

REPORT FOR PUBLIC CONSULTATION

PREPARED BY HEMSON FOR THE CITY OF WINDSOR



DEVELOPMENT CHARGES BACKGROUND STUDY

CONSOLIDATED REPORT

November 5, 2020



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EXECUTIVE SUMMARY

This Consolidated Report updates the Development Charges (DC) Background Study released on March 5, 2020. Following the release of that report, the 2020 DC Background Study was put on hold due to COVID-19 restrictions and the provincial emergency order, which extended until July 23, 2020.

On September 18, 2020, further changes to the Development Charges Act (DCA) came into force through Bill 197, the COVID-19 Economic Recovery Act, building on amendments previously proposed through Bill 108, the More Homes, More Choices Act. The changes brought a number of services, including parks, recreation, and library services, among others, back into the DCA. The removal of the 10% legislated discount for “soft” services, as previously proposed through Bill 108, was also enacted. As such, this Consolidated Report includes the development charges for Park Development, Recreation, and Public Libraries, and is compliant with all recent amendments to the DCA.

Parking services remain excluded from the amended DCA and transferred to the new Community Benefits Charge (CBC) regime, however the City may continue to collect Parking services DCs through its previous DC By-law 60-2015 until the earlier of September 18, 2022, or enactment of a CBC by-law.

A. PURPOSE OF THE 2020 DEVELOPMENT CHARGES BACKGROUND STUDY

The *Development Charges Act, 1997* (DCA), and its associated *Ontario Regulation 82/98* (O. Reg. 82/98), allow municipalities in Ontario to recover development-related capital costs from new development. This City of Windsor Development Charges Background Study is presented as part of a process to establish development charge by-laws that comply with this legislation.

i. Legislative Context

The City of Windsor’s 2020 Development Charges (DC) Background Study is presented as part of the process to lead to the approval of a new DC by-law in compliance with the *Development Charges Act, 1997* (DCA). The study is prepared in accordance with the DCA and associated Regulation, including the amendments that came into force on January 1, 2016, June 6, 2019, January 1, 2020 and September 17, 2020.

ii. Key Steps in Determining Future Development-Related Projects

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

iii. DC Eligible and Ineligible Costs

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

iv. The Development-Related Capital Program is Subject to Change

It is recommended that Council adopt the development-related capital program developed for the purposes of the 2020 DC Background Study. However, it is recognized that the DC Background Study is a point-in-time analysis and there may be changes to project timing, scope and costs through the City’s normal annual budget process.

B. DEVELOPMENT FORECAST

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

For the purposes of this DC Background Study, three development forecasts were prepared based on geographic area: City-wide (2020-2029), City-wide excluding Sandwich South (2020-2029), and Sandwich South Planning District (2020-2041). The anticipated residential and non-residential growth are summarized below. The development forecasts are further discussed in Appendix A.

i. City-Wide Forecast (2020-2029)

A ten-year City-wide forecast was prepared for the calculation of City-wide Library Services, Fire Services, Police Services, Indoor Recreation, Park Development, Transit, Waste Diversion, Buildings and Fleet, City-wide Studies, and Sewage Treatment development charges.

City-Wide Development Forecast	2019 Estimate	2020 - 2029	
		Growth	Total at 2029
Residential			
Total Occupied Dwellings	93,844	6,380	100,224
Total Population			
Census	220,029	10,433	230,462
<i>Population In New Dwellings</i>		<i>19,402</i>	
Non-Residential			
Total Employment	109,552	2,713	112,265
<i>Employment Growth in New Space</i>		<i>2,365</i>	
Non-Residential Building Space (sq.m.)		188,326	

ii. City-Wide Excluding Sandwich South Forecast (2020-2029)

For the purposes of the calculation of Roads and Related, Sanitary Sewer, Storm Sewer and Municipal Drains, and Water DCs which apply to development across the City with the exception of Sandwich South, the ten-year City-wide forecast was adjusted to exclude Sandwich South development anticipated to occur over that planning period.

City-Wide Excluding Sandwich South Development Forecast	Growth 2020 - 2029
Residential	
Dwelling Units	4,156
Population in New Dwellings	13,032
Non-Residential	
Employment in New Space	340
Non-Residential Building Space (sq.m.)	28,415

iii. Sandwich South Planning District Forecast (2020-2041)

An area-specific forecast for the Sandwich South Planning District, from 2020 to 2041, was prepared for the calculation of area-specific Roads and Related, Sanitary Sewer, Storm Sewer and Municipal Drains, and Water development charges.

