	(91,936)	(3,156,462)
2026	(3,156,462)	(308,135)	(333,535)	3,968,917	0.064	255,824	(3,234,172)	(97,025)	(3,331,197)
2027	(3,331,197)	(244,963)	(270,459)	14,997,104	0.066	986,001	(2,615,655)	(78,470)	(2,694,125)
2028	(2,694,125)	(308,135)	(347,010)	14,997,104	0.067	1,005,721	(2,035,413)	(61,062)	(2,096,476)
2029	(2,096,476)	(308,135)	(353,950)	14,997,104	0.068	1,025,836	(1,424,590)	(42,738)	(1,467,327)
2030	(1,467,327)	(244,963)	(287,014)	14,997,104	0.070	1,046,353	(707,989)	(21,240)	(729,228)
2031	(729,228)	(282,866)	(338,051)	14,997,104	0.071	1,067,280	0	0	0
Total		\$ (2,521,229)	\$ (2,788,704)	95,115,744		\$ 6,378,134		\$ (643,854)	

Note: Numbers may not add due to rounding

F.3 CALCULATION ASSUMPTIONS AND LEVEL OF SERVICE FOR HALTON REGIONAL POLICE SERVICE

F.3 HALTON REGIONAL POLICE SERVICE

1. Facilities

In 2021, the Halton Regional Police Service (HRPS) was operating out of 10 locations with a TFA of 313,607 sq.ft. excluding administrative space. The average cost per sq.ft. of this TFA is estimated to be \$485 (2022\$) including land, building, equipment, site work, etc. Building values were updated from 2017 and land values are based on a 33% lot coverage.

As permitted by the DCA, the capital program for Police will incorporate the needs of growth to 2031. The Region has identified two growth-related capital expenditures over the next 10 years:

- Debt for new Police Headquarters, 2485 North Service Road, Oakville – The Region issued a 30-year sinking fund debenture in the amount of \$62.50 million for the construction of the new HRPS Headquarters of which the majority of the space will be allocated to operational (non-administrative) space. The growth-related principal and discounted growth-related interest payments have been included in the capital program for police services. The sq.ft. of operations space in the new headquarters expanded on and replaced the existing 90,814 sq.ft. of operations space in the old headquarters building (including the HRPS portion of shared space at the Halton Regional Centre). The Region has provided payments to the sinking fund since 2016. The amounts included in the calculations reflect the outstanding payments. The total outstanding principal amount is approximately \$54.93 million. Of this amount, \$16.52 million has been identified as the share of the facility that benefits existing development. A further deduction of \$17.04 million was provided to reflect the share of the facility that would benefit growth post-2031. The outstanding growth-related interest payments, discounted to 2022 dollars totals approximately \$6.46 million. Deductions have been applied for benefit to existing development (\$4.52 million) and the share of the costs that benefit growth post 2031 (\$2.01 million). In total, \$23.88 million has been included in the DC calculations for this project.
- Unfunded debt for the District 1 facility has also been included in the DC calculations. The total gross capital cost estimate for the growth-related Principal

and discounted interest are \$13.56 million. This amount was reduced by a deduction for the share of the costs that benefit growth post-2031. The resultant growth-related costs for this facility is \$5.08 million.

The allocation of the net DC recoverable costs between residential and non-residential development has been made in proportion to the ratio of new population to new employment over the next 10 years calculated as follows:

$$\frac{126,625 \text{ additional persons}}{126,625 \text{ persons} + 49,429 \text{ additional employees}} = \begin{array}{l} 71.9\% \text{ residential and} \\ 28.1\% \text{ non-residential} \end{array}$$

2. Vehicles and Equipment

The number of police vehicles in the HRPS fleet has increased from 352 in 2016 to 374 in 2021. This inventory includes marked and unmarked cruisers, vans, pickup trucks, etc. The value of these vehicles includes equipment. For example, cruisers are equipped with radio/transmitter, computer/workstation, roof lights and siren with control console.

The inclusion of police cars as part of DC's is considered to be permissible based on having an equivalent useful life of 7 years or more. Fleet expansions are clearly growth-related, and the police service is given special treatment in the DCA along with sewer, water, and roads. The vehicles have an anticipated useful lifetime of beyond 7 years, based on one shift per day use, which is the normal basis for determining use. The 7 years is a DC minimum threshold. The vehicles are actually used "24/7" and, as a result, are only used in a patrol function for several years. Many are subsequently used for non-patrol car functions (e.g. training) or replacement vehicles while vehicles are being repaired or are even sold and used by others.

The Police inventory of equipment also includes equipment for individual officers. The value of the equipment varies from a base amount of \$6,500 for all sworn officers to \$20,800 for members of the K-9 Unit.

The Region intends to continue to increase its inventory of vehicles, generally consistent with the increase in uniform staff. Over the next 10 years, it is estimated that 26 vehicles will be added to the fleet, including 15 marked and unmarked cruisers.

In addition, it is estimated that the force will increase by 170 officers during the 2022-2031 period.

No deduction for benefit to existing development has been made, as the eligible increase in need will only maintain current levels of service and not provide any change in service provision or measurable benefit to existing development. No post-period benefit deduction has been made for the related capital needs.

The net DC recoverable costs have been allocated 71.9% to residential development and 28.1% to non-residential development, consistent with the approach taken for facilities.

3. Radio Trunking Equipment

As the Region continues to grow, it is necessary to make improvements to the radio system. Over the next 10 years, the Region will be required to make further investments in radio trunking equipment. The Region anticipates the need to invest in LTE/PSBN technology to enhance connectivity with additional officers and vehicles. This need is driven by increases in population, employment, building density, Regional infrastructure, commercial activities (signage, etc.) and increases in the number of officers. For example, radio coverage declines over time as buildings obstruct sight lines so, as the number of buildings increase, the Region will need to enhance connectivity. A total of \$4.8 million has been allocated for system improvements (2022-2031).

While this technological investment is a shift from the previous approach to erecting towers, the initial investment was funded from non-DC reserves. As a result, the additional investments in LTE/PSBN are considered to be largely growth-related and therefore will be subject to a 10% benefit to existing (BTE) deduction that reflects the fact while the Region's goal is to maintain 95% "in building" and 97% "out of building" radio coverage, it has not always done so. This reduction in coverage was partially offset in the past, by the installation of cell phones in police vehicles.

In addition, HRPS will require one radio for each uniformed officer added and one mobile workstation for each additional police vehicle. No deduction is made for BTE for these expenditures. There is no post-period benefit (oversizing) resulting from these expenditures beyond the reduction required to remain within the service level cap.

The net DC recoverable costs have been allocated 71.9% to residential development and 28.1% to non-residential development, based on the ratio of new population to new employment.

4. Commitments to Carry into DC

In previous DC background studies, the Region identified various projects for which unfunded commitments were to be carried into the DC. Prior to year-end, the Region has provided the necessary adjustments to the reserve fund to ensure there are no outstanding commitments to carry into the DC calculations.

Table F-6

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Police Facilities
Type of Capital Asset: Non-Administrative Space

Description	Quantity - Sq.ft. of Floor Space										2022 Value	2022 Value (incl land)	Weighted Average	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	(\$/sq.ft.)	(\$/sq.ft.)	Sq. Ft.	Cost
Facilities:														
Police HQ - 1151 Bronte Road, Oakville - Non-Admin	80,101	80,101	80,101	80,101	80,101	80,101					\$ 332	\$ 436	480,605	\$ 209,543,774
Police HQ - 1151 Bronte Road, Oakville - Shared Facilities	10,713	10,713	10,713	10,713	10,713	10,713					332	436	64,278	28,025,208
Police HQ - 2485 North Service Road West, Oakville							167,161	167,161	167,161	167,161	427	530	668,645	354,381,689
Police HQ - Safety Village & Police Classroom	3,456	3,456	3,456	3,456	3,456	3,456	3,456	3,456	3,456	3,456	156	260	34,560	8,985,600
District 1 - Div 11 - 217 Guelph Street, Georgetown	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	323	406	102,000	41,412,000
District 1 - Div 12 - 490 Childs Drive, Milton	20,899	20,899	20,899	20,899	20,899	20,899	20,899	20,899	20,899	20,899	323	420	208,990	87,775,800
District 2 - Div 20 - 95 Oak Walk Drive, Oakville	70,002	70,002	70,002	70,002	70,002	70,002	70,002	70,002	70,002	70,002	408	511	700,020	357,710,220
District 3 - Div 30 - 3800 Southampton Blvd, Burlington	39,669	39,669	39,669	39,669	39,669	39,669	39,669	39,669	39,669	39,669	408	511	396,690	202,708,590
Store Front Offices:														
District 1 - Div 10 - Unit #3, 315 Queen Street, Acton	1,350	1,350	1,350	1,350	1,350	1,350	1,350				323	406	9,450	3,836,700
District 1 - Div 10 - 22 Main Street South, Acton								1,000	1,000	1,000	323	406	3,000	1,218,000
District 1 - Div 12 - Office at Campbellville Fire Station	120	120	120	120	120	120	120	120	120	120	323	420	1,200	504,000
District 1 - Div 12 - Office at Premium Outlet Mall			247	247	247	247	247	247	247	247	323	420	1,729	726,180
District 2 - 352 Kerr Street, Oakville	300	300	300	300	300	300	300	300	300	300	323	427	3,000	1,281,000
District 2 - Marine Unit, 2340 Ontario Street, Oakville	800	800	800	800	800	800	800	800	800	800	323	427	8,000	3,416,000
District 3 - 460 Brant Street, Burlington	534	534	534	534	534	534	534				323	427	3,204	1,368,108
Total	238,144	238,144	238,391	238,391	238,391	238,391	314,204	313,854	313,854	313,607		\$ 485.18	2,685,371	\$ 1,302,892,870

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.4649	0.4552	0.4500	0.4424	0.4347	0.4262	0.5443	0.5351	0.5281	0.5203

10 Year Average	2012-2021
Quantity per capita	0.4801
Quality (\$/sq.ft.)	\$ 485.18
Combined Quantity/Quality Level (\$/capita)	\$ 232.94

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 232.94
Eligible Amount	\$ 29,495,491

Table F-7

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service:
Type of Capital Asset:

Police
Vehicles

Description	Quantity - No. of Vehicles										2022 Value (\$/Vehicle)	Weighted Average		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		# of Vehicles	Cost	
Vehicles:														
Marked & Unmarked Cruisers (various models)	119	119	121	132	134	152	152	152	152	152	\$ 80,000	1,385	\$ 110,800,000	
Marked Non-Cruisers (various models)						9	9	9	9	9	49,000	45	2,205,000	
Plain / Unmarked Passenger Vehicles	111	123	124	127	127	158	158	159	160	160	44,200	1,407	62,189,400	
Marked Cruisers - Supervisors	6	6	6	6	6	6	6	6	6	6	85,000	60	5,100,000	
Standard Commercial Vans	8	8	8	8	8	6	6	6	6	6	45,500	70	3,185,000	
Specialized Commercial Vans	9	9	9	9	9	9	9	9	9	9	95,000	90	8,550,000	
Passenger Vans (Reallocated)	36	36	36	37	38	-	-	-	-	-	36,000	183	6,588,000	
Pick up Trucks (Reallocated)	6	6	6	6	7	-	-	-	-	-	48,000	31	1,488,000	
Open Trailer	5	5	5	5	5	9	9	9	9	9	6,000	70	420,000	
Enclosed Trailer - customized	1	1	1	1	1	1	1	1	1	1	51,700	10	517,000	
Enclosed Trailer - standard						1	1	2	2	2	10,000	8	80,000	
Specialized Trucks	3	3	3	3	4	8	8	8	8	8	101,900	56	5,706,400	
Mobile Command Unit (old, retired in 2015)	1	1	1	1	-	-	-	-	-	-	222,200	4	888,800	
Mobile Command Unit (new, large)	-	-	-	-	1	1	1	1	1	1	640,500	6	3,843,000	
Mobile Command Unit (new, small)	-	-	-	-	1	1	1	1	1	1	436,600	6	2,619,600	
Motorcycle	6	7	7	7	7	7	7	7	7	5	43,100	67	2,887,700	
Boats - Large	1	1	1	1	1	1	1	1	1	1	330,000	10	3,300,000	
Boats - Small	2	2	2	2	2	2	2	2	2	2	30,000	20	600,000	
Tactical Response Unit/EDU	1	1	1	1	1	1	1	1	1	1	250,000	10	2,500,000	
Armoured Rescue Vehicle	-	-	-	-	-	1	1	1	1	1	313,000	5	1,565,000	
Total	315	328	331	346	352	373	373	375	376	374	\$ 63,515	3,543	\$ 225,032,900	

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0006	0.0006	0.0006	0.0006

10 Year Average	2012-2021
Quantity per capita	0.0006
Quality (\$/vehicle)	\$ 63,515
Combined Quantity/Quality Level (\$/capita)	\$ 38.11

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 38.11
Eligible Amount	\$ 4,825,536

Table F-8

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Description	Police Equipment for Officers										2022 Value	Weighted Average	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	(\$/officer)	# of Officers	Cost
Sworn Officers:													
Tactical Respond Unit	14	14	14	14	14	14	14	19	19	19	\$ 19,800	155	\$ 3,069,000
K-9 Unit	5	5	6	7	7	7	7	7	7	7	20,800	65	1,352,000
Motorcycle Unit	20	20	20	20	20	20	20	20	20	20	9,900	200	1,980,000
Other Sworn Officers	604	620	627	636	641	654	663	672	691	705	6,500	6,513	42,334,500
Subtotal - Authorized Strength	643	659	667	677	682	695	704	718	737	751		6,933	48,735,500
Other Officers:													
Summons, Escort, Special Cst	30	31	31	31	31	31	31	31	31	31	3,700	309	1,143,300
Special Cst in Training	20	20	20	20	20	20	20	20	20	20	3,700	200	740,000
Police Cadets	6	6	6	6	6	6	6	6	6	6	3,400	60	204,000
Auxiliary Cst	51	65	65	65	65	65	65	65	65	65	3,500	636	2,226,000
Subtotal - Other Officers	107	122	122	122	122	122	122	122	122	122		1,205	4,313,300
Total	750	781	789	799	804	817	826	840	859	873	\$ 6,519	8,138	\$ 53,048,800

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0014	0.0014	0.0014	0.0014

10 Year Average	2012-2021
Quantity per capita	0.0015
Quality (\$/officer)	\$ 6,519
Combined Quantity/Quality Level (\$/capita)	\$ 9.78

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 9.78
Eligible Amount	\$ 1,238,137

Table F-9

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Police
Type of Capital Asset: Radio Trunking Equipment

Description	Value of Radio Trunking Equipment									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Radio Equipment:										
Value of Radio Trunking - Motorola	\$ 22,065,218	\$ 24,167,510	\$ 24,241,230	\$ 24,092,290	\$ 23,408,733	\$ 22,775,314	\$ 21,773,962	\$ 21,610,342	\$ 21,057,970	\$ 20,645,069
Value of Radio Trunking - Motorola - End User Equipment	7,502,907	7,553,628	7,484,042	7,346,957	7,138,506	6,917,268	6,613,139	6,368,152	6,205,378	6,083,704
Mobile Workstation Equipment - 2020	-	-	-	-	-	-	4,815	448,876	1,512,309	1,551,411
Mobile Workstation Equipment - 2013	-	1,887,160	1,982,796	1,946,477	1,891,251	1,832,637	1,752,062	1,687,156	1,644,031	1,611,795
Mobile Workstation Equipment - 2007	2,314,677	-	-	-	-	-	-	-	-	-
Total	\$ 31,882,801	\$ 33,608,297	\$ 33,708,068	\$ 33,385,724	\$ 32,438,489	\$ 31,525,218	\$ 30,143,978	\$ 30,114,526	\$ 30,419,689	\$ 29,891,979

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	\$ 62.24	\$ 64.25	\$ 63.62	\$ 61.96	\$ 59.15	\$ 56.36	\$ 52.22	\$ 51.35	\$ 51.19	\$ 49.59

10 Year Average	2012-2021
Combined Quantity/Quality Level (\$/capita)	\$ 57.19

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 57.19
Eligible Amount	\$ 7,241,684

Table F-10

**Halton Region
2022 Development Charges Background Study
Infrastructure Costs Covered in the DC Calculation - Police**

SERVICE: Police

Increased Service Needs Attributable to Anticipated Development 2022-2031	Timing	2022\$ Gross Capital Cost Est.	Benefit to Existing Development/ U.E.C.	Eligible Increase in Need	Less:			Less:Other (e.g.10% Statutory Deduction)	Potential DC Recoverable Cost		
					Post Period Benefit	Grants, Subsidies & Other Contributions Attrib. to New Development	Sub Total		Net Costs Benefiting New Development	Residential Share 71.9%	Non-Res. Share 28.1%
Cost to be Incurred During Term											
of Proposed By-law (i.e. 2022-2026)											
Debt for New HQ - 2485 North Service Road, Oakville - Principal	2022+	\$ 54,931,856	\$ 16,523,579	\$ 38,408,278	\$ 17,043,863		\$ 21,364,414	\$ 21,364,414	\$ 15,366,132	\$ 5,998,283	
Debt for New HQ - 2485 North Service Road, Oakville - Growth Related Discounted Interest	2022+	6,462,200	1,943,839	4,518,361	2,005,045		2,513,316	2,513,316	1,807,676	705,640	
Unfunded Debt for District 1 - Growth Related Principal	2023+	10,659,483		10,659,483	6,662,177		3,997,306	3,997,306	2,875,021	1,122,285	
Unfunded Debt for District 1 - Growth Related Discounted Interest	2023+	2,896,177		2,896,177	1,810,110		1,086,066	1,086,066	781,142	304,924	
Technology - LTE/ PSBN Project	2022	728,000	72,800	655,200	-		655,200	655,200	471,246	183,954	
Equipment	2022	91,000		91,000			91,000	91,000	65,451	25,549	
Additional Vehicles	2022	755,200		755,200			755,200	755,200	543,170	212,030	
Radio Equipment	2022	84,000		84,000			84,000	84,000	60,416	23,584	
Technology - LTE/ PSBN Project	2023	728,000	72,800	655,200	-		655,200	655,200	471,246	183,954	
Equipment	2023	84,500		84,500			84,500	84,500	60,776	23,724	
Additional Vehicles	2023	-		-			-	-	-	-	
Radio Equipment	2023	48,000		48,000			48,000	48,000	34,523	13,477	
Technology - LTE/ PSBN Project	2024	728,000	72,800	655,200	-		655,200	655,200	471,246	183,954	
Technology - P25 / LTE - Backhaul	2024	1,400,000	700,000	700,000	-		700,000	700,000	503,468	196,532	
Equipment	2024	175,500		175,500			175,500	175,500	126,227	49,273	
Additional Vehicles	2024	328,400		328,400			328,400	328,400	236,198	92,202	
Radio Equipment	2024	84,000		84,000			84,000	84,000	60,416	23,584	
Technology - LTE/ PSBN Project	2025	700,000	70,000	630,000	-		630,000	630,000	453,121	176,879	
Equipment	2025	169,000		169,000			169,000	169,000	121,551	47,449	
Additional Vehicles	2025	-		-			-	-	-	-	
Radio Equipment	2025	48,000		48,000			48,000	48,000	34,523	13,477	
Technology - LTE/ PSBN Project	2026	518,000	51,800	466,200	-		466,200	466,200	335,309	130,891	
Equipment	2026	97,500		97,500			97,500	97,500	70,126	27,374	
Additional Vehicles	2026	328,400		328,400			328,400	328,400	236,198	92,202	
Radio Equipment	2026	84,000		84,000			84,000	84,000	60,416	23,584	

Table F-10 (continued)

Halton Region
2022 Development Charges Background Study
Infrastructure Costs Covered in the DC Calculation - Police

SERVICE: Police

Increased Service Needs Attributable to Anticipated Development 2022-2031	Timing	2022\$ Gross Capital Cost Est.	Benefit to Existing Development/ U.E.C.	Eligible Increase in Need	Less:			Less:Other (e.g.10% Statutory Deduction)	Potential DC Recoverable Cost		
					Post Period Benefit	Grants, Subsidies & Other Contributions Attrib. to New Development	Sub Total		Net Costs Benefiting New Development	Residential Share 71.9%	Non-Res. Share 28.1%
Cost to be Incurred Post Term											
of Proposed By-law (i.e. beyond 2026)											
Equipment	2027	\$ 97,500		\$ 97,500			\$ 97,500	\$ 97,500	\$ 70,126	\$ 27,374	
Additional Vehicles	2027	-		-			-	-	-	-	
Radio Equipment	2027	48,000		48,000			48,000	48,000	34,523	13,477	
Equipment	2028	97,500		97,500			97,500	97,500	70,126	27,374	
Additional Vehicles	2028	328,400		328,400			328,400	328,400	236,198	92,202	
Radio Equipment	2028	84,000		84,000			84,000	84,000	60,416	23,584	
Equipment	2029	97,500		97,500			97,500	97,500	70,126	27,374	
Additional Vehicles	2029	-		-			-	-	-	-	
Radio Equipment	2029	48,000		48,000			48,000	48,000	34,523	13,477	
Equipment	2030	97,500		97,500			97,500	97,500	70,126	27,374	
Additional Vehicles	2030	328,400		328,400			328,400	328,400	236,198	92,202	
Radio Equipment	2030	84,000		84,000			84,000	84,000	60,416	23,584	
Equipment	2031	97,500		97,500			97,500	97,500	70,126	27,374	
Additional Vehicles	2031	-		-			-	-	-	-	
Radio Equipment	2031	48,000		48,000			48,000	48,000	34,523	13,477	
Total Estimated Capital Cost		\$ 83,585,515	\$ 19,507,617	\$ 64,077,898	\$ 27,521,196	\$ -	\$ 36,556,703	\$ -	\$ 36,556,703	\$ 26,293,026	\$ 10,263,676

Level of Service Summary	Eligible Amount
Police Facilities	\$ 29,495,491
Vehicles	4,825,536
Equipment for Officers	1,238,137
Radio Trunking Equipment	7,241,684
Total	\$ 42,800,847

Table F-11

**Halton Region
2022 Development Charges Study
Cash Flow Calculation - Police - Residential**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Total Debt Payments	Single Detached Unit Equivalents (Building Permits)	\$603.71 SDE per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ 2,177,442	\$ (1,140,282)	\$ (1,140,282)	\$ (1,828,077)	6,416	\$ 603.71	\$ 3,873,512	\$ 3,082,595	\$ 92,478	\$ 3,175,073
2023	3,175,073	(566,545)	(577,876)	(2,262,166)	3,791	615.79	2,334,727	2,669,758	80,093	2,749,851
2024	2,749,851	(1,397,554)	(1,454,016)	(2,537,106)	3,791	628.10	2,381,421	1,140,151	34,205	1,174,355
2025	1,174,355	(609,196)	(646,484)	(2,599,454)	4,122	640.66	2,640,896	569,314	17,079	586,393
2026	586,393	(702,050)	(759,921)	(2,617,268)	4,122	653.48	2,693,714	(97,083)	(2,912)	(99,995)
2027	(99,995)	(104,649)	(115,541)	(2,617,268)	4,155	666.55	2,769,270	(63,534)	(1,906)	(65,440)
2028	(65,440)	(366,740)	(413,009)	(2,617,268)	4,155	679.88	2,824,656	(271,062)	(8,132)	(279,194)
2029	(279,194)	(104,649)	(120,209)	(2,617,268)	4,155	693.48	2,881,149	(135,523)	(4,066)	(139,589)
2030	(139,589)	(366,740)	(429,695)	(2,617,268)	4,155	707.35	2,938,772	(247,780)	(7,433)	(255,213)
2031	(255,213)	(104,649)	(125,066)	(2,617,268)	4,155	721.49	2,997,547	0	0	0.00
Total		\$ (5,463,056)	\$ (5,782,099)	\$ (24,930,413)	43,017		\$ 28,335,665		\$ 199,405	

Note: Numbers may not add due to rounding

Table F-12

**Halton Region
2022 Development Charges Study
Cash Flow Calculation - Police - Non-Residential**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Total Debt Payments	Sq. Ft. of Gross Floor Area	\$0.189 per Sq. Ft. per Year Inflated at (2%) Starting in 2018	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ (6,370,577)	\$ (445,118)	\$ (445,118)	\$ (713,603)	4,254,556	\$ 0.189	\$ 802,863	\$ (6,726,435)	\$ (201,793)	\$ (6,928,228)
2023	(6,928,228)	(221,155)	(225,578)	(883,053)	3,968,917	0.192	763,941	(7,272,919)	(218,188)	(7,491,106)
2024	(7,491,106)	(545,546)	(567,586)	(990,378)	3,968,917	0.196	779,219	(8,269,850)	(248,096)	(8,517,946)
2025	(8,517,946)	(237,804)	(252,360)	(1,014,716)	3,968,917	0.200	794,804	(8,990,218)	(269,707)	(9,259,924)
2026	(9,259,924)	(274,050)	(296,641)	(1,021,670)	3,968,917	0.204	810,700	(9,767,535)	(293,026)	(10,060,561)
2027	(10,060,561)	(40,851)	(45,102)	(1,021,670)	14,997,104	0.208	3,124,609	(8,002,725)	(240,082)	(8,242,807)
2028	(8,242,807)	(143,160)	(161,221)	(1,021,670)	14,997,104	0.213	3,187,101	(6,238,597)	(187,158)	(6,425,755)
2029	(6,425,755)	(40,851)	(46,925)	(1,021,670)	14,997,104	0.217	3,250,843	(4,243,506)	(127,305)	(4,370,811)
2030	(4,370,811)	(143,160)	(167,734)	(1,021,670)	14,997,104	0.221	3,315,860	(2,244,356)	(67,331)	(2,311,687)
2031	(2,311,687)	(40,851)	(48,820)	(1,021,670)	14,997,104	0.226	3,382,177	0	0	0
Total		\$ (2,132,544)	\$ (2,257,085)	\$ (9,731,770)	95,115,744		\$ 20,212,116		\$ (1,852,684)	

Note: Numbers may not add due to rounding

F.4 CALCULATION ASSUMPTIONS AND LEVEL OF SERVICE FOR PARAMEDIC SERVICES

F.4 PARAMEDIC SERVICES

1. Paramedic Facilities

In 2021, the Region was operating out of 17 buildings located throughout Halton. The average cost per square foot for the stations in the inventory is \$781, including land, site works, and FFE but excluding vehicles. The replacement value of the facilities was based on three recently constructed stations; one in Oakville and two in Milton. As discussed in section F.3, land values have been estimated based on recent appraisal information and an assumption of 33% lot coverage.