Sandwich South Planning District Development Forecast	Growth 2020 - 2041
Residential	
Dwelling Units	4,999
Population in New Dwellings	14,212
Non-Residential	
Employment in New Space	9,468
Non-Residential Building Space (sq.m.)	706,879

C. CALCULATED DEVELOPMENT CHARGES

The tables below provide the development charges calculated City-wide as well as the Sandwich South Planning District service areas for residential and non-residential development based on the aforementioned forecasts.

The rates calculated as part of this Background Study are the maximum permissible rates under the current legislation. Council may implement rates lower than those calculated and the revenue shortfall will need to be made up from other sources, namely property taxes, user fees and water and wastewater utility rates.

It should be noted that the services included for development charges recovery in this study relate solely to eligible services per the DCA amendments that came into force in September 2020. Parking services, along with other community amenities as appropriate, may be examined as part of a future Community Benefits Charge (CBC) by-law under the *Planning Act*. Until those future by-laws are in force, the current rates as per the City's DC by-law 60-2015 will remain in force for Parking services.

i. City-Wide Development Charges

Calculated City-wide development charges are summarized below. For illustrative purposes, Parking services DCs to be carried forward from By-law 60-2015 are included as part of the overall total charges, although these charges have not been calculated as part of this study.

Service	Charge By Unit Type			Industrial	Non-Industrial
	Single Detached	Semis, Rows & Other Multiples	Apartments	(\$/m ²)	(\$/m ²)
<i>Parking (By-law 60-2015)</i>	\$105	\$75	\$50	\$0.00	\$0.36
Library Services	\$291	\$164	\$135	\$0.00	\$0.00
Fire Services	\$721	\$405	\$334	\$2.29	\$2.29
Police Services	\$374	\$210	\$173	\$1.19	\$1.19
Indoor Recreation	\$276	\$155	\$128	\$0.00	\$0.00
Park Development	\$119	\$67	\$55	\$0.00	\$0.00
Transit	\$543	\$306	\$251	\$1.75	\$1.75
Waste Diversion	\$240	\$135	\$111	\$0.00	\$0.00
City-Wide General Services Charge	\$2,669	\$1,517	\$1,237	\$5.23	\$5.59
Services Related To A Highway					
<i>Roads & Related</i>	<i>\$21,194</i>	<i>\$11,917</i>	<i>\$9,807</i>	<i>\$62.45</i>	<i>\$108.25</i>
<i>Buildings & Fleet</i>	<i>\$259</i>	<i>\$146</i>	<i>\$120</i>	<i>\$0.85</i>	<i>\$0.85</i>
<i>City-Wide Studies</i>	<i>\$35</i>	<i>\$19</i>	<i>\$16</i>	<i>\$0.12</i>	<i>\$0.12</i>
Sewage Treatment	\$989	\$556	\$458	\$2.61	\$4.36
Sanitary Sewer	\$610	\$343	\$282	\$1.88	\$3.38
Storm Sewer & Municipal Drains	\$1,093	\$614	\$506	\$3.22	\$5.57
Water	\$3,639	\$2,046	\$1,684	\$10.73	\$18.56
City-Wide Engineered Services Charge	\$27,819	\$15,641	\$12,873	\$81.86	\$141.09
TOTAL CITY-WIDE CHARGE	\$30,488	\$17,158	\$14,110	\$87.09	\$146.68

ii. Sandwich South Area-Specific Development Charges

Calculated area-specific development charges (ASDCs) are provided in the table below. It is intended that development in Sandwich South be subject to the ASDC rates for Roads and Related, Sanitary Sewer, Storm Sewer and Municipal Drains, and Water services.

In addition to the area-specific rates, the City-wide charges for Library Services, Fire Services, Police Services, Indoor Recreation, Park Development, Transit, Waste Diversion, Buildings and Fleet, City-Wide Studies, and Sewage Treatment would apply in Sandwich South. The City-wide Parking charge as per By-law 60-2015 will also apply until September 2022, or until a CBC by-law is brought into force.