The Region's capital plans involve an expansion to the Paramedic Services Headquarters. Design work will be undertaken in 2022 with construction scheduled for 2024. The current facility, shared with Woodlands Operations Centre is 57,960 sq.ft. The portion of the existing facility that is attributable to Paramedic services is 18,537 sq.ft. which includes shared space (i.e. hallways, washrooms and other common areas shared with the Operations service). The Region is planning to construct a 40,000 sq.ft. expansion to accommodate current Paramedic staff as well as the additional staff and space required for growth. As a result, the portion of the space that is considered replacement and therefore benefits existing development is 46.34% (18,537 sq.ft./40,000 sq.ft.) The expansion of this facility for Paramedic services is to be undertaken in 2022 and will accommodate growth out to 2035. As the forecast period for the capital works is 2022-2031, the number of years outside of the forecast period is 4, which results in a post-period benefit of 33.33% (4 years/12 years). A further deduction for post-period benefit has been made as the eligible cost for this project exceeds the service level cap.

The allocation of costs attributable to growth between residential and non-residential development has been made based on the ratio of forecast increased population to employment, with population weighted at 3 times employment, in order to reflect the disproportional use of this service by residents, in comparison to employees. This reflects the fact that employees are in the Region 1,500-2,000 hours/year, in comparison with residents who are generally in the Region in excess of 5,000 hours/year and include a larger number of seniors' requirements. Therefore, the calculation for the residential share is:

$$\frac{126,625 \text{ additional persons} \times 3}{126,625 \times 3 + 49,429 \text{ additional employees}} = \begin{array}{l} 88.5\% \text{ residential and} \\ 11.5\% \text{ non-residential} \end{array}$$

2. Vehicles and Equipment

The Region's inventory of vehicles for Paramedic services includes ambulance vehicles, emergency response units, support service vehicles and an emergency support unit. These vehicles have been valued based on 2022\$ (including equipment) and reflect recent purchase experience.

The Region will require additional (i.e. non-replacement) ambulance vehicles to provide service to new development. The 10-year capital program includes the acquisition of 26 additional ambulances, 9 additional emergency response units, and one transit high top van. Typically these vehicles are kept in service for 4½ to 6 years for ambulances and 3 to 4 years for emergency response units. Ambulances and emergency response units are included in the calculation because these vehicles have an anticipated useful lifetime beyond 7 years, based on one shift per day use, which is the normal basis for determining use. The 7 years is a DC minimum threshold. The vehicles are actually used "24/7" and as a result, are used for the equivalent of 7 years or more. In addition, many are subsequently used as replacement vehicles, donated to St. John's Ambulance, or are sold and used by others for additional years.

The benefit to existing development has been assessed as 5% for vehicles and equipment, as these are required almost exclusively for additional calls; however, by placing these vehicles in new or relocated stations, they may provide a marginally improved level of service to the general area in which they are located. There is no post-period benefit (oversizing) resulting from these projects beyond the reduction for service level cap.

The allocation of DC recoverable costs between residential and non-residential development is 88.5% and 11.5%, respectively, consistent with the approach used for ambulance Paramedic services stations.

Table F-13

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Table F-13

Service: Paramedic Services
Type of Capital Asset: Stations

Description	Quantity - Sq.Ft. of Floor Space										2022 Value, incl. site works, etc. (\$/sq.ft.)	2022 Value (incl land) (\$/sq.ft.)	Weighted Average		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021			Sq Ft.	Cost	
Ambulance Services Headquarters (1179 Bronte) (T6703A)	15,187	15,187	15,187	15,187	15,187	15,187	15,187	15,187	15,187	15,187	15,187	\$ 700	\$ 803	151,870	\$ 121,951,610
Ambulance Services Headquarters (1179 Bronte) (T6703A) (common/core area)	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	380	483	33,500	16,180,500
Acton (T6704A)	2,525	2,525	2,525	2,525	2,525	2,525	2,525	2,525	2,525	2,525	2,525	700	783	25,250	19,770,750
Burlington West (Aldershot, 1018 Willowbrook)	2,230	2,230	2,230	2,230	2,230	2,230	2,230	2,230	2,230	2,230	2,230	700	803	22,300	17,906,900
Burlington Central (455 Cumberland Ave)	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	700	803	19,000	15,257,000
Milton Central (T6707A)	4,740	4,740	4,740	4,740	4,740	4,740	4,740	4,740	4,740	4,740	4,740	700	796	47,400	37,730,400
Oakville Northeast (T6708A)	3,120	3,120	3,120	3,120	3,120	3,120	3,120	3,120	3,120	3,120	3,120	700	803	31,200	25,053,600
Milton Campbellville (Reid Sideroad) (T6709A)	2,340	2,340	2,340	2,340	2,340	2,340	2,340	2,340	2,340	2,340	2,340	700	796	23,400	18,626,400
Burlington East (Corporate Drive) (T6706A)	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	700	803	20,000	16,060,000
Burlington North (Brant Street) (T6705A) under construction 2006	3,066	3,066	3,066	3,066	3,066	3,066	3,066	3,066	3,066	3,066	3,066	700	803	30,660	24,619,980
53 Maple Avenue (Georgetown)	3,912	3,912	3,912	3,912	3,912	3,912	3,912	3,912	3,912	3,912	3,912	700	783	39,120	30,630,960
Station 12 Oakville SE (1080 Cornwall Rd)	3,063	3,063	3,063	3,063	3,063	3,063	3,063	3,063	3,063	3,063	3,063	700	803	30,630	24,595,890
Station 14 Oakville NW (3019 Pine Glen Rd)	-	-	-	6,094	6,094	6,094	6,094	6,094	6,094	6,094	6,094	700	803	42,658	34,254,374
Oakville South Service Rd. storage	-	-	-	4,478	4,478	4,478	4,478	4,478	4,478	4,478	4,478	700	803	31,346	25,170,838
Davis Road	2,050	2,050	2,050	-	-	-	-	-	-	-	-	700	803	6,150	4,938,450
Oakville SW (289 Woodside Drive)									3,127	3,127	3,127	700	803	6,254	5,021,801
Urban Milton (6650 Fifth Line)									3,127	3,127	3,127	700	796	6,254	4,978,025
South Milton (7815 Louis St. Laurent Avenue)									4,400	4,400	4,400	700	796	8,800	7,004,800
Total	49,483	49,483	49,483	58,005	58,005	58,005	58,005	58,005	58,005	68,659	68,659	\$ 781	\$ 781	575,792	\$ 449,752,278

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.0966	0.0946	0.0934	0.1077	0.1058	0.1037	0.1005	0.0989	0.1155	0.1139

10 Year Average		2012-2021
Quantity per capita		0.1031
Quality (\$/sq.ft.)		\$ 781.10
Combined Quantity/Quality Level (\$/capita)		\$ 80.53

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 80.53
Eligible Amount	\$ 10,197,323

Table F-14

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Paramedic Services
Type of Capital Asset: Vehicles

Description	Quantity - No. of Vehicles										2022 Value (\$/vehicle)	Weighted Average	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		# of Vehicles	Cost
Ambulance Vehicles	30	31	31	32	32	33	35	36	36	36	\$ 284,400	332	\$ 94,420,800
ERU Paramedic (SUV)	6	6	6	6	6	5	6	7	7	9	144,200	64	9,228,800
ERU Management (SUV)	2	2	2	3	4	4	6	6	6	6	148,100	41	6,072,100
SSU Transit Connect	1	1	1	1	1	1	1	1	1	1	51,000	10	510,000
SSU Transit High Top Van						-	1	1	1	1	51,000	4	204,000
SSU Cube Van	1	1	1	1	1	1	1	1	1	1	98,100	10	981,000
ESU Emergency Support Unit	1	1	1	1	1	1	1	1	1	1	391,700	10	3,917,000
Total	41	42	42	44	45	45	51	53	53	55	\$ 244,870	471	\$ 115,333,700

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Service Level Per 1,000 persons	0.0800	0.0803	0.0793	0.0817	0.0821	0.0804	0.0884	0.0904	0.0892	0.0912

10 Year Average		2012-2021
Quantity per 1,000 persons		0.0843
Quality (\$/Vehicle)		\$ 244,870
Combined Quantity/Quality Level (\$/1,000 persons)		\$ 20,643
Combined Quantity/Quality Level (\$/capita)		\$ 20.64

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 20.60
Eligible Amount	\$ 2,608,475

Notes:
Power Cots are included in the replacement cost of vehicles
Spare ambulances are included in the Service Standard

Table F-15

**Halton Region
2022 Development Charges Background Study
Infrastructure Costs Covered in the DC Calculation - Paramedic Services**

SERVICE: Paramedic Services

Increased Service Needs Attributable to Anticipated Development 2022-2031	Timing	Gross Capital Cost Est.	Benefit to Existing Development/ U.E.C.	Eligible Increase in Need	Less:			Potential DC Recoverable Cost		
					Post Period Benefit	Grants, Subsidies & Other Contributions Attrib. to New Development	Sub Total	Net Costs Benefiting New Development	Residential Share 88.5%	Non- Residential Share 11.5%
Cost to be Incurred During										
Term of Proposed By-law										
Paramedics Services New HQ (Design)	2022	\$ 1,500,000	\$ 695,000	\$ 805,000	\$ 500,000	\$ -	\$ 305,000	\$ 305,000	\$ 269,883	\$ 35,117
Ambulance (Qty 2)	2022	569,000	28,000	541,000		-	541,000	541,000	478,711	62,289
Ambulance (Qty 3)	2023	853,000	43,000	810,000		-	810,000	810,000	716,739	93,261
Emergency Response Unit- Paramedics (Qty 1)	2023	144,000	7,000	137,000		-	137,000	137,000	121,226	15,774
Emergency Response Unit- Management (Qty 2)	2023	296,000	15,000	281,000		-	281,000	281,000	248,646	32,354
Master Plan	2023	175,000	9,000	166,000		-	166,000	166,000	146,887	19,113
Ambulance (Qty 1)	2024	284,000	14,000	270,000		-	270,000	270,000	238,913	31,087
Emergency Response Units- Paramedics (Qty 1)	2024	144,000	7,000	137,000		-	137,000	137,000	121,226	15,774
Paramedics Services New HQ (Construction)	2024	22,200,000	10,288,000	11,912,000	7,400,000	-	4,512,000	4,512,000	3,992,499	519,501
Ambulance (Qty 3)	2025	853,000	43,000	810,000		-	810,000	810,000	716,739	93,261
Emergency Response Unit- Paramedics (Qty 1)	2025	144,000	7,000	137,000		-	137,000	137,000	121,226	15,774
SSU Transit High Top Van (Qty 1)	2025	51,000	3,000	48,000		-	48,000	48,000	42,473	5,527
Ambulance (Qty 3)	2026	853,000	43,000	810,000		-	810,000	810,000	716,739	93,261
Cost to be Incurred Post										
By-law Term (i.e. beyond 2026)										
Ambulance (Qty 3)	2027	\$ 853,000	\$ 43,000	\$ 810,000		\$ -	\$ 810,000	\$ 810,000	\$ 716,739	\$ 93,261
Emergency Response Unit- Paramedics (Qty 1)	2027	144,000	7,000	137,000		-	137,000	137,000	121,226	15,774
Ambulance (Qty 3)	2028	853,000	43,000	810,000		-	810,000	810,000	716,739	93,261
Emergency Response Unit- Management (Qty 1)	2028	148,000	7,000	141,000		-	141,000	141,000	124,766	16,234
Ambulance (Qty 3)	2029	853,000	43,000	810,000		-	810,000	810,000	716,739	93,261
Ambulance (Qty 2)	2030	569,000	28,000	541,000		-	541,000	541,000	478,711	62,289
Emergency Response Unit- Management (Qty 2)	2030	296,000	15,000	281,000		-	281,000	281,000	248,646	32,354
Ambulance (Qty 3)	2031	853,000	43,000	810,000	500,000	-	310,000	310,000	274,307	35,693
Total Estimated Capital Cost		\$ 32,635,000	\$ 11,431,000	\$ 21,204,000	\$ 8,400,000	\$ -	\$ 12,804,000	\$ 12,804,000	\$ 11,329,779	\$ 1,474,221

<u>Level of Service Summary</u>	<u>Eligible Amount</u>
Stations	\$ 10,197,323
Vehicles	2,608,475
Total	<u>\$ 12,805,798</u>

Table F-16

**Halton Region
2022 Development Charges Study
Cash Flow Calculation - Paramedics - Residential**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Single Detached Unit Equivalents (Building Permits)	\$286.51 SDE per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ (853,200)	\$ (748,594)	\$ (748,594)	6,416	\$ 286.51	\$ 1,838,268	\$ 236,474	\$ 7,094	\$ 243,568
2023	243,568	(1,233,498)	(1,258,168)	3,791	292.24	1,108,001	93,401	2,802	96,203
2024	96,203	(4,352,639)	(4,528,485)	3,791	298.08	1,130,161	(3,302,122)	(99,064)	(3,401,186)
2025	(3,401,186)	(880,438)	(934,328)	4,122	304.04	1,253,301	(3,082,213)	(92,466)	(3,174,679)
2026	(3,174,679)	(716,739)	(775,821)	4,122	310.12	1,278,367	(2,672,134)	(80,164)	(2,752,298)
2027	(2,752,298)	(837,965)	(925,181)	4,155	316.33	1,314,224	(2,363,255)	(70,898)	(2,434,153)
2028	(2,434,153)	(841,504)	(947,670)	4,155	322.65	1,340,508	(2,041,315)	(61,239)	(2,102,554)
2029	(2,102,554)	(716,739)	(823,307)	4,155	329.11	1,367,318	(1,558,543)	(46,756)	(1,605,300)
2030	(1,605,300)	(727,357)	(852,215)	4,155	335.69	1,394,665	(1,062,850)	(31,885)	(1,094,735)
2031	(1,094,735)	(274,307)	(327,823)	4,155	342.40	1,422,558	(0)	(0)	(0)
Total		\$ (11,329,779)	\$ (12,121,592)	43,017		\$ 13,447,369		\$ (472,577)	

Note: Numbers may not add due to rounding

Table F-17

Halton Region
 2022 Development Charges Study
 Cash Flow Calculation - Paramedics - Non-Residential

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Sq. Ft. of Gross Floor Area	\$0.025 per Sq. Ft. per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ (800,854)	\$ (97,406)	\$ (97,406)	4,254,556	\$ 0.025	\$ 105,570	\$ (792,690)	\$ (23,781)	\$ (816,471)
2023	(816,471)	(160,502)	(163,712)	3,968,917	0.025	100,452	(879,730)	(26,392)	(906,122)
2024	(906,122)	(566,361)	(589,242)	3,968,917	0.026	102,461	(1,392,903)	(41,787)	(1,434,691)
2025	(1,434,691)	(114,562)	(121,574)	3,968,917	0.026	104,510	(1,451,754)	(43,553)	(1,495,307)
2026	(1,495,307)	(93,261)	(100,949)	3,968,917	0.027	106,601	(1,489,655)	(44,690)	(1,534,345)
2027	(1,534,345)	(109,035)	(120,384)	14,997,104	0.027	410,862	(1,243,867)	(37,316)	(1,281,183)
2028	(1,281,183)	(109,496)	(123,310)	14,997,104	0.028	419,079	(985,414)	(29,562)	(1,014,976)
2029	(1,014,976)	(93,261)	(107,128)	14,997,104	0.029	427,460	(694,644)	(20,839)	(715,483)
2030	(715,483)	(94,643)	(110,889)	14,997,104	0.029	436,010	(390,363)	(11,711)	(402,074)
2031	(402,074)	(35,693)	(42,656)	14,997,104	0.030	444,730	(0)	(0)	(0)
Total		\$ (1,474,221)	\$ (1,577,251)	95,115,744		\$ 2,657,735		\$ (279,631)	

Note: Numbers may not add due to rounding

F.5 CALCULATION ASSUMPTIONS AND LEVEL OF SERVICE FOR FACILITIES (HEALTH, CHILD CARE, HOUSING, AND PUBLIC WORKS)

F.5 FACILITIES (HEALTH, CHILD CARE, HOUSING, AND PUBLIC WORKS)

Similar to Growth Studies, facilities is a class of service established as per Section 7 of the DCA. This class of service is comprised of Health, Child Care and Early Years, Housing Services, and Services Related to a Highway.

1. Health Department Floor Space

The Health Department provides Public Health programs to residents and businesses of the Region of Halton including communicable disease and infection control, dental health, baby and parent health, healthy environments, heart health and cancer prevention, tobacco use prevention, mental health promotion and services, substance abuse prevention, sexual health, immunization, rabies control, injury prevention, food safety and health promotion. An increase in population will require an increase in staffing to deliver these programs (field operations over and above headquarters administration). Program staff is currently accommodated at 7 satellite offices throughout the Region as well as the Halton Regional Centre. Space at the Regional Centre that is used for general headquarters administration of the Health Department has not been included in the inventory. In 2017, the average value of the TFA occupied by the Health Department was assumed to be \$268/sq.ft. including an allowance for furniture, fixtures and site work but excluding land. This amount has been increased to \$328 to reflect 2022\$, based on changes in the non-residential construction cost index. The average value of health department facility space in 2022\$ is \$430 including land, site works and FFE.

The Region anticipates the need to increase workstations for staff by approximately 1.43% per year for the next 10 years. These workstations are for different types of staff including public health inspectors, public health nurses, registered nurses, dieticians, etc. It is anticipated that each additional workstation would require an average of 222 gross square feet of floor space including both workstation space and a share of support space requirements such as meeting rooms, etc.

This requirement may be accommodated through the use of space at the Regional Centre Campus expansion currently in progress as well as leased space for field offices. The cost of providing additional space is forecast to be \$430 per sq.ft.,

including land, furnishings, fixtures, parking areas, etc., based on information derived from the Accommodation Plan and increased to 2022\$.

No deduction has been made for benefit to existing development, as the capital program is intended to provide new floor space at or below the current level of service. There is also no post-period benefit (oversizing) resulting from the capital program. While the focus of the Health Department's programs is directed to residents of the Region, a portion is related to non-residential uses (e.g. health hazard investigation and food safety). The Region has reviewed its allocation of staffing to the various programs as well as the relative demand for these services between residential and non-residential uses. As a result, it was determined that 12% of program staff can be allocated to non-residential needs. Therefore, the calculated DC recoverable costs have been allocated 88% to residential growth and 12% to non-residential development.

2. Social Service Space (Child Care and Housing)

The Social Service Department of Halton is responsible for children's services (including day care), housing services, income and employment services and services to seniors. The demand for these population-related services is expected to increase as the Region grows. As per the recent changes to the legislation, only facility space relating to child care and housing have been included in the DC calculations. Income and employment services as well as services to seniors have been removed from the level of service calculations as well as the capital needs forecast.

The Social Services Department operates out of the Halton Regional Centre and 690 Dorval Drive, as well as several satellite offices. Space at the Regional Centre that is used for general administration of the Social Services Department has not been included in the inventory. As with Health Department floor space, the average value of the existing TFA occupied by the Social Services Department has been established at \$328/sq.ft., excluding an allowance for site work, furnishings and fixtures, and land. Including these additional items, the average value of the Region's Social Services facilities is \$429.

An average annual increase in staffing workstations of 1.43% is anticipated. The capital cost for accommodating additional program employees has been calculated using the same space requirement and cost per sq.ft. assumptions used above (i.e. 222 sq.ft. per workstation and \$430 per sq.ft.).

No deduction has been made for benefit to existing development as the capital program is intended to provide new floor space at the current level of service. There is also no post-period benefit (oversizing) resulting from the capital program. As the programs involved relate predominantly to residents of Halton Region, the DC recoverable costs have been allocated 95% to residential development and 5% to non-residential development.

3. Operations Centre Space (Public Works)

The Region of Halton maintains 2 operations facilities: North Operations Centre and Woodlands Operations Centre, with a TFA of 78,793 sq.ft. at an average value of \$317/sq.ft., including land, site works and FFE.

Over the forecast period, 2022-2031, the Region plans to expand the Woodland Operations Centre. As stated in the Paramedics services discussion, the Woodlands facility is a shared facility between Paramedics and Operations. The Region plans to construct a 40,000 sq.ft expansion to the existing 57,960 sq. ft. facility. The capital program includes the cost of design work in 2022 as well as construction scheduled for 2024. Currently, Operations occupies approximately 39,423 sq.ft. of this facility including a portion of shared space. Paramedic services will vacate their current space and move to the additional space while Operations will expand into this space and the Region will expend approximately \$7.45 million to retrofit both the former Paramedic space and a portion of the existing Operations space to increase capacity and improve functionality. It is assumed that 50% of the cost of this retrofit is growth-related with the balance benefiting existing development. This project is to be undertaken in 2022 and will accommodate growth to 2035. As a result, post-period benefit deductions totaling approximately \$1.32 million have been made to these capital projects.

The residential/non-residential split of the net growth-related costs are allocated to 75% to residential development and 25% to non-residential development. This is consistent with the approach undertaken in the 2017 DC study.

Table F-18

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Health Department
Type of Capital Asset: Non-Administrative Space

Description	Quantity - Sq. Ft.										2022 Value (\$/sq.ft.)	2022 Value with land, site works, etc. (\$/sq.ft.)	Weighted Average		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021			Sq Ft.	Cost	
93 Main St. South, Georgetown	2,700	-	-	-	-	-	-	-	-	-	-	\$ 328	\$ 411	2,700	\$ 1,109,700
280 Guelph Street, Georgetown	-	3,758	3,758	3,758	3,758	3,758	3,758	-	-	-	-	328	411	22,549	9,267,465
19 Willow St. N., Acton	948	1,573	1,573	1,573	1,573	1,573	1,573	-	-	-	-	328	411	10,386	4,268,646
3350 Fairview Street, Burlington	3,230	3,230	3,230	3,230	3,230	3,230	3,230	3,230	3,230	3,230	3,230	328	432	32,300	13,953,600
217 Main St. East, Milton	5,010	5,010	5,010	5,010	5,010	5,010	5,010	-	-	-	-	328	425	35,070	14,904,750
Halton Regional Centre	15,261	15,261	15,261	15,261	15,261	15,261	15,261	15,261	15,261	15,261	15,261	328	432	152,610	65,927,520
Halton Regional Centre (share of common area)	14,129	14,129	14,129	14,129	14,129	14,129	14,129	14,129	14,129	14,129	14,129	328	432	141,290	61,037,280
690 Dorval Dr., Oakville - Comm Health	10,084	10,084	10,084	10,084	10,084	10,084	10,084	10,084	10,084	10,084	10,084	328	432	100,840	43,562,880
690 Dorval Dr., Oakville - Comm Health (share of common area)	4,419	4,419	4,419	4,419	4,419	4,419	4,419	4,419	4,419	4,419	4,419	328	432	44,190	19,090,080
372 Queen St, Acton	1,121	1,121	1,121	1,121	1,121	1,121	1,121	1,121	1,121	1,121	1,121	328	411	11,210	4,607,310
232 South Service Road, Oakville	3,615	3,615	3,615	3,615	3,615	3,615	3,615	3,615	3,615	3,615	3,615	328	432	36,150	15,616,800
Total	60,517	62,200	62,200	62,200	62,200	62,200	62,200	62,200	51,859	51,859	51,859	\$	430	589,295	\$ 253,346,031

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.1181	0.1189	0.1174	0.1154	0.1134	0.1112	0.1078	0.0884	0.0873	0.0860

10 Year Average	2012-2021
Quantity per capita	0.1064
Quality (\$/sq.ft.)	\$ 430
Combined Quantity/Quality Level (\$/capita)	\$ 45.74

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 45.74
Eligible Amount	\$ 5,792,189

Table F-19

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Social Services (Children and Housing)
Type of Capital Asset: Non-Administrative Space

Description	Quantity - Sq. Ft.											2022 Value (\$/sq.ft.)	2022 Value with land, site works, etc. (\$/sq.ft.)	Weighted Average	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Sq Ft.			Cost	
Halton Regional Centre	430	430	430	430	430	430	430	430	430	430	430	\$ 328	\$ 432	4,301	\$ 1,857,856
Halton Regional Centre (share of common area)	398	398	398	398	398	398	398	398	398	398	398	328	432	3,975	1,717,372
690 Dorval Dr., Oakville - HCHC	4,168	4,168	4,168	4,168	4,168	4,168	4,168	4,168	4,168	4,168	4,168	328	432	41,680	18,005,760
690 Dorval Dr., Oakville - NPH (Non-Profit Housing)	1,962	1,962	1,962	1,962	1,962	1,962	1,962	1,962	1,962	1,962	1,962	328	432	19,620	8,475,840
690 Dorval Dr., Oakville - Child Services	8,892	8,892	8,892	8,892	8,892	8,892	8,892	8,892	8,892	8,892	8,892	328	432	88,920	38,413,440
690 Dorval Dr., Oakville (share of common area)	6,583	6,583	6,583	6,583	6,583	6,583	6,583	6,583	6,583	6,583	6,583	328	432	65,830	28,438,560
440 Elizabeth Dr., Burlington	3,652	3,652	3,652	3,652	3,652	3,652	3,652	3,652	3,652	3,652	3,652	328	432	36,524	15,778,368
470 Bronte St., Milton	3,525	3,525	3,525	3,525	3,525	3,525	3,525	3,525	3,525	3,525	3,525	328	425	21,150	8,988,750
280 Guelph Street, Georgetown	-	759	759	759	759	759	759	-	-	-	-	328	411	4,554	1,871,516
65 Maple Ave., Georgetown - Child Care	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	328	411	38,400	15,782,400
1256 Sedgewick Cres., Oakville - Child Care	3,948	3,948	3,948	3,948	3,948	3,948	3,948	3,948	3,948	3,948	3,948	328	432	39,480	17,055,360
344 Margaret Dr., Oakville - Child Care	4,325	4,325	4,325	4,325	4,325	4,325	4,325	4,325	4,325	4,325	4,325	328	432	43,250	18,684,000
Total	41,723	42,482	42,482	42,482	42,482	42,482	38,957	38,198	38,198	38,198	38,198		\$ 429	407,684	\$ 175,069,222

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.0814	0.0812	0.0802	0.0788	0.0775	0.0759	0.0675	0.0651	0.0643	0.0634

10 Year Average	2012-2021
Quantity per capita	0.0735
Quality (\$/sq.ft.)	\$ 429.42
Combined Quantity/Quality Level (\$/capita)	\$ 31.56

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 31.56
Eligible Amount	\$ 3,996,625

Table F-20

Halton Region
2022 Development Charges Background Study
Average Level of Service

Table F-20

Service: Facilities (Operations)
Type of Capital Asset: Operations Space for Roads Program

Description	Quantity - Sq. Ft. of Floor Space										2022 Value (\$/sq.ft.)	2022 Value with land, site works, etc. (\$/sq.ft.)	Weighted Average		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021			Sq Ft.	Cost	
North Operations Centre	39,370	39,370	39,370	39,370	39,370	39,370	39,370	39,370	39,370	39,370	39,370	\$ 178	\$ 274	393,700	\$ 107,873,800
Woodlands Operations Centre	32,298	32,298	32,298	32,298	32,298	32,298	32,298	32,298	32,298	32,298	32,298	229	332	322,980	107,229,360
Woodlands Operations Centre (share of common area)	7,125	7,125	7,125	7,125	7,125	7,125	7,125	7,125	7,125	7,125	7,125	380	483	71,250	34,413,750
Total	78,793	78,793	78,793	78,793	78,793	78,793	78,793	78,793	78,793	78,793	78,793	\$ 317		787,930	\$ 249,516,910

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.1538	0.1506	0.1487	0.1462	0.1437	0.1409	0.1365	0.1343	0.1326	0.1307

10 Year Average		2012-2021
Quantity per capita		0.1418
Quality (\$/sq.ft.)	\$	316.67
Combined Quantity/Quality Level (\$/capita)	\$	44.90

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 44.90
Eligible Amount	\$ 5,686,015

Table F-21

Halton Region
2022 Development Charges Background Study
Infrastructure Costs Covered in the DC Calculation - Facilities

SERVICE: Facilities

Increased Service Needs Attributable to Anticipated Development 2022-2031	Timing	Service to Which the Project Relates	2022\$ Gross Capital Cost Est.	Benefit to Existing Development/ U.E.C.	Eligible Increase in Need	Less:			Potential DC Recoverable Cost			
						Post Period Benefit	Grants, Subsidies & Other Contributions Attrib. to New Development	Sub Total	Net Costs Benefiting New Development	Residential Share	Non- Residential Share	
Cost to be Incurred During Term of Proposed By-law												
PW Operations Centre Expansion	2022	Transportation	\$ 500,000	\$ 250,000	\$ 250,000	\$ 83,000		\$ 167,000	\$ 167,000	\$ 125,250	\$ 41,750	
Office Space for Health Program Staff	2022	Public Health	253,481		253,481			253,481	253,481	223,063	30,418	
Office Space for Social Services (Children Services and Housing) Program Staff	2022	Child Care and Housing	159,518		159,518			159,518	159,518	151,542	7,976	
Office Space for Health Program Staff	2023	Public Health	257,106		257,106			257,106	257,106	226,253	30,853	
Office Space for Social Services (Children Services and Housing) Program Staff	2023	Child Care and Housing	161,799		161,799			161,799	161,799	153,709	8,090	
Office Space for Health Program Staff	2024	Public Health	260,782		260,782			260,782	260,782	229,489	31,294	
Office Space for Social Services (Children Services and Housing) Program Staff	2024	Child Care and Housing	164,113		164,113			164,113	164,113	155,907	8,206	
PW Operations Centre Expansion	2024	Transportation	7,400,000	3,700,000	3,700,000	1,233,000		2,467,000	2,467,000	1,850,250	616,750	
Office Space for Health Program Staff	2025	Public Health	264,512		264,512			264,512	264,512	232,770	31,741	
Office Space for Social Services (Children Services and Housing) Program Staff	2025	Child Care and Housing	166,460		166,460			166,460	166,460	158,137	8,323	
Office Space for Health Program Staff	2026	Public Health	268,294		268,294			268,294	268,294	236,099	32,195	
Office Space for Social Services (Children Services and Housing) Program Staff	2026	Child Care and Housing	168,840		168,840			168,840	168,840	160,398	8,442	
Cost to be Incurred Post By-law Term (i.e. beyond 2026)												
Office Space for Health Program Staff	2027	Public Health	\$ 272,131		\$ 272,131			\$ 272,131	\$ 272,131	\$ 239,475	\$ 32,656	
Office Space for Social Services (Children Services and Housing) Program Staff	2027	Child Care and Housing	171,255		171,255			171,255	171,255	162,692	8,563	
Office Space for Health Program Staff	2028	Public Health	276,022		276,022			276,022	276,022	242,900	33,123	
Office Space for Social Services (Children Services and Housing) Program Staff	2028	Child Care and Housing	173,704		173,704			173,704	173,704	165,018	8,685	
Office Space for Health Program Staff	2029	Public Health	279,969		279,969			279,969	279,969	246,373	33,596	
Office Space for Social Services (Children Services and Housing) Program Staff	2029	Child Care and Housing	176,188		176,188			176,188	176,188	167,378	8,809	
Office Space for Health Program Staff	2030	Public Health	283,973		283,973			283,973	283,973	249,896	34,077	
Office Space for Social Services (Children Services and Housing) Program Staff	2030	Child Care and Housing	178,707		178,707			178,707	178,707	169,772	8,935	
Office Space for Health Program Staff	2031	Public Health	288,034		288,034			288,034	288,034	253,470	34,564	
Office Space for Social Services (Children Services and Housing) Program Staff	2031	Child Care and Housing	181,263		181,263			181,263	181,263	172,200	9,063	
Total Estimated Capital Cost			\$ 12,306,152	\$ 3,950,000	\$ 8,356,152	\$ 1,316,000	\$ -	\$ 7,040,152	\$ 7,040,152	\$ 5,972,043	\$ 1,068,109	

Level of Service Summary
 Health Facilities
 Social Services
 Facility Ops
 Total

Eligible Amount
 \$ 5,792,189
 3,996,625
 5,686,015
\$ 15,474,830

Table F-22

**Halton Region
2022 Development Charges Background Study
Cash Flow Calculation - Facilities - Residential**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures	Single Detached Unit Equivalents (Building Permits)	\$98.01 SDE per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ 1,717,869	\$ (499,856)	\$ (499,856)	6,416	\$ 98.01	\$ 628,842	\$ 1,846,855	\$ 55,406	\$ 1,902,261
2023	1,902,261	(379,963)	(387,562)	3,791	99.97	379,029	1,893,728	56,812	1,950,539
2024	1,950,539	(2,235,646)	(2,325,966)	3,791	101.97	386,610	11,183	335	11,518
2025	11,518	(390,907)	(414,834)	4,122	104.01	428,734	25,418	763	26,181
2026	26,181	(396,497)	(429,181)	4,122	106.09	437,308	34,308	1,029	35,337
2027	35,337	(402,167)	(444,025)	4,155	108.21	449,574	40,886	1,227	42,113
2028	42,113	(407,918)	(459,382)	4,155	110.37	458,566	41,297	1,239	42,536
2029	42,536	(413,751)	(475,270)	4,155	112.58	467,737	35,003	1,050	36,053
2030	36,053	(419,668)	(491,708)	4,155	114.83	477,092	21,437	643	22,080
2031	22,080	(425,669)	(508,714)	4,155	117.13	486,634	-	-	-
Total		\$ (5,972,043)	\$ (6,436,498)	43,017		\$ 4,600,126		\$ 118,503	

Note: Numbers may not add due to rounding

Table F-23

Halton Region
2022 Development Charges Background Study
Cash Flow Calculation - Facilities - Non-Residential

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Sq. Ft. of Gross Floor Area	\$0.014 per Sq. Ft. per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ (252,240)	\$ (80,144)	\$ (80,144)	4,254,556	\$ 0.014	\$ 61,150	\$ (271,234)	\$ (8,137)	\$ (279,371)
2023	(279,371)	(38,943)	(39,722)	3,968,917	0.015	58,185	(260,907)	(7,827)	(268,735)
2024	(268,735)	(656,250)	(682,762)	3,968,917	0.015	59,349	(892,148)	(26,764)	(918,912)
2025	(918,912)	(40,064)	(42,517)	3,968,917	0.015	60,536	(900,893)	(27,027)	(927,919)
2026	(927,919)	(40,637)	(43,987)	3,968,917	0.016	61,747	(910,160)	(27,305)	(937,465)
2027	(937,465)	(41,218)	(45,508)	14,997,104	0.016	237,985	(744,988)	(22,350)	(767,338)
2028	(767,338)	(41,808)	(47,082)	14,997,104	0.016	242,745	(571,676)	(17,150)	(588,826)
2029	(588,826)	(42,406)	(48,711)	14,997,104	0.017	247,599	(389,937)	(11,698)	(401,636)
2030	(401,636)	(43,012)	(50,396)	14,997,104	0.017	252,551	(199,480)	(5,984)	(205,464)
2031	(205,464)	(43,627)	(52,139)	14,997,104	0.017	257,603	(0)	(0)	(0)
Total		\$ (1,068,109)	\$ (1,132,967)	95,115,744		\$ 1,539,450		\$ (154,243)	

Note: Numbers may not add due to rounding

F.6 CALCULATION ASSUMPTIONS AND LEVEL OF SERVICE FOR SOCIAL HOUSING

F.6 SOCIAL HOUSING

The Region of Halton administers approximately 5,358 social housing units, including:

- 2,210 units owned/operated by Halton Community Housing Corporation (HCHC) - Halton Region is the sole shareholder in this corporation;
- 336 units at the Oakville Seniors Citizen's Residence (OSCR);
- Approximately 227 units where the Region provided capital for privately-owned market rent buildings where the Region enters into agreements with the owners to provide affordable housing;
- Approximately 1,221 units owned by private non-profit organizations that include housing co-operatives, which receive funding from the Region; and
- Rent supplement units, portable housing benefits and supportive housing units funded regionally or by senior levels of government.

In establishing the historic level of service for social housing in the Region, only HCHC, OSCR, and recently constructed private sector projects that received significant funding from the Region were considered. The historic level of service is 0.0046 units per capita.

The Region's 2022 Budget and Business Plan for the Social Housing program was prepared based on the 2006 Comprehensive Housing Strategy and the 2014 Comprehensive Housing Strategy Update, and provided for an increased Region contribution to 2024. This contribution amount is reassessed annually during the budget process. The Region has indicated its intention to fund, on average, approximately 37 to 45 units per year over the 2022-2031 period. The specifics of who would construct, own, and operate the units have not yet been determined. The Region may potentially develop some units directly or they may be community based. Thus, the 2022-2031 capital program included in the DC calculation involves the addition of approximately 400 units at a total cost of approximately \$100 million.

Based on the current service level of 0.0046 units per capita and an average contribution of \$250,000 per unit, the level of service provides for an average level of investment of \$1,150 per capita. This, applied to the anticipated population growth of 126,625 results in a DC eligible amount of approximately \$145.62 million over the 10-year forecast period. Based on this eligible amount, and the average contribution

amount of \$250,000, the number of eligible units for the forecast period equates to approximately 582.

In determining an appropriate deduction for benefit to existing development, consideration was based on the 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, average wait times, annual availability (turn-over) of existing units 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% 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 studies. There is no post-period benefit (oversizing) resulting from the capital program.

As this service is directly related to population, the DC recoverable costs have been allocated fully to residential development.

Table F-24

Halton Region 2022 Development Charges Background Study Average Level of Service										
Service:	Social Housing									
Type of Capital Asset	Housing Units									
Description	Quantity - # of units									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
10-32(EVEN) Holmesway Place (ACTON)	12	12	12	12	12	12	12	12	12	12
34-44(EVEN) Holmesway Place (ACTON)	6	6	6	6	6	6	6	6	6	6
8 Durham Street	89	89	89	89	89	89	89	89	89	89
17 Elizabeth Drive	52	52	52	52	52	52	52	52	52	52
46 Holmesway Place (ACTON)	12	12	12	12	12	12	12	12	12	12
3 Hyde Park Drive	24	24	24	24	24	24	24	24	24	24
11 Sargent Road	38	38	38	38	38	38	38	38	38	38
1478-1494 Elm Road	54	54	54	54	54	54	54	54	54	54
271 Kerr Street	242	242	242	242	242	242	242	242	242	242
287-359 Margaret Drive	48	48	48	48	48	48	48	48	48	48
284-320 (EVEN) Maurice Drive	60	60	60	60	60	60	60	60	60	60
1220 Glen Valley Road	55	55	55	55	55	55	55	55	55	55
2250 Golden Briar Trail	88	88	88	88	88	88	88	88	88	88
2301 Sheridan Garden Drive	51	51	51	51	51	51	51	51	51	51
2299 Bray's Lane	56	56	56	56	56	56	56	56	56	56
1531 Sixth Line	32	32	32	32	32	32	32	32	32	32
1150 Dorval Drive	50	50	50	50	50	50	50	50	50	50
4100 Longmoor Drive	109	109	109	109	109	109	109	109	109	109
5250 Pinedale Avenue	141	141	141	141	141	141	141	141	141	141
254-278, 282-360 Burloak Drive	54	54	54	54	54	54	54	54	54	54
1300 Maple Crossing Boulevard	91	91	91	91	91	91	91	91	91	91
2300 Walkers Line	57	57	57	57	57	57	57	57	57	57
513-515 Walkers Line & 4105 Longmoor Drive	129	129	129	129	129	129	129	129	129	129
410 John Street	126	126	126	126	126	126	126	126	126	126
708 & 710 Brant Court	16	16	16	16	16	16	16	16	16	16
111 Ontario Street North	36	36	36	36	36	36	36	36	36	36
40 Ontario Street South	88	88	88	88	88	88	88	88	88	88
2220 Lakeshore Rd W & 2222 Lakeshore Rd. W. (OSCR)	336	336	336	336	336	336	336	336	336	336
St. Andrews/Bonnie Place	120	120	120	120	120	120	120	120	120	120
New Horizons	65	65	65	65	65	65	65	65	65	65
Ontario Street	80	80	80	80	80	80	80	80	80	80
2021 & 2031 Merchants Gate								147	147	147
Rotary Gardens - 1285 Sedgewick Crescent						28	28	28	28	28
Mint Condos				16	31	31	31	31	31	31
Senses Condos				8	8	8	8	8	8	8
Paradigm Condos				15	15	15	15	15	15	15
Appleby Condos					10	10	10	10	10	10
Jasper Condos					10	10	10	10	10	10
Catherton										34
Westwood II			37	37	37	37	37	37	37	37
Habitat (Queensway Drive)									18	18
Victoria Park										18
Total	2,417	2,417	2,454	2,493	2,528	2,556	2,556	2,703	2,721	2,773

Table F-24 (continued)

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Social Housing
Type of Capital Asset: Housing Units

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.0047	0.0046	0.0046	0.0046	0.0046	0.0046	0.0044	0.0046	0.0046	0.0046

10 Year Average	2012-2021
Quantity per capita	0.0046
Quality (\$/unit)	250,000 *
Combined Quantity/Quality Level (\$/capita)	1,150

* The cost to the Region of providing Social Housing units is variable; but for these particular units, the average contribution is assumed to be \$250,000 per unit

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 1,150
Eligible Amount	\$ 145,618,750

Table F-25

**Halton Region
2022 Development Charges Background Study
Infrastructure Costs Covered in the DC Calculation - Social Housing**

SERVICE: Social Housing

Increased Service Needs Attributable to Anticipated Development 2022-2031	Timing	2022 \$ Gross Capital Cost Est.	Benefit to Existing Development/ U.E.C.	Eligible Increase in Need	Less:			Potential DC Recoverable Cost		
					Post Period Benefit	Grants, Subsidies & Other Contributions Attrib. to New Development	Sub Total	Net Costs Benefiting New Development	Residential Share 100%	Non-Residential Share 0%
Cost to be Incurred During										
Term of Proposed By-law										
Contribution to additional units	2022	\$ 9,450,000	\$ 4,725,000	\$ 4,725,000			\$ 4,725,000	\$ 4,725,000	\$ 4,725,000	\$ -
Contribution to additional units	2023	9,450,000	4,725,000	4,725,000			4,725,000	4,725,000	4,725,000	-
Contribution to additional units	2024	11,200,000	5,600,000	5,600,000			5,600,000	5,600,000	5,600,000	-
Contribution to additional units	2025	10,000,000	5,000,000	5,000,000			5,000,000	5,000,000	5,000,000	-
Contribution to additional units	2026	10,000,000	5,000,000	5,000,000			5,000,000	5,000,000	5,000,000	-
Cost to be Incurred Post										
By-law Term (i.e. beyond 2026)										
Contribution to additional units	2027	\$ 10,000,000	\$ 5,000,000	\$ 5,000,000			\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ -
Contribution to additional units	2028	10,000,000	5,000,000	5,000,000			5,000,000	5,000,000	5,000,000	-
Contribution to additional units	2029	10,000,000	5,000,000	5,000,000			5,000,000	5,000,000	5,000,000	-
Contribution to additional units	2030	10,000,000	5,000,000	5,000,000			5,000,000	5,000,000	5,000,000	-
Contribution to additional units	2031	10,000,000	5,000,000	5,000,000			5,000,000	5,000,000	5,000,000	-
Total Estimated Capital Cost		\$ 100,100,000	\$ 50,050,000	\$ 50,050,000	\$ -	\$ -	\$ 50,050,000	\$ 50,050,000	\$ 50,050,000	\$ -

Level of Service Summary Eligible Amount
Service Cap \$145,618,750

**Table F-26
Halton Region
2022 Development Charges Study
Cash Flow Calculation - Social Housing - Residential**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Single Detached Unit Equivalents (Building Permits)	\$985.82 SDE per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ 7,236,810	\$ (4,725,000)	\$ (4,725,000)	6,416	\$985.82	\$ 6,325,194	\$ 8,837,004	\$ 265,110	\$ 9,102,114
2023	9,102,114	(4,725,000)	(4,819,500)	3,791	1,005.54	3,812,457	8,095,072	242,852	8,337,924
2024	8,337,924	(5,600,000)	(5,826,240)	3,791	1,025.65	3,888,707	6,400,390	192,012	6,592,402
2025	6,592,402	(5,000,000)	(5,306,040)	4,122	1,046.16	4,312,412	5,598,774	167,963	5,766,737
2026	5,766,737	(5,000,000)	(5,412,161)	4,122	1,067.09	4,398,660	4,753,237	142,597	4,895,834
2027	4,895,834	(5,000,000)	(5,520,404)	4,155	1,088.43	4,522,039	3,897,469	116,924	4,014,393
2028	4,014,393	(5,000,000)	(5,630,812)	4,155	1,110.20	4,612,480	2,996,060	89,882	3,085,942
2029	3,085,942	(5,000,000)	(5,743,428)	4,155	1,132.40	4,704,729	2,047,243	61,417	2,108,660
2030	2,108,660	(5,000,000)	(5,858,297)	4,155	1,155.05	4,798,824	1,049,187	31,476	1,080,663
2031	1,080,663	(5,000,000)	(5,975,463)	4,155	1,178.15	4,894,800	(0)	(0)	(0)
Total		\$ (50,050,000)	\$ (54,817,345)	43,017		\$ 46,270,302		\$ 1,310,233	

Note: Numbers may not add due to rounding

F.7 CALCULATION ASSUMPTIONS AND LEVEL OF SERVICE FOR WASTE DIVERSION

F.7 WASTE DIVERSION

The Region is responsible for waste diversion and disposal in Halton including waste collection. The Region's key waste diversion activities include blue box (recyclables), green cart (compostable), and yard waste. Diversion accounted for over 59 % of waste managed by the Region in 2021.