Service	Charge By Unit Type			Industrial	Non-Industrial
	Single Detached	Semis, Rows & Other	Apartments	(\$/m ²)	(\$/m ²)
Roads & Related	\$29,181	\$16,408	\$13,503	\$81.55	\$133.88
Sanitary Sewer	\$2,515	\$1,414	\$1,164	\$6.92	\$11.35
Storm Sewer & Municipal Drains	\$9,464	\$5,321	\$4,379	\$27.08	\$44.45
Water	\$2,623	\$1,475	\$1,214	\$7.00	\$11.50
Total Area-Specific DCs	\$43,783	\$24,618	\$20,260	\$122.55	\$201.18
Applicable City-Wide DCs	\$3,952	\$2,238	\$1,831	\$8.81	\$10.92
TOTAL SANDWICH SOUTH CHARGE	\$47,735	\$26,856	\$22,091	\$131.36	\$212.10

D. LONG-TERM CAPITAL AND OPERATING COSTS

An overview of the long-term capital and operating costs for the capital facilities and infrastructure to be included in the DC by-law is provided in the study. This examination is required as one of the provisions of the DCA. Additional details on the long-term capital and operating impact analysis is found in Appendix F. By 2029 the City's net operating costs are estimated to increase by about \$10.67 million per annum.

E. ASSET MANAGEMENT PLAN

A key function of the Asset Management Plan is to demonstrate that all assets proposed to be funded under the development charges by-law are financially sustainable over their full life cycle.

By 2030, the City will need to fund an additional \$4.35 million per annum in order to properly fund the full life cycle costs of the new City-wide assets supported under the 2020 Development Charges By-law. By 2042, the City will need to fund an additional \$8.66 million per annum in order to fund the life cycle costs associated with the new area-specific assets in Sandwich South. Additional details are provided in Appendix F.

F. DRAFT DEVELOPMENT CHARGES BY-LAW AVAILABLE UNDER SEPARATE COVER

The City is proposing slight modifications to the policies and provisions in the current development charges by-law. The proposed draft by-laws will be made available under separate cover a minimum of two weeks in advance of the statutory public meeting.

1. INTRODUCTION

The City of Windsor is growing as an attractive location for a variety of residential and non-residential development. The anticipated development in the City will increase the demand on municipal services. The City wishes to implement development charges to fund capital projects related to development in the City so that development continues to be serviced in a fiscally responsible manner.

The *Development Charges Act, 1997* (DCA), and its associated Ontario Regulation 82/98 (O. Reg. 82/98), allow municipalities in Ontario to recover development-related capital costs from new development. This City of Windsor 2020 Development Charges Background Study is presented as part of a process to establish development charge by-laws that comply with this legislation.

The DCA and O. Reg. 82/98 require that a development charges background study be prepared in which development charges are determined with reference to:

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

This study identifies the development-related net capital costs which are attributable to development that is forecast to occur in the City. The costs are apportioned to types of development (residential and non-residential) in a manner that reflects the increase in need for each service attributable to each type of development. The study therefore calculates development charges for each type of development.

The DCA provides for a period of public review and comment regarding the proposed development charges. This process includes considering and responding to comments received by members of the public about the calculated charges. Following completion of

this process, and in accordance with the DCA and Council's review of this study, it is intended that Council will pass a new development charge by-law.

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

2. METHODOLOGY

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

A. BOTH CITY-WIDE AND AREA-SPECIFIC DEVELOPMENT CHARGES ARE CALCULATED

The City provides a wide range of services to the community it serves and has an extensive inventory of facilities, land, infrastructure, vehicles and equipment. The DCA provides legislation with respect to the services that may be included in the development charge by-laws. The DCA also requires that the by-law designates the areas within which the by-law shall be imposed. The development charges may apply to all lands in the municipality or to other designated development areas as specified in the by-law.

i. Services Based on a City-Wide Approach

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

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

- Library Services
- Fire Services
- Police Services
- Indoor Recreation
- Park Development
- Transit
- Waste Diversion
- Services Related to a Highway:
 - Buildings and Fleet
 - City-Wide Studies
- Sewage Treatment

These services form a reasonable basis on which to plan and administer the development charges. The analysis of each of these services examines the individual capital facilities and

equipment that make them up. For example, Fire Service includes various buildings and associated land, fire fighting vehicles and equipment.

The resulting development charge for these services would be imposed against all development in the City.