The Region's waste diversion assets are comprised of facilities, vehicles, and equipment.

1. Facilities

Blue Box and green cart materials collected by the Region's contractors are taken to one of several locations including the Region owned transfer station at the Halton Waste Management Site (HWMS) and 2 private transfer stations under contract to the Region. As well, recyclable materials are also sent to a private facility in North York.

In addition, a number of other buildings at the HWMS have been apportioned to waste diversion. For example, yard waste is processed at a Region owned container station located there. Further, a share of the administrative building has been allocated to diversion.

The service level calculation also includes a share of the City of Hamilton's Central Waste Processing facility which has been under contract to process Halton's compostable material since 2008. Halton waste has accounted for up to 40% of the processing capacity at this facility annually. In 2021, the Region did not renew their contract with the City of Hamilton and instead entered into a contract to send their organics material to the StormFisher processing facilities in Drumbo and London. The size of this facility is significantly smaller than the Hamilton facility as the technologies utilized to process the materials allow for less space while processing the same amount of materials. As a result, the replacement cost of the facility is higher than the Hamilton facility.

2. Vehicles

The Region contracts out the collection of diverted waste from residential households as well as designated downtown commercial areas. Under the current contract, combined vehicles are used to pick up blue box and green cart materials that are placed at the curbside. Separate vehicles are used to collect yard waste and bulk waste. These vehicles along with their estimated replacement value are included in the service level calculation table. These vehicles are typically kept in service for 8 years.

In addition, the Region owns a number of waste management vehicles most of which are used to supervise collection and therefore, involved in both waste diversion and disposal. For this reason, the vehicles with a useful life of 7 years or more have been included in the calculation and have been assigned a percentage that approximates the portion that is applicable to waste diversion only.

3. Carts and Containers

The Region of Halton provides containers to all households for curbside and multi-residential collection of blue box materials and organic waste including blue bins, green carts and kitchen catchers for low and medium density units and blue carts, blue bags, green totes and kitchen catchers for apartment units. The historical service level for these items has been calculated and included in the service level cap.

4. Capital Program

The Region's 10-year capital program for Waste Diversion includes:

- Unfunded growth-related amounts for vehicles previously purchased.
- The study and construction of a transfer station and organics processing facility at the Halton Waste Management Site. This facility would process all Halton's green cart waste eliminating the need to contract this service to an external provider. This facility would also replace the current transfer station at the Halton Waste Management site which accepts both green cart and blue box material. The transfer station component of the new facility would be designed to offload both blue box and green cart material. The transfer station and organics processing facility would be sized to accommodate future growth. While this project is planned to meet the needs of growth, a portion represents replacement of existing facilities. For this reason, a 67.83% attribution to 'benefit to existing

development' has been made based on the assumed growth versus the current population. It is assumed that both components will be sized to meet the needs of growth to 2041.

- An allowance for contracted vehicles used for the collection of blue box, green cart and other diverted materials. As noted earlier, the Region contracts with private operators for the collection of waste. The contract price reflects, in part, the capital cost of vehicles purchased by the private operator. The vehicles required for diversion have been included in the service level calculation. As the Region continues to grow, more vehicles will be required and this cost will be reflected in the contract prices. The capital cost was calculated by multiplying the number of waste diversion vehicles per capita in 2021 by the forecast population increase for the next 10 years to arrive at an estimate of the number of vehicles required. This estimate was multiplied by the average cost per waste collection vehicle.
- An automated wheeled cart study and a solid waste management strategy.

As the Region's waste diversion programs, including collection, are predominantly provided to and utilized by residential development, the net recoverable share of the costs applied to residential development are 95%. The remaining 5% share of the costs are allocated to non-residential development.

Table F-27

Halton Region
2022 Development Charges Background Study
Average Level of Service

Service: Waste Diversion
Type of Capital Asset: Facility Space

Description	Quantity - Sq. Ft. of Floor Space										2022 Value (\$/sq.ft.)	2022 Value incl. Land, Site Works, etc (\$/sq.ft.)	Diversion %	Weighted Average of Diversion		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021				Sq Ft.	Cost	
5400 Regional Rd 25, Milton	15,057	15,057	15,057	15,057	15,057	19,008	19,008	19,008	19,008	19,008	19,008	\$ 127	\$ 226	100%	170,326	\$ 38,493,787
Leferink Transfer Station - 55 Armstrong Ave, Halton Hills	8,411	8,411	8,411	8,411	8,411	8,411	8,411	8,411	8,411	8,411	8,411	162	273	100%	84,110	22,962,030
Norjohn Transfer Station - 5030 Mainway, Burlington ¹	53,128	53,128	53,128	53,128	53,128	53,128	53,128	53,128	53,128	53,128	53,128	122	236	100%	531,280	125,382,080
Centralized Compost Facility (Hamilton) ²	43,375	46,215	46,913	47,051	46,821	46,821	46,821	46,821	46,821	46,821		122	249	100%	417,662	103,997,889
StormFisher Processing Facility - Drumbo/London Drumbo – 806548 Oxford Road N0J 1G0 London – 1087 Green Valley Road N6N 1E4											4,546	376	543.00	100%	4,546	2,468,478
GFL/Canada Fibers Processing Facility - 124 Arrow Road, North York							22,946	22,946	22,946	22,946		127	255.00	100%	91,784	23,404,920
Total	119,971	122,811	123,509	123,647	123,417	127,369	150,315	150,315	150,315	108,039		\$ 244			1,299,709	\$ 316,709,184

Population	512,259	512,259	512,259	512,259	512,259	512,259	512,259	512,259	512,259	512,259
Per Capita Service Level	0.2342	0.2397	0.2411	0.2414	0.2409	0.2486	0.2934	0.2934	0.2934	0.2109

10 Year Average	2012-2021
Quantity per capita	0.2537
Quality (\$/sq.ft.)	\$ 243.68
Combined Quantity/Quality Level (\$/capita)	\$ 61.82

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 61.82
Eligible Amount	\$ 7,828,067

¹ Norjohn floor space excludes floor area attributed to waste disposal.
² Centralized Compost Facility is 115,000 sq.ft. in area. Area included is based on Halton's utilization of the facility.

Table F-28

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Waste Diversion
Type of Capital Asset: Vehicles

Description	Quantity - Number of Vehicles										2022 Value (\$/vehicle)	Diversion %	Weighted Average	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021			Vehicles	Cost
Waste Management - Recycling														
1/2 Ton Ext Cab 4x4 P/U	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	\$ 39,000	75%	-	-
1/2 Ton Ext Cab 4x4 P/U	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	39,000	75%	7.50	\$ 292,500
1/2 Ton Ext Cab 4x4 P/U	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	39,000	75%	7.50	292,500
1/2 Ton Ext Cab 4x4 P/U	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	39,000	75%	7.50	292,500
1/2 Ton Pick Up Truck	-	-	-	-	0.75	0.75	0.75	0.75	0.75	0.75	43,000	75%	4.50	193,500
F150 Ext Cab 4x4 P/U Truck	-	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	45,000	75%	6.75	303,750
Ford Escape Hybrid	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	42,900	100%	7.00	300,300
Escape 4X4	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	34,000	100%	10.00	340,000
Haul-All	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	167,000	75%	7.50	1,252,500
1/2 Ton Pick Up Truck	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	39,000	75%	7.50	292,500
Contract Trucks														
Combined Recyclable and Organic Waste (top side loading with no compaction, average weight 2.8 tonnes)	40.00	40.00	40.00	40.00							330,000	100%	160.00	52,800,000
Split Rearpackers (average load 5.8 tonnes)					27.00	27.00	27.00	27.00	27.00	29.00	330,000	100%	164.00	54,120,000
Yard Waste (sideloading vehicles 5 tonnes)	5.00	5.00	5.00	5.00	8.00	8.00	8.00	8.00	8.00	8.00	330,000	100%	68.00	22,440,000
Metal Items and Appliances (standard cube van with tailgate lifting mechanism)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	46,000	100%	12.00	552,000
48 Yard Front-End Recycling (Formerly sideloader with 4-5 tonne capacity)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	330,000	100%	10.00	3,300,000
40 Yard Roll-Off Truck - Recycling HWMS Container Station	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	330,000	50%	5.00	1,650,000
Total	53.00	53.75	53.75	54.75	45.50	45.50	45.50	45.50	46.50	48.50	\$ 281,797		492	\$ 138,714,550

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

10 Year Average	2012-2021
Quantity per capita	0.0001
Quality (\$/vehicle)	\$ 281,797
Combined Quantity/Quality Level (\$/capita)	\$ 28.18

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 28.18
Eligible Amount	\$ 3,568,254

Table F-29

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Waste Diversion
Type of Capital Asset: Carts & Containers

Description	Quantity - Items										2022 Value (\$/item)	Diversion %	Weighted Average of Diversion		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021			Item	Cost	
Blue Bins (16 gallon)	155,317	-	-	-	-	-	-	-	-	-	-	\$ 6.79	100%	155,317	\$ 1,054,602
Blue Bins (22 gallon)	-	157,911	160,217	161,707	163,945	166,253	170,948	173,162	175,131	177,247	-	5.86	100%	1,506,520	8,833,270
Blue Carts (Apartments) (6 gallon)	880	880	880	880	880	-	-	-	-	-	-	4.74	100%	4,400	20,856
Blue Carts (Apartments) (95 gallon)	4,219	4,305	4,486	4,666	4,968	5,243	5,472	5,650	5,776	5,886	-	69.05	100%	50,673	3,498,694
Blue Bags	29,534	30,133	31,402	32,661	34,774	36,704	38,306	39,552	40,435	41,204	-	1.29	100%	354,708	458,718
Blue Wheeled Carts (Comm. & BIA)	-	-	-	-	3,000	3,200	3,599	3,599	3,799	3,999	-	69.05	100%	21,196	1,463,482
Orange Bins	-	-	-	-	-	-	-	3,960	5,000	5,000	-	5.48	100%	13,960	76,498
Green Carts	155,317	157,911	160,217	161,707	163,945	166,253	170,948	173,162	175,131	177,247	-	15.18	100%	1,661,837	25,224,992
Kitchen Catchers	184,851	188,044	191,619	194,368	198,719	202,957	209,254	212,714	215,566	218,451	-	2.74	100%	2,016,545	5,516,420
Green Totes (Apartments) (95 gallon/360L)	499	791	841	1,091	1,189	1,387	1,587	1,783	1,983	2,283	-	73.06	100%	13,434	981,439
Green Cart (120L)	-	-	-	-	135	435	435	579	879	1,179	-	61.97	100%	3,642	225,678
Total	530,617	539,975	549,662	557,079	571,555	582,433	600,550	614,162	623,701	632,497	\$ 8.16			5,802,231	\$ 47,354,649

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Per Capita Service Level	1.0358	1.0322	1.0375	1.0339	1.0422	1.0412	1.0404	1.0471	1.0495	1.0494

10 Year Average	2012-2021
Quantity per capita	1.0409
Quality (\$/item)	\$ 8.16
Combined Quantity/Quality Level (\$/capita)	\$ 8.50

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 8.50
Eligible Amount	\$ 1,075,712

Table F-30

**Halton Region
2022 Development Charges Background Study
Infrastructure Costs Covered in the DC Calculation - Waste Diversion**

SERVICE: Waste Diversion

Increased Service Needs Attributable to Anticipated Development 2022-2031	Timing	2022\$ Gross Capital Cost	Diversion %	2022\$ Ineligible Capital Cost	2022\$ Gross Capital Cost (Eligible)	Benefit to Existing Development/ U.E.C.	Eligible Increase in Need	Less:			Potential DC Recoverable Cost		
								Post Period Benefit	Grants, Subsidies & Other Contributions Attrib. to New Development	Sub Total	Net Costs Benefiting New Development	Residential Share 95%	Non-Residential Share 5%
Previous period unfunded													
Vehicles (unfunded portion of DC recoverable share)*	2022	\$ 338,253	100%	-	\$ 338,253		\$ 338,253			\$ 338,253	\$ 338,253	\$ 315,830	\$ 22,422
Cost to be Incurred During													
Term of Proposed By-law													
Transfer Station - Organics - Study	2022	\$ 784,000	100%	-	\$ 784,000	\$ 196,000	\$ 588,000			\$ 588,000	\$ 588,000	\$ 558,600	\$ 29,400
Transfer Station - Organics - Construction	2023	7,100,000	100%	-	7,100,000	4,816,000	2,284,000	1,027,000		1,257,000	1,257,000	1,194,150	62,850
Provision for additional vehicles	2022-2026	2,805,000	100%	-	2,805,000	1,402,500	1,402,500			1,402,500	1,402,500	1,332,375	70,125
Automated Wheeled Cart Study	2022	610,000	50%	305,000	305,000	152,500	152,500			152,500	152,500	144,875	7,625
Cost to be Incurred Post													
By-law Term (i.e. beyond 2026)													
Provision for additional vehicles	2027-2031	\$ 2,805,000	100%	-	\$ 2,805,000	\$ 1,402,500	\$ 1,402,500			\$ 1,402,500	\$ 1,402,500	\$ 1,332,375	\$ 70,125
Solid Waste Management Strategy	2030	500,000	75%	125,000	375,000	125,000	250,000			250,000	250,000	237,500	12,500
Total Estimated Capital Cost		\$ 14,942,253		\$ 430,000	\$ 14,512,253	\$ 8,094,500	\$ 6,417,753	\$ 1,027,000	\$ -	\$ 5,390,753	\$ 5,390,753	\$ 5,115,705	\$ 275,047

* The cost shown represents the DC Recoverable Share still to be funded through development charges including interest charges.

Level of Service Summary	Eligible Amount
Facilities	7,828,067
Vehicles	3,568,254
Carts & Containers	1,075,712
Total	\$ 12,472,033

Table F-31

Halton Region
 2022 Development Charges Study
 Cash Flow Calculations - Waste Diversion - Residential

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Single Detached Unit Equivalents (Building Permits)	\$95.72 SDE per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ 1,023,185	\$ (1,285,780)	\$ (1,285,780)	6,416	\$ 95.72	\$ 614,185	\$ 351,590	\$ 10,548	\$ 362,137
2023	362,137	(1,460,625)	(1,489,838)	3,791	97.64	370,195	(757,505)	(22,725)	(780,230)
2024	(780,230)	(266,475)	(277,241)	3,791	99.59	377,599	(679,872)	(20,396)	(700,268)
2025	(700,268)	(266,475)	(282,785)	4,122	101.58	418,741	(564,313)	(16,929)	(581,242)
2026	(581,242)	(266,475)	(288,441)	4,122	103.62	427,116	(442,567)	(13,277)	(455,844)
2027	(455,844)	(266,475)	(294,210)	4,155	105.69	439,096	(310,958)	(9,329)	(320,287)
2028	(320,287)	(266,475)	(300,094)	4,155	107.80	447,878	(172,503)	(5,175)	(177,678)
2029	(177,678)	(266,475)	(306,096)	4,155	109.96	456,836	(26,939)	(808)	(27,747)
2030	(27,747)	(503,975)	(590,487)	4,155	112.16	465,972	(152,262)	(4,568)	(156,829)
2031	(156,829)	(266,475)	(318,462)	4,155	114.40	475,292	0	0	0
Total		\$ (5,115,705)	\$ (5,433,434)	43,017		\$ 4,492,909		\$ (82,660)	

Note: Numbers may not add due to rounding

Table F-32

**Halton Region
2022 Development Charges Study
Cash Flow Calculation - Waste Diversion - Non-Residential**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Sq. Ft. of Gross Floor Area	\$0.003 per Sq. Ft. per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ (12,351)	\$ (73,472)	\$ (73,472)	4,254,556	\$ 0.003	\$ 13,261.48	\$ (72,562)	\$ (2,177)	\$ (74,739)
2023	(74,739)	(76,875)	(78,413)	3,968,917	0.003	12,618.57	(140,533)	(4,216)	(144,749)
2024	(144,749)	(14,025)	(14,592)	3,968,917	0.003	12,870.94	(146,470)	(4,394)	(150,864)
2025	(150,864)	(14,025)	(14,883)	3,968,917	0.003	13,128.36	(152,619)	(4,579)	(157,197)
2026	(157,197)	(14,025)	(15,181)	3,968,917	0.003	13,390.92	(158,987)	(4,770)	(163,757)
2027	(163,757)	(14,025)	(15,485)	14,997,104	0.003	51,611.45	(127,630)	(3,829)	(131,459)
2028	(131,459)	(14,025)	(15,794)	14,997,104	0.004	52,643.68	(94,610)	(2,838)	(97,448)
2029	(97,448)	(14,025)	(16,110)	14,997,104	0.004	53,696.55	(59,862)	(1,796)	(61,658)
2030	(61,658)	(26,525)	(31,078)	14,997,104	0.004	54,770.48	(37,966)	(1,139)	(39,105)
2031	(39,105)	(14,025)	(16,761)	14,997,104	0.004	55,865.89	(0)	(0)	(0)
Total		\$ (275,047)	\$ (291,770)	95,115,744		\$ 333,858		\$ (29,737)	

Note: Numbers may not add due to rounding

F.8 CALCULATION ASSUMPTIONS AND LEVEL OF SERVICE FOR WATERFRONT PARKS

F.8 WATERFRONT PARKS

The Halton Region Official Plan identifies 2 Regional Waterfront Parks: Burlington Beach, and Burloak Park. These 2 locations provide approximately 16 acres of developed parkland along the waterfront in Burlington and Oakville. These parks have been developed to some degree including amenities such as washrooms, playground structures, trails, pavilions etc. Bronte Harbour was developed by the Region and transferred to Town of Oakville in 2017.

Development of waterfront parks includes additional expenses not incurred at other municipal parks particularly related to shoreline protection including retaining walls, breakwalls and other barriers such as groynes.

The Region has expended funds over a number of years to develop waterfront parks. For example, the Region:

- contributed \$10.3 million for the development of Burlington Beach since 2016
- invested over \$6.2 million for infrastructure, studies and pavilions at Burlington Beach prior to 2008;

expended over \$7.7 million for the development of Burloak Park. In assigning an average cost per acre for the development of the waterfront parks, the 2017 value per acre of \$600,000 was indexed to 2022 values using the non-residential building construction cost index. As a result, an average park development cost per acre of \$735,000 has been assumed in calculating the average quality level of service. The average level of service provided over the previous 10 years has been an investment by the Region of approximately \$44.84 per capita.

In addition to parkland development, existing amenities have been identified at Bronte Harbour (banquet facility, public washrooms, and marina offices) as well as Burlington Beach and Burloak Park. The average level of service provided over the previous 10 years equates to an investment by the Region of approximately \$17.62 per capita.

In total, the level of service calculations provide for a DC eligible amount of approximately \$7.91 million.

The capital program for park development over the next 10 years includes development at both Regional Waterfront Parks: Burloak and Burlington Beach. These capital costs are based on the approved development master plans for each park.

Implementation of the plan is expected to take place incrementally, over a number of years. Timing will be dependent, in part, on the opportunities for acquisition of the remaining privately held properties. Further, a portion of Burlington Beach is located largely on lands under the control of the Government of Canada and will require Federal approval prior to proceeding. It is anticipated that development of Burloak park will be complete in 2024 and development of Burlington Beach will be complete around 2027.

The remaining development costs at Burloak park total \$1.15 million. The remaining development costs for Burlington Beach total \$13.47 million plus \$23.00 million for the relocation of the hydro tower to facilitate development of these areas. Similar to the previous study, a 25% deduction for BTE has been applied to the parkland development costs and a 50% deduction for BTE has been applied to the hydro tower.

Post period benefit deductions totaling \$14.85 million have been made to ensure the net growth-related costs remain within the service level ceiling.

The net DC recoverable costs have been allocated 95% to residential development and 5% to non-residential development, consistent with the approach taken for waterfront park development.

Table F-33

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Waterfront Parks
Type of Capital Asset: Parkland Development

Description	Quantity - No. of Developed Parkland Acres										2017 Value (\$/acre)	2022 Value (\$/acre)	Weighted Average	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021			# of Acres	Cost
Burlington Beach Waterfront Park	0.49	0.49	0.49	0.87	0.99	0.99	1.64	1.95	2.04	2.04	\$ 600,000	\$ 735,000	12	\$ 8,804,359
Burloak Waterfront Park	13.15	13.15	14.06	14.06	14.06	14.06	14.06	14.06	14.06	14.06	600,000	735,000	139	102,006,240
Bronte Harbour	30.28	30.28	30.28	30.28	30.28	30.28					600,000	735,000	182	133,534,800
Total	43.92	43.92	44.83	45.21	45.33	45.33	15.70	16.01	16.10	16.10		\$ 735,000	332	\$ 244,345,399

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Service Level Per 1,000 persons	0.086	0.084	0.085	0.084	0.083	0.081	0.027	0.027	0.027	0.027

10 Year Average	2012-2021
Quantity per 1,000 persons	0.0610
Quality (\$/Acre)	\$ 735,000
Combined Quantity/Quality Level (\$/1,000 persons)	\$ 44,835
Combined Quantity/Quality Level (\$/capita)	\$ 44.84

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 44.84
Eligible Amount	\$ 5,677,865

Table F-34a

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Waterfront Parks
Type of Capital Asset: Waterfront Parks Amenities

Description	Quantity - Sq.ft.										2022 Value (\$/sq.ft.)	Weighted Average	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		Sq.ft. of Amenities	Cost
Bronte Harbour													
Banquet Facility	33,260	32,460	32,460	32,460	32,460	32,460	-	-	-	-	\$ 252	195,560	\$ 49,186,795
Public Washroom and Boaters Shower	3,810	3,810	3,810	3,810	3,810	3,810	-	-	-	-	51	22,860	1,162,698
Marina Offices	667	667	667	667	667	667	-	-	-	-	292	4,002	1,169,128
Total	37,737	36,937	36,937	36,937	36,937	36,937	-	-	-	-	\$ 232	222,422	\$ 51,518,620

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Service Level Per 1,000 persons	73.6678	70.6107	69.7193	68.5519	67.3499	66.0322	0.0000	0.0000	0.0000	0.0000

10 Year Average	2012-2021
Quantity per 1,000 persons	41.5932
Quality (\$/sq.ft)	\$ 232
Combined Quantity/Quality Level (\$/1,000 persons)	\$ 9.634
Combined Quantity/Quality Level (\$/capita)	\$ 9.63

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 9.63
Eligible Amount	\$ 1,219,911

Table F-34b

**Halton Region
2022 Development Charges Background Study
Average Level of Service**

Service: Waterfront Parks
Type of Capital Asset: Waterfront Parkland Amenities

Description	Quantity - No. of Items										2022 Value (\$)	Weighted Average		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		Amenities	Cost	
Burlington Beach														
Contribution to Wharf	1	1	1	1	1	1	1	1	1	1	\$ 3,060,000	10	\$ 30,600,000	
Spencer Smith Park - Gazebo	-	-	-	-	-	1	1	1	1	1	810,000	5	4,050,000	
Spencer Smith Park - Promenade Improvement	-	-	-	-	-	1	1	1	1	1	1,130,000	5	5,650,000	
Burloak Park														
Gazebo	1	1	1	1	1	1	1	1	1	1	92,000	10	920,000	
Playground	1	1	1	1	1	1	1	1	1	1	122,000	10	1,220,000	
Eastern Gateway "Boat" Plaza	-	-	-	-	-	-	1	1	1	1	420,000	4	1,680,000	
Windows to the Lake Parking Area	-	-	-	-	-	-	1	1	1	1	60,000	4	240,000	
East look out plaza	-	-	-	-	-	-	1	1	1	1	200,000	4	800,000	
West look out plaza	-	-	-	-	-	-	1	1	1	1	59,000	4	236,000	
Boat Launch	-	-	-	-	-	-	1	1	1	1	20,000	4	80,000	
East Picnic Area	-	-	-	-	-	-	1	1	1	1	59,000	4	236,000	
West Picnic Area	-	-	-	-	-	-	1	1	1	1	43,000	4	172,000	
Entrance feature	-	-	-	-	-	-	-	-	-	1	55,000	1	55,000	
Total	3	3	3	3	3	5	12	12	12	13	\$ 665,783	69	\$ 45,939,000	

Population	512,259	523,108	529,796	538,818	548,434	559,379	577,222	586,510	594,272	602,747
Service Level Per 1,000 persons	0.0059	0.0057	0.0057	0.0056	0.0055	0.0089	0.0208	0.0205	0.0202	0.0216

10 Year Average	2012-2021
Quantity per 1,000 persons	0.0120
Quality (\$/item)	\$ 665,783
Combined Quantity/Quality Level (\$/1,000 persons)	\$ 7,989
Combined Quantity/Quality Level (\$/capita)	\$ 7.99

DC Amount (before deductions)	
Forecast Population (net)	126,625
\$ per Capita	\$ 7.99
Eligible Amount	\$ 1,011,657

Table F-35

**Halton Region
2022 Development Charges Background Study
Infrastructure Costs Covered in the DC Calculation - Waterfront Parks**

SERVICE: Waterfront Parks

Increased Service Needs Attributable to Anticipated Development 2022-2031	Timing	2022\$ Gross Capital Cost Est.	Benefit to Existing Development/ U.E.C.	Eligible Increase in Need	Less:			Potential DC Recoverable Cost		
					Post Period Benefit	Grants, Subsidies & Other Contributions Attrib. to New Development	Sub Total	Net Costs Benefiting New Development	Residential Share 95%	Non-Residential Share 5%
Cost to be Incurred During										
Term of Proposed By-law										
Burloak Phase 3 - Design	2022	\$ 150,000		\$ 150,000			\$ 150,000	\$ 150,000	\$ 142,500	\$ 7,500
Burloak Phase 3 - Construction	2024	1,000,000		1,000,000			1,000,000	1,000,000	950,000	50,000
Burlington Beach - Recreational Works	2023	2,382,000	595,500	1,786,500			1,786,500	1,786,500	1,697,175	89,325
Burlington Beach - Environmental Restoration	2023	1,838,000	459,500	1,378,500			1,378,500	1,378,500	1,309,575	68,925
Burlington Beach - Hydro Tower	2023	23,000,000	11,500,000	11,500,000	7,910,000		3,590,000	3,590,000	3,410,500	179,500
Cost to be Incurred Post										
By-law Term (I.e. beyond 2026)										
Burlington Beach - Recreational Works	2027	\$ 6,151,000	\$ 1,537,750	\$ 4,613,250	\$ 4,613,250					
Burlington Beach - Environmental Restoration	2027	3,099,000	774,750	2,324,250	2,324,250					
Total Estimated Capital Cost		\$ 37,620,000	\$ 14,867,500	\$ 22,752,500	\$ 14,847,500	\$ -	\$ 7,905,000	\$ 7,905,000	\$ 7,509,750	\$ 395,250

<u>Level of Service Summary</u>	<u>Eligible Amount</u>
Parkland Development	\$ 5,677,865
Amenities	2,231,568
Total	<u>\$ 7,909,433</u>

Table F-36

Halton Region
 2022 Development Charges Study
 Cash Flow Calculations - Waterfront Parks - Residential

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Single Detached Unit Equivalents (Building Permits)	\$218.69 SDE per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ (1,594,338)	\$ (142,500)	\$ (142,500)	6,416	\$ 218.69	\$ 1,403,180	\$ (333,657)	\$ (10,010)	\$ (343,667)
2023	(343,667)	(6,417,250)	(6,545,595)	3,791	223.07	845,755	(6,043,507)	(181,305)	(6,224,812)
2024	(6,224,812)	(950,000)	(988,380)	3,791	227.53	862,670	(6,350,522)	(190,516)	(6,541,038)
2025	(6,541,038)	-	-	4,122	232.08	956,665	(5,584,373)	(167,531)	(5,751,904)
2026	(5,751,904)	-	-	4,122	236.72	975,798	(4,776,106)	(143,283)	(4,919,389)
2027	(4,919,389)	-	-	4,155	241.46	1,003,169	(3,916,220)	(117,487)	(4,033,707)
2028	(4,033,707)	-	-	4,155	246.29	1,023,232	(3,010,475)	(90,314)	(3,100,789)
2029	(3,100,789)	-	-	4,155	251.21	1,043,697	(2,057,093)	(61,713)	(2,118,805)
2030	(2,118,805)	-	-	4,155	256.24	1,064,570	(1,054,235)	(31,627)	(1,085,862)
2031	(1,085,862)	-	-	4,155	261.36	1,085,862	0	0	0
Total		\$ (7,509,750)	\$ (7,676,475)	43,017		\$ 10,264,598		\$ (993,786)	

Note: Numbers may not add due to rounding

Table F-37

**Halton Region
2022 Development Charges Study
Cash Flow Calculation - Waterfront Parks - Non-Residential**

Year	DC Reserve Fund Opening Balance	Development Related Expenditures Nominal Project Cost	Development Related Expenditures Project Cost Inflated at 2%	Sq. Ft. of Gross Floor Area	\$0.008 per Sq. Ft. per Year Inflated at (2%) Starting in 2023	Anticipated Revenues	Annual Surplus/ (Deficit)	3% / 3% RF Interest Earnings / (Cost)	DC Reserve Fund Closing Balance after Interest
2022	\$ (292,838)	\$ (7,500)	\$ (7,500)	4,254,556	\$ 0.008	\$ 32,403	\$ (267,936)	\$ (8,038)	\$ (275,974)
2023	(275,974)	(337,750)	(344,505)	3,968,917	0.008	30,832	(589,647)	(17,689)	(607,337)
2024	(607,337)	(50,000)	(52,020)	3,968,917	0.008	31,448	(627,908)	(18,837)	(646,745)
2025	(646,745)	-	-	3,968,917	0.008	32,077	(614,668)	(18,440)	(633,108)
2026	(633,108)	-	-	3,968,917	0.008	32,719	(600,389)	(18,012)	(618,401)
2027	(618,401)	-	-	14,997,104	0.008	126,105	(492,296)	(14,769)	(507,065)
2028	(507,065)	-	-	14,997,104	0.009	128,627	(378,437)	(11,353)	(389,791)
2029	(389,791)	-	-	14,997,104	0.009	131,200	(258,591)	(7,758)	(266,348)
2030	(266,348)	-	-	14,997,104	0.009	133,824	(132,525)	(3,976)	(136,500)
2031	(136,500)	-	-	14,997,104	0.009	136,500	(0)	(0)	(0.00)
Total		\$ (395,250)	\$ (404,025)	95,115,744		\$ 815,735		\$ (118,872)	

Note: Numbers may not add due to rounding

Appendix G

Local Service Guidelines

Appendix G: Local Service Policy

Below is the current local servicing policy (note: this may change from time to time based on comprehensive review such as ROPA)

1.1. Water and Wastewater

The following guideline sets out in general the size of water and wastewater infrastructure that constitutes a DC project. Other infrastructure will be treated as a local service, which is the direct responsibility of a landowner under a development agreement.

1.1.1. Watermains

- Internal to the development (servicing of vacant lands)
 - Greater than 400 mm:
DC main
 - 400 mm or less:
Developer responsibility within subdivision agreement
- External to the development (mains on existing roads but requiring a local connection)
 - 400 mm or greater:

DC main
 - Less than 400 mm:

Developer responsibility within subdivision agreement

An exception to these policies is feeder mains required to connect from a well or reservoir to the network. All feeder mains are considered to be DC projects regardless of the size of the main.

External watermains of any size required for a development to be connected to an existing local main are considered to be the developers' responsibility.

1.1.2. Booster Stations and Reservoirs

- • All water booster pumping station and reservoir projects are considered to be DC projects.

1.1.3. Wastewater Mains

- Internal or external (i.e., local connection) to the development
 - Greater than 450 mm:
DC main
 - 450 mm or less:
Developer responsibility within subdivision agreement

1.1.4. Lift Stations

- Lift stations internal to a development and fed by mains which qualify for the DC project list are considered to be DC projects. Lift stations fed by mains that do not qualify for the DC project list are the responsibility of the developer.
- Existing lift stations that have to be expanded as part of a new development are the responsibility of the benefiting developer and will be dealt with as part of the subdivision agreement.

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

1.2. Roads

The following guideline sets out in general the size of road and related infrastructure that constitutes a DC project versus a local service, which is the direct responsibility of a landowner under a development agreement.

1.2.1. Collector Roads

- Collector Roads Internal to Development – Direct developer responsibility under s.59 of the DCA (as a local service)
- Collector Roads External to Development – If local service within the area to which the plan relates, direct developer responsibility under s.59 of the DCA; otherwise, include in DC calculation to the extent permitted under s.5(1) of the DCA (dependent on local circumstances)

1.2.2. Arterial Roads

- New Arterial Roads and Arterial Road Improvements – Include as part of road costing funded through DCs

1.2.3. Traffic Signals and Intersection Improvements

- New Arterial Roads and Arterial Road Improvements – Include as part of road costing funded through DCs
- Local Streets/Private Entrances/Entrances to Specific Developments – Direct developer responsibility under s.59 of the DCA (as a local service)
- New Minor Arterial/Collector Road Intersections with Regional Roads – Include as part of Regional DC calculation as per Procedures for Development Related Construction on Regional Roads, Major and Minor Intersection Works
- Existing Minor Arterial/Collector Road Intersections with Regional Roads – Include as part of Regional DC calculation as per Procedures for Development Related Construction on Regional Roads, Major and Minor Intersection Works
- Intersection Improvements/Signalization on Other Roads Due to Development Growth Increasing Traffic – Include in DC calculation, based on 10 year standards (excluding private entrance signals), as required under s.5(1) of the DCA

1.2.4. Streetlights

- Streetlights on Regional (Arterial) Roads – Include in Regional DC (based on 10 year standards as per s.5(1) of the DCA), or, in exceptional circumstances, may be direct developer responsibility through local service provisions (s.59 of the DCA)

1.2.5. Sidewalks/Multi-Use Paths

- Sidewalks/Multi-Use Paths on Regional (Arterial) Roads – Include in area municipal DC (based on 10 year standards as per s.5(1) of the DCA), or, in exceptional circumstances, may be direct developer responsibility through local service provision (s.59 of DCA)
- Other Sidewalks/Multi-Use Paths External to Development (which are a local service related to a plan of subdivision or within the area to which the plan relates) – Direct developer responsibility as a local service provision (under s.59 of DCA)

1.2.6. Bikelanes/Bikepaths

- Bikelanes Within Road Allowances – Include in DC road costs (Regional and area municipal), consistent with the service standard provisions of the DCA, s.5(1)
- Bikepaths Outside Road Allowances – Include in area municipal DCs consistent with the service standard provisions of the DCA, s.5(1)

1.2.7. Noise Abatement Measures

- Internal to Development – Direct developer responsibility through local service provisions (s.59 of DCA)
- External to Development – Noise walls required as a result of growth, include in Regional / area municipal DCs

1.2.8. Traffic Control Systems

- Include in DC calculation appropriate shares, based on 10 year standards, as required under s.5(1) of the DCA

1.2.9. Land Acquisition for Road Allowances

- Land Acquisition for Arterial Roads – Dedication under the Planning Act subdivision provisions (s.51) through development lands; in areas with limited or no development, include in Regional DC (to the extent eligible)
- Land Acquisition for Major Intersections and Grade Separations (beyond normal dedication requirements) – Include in the DC to the extent eligible.

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

Appendix H

Asset Management Plan and Long Term Capital and Operating Cost Examination

Appendix H: Asset Management Plan and Long-term Capital and Operating Cost Examination

This appendix presents the examination required under s. 10 (2) (c) of the DCA of the asset management plan (AMP) and long-term capital and operating costs for capital infrastructure required for each service to which the by-law relates.

1. Asset Management Plan

As outlined in subsection 6.12, the recent changes to the DCA (new clause 10(2)(c.2)) require that the background study must include an AMP related to new infrastructure. Subsection 10 (3) of the DCA provides:

The AMP shall,

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

It has been the Region's long standing practice to prepare the Region's 10-year budget forecast based on the AMP. The 10-year budget forecast is updated through the annual budget process based on the latest information available including the existing long-term AMP, building condition assessments, results of studies such as master plans, optimization studies etc. For the purpose of the 2022 DC by-law update, the 10-year budget forecast cover the planning horizon based on the long-term AMP, incorporating the infrastructure identified for the 2022 DC update, and building condition assessments.

The long-term budget forecast (2022-2031) shown in table H-1 (a and b) and H-2 (a and b) has been prepared based on:

- 2022 Budget and Business Plan Forecast

- Master Plans (e.g. W/WW and Transportation, Paramedic Services Master Plan (MO-14-15), Waterfront MasterPlan (LPS54-15 & LPS59-15) and Museum Masterplan (LPS62-14))
- Current AMP
- Asset Conditions (e.g. 2013 Infrastructure Condition Report Card - PW-24-15/FN-39-15/LPS109-15)
- Building Condition Assessments
- Capital Needs Assessments
- Asset Failure Data (e.g. water main breakages)
- Optimization studies (e.g. Annual Transportation Progress Report – PW-19-15)
- Refined costs estimates (e.g. based on detailed design)
- Construction schedules

The forecast also incorporates the following assumptions:

- Growth Assumptions
 - forecasted assessment growth is 1.7% per year to reflect moderate growth
 - water and wastewater customer growth is estimated to be 1.5%, the 2022 Budget assumes no consumption growth to reflect the continued impact of water efficiency and conservation and 2022 to 2031 forecast maintains the current projected consumption for first half and a gradual decline during the second half
- Provincial Subsidies
 - Subsidy identified for many programs does not keep pace with the increase in cost and demand for service
 - In particular, public health funding model has changed from the previous 100% and 75% cost-share model to 70% in 2020 and since then the Region contributes more than 30% of funding requirements
- Demands for Services particularly in Social Services and Health Services
 - Increased demands are reflected in the 2022 Budget due to Covid-19 long term impacts because of more cost towards personal protective equipment, technology, additional cleaning and disinfecting materials
- Performance of the Region's Investment Portfolio
 - A continued low interest rate environment will make it challenging to generate the current level of returns
- Growth-related Infrastructure

- Future Allocation Programs will continue to be subject to an update of the DC by-law and Development Financing Plan
- Future Liabilities
 - Halton Region budgets reserve transfers for Tangible Capital Assets based on anticipated future capital replacement requirements
- Cost Increases

The Operating Forecast has been prepared to maintain the tax impact for Regional services at or below inflation based on the following key assumptions:

- General inflation of 2.0%
- Interest on reserves of 3.0%
- Debt financing rate of 5.0%
- Assessment growth of 1.7% per year
- Provincial subsidies will maintain current funding formulas
- Water customer growth of 1.2% to 1.5%
- Water consumption growth of -0.9% to 0%

Table H-1 illustrates Halton's tax-supported budget and forecast over the next 10 from the 2022 Budget and Business Plan. The Tax forecast to 2031 projects that tax rate increases are close to the rate of inflation, which is consistent with the 10 year tax forecast in the current (2022) and previous budgets.

Table H-2 illustrates Halton's rate-supported budget and forecast over the 10 years from the 2022 Budget and Business Plan. Included in this business plan are the impacts of the proposed water and wastewater servicing program to service anticipated growth in the forecast period. The forecast to 2031 projects that the rate increases are in the 2.8% to 3.3 % range, which is consistent with the 10-year rate forecast in the current (2022) and previous budgets.

Table H-1a

2022 Capital Budget & Forecast
Summary of Tax Capital Budget & Financing (\$000s)

	Gross Cost	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Program Expenditures											
Transportation	\$ 2,637,646	\$ 196,567	\$ 96,722	\$ 220,459	\$ 244,553	\$ 369,711	\$ 436,221	\$ 195,099	\$ 201,374	\$ 229,171	\$ 447,769
Planning	166,235	12,845	16,790	37,510	13,220	12,720	21,470	13,720	13,220	12,220	12,520
Waste Management	47,805	4,809	6,471	10,524	15,532	1,169	1,166	5,041	2,195	799	99
Energy, Fleet and Facilities	85,013	10,788	3,709	5,262	3,707	34,363	4,193	6,725	3,676	7,724	4,866
Information Technology	65,641	7,747	7,912	7,624	7,582	6,400	6,097	6,839	5,735	4,621	5,084
Paramedic Services	35,651	1,894	3,613	1,723	6,124	2,463	3,974	3,851	2,703	3,387	5,919
Economic Development	8,000	-	-	8,000	-	-	-	-	-	-	-
Services for Seniors	6,929	959	650	650	650	650	650	650	650	770	650
Capital & Dev't Financing	3,557	350	350	350	380	350	350	377	350	350	350
Public Health	434	51	51	51	17	34	17	-	34	51	128
Children's Services	500	50	50	50	50	50	50	50	50	50	50
Communications & Customer Service	30	-	-	15	-	-	-	-	15	-	-
Police	74,905	11,752	9,317	8,496	9,714	7,352	7,950	5,650	4,850	5,125	4,700
Total	\$ 3,132,346	\$ 247,813	\$ 145,635	\$ 300,714	\$ 301,529	\$ 435,261	\$ 482,138	\$ 238,002	\$ 234,852	\$ 264,268	\$ 482,135
Financing											
Tax Reserves	\$ 1,544,402	\$ 144,362	\$ 93,248	\$ 173,957	\$ 167,530	\$ 216,967	\$ 210,064	\$ 102,883	\$ 117,120	\$ 134,570	\$ 183,700
Rate Reserves	14,185	602	560	1,068	758	8,283	883	345	515	369	805
Dev't Charges - Resid.	1,561,694	99,220	49,105	124,264	132,445	209,349	270,380	134,241	116,695	128,860	297,134
Dev't Charges - Non Res.	6,394	511	624	1,368	738	606	755	476	464	411	440
External Rcvry/Other	572	57	57	57	57	57	57	57	57	57	57
Debentures	5,100	3,060	2,040	-	-	-	-	-	-	-	-
Total	\$ 3,132,346	\$ 247,813	\$ 145,635	\$ 300,714	\$ 301,529	\$ 435,261	\$ 482,138	\$ 238,002	\$ 234,852	\$ 264,268	\$ 482,135

Includes financing cost. Schedule may not add due to rounding.

Table H-2b

Ten Year Operating Budget Forecast
For Rate Supported Services

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
	Requested Budget	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
Net Program Impact (\$000's)	\$ 228,503	\$ 237,687	\$ 247,204	\$ 257,076	\$ 267,164	\$ 275,850	\$ 284,464	\$ 293,375	\$ 302,606	\$ 311,723
Annual Water Consumption m ³ (000s)	52,913	52,913	52,913	52,913	52,913	52,421	51,934	51,452	50,974	50,500
Residential Bill (226 m ³ p.a.)	\$ 1,023	\$ 1,057	\$ 1,093	\$ 1,129	\$ 1,167	\$ 1,204	\$ 1,242	\$ 1,280	\$ 1,320	\$ 1,359
Annual % Rate Increase	2.8%	3.3%	3.3%	3.3%	3.3%	3.2%	3.1%	3.1%	3.1%	2.9%
Rate Impact:										
State-of-Good-Repair	2.0%	2.1%	2.2%	2.2%	2.0%	1.6%	1.5%	1.5%	1.5%	1.3%
Operating Expenses	0.8%	1.3%	1.2%	1.1%	1.3%	1.2%	1.2%	1.2%	1.2%	1.2%
Consumption Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%

Table H-2a

2022 Capital Budget & Forecast
Summary of Rate Capital Budget & Financing (\$000s)

	Gross Cost	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Development											
Water	\$ 590,084	\$ 27,843	\$ 23,253	\$ 128,835	\$ 74,553	\$ 275,518	\$ 12,843	\$ 14,793	\$ 18,895	\$ 3,387	\$ 10,164
Wastewater	653,807	45,229	14,578	92,912	172,863	208,506	6,061	11,794	15,527	160	86,177
Sub-total	1,243,891	73,072	37,831	221,747	247,416	484,024	18,904	26,587	34,422	3,547	96,341
State-Of-Good-Repair											
Water	561,119	67,020	76,451	71,858	44,024	59,833	35,711	50,292	58,041	53,977	43,912
Wastewater	806,137	65,893	91,455	72,347	67,176	54,896	81,476	78,673	76,188	97,680	120,353
Sub-total	1,367,256	132,913	167,906	144,205	111,200	114,729	117,187	128,965	134,229	151,657	164,265
Total	\$ 2,611,147	\$ 205,985	\$ 205,737	\$ 365,952	\$ 358,616	\$ 598,753	\$ 136,091	\$ 155,552	\$ 168,651	\$ 155,204	\$ 260,606
Financing											
External Rcvry/Other	\$ 12,350	\$ 1,235	\$ 1,235	\$ 1,235	\$ 1,235	\$ 1,235	\$ 1,235	\$ 1,235	\$ 1,235	\$ 1,235	\$ 1,235
Dev't Charges - Res.	800,343	54,270	23,475	147,823	150,459	313,151	14,193	22,955	18,379	3,281	52,357
Rate Capital Reserves	1,542,016	131,678	172,705	172,335	151,170	176,863	115,952	127,730	142,421	150,422	200,740
Capital Invstmnt Rvl. Fnd.	256,438	18,802	8,322	44,559	55,752	107,504	4,711	3,632	6,616	266	6,274
Total	\$ 2,611,147	\$ 205,985	\$ 205,737	\$ 365,952	\$ 358,616	\$ 598,753	\$ 136,091	\$ 155,552	\$ 168,651	\$ 155,204	\$ 260,606

Includes financing cost. Schedule may not add due to rounding.