It should be noted that the services included for development charges recovery in this study relate solely to eligible services per the DCA amendments brought into force on September 18, 2020. Parking services, along with other community amenities as appropriate, may be examined as part of a future Community Benefits Charge (CBC) by-law under the *Planning Act*. Although a development charge is not being recalculated for this service at this time, the development charges at the existing rates are included in a summary of the total charges in this study. Until the corresponding future by-laws come into force, the current rates as per the City's DC by-law 60-2015 will remain in force for Parking services.

ii. **Area-Specific Charges are Calculated**

For some services the City provides, the need for development-related capital infrastructure to support anticipated development is more localized. For such services, where costs and benefits are more localized, an alternative technique – the area-specific approach – is proposed. This approach is consistent with the City's current practice, as brought forward by a 2018 amendment to the DC by-law 60-2015.

The area-specific charges relate to the provision of certain engineered services in within the Sandwich South Planning District. The servicing needs in this area require differing, additional, identifiable and independent projects in order to provide for the anticipated growth. The area-specific approach is applied to more closely align the capital costs for these services with the particular area that is serviced by the required infrastructure.

Area-specific DCs calculated for the Sandwich South Planning District include:

- Roads and Related
- Sanitary Sewers
- Storm Sewers and Municipal Drains
- Water

It is noted that corresponding development charges for these services have been calculated for City-wide development outside of the Sandwich South Planning District.

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

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

i. Development Forecast

The first step in the methodology requires development forecasts to be prepared for the ten-year City-wide study period, 2020–2029, and over the long-term to 2041 for the Sandwich South Planning District. The forecast of future residential and non-residential development used in this study was prepared in conjunction with the City’s planning staff.

For the residential portion of the City-wide forecast, the net (or Census) population growth and population growth in new units is estimated. Net population growth equals the population in new housing units reduced by the decline in the population in the existing base anticipated over the planning period (due to reducing household sizes as the community ages). Net population is used in the calculation of the development charges funding envelopes. In calculating the per capita development charge, however, population growth in new units is used for both the City-wide and area-specific services.

The non residential portion of the forecast estimates the amount of building space to be developed in the City over the planning periods. Factors for floor space per worker by employment category are used to convert the floor space forecast into employment for the purposes of allocating development related capital costs.

ii. Service Categories and Historical Service Levels

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

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

Historical ten-year average service levels thus form the basis for the development charge calculation. A review of the City’s capital service levels for buildings, land, vehicles, equipment and so on has therefore been prepared for the calculation so that the portion of future capital projects that may be included in the development charge can be determined.

The historical service levels used in this study have been calculated based on the period 2010 to 2019.

Historical service levels have not been calculated for the engineered services as new infrastructure for these services is required to meet engineering standards set by health and environmental legislation.

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

A development-related capital forecast has been prepared by City staff as part of the study. The forecast identifies development-related projects and their gross and net costs, after allowing for capital grants, subsidies or other contributions as required by the DCA s.5 (2). The capital forecast provides another cornerstone upon which development charges are based. The DCA requires that the increase in the need for service attributable to the anticipated development may include an increase:

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

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

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

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

development charge sources. The amount of funding for such non growth shares of projects is also identified as part of the preparation of the development related capital forecast.

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

iv. Attribution to Types of Development

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

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

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

v. Final Adjustment

The final determination of the development charge results from adjustments made to development-related net capital costs for each service and sector resulting from a cash flow analysis that takes account of the timing of projects and receipt of development charges. Interest earnings or borrowing costs are accounted for in the calculation as allowed under the DCA.

3. DEVELOPMENT FORECAST

The following section provides a summary of the development forecasts that have been used as inputs to the City-wide and area-specific development charges calculations. The development forecasts were prepared in conjunction with the City’s planning staff. A more detailed summary of the forecasts, including tables illustrating historical trends and forecast results, is provided in Appendix A.

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

A. RESIDENTIAL DEVELOPMENT FORECASTS

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

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

Table 1A provides a summary of the City-wide residential forecast for the ten-year planning period from 2020 to 2029. The City-wide forecast is used for the calculation of City-wide Library Services, Fire Services, Police Services, Indoor Recreation, Park Development, Transit, Waste Diversion, Buildings and Fleet, City-wide Studies, and Sewage Treatment development charges. The total ten year population in new units is forecast at 19,400.