Table H-2b

Ten Year Operating Budget Forecast
For Rate Supported Services

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
	Requested Budget	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
Net Program Impact (\$000's)	\$ 228,503	\$ 237,687	\$ 247,204	\$ 257,076	\$ 267,164	\$ 275,850	\$ 284,464	\$ 293,375	\$ 302,606	\$ 311,723
Annual Water Consumption m ³ (000s)	52,913	52,913	52,913	52,913	52,913	52,421	51,934	51,452	50,974	50,500
Residential Bill (226 m ³ p.a.)	\$ 1,023	\$ 1,057	\$ 1,093	\$ 1,129	\$ 1,167	\$ 1,204	\$ 1,242	\$ 1,280	\$ 1,320	\$ 1,359
Annual % Rate Increase	2.8%	3.3%	3.3%	3.3%	3.3%	3.2%	3.1%	3.1%	3.1%	2.9%
Rate Impact:										
State-of-Good-Repair	2.0%	2.1%	2.2%	2.2%	2.0%	1.6%	1.5%	1.5%	1.5%	1.3%
Operating Expenses	0.8%	1.3%	1.2%	1.1%	1.3%	1.2%	1.2%	1.2%	1.2%	1.2%
Consumption Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%

2. LONG RANGE CAPITAL AND OPERATING COST EXAMINATION

This appendix presents the examination required under s. 10 (2) (c) of the DCA of the long-term capital and operating costs for capital infrastructure required for each service to which the by-law relates.

2.1. Tax-supported Services

The Region's proposed DC by-law includes charges for the following tax-supported services:

- Roads
- Growth Studies
- Police Services
- Paramedic Services
- Facilities
- Social Housing
- Waste Diversion
- Waterfront Parks

The examination of the growth and non-growth capital program and its impacts on the operating budget have been shown in the section above. The expected tax rate increases are a reflection of the increased budget provisions to support the roads capital program as well as new ambulance stations, comprehensive housing strategy (social housing), expansion of police and Regional facilities.

2.2. Rate-supported Services

The Region's proposed DC by-law includes charges for the following rate-supported services:

- Water
- Wastewater

The impacts of the proposed water and wastewater servicing program to service anticipated growth in the forecast period is demonstrated in section 1 above.

The Region intends to implement the projects set out in this Study through its usual practice of preparing financial plans prior to the release of water and wastewater capacity. These plans will consider the projects (including roads) to be financed under the Plan and may use a combination of various financing techniques. The financial plan

may also consider the staging of projects and, therefore, the timing and sequence of development to achieve the fiscal objectives of the Region under the Region's current Official Plan. Accordingly, the timing of some of the projects which are to be DC funded may be modified from what is shown in this background study. These modifications may be necessitated by the specifics of the financial plans to be prepared for water, wastewater and road servicing. The infrastructure implementation and financial plan will commence following the passing of the 2022 DC by-law.

Appendix I

Proposed Development Charge By-law (2022)

THE REGIONAL MUNICIPALITY OF HALTON**By-law No. XX-22**

A BY-LAW TO ESTABLISH WATER, WASTEWATER, ROADS AND GENERAL SERVICES DEVELOPMENT CHARGES FOR THE REGIONAL MUNICIPALITY OF HALTON (BUILT BOUNDARY AND GREENFIELD AREAS) AND TO REPEAL BY-LAW NO. 36-17.

WHEREAS subsection 2(1) of the **Act** provides that the 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 the development of the land in the area to which the by-law applies;

AND WHEREAS **Council** has before it the **Study**;

AND WHEREAS the **Study** and the proposed development charges by-law were made available to the public, **Council** gave notice to the public and held a meeting open to the public, through its Statutory Public Meeting and Hearing Committee, pursuant to section 12 of the **Act** on _____, and **Council** considered the **Study**, received written submissions and heard comments and representations concerning the **Study** from all persons who applied to be heard;

AND WHEREAS at a meeting open to the public held on _____, **Council** adopted the recommendations in Report No. _____, thereby updating its capital budget and forecast where appropriate and thereby indicating that it intends that the increase in the need for services to service the anticipated development will be met;

AND WHEREAS at a meeting open to the public held on _____, **Council** adopted the recommendations in Report No. _____ thereby expressing its intention that development-related post 2031 capacity identified in the **Study** shall be paid for by development charges or other similar charges;

AND WHEREAS at a meeting open to the public held on _____, **Council** approved the **Study** and adopted the recommendations in Report No. _____ thereby determining that no further public meetings were required under section 12 of the **Act**.

NOW THEREFORE THE COUNCIL OF THE REGIONAL MUNICIPALITY OF HALTON HEREBY ENACTS AS FOLLOWS:

Definitions

1. THAT in this By-law:

- (a) “**accessory commercial building**” means a building that is naturally or normally incidental to or subordinate in purpose and is exclusively devoted to the principal commercial use on the lot;
- (b) “**accessory dwelling**” means a dwelling unit that is naturally or normally incidental to or subordinate in purpose and is exclusively devoted to a single detached dwelling or a semi-detached dwelling;
- (c) “**Act**” means the *Development Charges Act, 1997*, S.O. 1997, c. 27, as amended or successor legislation;
- (d) “**agricultural development**” means development of land and buildings that support a *bona fide* farming operation, which may include a farming operation that includes separate adjoining lots, including greenhouses which are not connected to Regional water services or wastewater services, sod farms and farms for the breeding and boarding of horses, and includes, but is not limited to, barns, silos and other ancillary buildings to such agricultural development but excluding any component thereof that are residential use, an industrial, a commercial use or a retail development, including but not limited to the breeding, boarding and/or grooming of household pets;
- (e) “**air-supported structure**” means a structure consisting of a pliable membrane that achieves and maintains its shape and support by internal air pressure;
- (f) “**apartment dwelling**” means a building containing more than one dwelling unit where the units are connected by an interior corridor. Despite the foregoing, an apartment dwelling includes, those stacked townhouse dwellings and/or back-to-back townhouse dwellings that are developed on a block approved for development at a minimum density of sixty (60) units per net hectare pursuant to plans and drawings approved under section 41 of the *Planning Act*;
- (g) “**back-to-back townhouse dwelling**” means a building containing four or more dwelling units separated vertically by a common wall, including a rear common wall, that do not have rear yards;

- (h) “**bedroom**” means a habitable room of at least seven square metres (7 m²), including a den, study, loft, or other similar area, but does not include a living room, dining room, kitchen or other space;
- (i) “**board of education**” means an English-language district school board, an English-language separate district school board, a French-language district school board and a French-language separate district school board;
- (j) “**building**” means a permanent enclosed structure occupying an area greater than ten square metres (10 m²) and despite the foregoing includes, but is not limited to:
- (i) an above-grade storage tank;
 - (ii) an air-supported structure;
 - (iii) an industrial tent;
 - (iv) a roof-like structure over a gas-bar or service station; and
 - (v) an area attached to and/or ancillary to a retail development delineated by one or more walls or part walls, a roof-like structure or any of them;
- (k) “**Built Boundary**” means that part of the Region shown as Built Boundary on Schedule “A” to this By-law and includes that part of the Region shown as Natural Heritage System that is within the Built Boundary area shown on Schedule “A” to this By-law;
- (l) “**charitable dwelling**” means a part of a residential building or a part of the residential portion of a mixed-use building maintained and operated by a corporation approved under the *Long-Term Care Homes Act, 2007* S.O. 2007, c.8, as amended or successor legislation as a home or joint home, an institution, or nursing home for persons requiring residential, specialized or group care and includes a children’s residence under the *Child and Family Services Act*, R.S.O. 1990, c. C.11, as amended or successor legislation, and a home for special care under the *Homes for Special Care Act*, R.S.O. 1990, c. H.12, as amended or successor legislation;
- (m) “**commercial use**” means land, buildings or portions thereof used, designed or intended for a non-residential use that is not retail or industrial, and includes uses

which serve academic, medical/dental, and cultural needs that are not located within or part of a retail development;

- (n) “**correctional group home**” means a residential building or the residential portion of a mixed-use building containing a single housekeeping unit supervised on a twenty-four (24) hour basis on site by agency staff on a shift rotation basis, and funded wholly or in part by any government or its agency, or by public subscription or donation, or by any combination thereof, and licensed, approved or supervised by the Ministry of Correctional Services as a detention or correctional facility under any general or special act as amended or successor legislation. A correctional group home may contain an office provided that the office is used only for the operation of the correctional group home in which it is located;
- (o) “**Council**” means the Council of the Region;
- (p) “**development**” means the construction, erection or placing of one or more buildings on land or the making of an addition or alteration to a building that has the effect of increasing the size or usability and/or changing the use thereof and development shall include redevelopment;
- (q) “**dwelling unit**” means either (i) a room or suite of rooms used, designed or intended for residential use by one or more persons living together, in which culinary and sanitary facilities are provided for the exclusive use of such person or persons, or (ii) in the case of a special care/special need dwelling, either (1) a room or suite of rooms used, designed or intended for use by one person with or without exclusive sanitary and/or culinary facilities, or (2) a room or suite of rooms used, designed or intended for use by more than one person with no more than two persons sharing a bedroom and with sanitary facilities directly connected and accessible to each room, or (3) every seven square metres (7 m²) of area within a room or suite of rooms used, designed or intended for use by more than one person as a bedroom;
- (r) “**existing industrial building**” shall have the same meaning as the term is defined in the Regulation, and shall not include self-storage facilities and retail warehouses;
- (s) “**garden suite**” means a building containing one (1) dwelling unit where the garden suite is detached from and ancillary to an existing single detached

dwelling or semi-detached dwelling on the lands and such building is designed to be portable;

- (t) “**grade**” means the average level of proposed finished ground adjoining a building at all exterior walls;
- (u) “**Greenfield**” means that part of the Region shown as Greenfield on Schedule “A” to this By-law and includes that part of the Region shown as Natural Heritage System that is within the Greenfield area shown on Schedule “A” to this By-law;
- (v) “**group home**” means a residential building or the residential portion of a mixed-use building containing a single housekeeping unit which may or may not be supervised on a twenty-four (24) hour basis on site by agency staff on a shift rotation basis, and funded wholly or in part by any government or its agency, or by public subscription or donation, or by any combination thereof and licensed, approved or supervised by the Province of Ontario for the accommodation of persons under any general or special act as amended or successor legislation;
- (w) “**high density apartment**” means an apartment dwelling of a minimum of four (4) storeys or containing more than one hundred thirty (130) dwelling units per net hectare pursuant to plans and drawings approved under Section 41 of the *Planning Act*;
- (x) “**industrial**” means non-retail uses where the land or buildings, or portions thereof are intended or designed for manufacturing, producing, processing, storing or distribution of something, including research or development in connection with manufacturing, producing or processing something, and the retail sale by a manufacturer, producer or processor of something that they have manufactured, produced or processed, if the retail sales are at the site where the manufacturing, production or processing takes place, as well as office space that is ancillary to the producing, processing, storing or distribution of something at the site, but shall not include self-storage facilities or retail warehouses;
- (y) “**institutional development**” means development of a building or structure, or portions thereof, intended for use,
 - (a) as a long-term care home within the meaning of subsection 2(1) of the *Long-Term Care Homes Act, 2007*;

- (b) as a retirement home within the meaning of subsection 2(1) of the *Retirement Homes Act, 2010*, S.O. 2010, c. 11;
- (c) by any of the following post-secondary institutions for the objects of the institution:
- (i) a university in Ontario that receives direct, regular, and ongoing operating funding from the Government of Ontario,
 - (ii) a college or university federated or affiliated with a university described in subclause (i), or
 - (iii) an Indigenous Institute prescribed for the purposes of section 6 of the *Indigenous Institutes Act, 2017*, S.O. 2017, c. 34, Sched. 20;
- (d) as a memorial home, clubhouse, or athletic grounds by an Ontario branch of the Royal Canadian Legion; or
- (e) as a hospice to provide end of life care;
- (z) “**interest rate**” means the annual rate or rates of interest as established through the development charge interest policy, as may be revised from time to time;
- (aa) “**local municipality**” means The Corporation of the City of Burlington, The Corporation of the Town of Oakville, The Corporation of the Town of Milton or The Corporation of the Town of Halton Hills;
- (bb) “**lot**” means a lot, block or parcel of land capable of being legally and separately conveyed;
- (cc) “**mezzanine**” means an intermediate floor assembly between the floor and ceiling of any room or storey and includes an interior balcony;
- (dd) “**mixed-use**” means the use, design or intended use of the same land or building for a combination of non-residential development and residential development;
- (ee) “**mobile home**” means any dwelling that is designed to be made mobile, and constructed or manufactured to provide a residence for one or more persons, but does not include a travel trailer or tent trailer;

- (ff) “**multiple dwelling**” means a building containing more than one dwelling unit or one or more dwelling units above the first storey of a building containing a non-residential use but a multiple dwelling does not include an accessory dwelling, a single detached dwelling, a semi-detached dwelling, an apartment dwelling, or a special care/special need dwelling;
- (gg) “**Natural Heritage System**” means that part of the Region shown as Natural Heritage System on Schedule “A” to this By-law and areas identified as Natural Heritage System on Schedule “A” to this By-law reflect part of the Region’s Natural Heritage System. The Natural Heritage System is shown on Schedule “A” to this By-law for illustrative purposes only and does not impact the categorization of the land to which the Natural Heritage System overlay is shown as either Rural Area, Greenfield Area or Built Boundary for the purposes of this By-law;
- (hh) “**net hectare**” means the total land area of a lot after conveyance or dedication of public road allowances, park and school sites and other lands for public use;
- (ii) “**non-profit housing development**” means development of a building or structure intended for use as residential premises by,
- (a) a corporation to which the *Not-for-Profit Corporations Act, 2010*, S.O. 2010, c. 15 applies, that is in good standing under that Act and whose primary object is to provide housing;
- (b) a corporation without share capital to which the *Canada Not-for-Profit Corporations Act*, S.C. 2009, c. 23 applies, that is in good standing under that Act and whose primary object is to provide housing; or
- (c) a non-profit housing co-operative that is in good standing under the *Co-operative Corporations Act*, R.S.O. 1990, c. C.35, O. Reg. 454/19, s. 3;
- (jj) “**non-residential development**” means land, buildings or portions thereof used, designed or intended for a non-residential use;
- (kk) “**non-residential use**” means the use of land, buildings or portions thereof for any purpose other than for a residential use;

- (ll) “**non-retail development**” means any non-residential development which is not a retail development, and shall include offices that are not part of a retail development;
- (mm) “**nursing home**” means a residential building or the residential portion of a mixed-use building licensed as a nursing home by the Province of Ontario;
- (nn) “**owner**” means the owner of land or a person who has made application for an approval for the development of land;
- (oo) “**place of worship**” means any building or part thereof that is exempt from taxation as a place of worship pursuant to paragraph 3 of section 3 of the *Assessment Act*, R.S.O. 1990, c. A.31, as amended or successor legislation;
- (pp) “**Planning Act**” means the *Planning Act*, R.S.O. 1990, c. P.13, as amended or successor legislation;
- (qq) “**recreational vehicle parks**” means land where mobile homes may be situated and occupancy of mobile homes is not permitted throughout the calendar year by either municipal land use or provincial regulations;
- (rr) “**redevelopment**” means the construction, erection or placing of one or more buildings on land where all or part of a building on such land has previously been demolished, or changing the use of all or part of a building from a residential use to a non-residential use or from a non-residential use to a residential use, or changing all or part of a building from one type of residential use to another type of residential use or from one type of non-residential use to another type of non-residential use;
- (ss) “**Region**” refers to the geographic area of the Regional Municipality of Halton or the corporation of The Regional Municipality of Halton, as the context requires;
- (tt) “**Regulation**” means O. Reg. 82/98, as amended or successor regulation;
- (uu) “**rental housing**” means development of a building or structure or portion thereof with four or more dwelling units that are intended for use as rented residential premises;

- (vv) “**residential development**” means land, buildings or portions thereof used, designed or intended for residential use and includes but not limited to a single detached dwelling, a semi-detached dwelling, a multiple dwelling, an apartment dwelling, a garden suite, a special care/special need dwelling, an accessory dwelling, a mobile home and the residential portion of a mixed-use building but shall not include a mobile home that is located on recreational vehicle parks;
- (ww) “**residential use**” means the use of land, buildings or portions thereof as living accommodation for one or more persons;
- (xx) “**restricted flow**” means a restriction on the demand for water or the discharge of wastewater of three and twenty-two one-hundredths cubic metres (3.22 m³) per hectare per day imposed on lands described in Schedules “D-1” and “D-2” to this By-law;
- (yy) “**retail**” means lands, buildings, structures or any portions thereof, used, designed or intended to be used for the sale, lease or rental or offer for sale, lease or rental of any manner of goods, commodities, services or entertainment to the public, for consumption or use, whether directly or through membership, but shall exclude commercial, industrial, hotels/motels/bed and breakfast facilities, mobile home situated on recreational vehicle parks, as well as offices not located within or as part of a retail development, and self-storage facilities;
- (zz) “**retail development**” means a development of land or buildings which are designed or intended for retail;
- (aaa) “**retirement home or lodge**” means a residential building or the residential portion of a mixed-use building which provides accommodation primarily for retired persons or couples where each private bedroom or living accommodation has a separate private bathroom and separate entrance from a common hall but where common facilities for the preparation and consumption of food are provided, and common lounges, recreation rooms and medical care facilities may also be provided;
- (bbb) “**roads services**” includes, but is not limited to, road construction, widening, rehabilitation, resurfacing and reconstruction, grade separations,

- intersections, signalization, signage, bridges, overpasses, interchanges, and noise attenuation barriers;
- (ccc) “**Rural Area**” means that part of the Region shown as Rural on Schedule “A” to this By-law and includes that part of the Region shown as Natural Heritage System within the Rural Area shown on Schedule “A” to this By-law;
- (ddd) “**seasonal structure**” means a building placed or constructed on land and used, designed or intended for use for a non-residential purpose during a single season of the year where such building is designed to be easily demolished or removed from the land at the end of the season;
- (eee) “**semi-detached dwelling**” means a building divided vertically into two dwelling units each of which has a separate entrance and access to grade;
- (fff) “**services**” means services designated in this By-law or in an agreement under section 44 of the Act;
- (ggg) “**single detached dwelling**” means a completely detached building containing only one (1) dwelling unit;
- (hhh) “**special care/special need dwelling**” means a residential building or portion thereof:
- (i) containing two or more dwelling units which units have a common entrance from street level;
 - (ii) where the occupants have the right to use in common with other occupants halls, stairs, yards, common rooms and accessory buildings;
 - (iii) that is designed to accommodate persons with specific needs, including but not limited to, independent permanent living arrangements; and
 - (iv) where support services, such as meal preparation, grocery shopping, laundry, housekeeping, nursing, respite care and attendant services are provided at various levels;

- and includes, but is not limited to, retirement homes or lodges, charitable dwellings, nursing homes, group homes (including correctional group homes) and hospices;
- (iii) “**stacked townhouse dwelling**” means a building containing two or more dwelling units where each dwelling unit is separated horizontally from another dwelling unit by a common wall;
- (jjj) “**storey**” means that portion of a building between the surface of a floor and the floor, ceiling or roof immediately above it with the first storey being that with the floor closest to grade and having its ceiling more than six feet (6 ft.) (one and eighty three hundredths metres 1.83 m.) above grade;
- (kkk) “**Study**” means the report entitled “2022 Development Charges Background Study for Water, Wastewater, Roads & General Services Development Charges” dated December 15, 2021, and any amendments thereafter or addenda thereto;
- (lll) “**temporary building**” means a building used, designed or intended for use for a non-residential purpose, other than a seasonal structure and a temporary venue, or for a residential purpose, other than a garden suite, that is constructed or placed upon land and which is demolished or removed from the land within three (3) years of building permit issuance, and includes, but is not limited to, sales trailers, office trailers and industrial tents provided they meet the criteria in this definition;
- (mmm) “**temporary venue**” means a building that is placed or constructed on land and is used, designed or intended for use for a particular event where the event has a duration of one (1) week or less and the building is erected immediately before beginning of the event and is demolished or removed from the land immediately following the end of the event;
- (nnn) “**total floor area**”:
- (a) includes the sum of the total areas of the floors in a building whether at, above or below grade, measured:
- (i) between the exterior faces of the exterior walls of the building;
- (ii) from the centre line of a common wall separating two uses; or

- (iii) from the outside edge of a floor where the outside edge of the floor does not meet an exterior or common wall; and
- (b) includes the area of a mezzanine;
- (c) excludes those areas used exclusively for parking garages or structures; and
- (d) where a building has only one wall or does not have any walls, the total floor area shall be the total of the area directly beneath any roof-like structure of the building;
- (ooo) “**wastewater services**” means all facilities, buildings, services and things related to sanitary services, including but not limited to, all works for the collection, transmission, treatment and disposal of sewage; and
- (ppp) “**water services**” means all facilities, buildings, services and things related to the provision of water, including but not limited to, all works for the collection, production, treatment, storage, supply, transmission and distribution of water.

Rules

2. THAT for the purpose of complying with section 6 of the Act:
 - (a) the area to which this By-law applies shall be the area described in section 4 of this By-law;
 - (b) the rules developed under paragraph 9 of subsection 5(1) of the Act for determining if development charges are payable under this By-law in any particular case and for determining the amount of the charges shall be as set forth in sections 7 through 21, inclusive, of this By-law;
 - (c) the rules for exemptions, relief, credits and adjustments shall be as set forth in sections 22 through 32, inclusive, of this By-law;
 - (d) the indexing of charges shall be in accordance with section 19 of this By-law;
 - (e) there shall be no phasing-in;
 - (f) there shall only be a demolition credit in accordance with section 31 of this By-law;

- (g) in addition to the rules set out in the Act and this By-law, the rules for the calculation of the development charge payable under this By-law for the lands described in Schedules “D-1” and “D-2” to this By-law are set out in Schedule “E” to this By-law; and
- (h) except as set out in the Act and this By-law, there are no other credits, exemptions, relief or adjustments in respect of any land in the area to which this By-law applies.

Schedules

3. THAT the following Schedules to this By-law form an integral part of this By-law:

Schedule “A”	Map of the Regional Municipality of Halton;
Schedule “B-1”	Built Boundary Residential Development Charges;
Schedule “B-2”	Greenfield Residential Development Charges;
Schedule “C-1”	Built Boundary Non-Residential Development Charges;
Schedule “C-2”	Greenfield Non-Residential Development Charges;
Schedule “D-1” “D-2”	Descriptions of Lands to which Schedule “E” Applies; and
Schedule “E”	Rules Applicable to the Lands described in Schedules “D-1” and “D-2”.

Lands Affected

4. THAT this By-law applies to all lands in the geographic area of the Region, being all of the lands shown on Schedule “A” to this By-law. For greater certainty, the lands described in Schedule “D-1” and “D-2” are lands also shown on Schedule “A”.
5. THAT the boundaries on Schedule “A” to this By-law are fixed when they are formed by a combination of such well defined features such as roads, railways, electrical transmission lines, municipal and property boundaries, original township lot or concession lines, streams and topographic features.
6. THAT where:

- (a) the boundaries on Schedule “A” to this By-law are not fixed in accordance with the section 5 of this By-law, the boundary shall be determined by the Region’s Director of Planning Services and/or Chief Planning Officer; and
- (b) a parcel of land is within two or more areas shown on Schedule “A” to this By-law, the development charges applicable to the area in which each part of the parcel is located shall be applied.

Other Development Charges

7. THAT the development of land in the Region may be subject to one or more development charges by-laws of the Region and the development charges under this By-law are in addition to any other development charges that may be applicable to such development.

Designation of Services

8. THAT 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.
9. THAT 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.
10. THAT development charges under this By-law shall be imposed for the following categories of services to pay for the increased capital costs required because of increased needs for services arising from development:
 - (a) water services;
 - (b) wastewater services;
 - (c) roads services;
 - (d) growth studies;
 - (e) police services;
 - (f) paramedic services;
 - (g) social housing;
 - (h) waterfront parks;
 - (i) facilities; and
 - (j) waste diversion.

Approvals for Development

11. THAT development charges under this By-law shall be imposed against all lands or buildings within the area to which this By-law applies if the development of such lands or buildings requires any of the following:
 - (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*, S.O. 1998, c. 19, as amended or successor legislation; or
 - (g) the issuance of a permit under the *Building Code Act, 1992*, S.O. 1992, c. 23, as amended or successor legislation, in relation to a building.
12. THAT no more than one development charge under this By-law for each service designated in section 10 of this By-law shall be imposed upon any lands or buildings to which this By-law applies even though two or more of the actions described in section 11 of this By-law are required before the lands or buildings can be developed or redeveloped.
13. THAT notwithstanding sections 12 and 20 of this By-law, if
 - (a) two or more of the actions described in section 11 of this By-law occur at different times, or
 - (b) a second or subsequent building permit is issued,resulting in increased, additional or different development, then additional development charges under this By-law, shall be imposed and shall be paid in respect of such increased, additional or different development permitted by such action or permit.

14. THAT where a development requires an approval described in section 11 of this By-law after the issuance of a building permit and no development charges have been paid, then development charges under this By-law shall be paid prior to the granting of the approval required under section 11 of this By-law.
15. THAT nothing in this By-law prevents Council from requiring, in an agreement under section 51 of the *Planning Act* or as a condition of consent or an agreement respecting same under section 53 of the *Planning Act*, that the owner, at his or her own expense, install such local services related to or within the area to which a plan of subdivision relates, as Council may require, in accordance with the Region's applicable local services policies in effect at the time.

Calculation of Development Charges under this By-law

16. THAT the development charges under this By-law with respect to the development of any land or buildings shall be calculated as follows:
 - (a) in the case of residential development including a dwelling unit accessory to a non-residential development, or the residential portion of a mixed-use development, based upon the number and type of dwelling units; or
 - (b) in the case of non-residential development, or the non-residential portion of a mixed-use development, based upon the total floor area of such development.

Amount of Charge – Residential

17. THAT, subject to section 7 of this By-law, for development for residential purposes, development charges shall be imposed on all residential development, including a dwelling unit accessory to a non-residential development and the residential component of a mixed-use building, according to the number and type of dwelling units on lands within that part of the Region shown on Schedule "A" to this By-law as:
 - (a) Built Boundary - the development charges payable shall be the Total Urban Charges shown on Schedule "B-1" to this By-law;
 - (b) Greenfield Area - the development charges payable shall be the Total Urban Charges shown on Schedule "B-2" to this By-law; and
 - (c) Rural - the development charges payable shall be as follows:

- (i) the Total Rural Charges shown on Schedule “B-1” to this By-law;
- (ii) where at the time a building permit is issued for the development, a connection of the building to:
 - (1) Built Boundary water services is proposed, the Specific Urban Charge for water services shown on Schedule “B-1” to this By-law shall be payable; and
 - (2) Greenfield water services is proposed, the Specific Urban Charge for water services shown on Schedule “B-2” to this By-law shall be payable; and
- (iii) at the time a building permit is issued for the development, a connection of the building to:
 - (1) Built Boundary wastewater services is proposed, the Specific Urban Charge for wastewater services shown on Schedule “B-1” to this By-law shall be payable; and
 - (2) Greenbelt wastewater services is proposed, the Specific Urban Charge for wastewater services shown on Schedule “B-2” to this By-law shall be payable.

Amount of Charge - Non-Residential

18. THAT, subject to section 7 of this By-law, for development for non-residential purposes, development charges shall be imposed on all non-residential development, and, in the case of a mixed-use building, on the non-residential component of the mixed-use building, according to the total floor area of the non-residential component on lands within that part of the Region shown on Schedule “A” to this By-law as:
- (a) Built Boundary - the development charges payable shall be the Total Urban Charges shown on Schedule “C-1” to this By-law;
 - (b) Greenfield Area - the development charges payable shall be the Total Urban Charges shown on Schedule “C-2” to this By-law; and
 - (c) Rural - the development charges payable shall be as follows:

- (i) the Total Rural charges shown on Schedule “C-1” to this By-law;
- (ii) where at the time a building permit is issued for the development, a connection of the building to:
 - (1) Built Boundary water services is proposed, the Specific Urban Charge for water services shown on Schedule “C-1” to this By-law shall be payable; and
 - (2) Greenfield water services is proposed, the Specific Urban Charge for water services shown on Schedule “C-2” to this By-law shall be payable; and
- (iii) at the time a building permit is issued for the development, a connection of the building to:
 - (1) Built Boundary wastewater services is proposed, the Specific Urban Charge for wastewater services shown on Schedule “C-1” to this By-law shall be payable; and
 - (2) Greenbelt wastewater services is proposed, the Specific Urban Charge for wastewater services shown on Schedule “C-2” to this By-law shall be payable.

Indexing of Development Charges

19. THAT the development charges set out in Schedules “B-1”, “B-2”, “C-1” and “C-2” of this By-law shall be adjusted without amendment to this By-law on April 1st of each year, commencing April 1st, 2023, in accordance with the requirements of section 7 of the Regulation, or as may be amended from time to time.

Timing of Calculation and Payment

20. (1) THAT the development charges under this By-law shall be calculated in accordance with the provisions of section 26.2 of the Act, as may be amended.
- (2) THAT subject to subsection (3), the development charges under this By-law shall be payable upon a building permit being issued for the proposed development in accordance with subsection 26 of the Act, or if said development is of the type identified in subsection 26.1 of the Act, specifically

- development that is institutional, non-profit housing or rental housing, annual instalments shall be paid in accordance with subsection 26.1 of the Act.
- (3) THAT with respect to an approval of a plan of subdivision under section 51 of the *Planning Act* or a consent under section 53 of the *Planning Act*, development charges shall be payable at the time of execution of the subdivision agreement or an agreement entered into as a condition of a consent.
- (4) THAT development charges payable under this By-law shall be calculated in the case of residential development, including a dwelling unit accessory to a non-residential development, or the residential portion of a mixed-use development, based upon the proposed number and type of dwelling units.
- (5) THAT, if at the time of issuance of a building permit or permits for any residential development for which payments have been made pursuant to subsection (1), the total number and/or type of dwelling units for which building permits have been and are being issued is greater than that used for the calculation and payment referred to in subsection (1), an additional payment shall be required and shall be calculated by multiplying the applicable development charges shown in Schedule "B" to this By-law, as may be appropriate, by the difference between the number and type of dwelling units for which building permits have been and are being issued and the number and type of dwelling units for which payments have been made pursuant to subsection (1) and this subsection.
- (6) THAT subject to subsection (8), if following the issuance of all building permits for all development in a subdivision and for all development in a block within that subdivision that had been intended for future development and for which payments have been made pursuant to subsections (2) or (3), the total number and/or type of dwelling units for which building permits have been issued is less than that used for the calculation and payment referred to in subsection (1), a refund shall become payable by the Region to the person who originally made the payment referred to in subsections (2) or (3), which refund shall be calculated by multiplying the amounts of the development charges in effect at the time such payments were made by the difference between the number and type of dwelling units for which payments were

- made and the number and type of dwelling units for which building permits were issued.
- (7) THAT subsections (5) and (6) shall apply with necessary modifications to a development for which development charges have been paid pursuant to a condition of consent or pursuant to an agreement respecting same.
- (8) THAT any refunds payable by the Region pursuant to section shall be calculated and paid without interest.
- (9) THAT despite subsection (2), in the case of a high-density apartment that is not of the type development identified in subsection 26.1 of the Act, the development charges under this By-law shall be payable on the date a building permit is issued in relation to the high density apartment on lands to which the development charges under this By-law apply.
- (10) THAT notwithstanding subsections (1) to (9), inclusive, the Region may require and, where so required, an owner shall enter into an agreement, including the provision of security for the owner's obligations under the agreement, pursuant to section 27 of the Act. The terms of such agreement shall then prevail over the provisions of this section dealing with the timing of payments but may not amend or alter any other provisions or sections of this By-law.

Payment by Money

21. THAT payment of development charges under this By-law shall be by certified cheque, or bank draft.

Rules with Respect to Exemptions for Intensification of Housing

22. THAT notwithstanding the provisions of this By-law, development charges shall not be imposed with respect to developments or portions of developments relating to existing residential buildings including structures ancillary to existing residential buildings as follows:

Item	Name of Class of Existing Residential Building	Description of Class of Existing Residential Buildings	Maximum Number of Additional Dwelling Units	Restrictions
1.	Existing single detached dwellings	Existing residential buildings, each of which contains a single dwelling unit, that are not attached to other buildings.	Two	The total gross floor area of the additional dwelling unit or units must be less than or equal to the gross floor area of the dwelling unit already in the building.
2.	Existing semi-detached dwellings or row dwellings	Existing residential buildings, each of which contains a single dwelling unit, that have one or two vertical walls, but no other parts, attached to other buildings.	One	The gross floor area of the additional dwelling unit must be less than or equal to the gross floor area of the dwelling unit already in the building.
3.	Existing rental residential buildings	Existing residential rental buildings, each of which contains four or more dwelling units.	Greater of one and 1% of the existing units in the building	None
4.	Other existing residential buildings	An existing residential building not in another class of residential building described in this table.	One	The gross floor area of the additional dwelling unit must be less than or equal to the gross floor area of the smallest dwelling unit already in the building.

23. THAT notwithstanding the provisions of this By-law development charges shall not be imposed with respect to developments or portions of developments that would result in the creation of a second dwelling unit in prescribed classes of new residential buildings, including structures ancillary to residential buildings, subject to the following restrictions:

Item	Name of Class of Proposed New Residential Buildings	Description of Class of Proposed New Residential Buildings	Restrictions
1.	Proposed new detached dwellings	Proposed new residential buildings that would not be attached to other buildings and that are permitted to contain a second dwelling unit, that being either of the two dwelling units, if the units have the same gross floor area, or the smaller of the dwelling units.	<p>The proposed new detached dwelling must only contain two dwelling units.</p> <p>The proposed new detached dwelling must be located on a parcel of land on which no other detached dwelling, semi-detached dwelling or row dwelling would be located.</p>

Item	Name of Class of Proposed New Residential Buildings	Description of Class of Proposed New Residential Buildings	Restrictions
2.	Proposed new semi-detached dwellings or row dwellings	Proposed new residential buildings that would have one or two vertical walls, but no other parts, attached to other buildings and that are permitted to contain a second dwelling unit, that being either of the two dwelling units, if the units have the same gross floor area, or the smaller of the dwelling units.	<p>The proposed new semi-detached dwelling or row dwelling must only contain two dwelling units.</p> <p>The proposed new semi-detached dwelling or row dwelling must be located on a parcel of land on which no other detached dwelling, semi-detached dwelling or row dwelling would be located.</p>
3.	Proposed new residential buildings that would be ancillary to a proposed new detached dwelling, semi-detached dwelling or row dwelling	Proposed new residential buildings that would be ancillary to a proposed new detached dwelling, semi-detached dwelling or row dwelling and that are permitted to contain a single dwelling unit.	<p>The proposed new detached dwelling, semi-detached dwelling or row dwelling, to which the proposed new residential building would be ancillary, must only contain one dwelling unit.</p> <p>The gross floor area of the dwelling unit in the proposed new residential building must be equal to or less than the gross floor area of the detached dwelling, semi-detached dwelling or row dwelling to which the proposed new residential building is ancillary.</p>

24. THAT the provisions of sections 22 and 23 above shall be amended without need for an amendment to this By-law such that, if any amendments are made to section 2 of the Regulation as may be applicable and as may be amended from time to time, that the said sections shall continue to incorporate in this By-law any required exceptions.

Rules with Respect to Expansion of Existing Industrial Building

25. (1) THAT if a development includes the enlargement of the total floor area of an existing industrial building, the amount of the development charges under this By-law that is payable shall be calculated as follows:
- (a) if the total floor area is enlarged by fifty percent (50%) or less, the amount of the development charges under this By-law in respect of the enlargement is zero; or
 - (b) if the total floor area is enlarged by more than fifty percent (50%), development charges under this By-law are payable on the amount

by which the enlargement exceeds fifty percent (50%) of the total floor area before the enlargement.

- (2) THAT for the purpose of interpreting the definition of “existing industrial building” contained in the Regulation, regard shall be had to the classification of the lands in question pursuant to the *Assessment Act*, R.S.O. 1990, c. A.31 as amended or successor legislation and in particular:
- (a) whether the lands fall within a tax class such that taxes on the lands are payable at the industrial tax rate; and
 - (b) whether more than fifty percent (50%) of the total floor area of the building has an industrial property code for assessment purposes.
- (3) THAT for greater certainty in applying the exemption in this section, the total floor area of an existing industrial building is enlarged where there is a *bona fide* increase in the size of the existing industrial building, the enlarged area is attached to the existing industrial building, there is a direct means of ingress and egress from the existing industrial building to and from the enlarged area for persons, goods and equipment and the existing industrial building and the enlarged area are used for or in connection with an industrial purpose as set out in subsection 1(1) of the Regulation. Without limiting the generality of the foregoing, the exemption in this section shall not apply where the enlarged area is attached to the existing industrial building by means only of a tunnel, bridge, canopy, corridor or other passage-way, or through a shared below-grade connection such as a service tunnel, foundation, footing or a parking facility.
- (4) THAT notwithstanding section 25(3), where an expansion on the same lot includes an enlargement of an existing industrial building and/or the construction of an accessory building or structure that is incidental to or subordinate in purpose and exclusively devoted to the existing industrial use, then no development charges shall be payable with respect to that portion of the accessory building or structure that is up to and including 278.7 sq. m. (3,000 sq. ft.), where;

- (i) the total expansion which is exempted from the payment of development charges, including the total of the enlargement of the existing industrial building and the accessory building or structure may be up to but shall not exceed 50% of the total floor area of the existing industrial building;
- (ii) at least six months must have elapsed since the last building permit has been issued for a building containing an industrial use on the lot; and
- (iii) the owner provides proof satisfactory to the Region's Commissioner of Finance and/or Treasurer or designate that the existing industrial building(s) is (or are) being used for an industrial use on the date an application is made for a building permit for the building expansion or the accessory industrial building or structure.

Rules with Respect to Commercial Expansion

26. THAT no development charges shall be payable under this By-law for that portion of an expansion of an existing commercial building on the lot and/or an accessory commercial building that is up to and including 278.7 sq. m. (3,000 sq. ft.) on the same lot provided that the expansion must be incidental to or subordinate in purpose and exclusively devoted to the commercial use in the existing building or an accessory commercial building and that;
- (i) at least six months must have elapsed since the last building permit has been issued for a building containing a commercial use on the lot; and
 - (ii) the owner provides proof satisfactory to the Region's Commissioner of Finance and/or Treasurer or designate that the existing commercial building(s) is (or are) being used for a commercial use on the date an application is made for a building permit for the building expansion or the accessory commercial building.

Lot Coverage Relief

27. THAT where there is a non-residential development, the development charges payable pursuant to this By-law shall be calculated in accordance with the following:
- (a) for the portion of the total floor area of such development that is less than or equal to one (1.0) times the area of the lot, one hundred percent (100%) of the non-residential development charges payable pursuant to this By-law are applicable to that portion;
 - (b) for the portion of the total floor area of such development that is greater than one (1.0) times the area of the lot, no development charges shall be payable; and
 - (c) for the purposes of this section, where a building or buildings exist on the lot on the date of building permit issuance, the lot coverage shall be calculated as if no building(s) existed on the lot on that date.

Exemptions for Certain Buildings

28. (1) THAT the following are exempt from the payment of development charges under this By-law:
- (i) land and buildings owned by and used for the purposes of any local municipality, the Region or any local board unless such buildings or parts thereof are used, designed or intended for use primarily for or in connection with any commercial use or retail development or both;
 - (ii) land buildings owned by and used for the purposes of a board of education unless such buildings or parts thereof are used, designed or intended for use primarily for or in connection with any commercial use and/or retail development;
 - (iii) land and buildings used as hospitals governed by the *Public Hospitals Act*, R.S.O. 1990, c. P.40, as amended or successor legislation unless such buildings or parts thereof are used, designed or intended for use primarily for or in connection with any commercial use and/or retail development;

- (iv) land and buildings owned by and used for the purposes of a conservation authority unless such buildings or parts thereof are used primarily for or in connection with any commercial use and/or retail development;
- (v) land and buildings used exclusively as a place of worship;
- (vi) seasonal structures;
- (vii) temporary venues; and
- (viii) land and buildings that are used in connection with agricultural development, including up to 278.7 square metres (3,000 sq. ft.) for any industrial, retail or commercial component therein that is accessory to the bona fide farm operation provided that with regards to any industrial, retail or commercial component at least six months must have elapsed since the last building permit has been issued for a building containing an industrial, retail, or commercial use on the lot.

(2) THAT for the purposes of this section only, “local board” means a municipal service board, transportation commission, public library board, board of health, police services board, planning board, or any other board, commission, committee, body or local authority established or exercising any power under any Act with respect to the affairs or purposes of one or more municipalities but excluding a school board, a conservation authority and any municipal services corporation that is not deemed to be a local board under O. Reg. 599/06 made under the Municipal Act, 2001, S.O. 2001, c. 25, as amended or successor legislation and any corporation created under the Electricity Act, 1998, S.O. 1998, c. 15, Schedule A, as amended or successor legislation.

Rules with Respect to Temporary Buildings

29. THAT notwithstanding any other provision of this By-law, a temporary building shall be exempt at the time the building permit is issued for such building from the payment of development charges under this By-law provided that:

- (a) prior to the issuance of the building permit for the temporary building, the owner shall have:
- (i) entered into an agreement with the Region under section 27 of the Act in a form and having a content satisfactory to the Region's Commissioner of Finance and/or Treasurer or designate agreeing to pay the development charges otherwise payable under this By-law in respect of the temporary building if, within three (3) years of building permit issuance or any extension permitted in writing by the Region's Commissioner of Finance and/or Treasurer or designate, the owner has not provided to the Region evidence, to the satisfaction of the Region's Commissioner of Finance and/or Treasurer or designate, that the temporary building was demolished or removed from the lands within three (3) years of building permit issuance or any extension herein provided; and
 - (ii) provided to the Region securities in the form of a certified cheque, bank draft or a letter of credit acceptable to the Region's Commissioner of Finance and/or Treasurer or designate in the full amount of the development charges otherwise payable under this By-law as security for the owner's obligations under the agreement described in clause (a)(i) and subsection (c).
- (b) Within three (3) years of building permit issuance or any extension granted in accordance with the provisions in clause (a)(i), the owner shall provide to the Region evidence, to the satisfaction of the Region's Commissioner of Finance and/or Treasurer or designate, that the temporary building was demolished or removed from the lands within three (3) years of building permit issuance or any extension herein provided, whereupon the Region shall return the securities provided pursuant to clause (a)(ii) without interest.
- (c) If the owner does not provide satisfactory evidence of the demolition or removal of the temporary building in accordance with subsection (b), the temporary building shall be deemed conclusively not to be a temporary building for the purposes of this By-law and the Region shall, without prior notification to the owner, draw upon the securities provided pursuant to

clause (a)(ii) and transfer the amount so drawn into the appropriate development charges reserve funds.

- (d) The timely provision of satisfactory evidence of the demolition or removal of the temporary building in accordance with subsection (b) shall be solely the owner's responsibility.

Rules with Respect to Garden Suites

30. THAT notwithstanding any other provisions of this By-law, a garden suite shall be exempt at the time a building permit is issued for the garden suite from the payment of development charges under this By-law provided that:
- (a) (i) a by-law has been passed by the applicable local municipality under sections 39 and 39.1 of the *Planning Act* authorizing the temporary use of the garden suite; and
- (ii) prior to the issuance of the building permit for the garden suite, the owner shall have entered into an agreement with the Region under section 27 of the Act in a form and having a content satisfactory to the Region's Commissioner of Finance and/or Treasurer or designate, to be registered on title to the lands under section 37 of this By-law as a charge, agreeing to pay the development charges otherwise payable under this By-law in respect of the garden suite if the garden suite is not removed from the lands within sixty (60) days of the expiry of the by-law, including any extensions thereof, described in subsection (a) or if, before that date, the lands on which the garden suite is situate are sold provided the development charges shall not be payable upon such sale if the purchaser has entered into an agreement with the Region under this subsection and the by-law, including any extensions thereof, described in subsection (a) has not expired;
- (b) Within ninety (90) days of the expiry of the by-law, including any extensions thereof, described in subsection (a), the owner shall provide to the Region evidence, to the satisfaction of the Region's Commissioner of Finance and/or Treasurer or designate, that the garden suite was removed from the lands within sixty (60) days of the expiry of the by-law, including any extensions thereof, described in subsection (a), whereupon the Region shall provide to the owner a release of the agreement described in subsection (b) and the owner shall apply

to the land registrar to delete from title to the lands any notice of the agreement registered against title to the lands under section 36 of this By-law.

- (c) If the owner does not provide satisfactory evidence of the removal of the garden suite in accordance with subsection (b), the garden suite shall be deemed conclusively not to be a garden suite for the purposes of this By-law and the Region may, without prior notification to the owner, add the development charges payable under this By-law to the tax roll for the lands to be collected in the same manner as taxes.
- (d) For the purpose of subsection (c), the development charges payable under this By-law shall be the development charges payable under this By-law for an accessory dwelling on the date the building permit was issued for the garden suite.
- (e) The timely provision of satisfactory evidence of the removal of the garden suite in accordance with subsection (b) shall be solely the owner's responsibility.

Rules with Respect to Redevelopment – Demolitions

31. THAT in the case of a demolition of all or part of a building:
- (a) a credit shall be allowed against the development charges otherwise payable pursuant to this By-law, provided that where a demolition permit has been issued and has not been revoked and a building permit has been issued for the redevelopment within five (5) years from the date the demolition permit was issued;
 - (b) the credit shall be calculated based on the portion of the building used for a residential use that has been demolished by multiplying the number and type of dwelling units demolished, or in the case of a building used for a non-residential use that has been demolished by multiplying the non-residential total floor area demolished, by the relevant development charges under this By-law in effect on the date when the development charges are payable pursuant to this By-law with respect to the redevelopment;
 - (c) no credit shall be allowed where the demolished building or part thereof would have been exempt pursuant to this By-law;

- (d) where the amount of any credit pursuant to this section exceeds, in total, the amount of the development charges otherwise payable under this By-law with respect to the redevelopment, the excess credit shall be reduced to zero and shall not be carried forward unless the carrying forward of such excess credit is expressly permitted by a phasing plan for the redevelopment that is acceptable to the Region's Commissioner of Finance and/or Treasurer or designate;
- (e) despite Subsection 31(a) above, where the building cannot be demolished until the new building has been erected, the owner shall notify the Region in writing and pay the applicable development charges for the new building in full and if the existing building is demolished not later than twelve (12) months from the date a building permit is issued for the new building, the Region shall provide a refund calculated in accordance with this section to the owner without interest. If more than twelve (12) months is required to demolish the existing building, the owner shall make a written request to the Region and the Region's Commissioner of Finance and/or Treasurer or designate may extend the time in which the existing building must be demolished in his or her sole and absolute discretion and upon such terms and conditions as he or she considers necessary or desirable and such decision shall be made prior to the issuance of the first building permit for the new building;
- (f) despite Subsection 31(a), where an owner has submitted an application pursuant to the provisions of the *Planning Act*, and such application has been accepted by the local municipality before the expiration of any demolition credits as noted in Subsection 31(a), but a building permit has not been issued within the timeframes provided for in the applicable Subsection, the owner may request in writing to the Region's Commissioner of Finance and/or Treasurer and the Region's Commissioner of Finance and/or Treasurer, or such designate, may extend the time for the expiration of the demolition credits solely upon such terms and conditions as he or she considers necessary or desirable and such decision shall be made prior to the issuance of the first building permit for the new building, provided that in no case shall any single extension be for a period greater than one (1) year from the date of the request from the owner seeking an extension pursuant to this Subsection.