Table 1B provides a summary of the City-wide, excluding Sandwich South, forecast for the ten-year planning period from 2020 to 2029. This forecast is used for the calculation of Roads and Related, Sanitary Sewer, Storm Sewer and Municipal Drains, and Water development charges applying to development across the City with the exception of Sandwich South. The total ten year population in new units is forecast at 13,030.

Table 1C provides a summary of the Sandwich South area-specific forecast for the planning period from 2020 to 2041. This forecast is used for the calculation of area-specific Roads and Related, Sanitary Sewer, Storm Sewer and Municipal Drains, and Water development charges. The total 2020-2041 population in new units is forecast at 14,210.

B. NON-RESIDENTIAL DEVELOPMENT FORECASTS

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

City-wide, the ten-year employment growth is estimated at 2,710. The total ten-year GFA growth is forecast at 188,330 square metres (Table 1A). Excluding Sandwich South, 340 jobs and 28,420 square metres are anticipated (Table 1B). Within the Sandwich South Planning District over the longer range 2020 to 2041 planning period, 9,470 jobs and 706,880 square metres of non-residential building space are forecast (Table 1C).

TABLE 1A

**CITY OF WINDSOR
SUMMARY OF RESIDENTIAL AND NON-RESIDENTIAL
DEVELOPMENT FORECAST
CITY-WIDE**

City-Wide Development Forecast	2019 Estimate	2020 - 2029	
		Growth	Total at 2029
Residential			
Total Occupied Dwellings	93,844	6,380	100,224
Total Population			
Census	220,029	10,433	230,462
<i>Population In New Dwellings</i>		<i>19,402</i>	
Non-Residential			
Total Employment	109,552	2,713	112,265
<i>Employment Growth in New Space</i>		<i>2,365</i>	
Non-Residential Building Space (sq.m.)		188,326	

TABLE 1B

**CITY OF WINDSOR
SUMMARY OF RESIDENTIAL AND NON-RESIDENTIAL
DEVELOPMENT FORECAST
CITY-WIDE EXCLUDING SANDWICH SOUTH**

City-Wide Excluding Sandwich South Development Forecast	Growth 2020 - 2029
Residential	
Dwelling Units	4,156
Population in New Dwellings	13,032
Non-Residential	
Employment in New Space	340
Non-Residential Building Space (sq.m.)	28,415

TABLE 1C

**CITY OF WINDSOR
SUMMARY OF RESIDENTIAL AND NON-RESIDENTIAL
DEVELOPMENT FORECAST
SANDWICH SOUTH PLANNING DISTRICT**

Sandwich South Planning District Development Forecast	Growth 2020 - 2041
Residential	
Dwelling Units	4,999
Population in New Dwellings	14,212
Non-Residential	
Employment in New Space	9,468
Non-Residential Building Space (sq.m.)	706,879

4. HISTORICAL CAPITAL SERVICE LEVELS

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

For non-engineered services (library, fire, police, etc.) the legislative requirement is met by documenting service levels for the preceding ten years: in this case, for the period 2010 to 2019. Typically, service levels for non-engineered services are measured as a ratio of inputs per population or inputs per population and employment. For engineered services, engineering and environmental/regulatory standards are used in lieu of inputs per capita.

O. Reg. 82/98 requires that when defining and determining historical service levels both the *quantity* and *quality* of service be taken into consideration. In most cases, the service levels are initially established in quantitative terms. For example, service levels for buildings are presented in terms of square feet per unit. The qualitative aspect is introduced by the consideration of the replacement monetary value of the facility or service. In the case of buildings, for example, the cost would be shown in terms of dollars per square foot to replace or construct a facility of the same quality. This approach helps to ensure that the development-related capital facilities that are to be charged to new development reflect not only the quantity (number and size) but also the quality (value or cost) of service provided by the City in the past. Both the quantitative and qualitative aspects of service levels used in the current analysis are based on information provided by City staff. This information is generally based on historical records and the City's and surrounding municipalities' experience with costs to acquire or construct similar facilities, equipment and infrastructure.

The DCA (s.5.2 (3)) requires that in estimating the increase in need for Transit Services, the increased need "shall not exceed the planned level of service over the ten-year period immediately following the preparation of the background study". Therefore, a service level and maximum funding envelope is not required for Transit as it based on a planned level of services as opposed to a historical level of service.

Table 2 summarizes service levels for all general services included in the development charge calculation, with the exception of Transit. Appendix B provides detailed historical inventory data upon which the calculation of service levels is based for the general services.

TABLE 2

**CITY OF WINDSOR
SUMMARY OF AVERAGE HISTORIC SERVICE LEVELS 2010 - 2019**

Service	2010 - 2019 Service Level Indicator
1.0 LIBRARY SERVICES	\$458.72 per capita
Buildings	\$354.10 per capita
Land	\$14.26 per capita
Materials	\$54.50 per capita
Furniture & Equipment	\$35.86 per capita
2.0 FIRE SERVICES	\$273.38 per pop + empl
Buildings	\$172.80 per pop + empl
Land	\$10.79 per pop + empl
Equipment & Gear	\$20.71 per pop + empl
Vehicles	\$69.08 per pop + empl
3.0 POLICE SERVICES	\$248.27 per pop + empl
Buildings	\$190.32 per pop + empl
Land	\$13.09 per pop + empl
Furniture & Equipment	\$44.86 per pop + empl
4.0 INDOOR RECREATION	\$1,398.72 per capita
Major Facilities	\$1,305.88 per capita
Land	\$75.61 per capita
Furniture & Equipment	\$17.23 per capita
5.0 PARK DEVELOPMENT	\$3,630.42 per capita
Parkland Development	\$1,843.28 per capita
Park Facilities	\$612.88 per capita
Park Buildings & Equipment	\$1,174.26 per capita
6.0 WASTE DIVERSION	\$114.75 per pop + empl
Buildings	\$53.58 per pop + empl
Land	\$14.44 per pop + empl
Vehicles	\$24.08 per pop + empl
Furniture & Equipment	\$22.65 per pop + empl
C1.2 BUILDINGS & FLEET	\$186.77 per pop + empl
Buildings	\$94.31 per pop + empl
Land	\$7.77 per pop + empl
Furniture & Equipment	\$25.72 per pop + empl
Fleet	\$58.97 per pop + empl

5. DEVELOPMENT-RELATED CAPITAL FORECAST

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

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

A. DEVELOPMENT-RELATED CAPITAL FORECASTS ARE PROVIDED FOR COUNCIL'S APPROVAL

Based on the development forecasts summarized in Section III and detailed in Appendix A, City staff, in collaboration with the consultants developed development-related capital forecasts setting out those projects that are required to service anticipated development. For City-wide general and engineered services, the capital plan covers the ten-year period from 2020–2029. For Sandwich South area-specific services the capital plan covers the period from 2020–2041.

It is recommended that Council adopt the development related capital forecasts developed for the purposes of the development charges calculations. It is assumed that future capital budgets and forecasts will continue to bring forward the capital projects presented here as they will be needed to service the anticipated development in the City. It is however acknowledged that changes to the forecast presented here may occur through the City's normal capital budget process.

B. THE DEVELOPMENT-RELATED CAPITAL PROGRAM FOR CITY-WIDE GENERAL SERVICES (2020-2029)

A summary of the development-related capital program for City-wide general services is shown in Table 3. Further details on the capital plans for each individual service category are available in Appendix B.

The 2020-2029 development-related capital program for City-wide general services is estimated at a total gross cost of \$234.47 million. Approximately \$71.78 million in grants or other subsidies has been identified, leaving a net municipal cost of \$162.69 million.

This capital forecast incorporates those projects identified to be related to development anticipated in the next ten years. It is not implied that all of these costs are to be recovered from new development by way of development charges (see the following Section VI for the method and determination of net capital costs attributable to growth). Portions of this capital forecast may relate to providing servicing for development which has occurred prior to 2020 (for which development charge reserve fund balances exist), for replacement of existing capital facilities, or for growth anticipated to occur beyond the 2020-2029 planning period.

C. THE DEVELOPMENT-RELATED CAPITAL PROGRAM FOR CITY-WIDE ENGINEERED SERVICES (2020-2029)

A summary of the development-related capital program for City-wide engineered services is shown in Table 4. Further details on the capital plans for each individual service category are available in Appendix C.

The development-related capital program for City-wide engineered services is estimated at a total gross cost of \$1.96 billion. Approximately \$138.57 million in grants, subsidies, and other recoveries has been identified, leaving a net municipal cost of \$1.82 billion. Once again, not all of these costs are to be recovered from new development by way of City-wide development charges (see the following Section VI). Portions of this capital forecast may relate to providing servicing for development which has occurred prior to 2020, for replacement of existing capital facilities, for development in Sandwich South (address under the area-specific capital programs and DC calculations), or for growth anticipated to occur beyond 2029.