Rules with Respect to Redevelopment – Conversions

32. THAT in the case of a conversion of all or part of a building:
- (a) a credit shall be allowed against the development charges otherwise payable under this By-law;
 - (b) the credit shall be calculated based on the portion of the building that is being converted by multiplying the number and type of dwelling units being converted or the non-residential total floor area being converted by the relevant development charges under this By-law in effect on the date when the development charges are payable pursuant to this By-law with respect to the redevelopment;
 - (c) where the amount of any credit pursuant to this section exceeds, in total, the amount of the development charges otherwise payable under this By-law with respect to the redevelopment, the excess credit shall be reduced to zero and shall not be carried forward unless the carrying forward of such excess credit is expressly permitted by a phasing plan for the redevelopment that is acceptable to the Region's Commissioner of Finance and/or Treasurer or designate;
 - (d) despite subsections (a) to (c) above, where there is a conversion of an existing non-retail development to a retail development, a credit shall be provided in accordance with this By-law on a one-time basis such that the incremental development charges otherwise payable pursuant to this By-law shall be reduced by the greater of:
 - (i) the development charges that would be payable on the first 929 sq. m. (10,000 sq. ft.) of the total non-retail floor area being converted to a retail development; or
 - (ii) twenty-five percent (25%) of the development charges otherwise payable on the total non-retail floor area being converted to retail development
 - (iii) unless any excess credits is expressly permitted as part of a phasing plan for the redevelopment that is acceptable and approved by the Region;
 - (e) notwithstanding subsections (a) to (d) above, no credit shall be allowed where the building or part thereof prior to conversion would have been exempt pursuant to this By-law or any predecessor thereof.

Exemptions, Relief, Credits and Adjustments Not Cumulative

33. THAT only one (1) of the applicable exemption(s), relief, credit(s) or adjustment(s) set out in sections 22 to 32, inclusive, of this By-law shall be applicable to a development. Where the circumstances of a development are such that more than one (1) type of exemption, relief, credit or adjustment could apply, only one (1) type of exemption, relief, credit or adjustment shall apply and it shall be the exemption, relief, credit or adjustment that results in the lowest development charges being payable under this By-law.

Interest

34. THAT the Region shall pay interest on a refund under subsections 18(3), 25(2) and section 36 of the Act at a rate equal to the Bank of Canada rate on the date this By-law comes into force.

Front Ending Agreements

35. THAT the Region may enter into one or more agreements under section 44 of the Act.

Repeals

36. THAT By-law No. 36-17, being a by-law to establish water, wastewater, roads and general services development charges for The Regional Municipality of Halton (Built Boundary and Greenfield Areas) is hereby repealed on the date this By-law comes into force and effect.

Registrations

37. THAT a certified copy of this By-law and a copy or notice of any agreement authorized by this By-law may be registered in the Land Registry Office (No. 20) as against title to any land to which this By-law or any such agreement applies in accordance with the provisions of this By-law or Sections 42 and 56 of the Act, or any predecessor thereto.

Date By-law Effective

38. THAT this By-law comes into force and effect on _____.

Headings for Reference Only

- 39. THAT the headings inserted in this By-law are for convenience of reference only and shall not affect the construction or interpretation of this By-law.

Severability

- 40. THAT if, for any reason, any provision, section, subsection, paragraph or clause of this By-law is held invalid, it is hereby declared to be the intention of Council that all the remainder of this By-law shall continue in full force and effect until repealed, re-enacted or amended, in whole or in part or dealt with in any other way.

Short Title

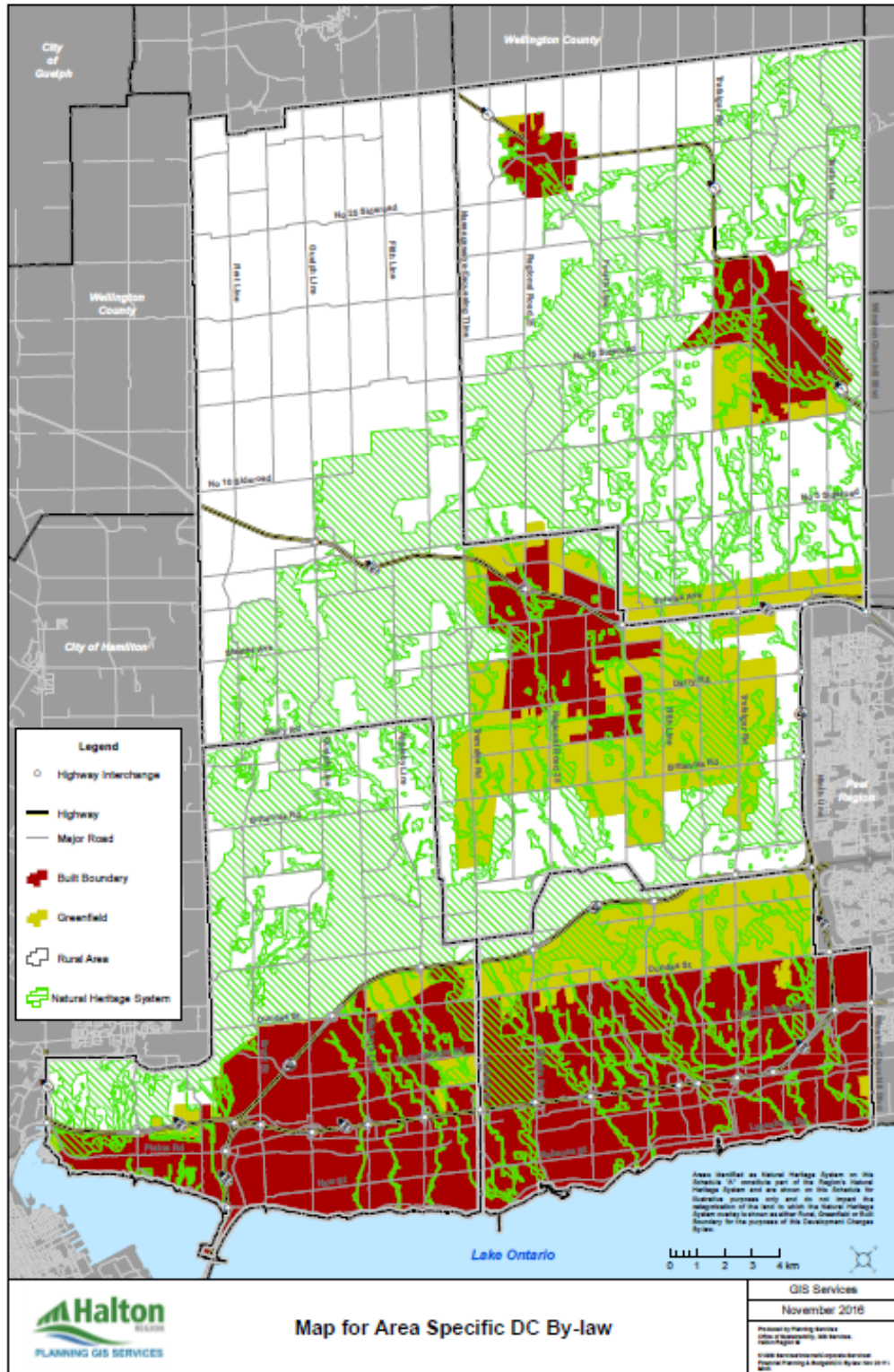
- 41. THAT the short title of this By-law is the “Water, Wastewater, Roads and General Services Development Charges By-law, 2022”.

READ and PASSED this ____th day of _____.

REGIONAL CHAIR

Regional Clerk

THE REGIONAL MUNICIPALITY OF HALTON SCHEDULE "A" TO BY-LAW NO. XX-22



**THE REGIONAL MUNICIPALITY OF HALTON
SCHEDULE "B-1" TO BY-LAW NO. XX-22**

BUILT BOUNDARY URBAN AND RURAL RESIDENTIAL DEVELOPMENT CHARGES PER DWELLING UNIT*

	Single and Semi Detached Dwelling	Multiple Dwelling (3 or More Bedrooms)	Multiple Dwelling (Less Than 3 Bedrooms)	Apartment Dwelling (2 or More Bedrooms)	Apartment Dwelling (Less Than 2 Bedrooms)	Special Care/ Special Need and Accessory Dwelling
Region-Wide (Urban and Rural):						
General Services:						
Growth Studies	\$ 150.82	\$ 122.10	\$ 80.70	\$ 73.22	\$ 54.21	\$ 43.98
Police	603.71	488.73	323.01	293.08	216.99	176.05
Paramedics	286.51	231.94	153.30	139.09	102.98	83.55
Facilities	98.01	79.34	52.44	47.58	35.23	28.58
Social Housing	985.82	798.06	527.46	478.58	354.34	287.48
Waste Diversion	95.72	77.49	51.21	46.47	34.40	27.91
Waterfront Parks	218.69	177.04	117.01	106.17	78.60	63.77
Sub-Total	\$ 2,439.28	\$ 1,974.70	\$ 1,305.13	\$ 1,184.19	\$ 876.75	\$ 711.32
Roads:	\$ 30,365.68	\$ 24,582.32	\$ 16,247.09	\$ 14,741.34	\$ 10,914.41	\$ 8,855.02
Total (Urban and Rural)	\$ 32,804.96	\$ 26,557.02	\$ 17,552.22	\$ 15,925.53	\$ 11,791.16	\$ 9,566.34
Specific Urban Charges:						
Water	\$ 4,503.37	\$ 3,649.24	\$ 2,411.88	\$ 2,190.39	\$ 1,621.75	\$ 1,315.93
Wastewater	5,717.59	4,636.81	3,064.59	2,785.24	2,062.18	1,673.48
Total	\$ 10,220.96	\$ 8,286.05	\$ 5,476.47	\$ 4,975.63	\$ 3,683.93	\$ 2,989.41
Total Urban Charges	\$ 43,025.92	\$ 34,843.07	\$ 23,028.69	\$ 20,901.16	\$ 15,475.09	\$ 12,555.75
Total Rural Charges	\$ 32,804.96	\$ 26,557.02	\$ 17,552.22	\$ 15,925.53	\$ 11,791.16	\$ 9,566.34

* Residential development charges are subject to indexing in accordance with section 19 of the By-law

**THE REGIONAL MUNICIPALITY OF HALTON
SCHEDULE "B-2" TO BY-LAW NO. XX-22**

GREENFIELD URBAN AND RURAL RESIDENTIAL DEVELOPMENT CHARGES PER DWELLING UNIT*

	Single and Semi Detached Dwelling	Multiple Dwelling (3 or More Bedrooms)	Multiple Dwelling (Less Than 3 Bedrooms)	Apartment Dwelling (2 or More Bedrooms)	Apartment Dwelling (Less Than 2 Bedrooms)	Special Care/ Special Need and Accessory Dwelling
Region-Wide (Urban and Rural):						
General Services:						
Growth Studies	\$ 150.82	\$ 122.10	\$ 80.70	\$ 73.22	\$ 54.21	\$ 43.98
Police	603.71	488.73	323.01	293.08	216.99	176.05
Paramedics	286.51	231.94	153.30	139.09	102.98	83.55
Facilities	98.01	79.34	52.44	47.58	35.23	28.58
Social Housing	985.82	798.06	527.46	478.58	354.34	287.48
Waste Diversion	95.72	77.49	51.21	46.47	34.40	27.91
Waterfront Parks	218.69	177.04	117.01	106.17	78.60	63.77
Sub-Total	\$ 2,439.28	\$ 1,974.70	\$ 1,305.13	\$ 1,184.19	\$ 876.75	\$ 711.32
Roads:	\$ 30,365.68	\$ 24,582.32	\$ 16,247.09	\$ 14,741.34	\$ 10,914.41	\$ 8,855.02
Total (Urban and Rural)	\$ 32,804.96	\$ 26,557.02	\$ 17,552.22	\$ 15,925.53	\$ 11,791.16	\$ 9,566.34
Specific Urban Charges:						
Water	\$ 12,275.69	\$ 9,941.62	\$ 6,570.68	\$ 5,962.77	\$ 4,414.81	\$ 3,576.39
Wastewater	17,260.86	13,979.76	9,239.59	8,384.99	6,208.20	5,028.04
Total	\$ 29,536.55	\$ 23,921.38	\$ 15,810.27	\$ 14,347.76	\$ 10,623.01	\$ 8,604.43
Total Urban Charges	\$ 62,341.51	\$ 50,478.40	\$ 33,362.49	\$ 30,273.29	\$ 22,414.17	\$ 18,170.77
Total Rural Charges	\$ 32,804.96	\$ 26,557.02	\$ 17,552.22	\$ 15,925.53	\$ 11,791.16	\$ 9,566.34

* Residential development charges are subject to indexing in accordance with section 19 of the By-law

**THE REGIONAL MUNICIPALITY OF HALTON
SCHEDULE "C-1" TO BY-LAW NO. XX-22**

BUILT BOUNDARY URBAN AND RURAL NON-RESIDENTIAL DEVELOPMENT CHARGES*

PER SQUARE FOOT OF TOTAL FLOOR AREA

	<u>Retail</u>	<u>Non-Retail</u>
Region-Wide Charges (Urban and Rural):		
General Services:		
Growth Studies	\$ 0.060	\$ 0.060
Police	0.189	0.189
Paramedics	0.025	0.025
Facilities	0.014	0.014
Waste Diversion	0.003	0.003
Waterfront Parks	0.008	0.008
Sub-Total	\$ 0.299	\$ 0.299
Roads:	\$ 46.049	\$ 8.585
Total	\$ 46.348	\$ 8.884
Specific Urban Charges:		
Water	\$ 1.340	\$ 1.340
Wastewater	2.053	2.053
Total	\$ 3.393	\$ 3.393
Total Urban Charges	\$ 49.741	\$ 12.277
Total Rural Charges	\$ 46.348	\$ 8.884

PER SQUARE METRE OF TOTAL FLOOR AREA

	<u>Retail</u>	<u>Non-Retail</u>
Region-Wide Charges (Urban and Rural):		
General Services:		
Growth Studies	\$ 0.646	\$ 0.646
Police	2.034	2.034
Paramedics	0.269	0.269
Facilities	0.151	0.151
Waste Diversion	0.032	0.032
Waterfront Parks	0.086	0.086
Sub-Total	\$ 3.218	\$ 3.218
Roads:	\$ 495.667	\$ 92.408
Total (Urban and Rural)	\$ 498.885	\$ 95.626
Specific Urban Charges:		
Water	\$ 14.423	\$ 14.423
Wastewater	22.098	22.098
Total	\$ 36.521	\$ 36.521
Total Urban Charges	\$ 535.406	\$ 132.147
Total Rural Charges	\$ 498.885	\$ 95.626

*Non-residential development charges are subject to indexing in accordance with section 19 of the By-Law

**THE REGIONAL MUNICIPALITY OF HALTON
SCHEDULE "C-2" TO BY-LAW NO. XX-22**

GREENFIELD URBAN AND RURAL NON-RESIDENTIAL DEVELOPMENT CHARGES*

PER SQUARE FOOT OF TOTAL FLOOR AREA

	<u>Retail</u>	<u>Non-Retail</u>
Region-Wide Charges (Urban and Rural):		
General Services:		
Growth Studies	\$ 0.060	\$ 0.060
Police	0.189	0.189
Paramedics	0.025	0.025
Facilities	0.014	0.014
Waste Diversion	0.003	0.003
Waterfront Parks	0.008	0.008
Sub-Total	\$ 0.299	\$ 0.299
Roads:	\$ 46.049	\$ 8.585
Total	\$ 46.348	\$ 8.884
Specific Urban Charges:		
Water	\$ 3.897	\$ 3.897
Wastewater	5.245	5.245
Total	\$ 9.142	\$ 9.142
Total Urban Charges	\$ 55.490	\$ 18.026
Total Rural Charges	\$ 46.348	\$ 8.884

PER SQUARE METRE OF TOTAL FLOOR AREA

	<u>Retail</u>	<u>Non-Retail</u>
Region-Wide Charges (Urban and Rural):		
General Services:		
Growth Studies	\$ 0.646	\$ 0.646
Police	2.034	2.034
Paramedics	0.269	0.269
Facilities	0.151	0.151
Waste Diversion	0.032	0.032
Waterfront Parks	0.086	0.086
Sub-Total	\$ 3.218	\$ 3.218
Roads:	\$ 495.667	\$ 92.408
Total (Urban and Rural)	\$ 498.885	\$ 95.626
Specific Urban Charges:		
Water	\$ 41.947	\$ 41.947
Wastewater	56.457	56.457
Total	\$ 98.404	\$ 98.404
Total Urban Charges	\$ 597.289	\$ 194.030
Total Rural Charges	\$ 498.885	\$ 95.626

*Non-residential development charges are subject to indexing in accordance with section 19 of the By-Law

**THE REGIONAL MUNICIPALITY OF HALTON
SCHEDULE "D-1" TO BY-LAW NO. XX-22**

Schedule "E" applies to all or part of the following lands:

- Parcel D-1.2 Block 12, Plan M-537
- Parcel D-1.3 Block 13, Plan M-530
- Parcel D-1.4 Block 32, Plan M-537
 A - Pt Block 32, Parts 2, 3, 6, and 8, 20R-17841
 B - Pt Block 32, Parts 1, 4, 5, and 7, 20R-17841
- Parcel D-1.5 Part Block 34, Plan M-537; RP 20R17950 Parts 2, 3, 4
- Parcel D-1.11 Blocks 12 & 20, Plan M-530 and Parts 3 & 4, 20R9270
 (includes what was previously D-1.13 on By-law 48-12)
- Parcel D-1.12 Block 14, Plan M-530
- Parcel D-1.14 Part E1/2 Lot 4, Conc. 2 (Parts 1, 2, 3 & 6, 20R-9733)
 B - Block 3, Plan M-952
 C - Block 16, Plan M-952
 E - Pt Block 4, Plan M-952; RP 20R16880 Part 2
 F1 - Pt Block 4, Plan M-952; 20R19423 Parts 5 to 7
 G - Block 17, Plan M-952
- Parcel D-1.15 Part Lots 3 and 4, Conc. 3
 A - Pt Lots 3 and 4, Conc. 3; Parts 2, 12 to 15, 17 & 18,
 20R-10272 (2701 Highpoint - includes what was
 previously D-2.7 on By-law 48-12
 B - Pt Lot 3, Conc. 3; Parts 9, 10, 14, 15, 20R-13631

**THE REGIONAL MUNICIPALITY OF HALTON
SCHEDULE “D-2” TO BY-LAW NO. XX-22**

Schedule “E” applies to all or part of the following lands:

- Parcel D-2.1 Part Lots 2 & 3, Conc. 3 (Parts 1, 3 and 10, 20R-12697)
- Parcel D-2.2 Block 7, Plan M-537
- Parcel D-2.3 Blocks 5 & 6, Plan M-537
- Parcel D-2.4 Blocks 17 to 29, inclusive, Plan M-537
- Parcel D-2.5 Block 16, Plan M-537
- Parcel D-2.6 Blocks 1 to 4, inclusive, Plan M-537

**THE REGIONAL MUNICIPALITY OF HALTON
SCHEDULE “e” TO BY-LAW NO. XX-22**

Rules Applicable to the Lands described in Schedule “D-1” and “D-2”

Where the development of the lands described in Schedules “D-1” and “D-2” to this By-law requires a building permit or sections 13 or 14 of this By-law or section 3 of this Schedule “E” applies, the following are additional rules for the calculation of the water and wastewater development charges payable under this By-law for the lands described in those Schedules:

1. For the development of lands described in Schedules “D-1” and “D-2” to this By-law that are occupied by one or more buildings:
 - (a) if the water services and wastewater services components of the development charge imposed by By-law No. 65-99, By-law No. 117-99, By-law No. 102-03, By-law No. 62-08, By-law No. 48-12, By-law No. 36-17 as amended or this By-law have been paid, then no further water and wastewater development charges are payable under this By-law for any change in the use of the existing building provided that, subject to the exemptions in the Act and this By-law, any addition to the existing building or any new building erected on the lands shall pay the charge imposed by this By-law; or
 - (b) if the lands are subject to a restricted flow and if the development of the lands or any change in use of any existing building on the lands impose a water or wastewater demand (including the demand imposed by any existing building on the lands) in excess of the restricted flow, then the water and wastewater development charges under this By-law shall be imposed as follows:
 - (i) where there has been a change in use, the charge shall be imposed on the total floor area of the existing building; or
 - (ii) where there has been an addition to such building or an additional building has been constructed on the lands, the charge shall be imposed on the aggregate total floor area of the existing building and the total floor area of the addition or of any additional building,

provided that where the charge is imposed a credit shall be recognized in respect of the existing portion of any existing building (in the case of clause 1(b)(i)) or the aggregate total floor area of the existing building and the total floor area of the addition or of any additional building (in the case of clause 1(b)(ii)) of twenty-four and seven-tenths percent (24.7%) in the case of an industrial development and a credit of fifteen and eleven one-hundredths percent (15.11%) in the case of a retail or commercial development of the charge imposed under this By-law and provided that the total demand for water services and wastewater services shall be determined through a water usage report using Sentence 8.2.1.3(2) and Table 8.2.1.3.B from O. Reg. 332/12; or

- (c) if the lands are subject to a restricted flow and if the development of the lands or any change in use of any existing building on the lands does not impose a water or wastewater demand that is greater than the restricted flow, then no water and wastewater development charges are payable under this By-law. The total demand for water services and wastewater services shall be determined through a water usage report using Sentence 8.2.1.3(2) and Table 8.2.1.3.B from O. Reg. 332/12.

2. For the development of lands described in Schedule “D-I” to this By-law that are vacant:

- (a) if the development does not impose a water or wastewater demand that is greater than the restricted flow, then no water or wastewater development charge is payable under this By-law; or
- (b) if the development imposes a water or wastewater demand in excess of the restricted flow, then the water and wastewater development charges under this By-law shall be imposed and a credit shall be recognized of twenty-four and seven-tenths percent (24.7%) in the case of an industrial development and a credit of fifteen and eleven one-hundredths percent (15.11%) in the case of a retail or commercial development of the charge imposed under this By-law;

- (c) provided that the total demand for water services and wastewater services shall be determined through a water usage report using Sentence 8.2.1.3(2) and Table 8.2.1.3.B from O. Reg. 332/12.
3. If a development of the lands described in Schedules “D-1” and “D-2” of this By-law does not require a building permit but does require one or more of the approvals described in section 11 of this By-law, including without limiting the generality of the foregoing, the issuing of any other permit under the *Building Code Act, 1992*, S.O. 1992, c. 23, as amended or successor legislation, then, notwithstanding section 20 of this By-law, the water and wastewater development charges shall nonetheless be payable in respect of any development permitted by such approval where such development imposes an increased demand for water services or wastewater services.
 4. Once lands or any portion thereof as described in Schedules “D-1” and “D-2” are developed, or have any credits or portion of credits that may be available pursuant to paragraph 1(b) or 2(b) of this Schedule “E” applied against any development, said lands shall be removed from Schedules “D-1” and “D-2”, without need for an amendment to this By-law, and the provisions of Schedule “E” shall no longer continue apply to same.