D. THE DEVELOPMENT-RELATED CAPITAL PROGRAM FOR SANDWICH SOUTH AREA-SPECIFIC ENGINEERED SERVICES (2020-2041)

A summary of the development-related capital program for the Sandwich South area-specific engineered services is shown in Table 5. Further details on the capital plans for each individual service category are available in Appendix D.

The development-related capital program for the area-specific engineered services is estimated at a total gross cost of \$818.54 million. Excluding the \$59.98 million in grants, subsidies, and other recoveries, a net municipal cost of \$758.56 million remains. However, portions of this capital forecast relate to replacement of existing capital facilities, for development outside of the Sandwich South Planning District (addressed under the City-wide capital programs and DC calculations), or for growth anticipated to occur beyond 2041.

TABLE 3

CITY OF WINDSOR
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM
FOR GENERAL SERVICES 2020 - 2029
(in \$000)

Service	Gross Cost	Grants/ Subsidies	Municipal Cost	Total Net Capital Program										
				2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
1.0 LIBRARY SERVICES	\$6,453.3	\$527.5	\$5,925.8	\$4,980.8	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0
1.1 Buildings, Land & Furnishings	\$5,403.3	\$527.5	\$4,875.8	\$4,875.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
1.2 Materials & Equipment	\$1,050.0	\$0.0	\$1,050.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0
2.0 FIRE SERVICES	\$33,616.6	\$177.3	\$33,439.3	\$6,877.0	\$618.0	\$118.0	\$118.0	\$118.0	\$118.0	\$118.0	\$118.0	\$118.0	\$5,118.0	\$20,118.0
2.1 Buildings, Land & Furnishings	\$31,562.9	\$177.3	\$31,385.6	\$6,385.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$5,000.0	\$20,000.0
2.2 Vehicles & Equipment	\$1,680.4	\$0.0	\$1,680.4	\$118.0	\$618.0	\$118.0	\$118.0	\$118.0	\$118.0	\$118.0	\$118.0	\$118.0	\$118.0	\$118.0
2.3 Studies	\$373.3	\$0.0	\$373.3	\$373.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
3.0 POLICE SERVICES	\$8,020.4	\$0.0	\$8,020.4	\$5,923.2	\$271.9	\$671.9	\$21.9	\$21.9	\$21.9	\$1,021.9	\$21.9	\$21.9	\$21.9	\$21.9
3.1 Buildings, Land & Furnishings	\$5,951.2	\$0.0	\$5,951.2	\$5,701.2	\$250.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
3.2 Equipment	\$2,069.1	\$0.0	\$2,069.1	\$221.9	\$21.9	\$671.9	\$21.9	\$21.9	\$21.9	\$1,021.9	\$21.9	\$21.9	\$21.9	\$21.9
4.0 INDOOR RECREATION	\$55,448.7	\$14,240.3	\$41,208.4	\$41,208.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
4.1 Indoor Recreation Facilities	\$55,448.7	\$14,240.3	\$41,208.4	\$41,208.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
5.0 PARK DEVELOPMENT	\$3,735.8	\$409.0	\$3,326.8	\$1,930.3	\$119.1	\$119.1	\$144.1	\$119.1	\$119.1	\$419.1	\$119.1	\$119.1	\$119.1	\$119.1
5.1 Neighbourhood Park Development	\$863.6	\$159.0	\$704.6	\$704.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
5.2 Regional Park Development	\$434.0	\$0.0	\$434.0	\$109.0	\$0.0	\$0.0	\$25.0	\$0.0	\$0.0	\$300.0	\$0.0	\$0.0	\$0.0	\$0.0
5.3 Community Park Development	\$216.5	\$0.0	\$216.5	\$216.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
5.4 Park Development Projects	\$1,955.4	\$250.0	\$1,705.4	\$633.9	\$119.1	\$119.1	\$119.1	\$119.1	\$119.1	\$119.1	\$119.1	\$119.1	\$119.1	\$119.1
5.5 Development-Related Studies	\$266.3	\$0.0	\$266.3	\$266.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
6.0 TRANSIT	\$81,944.8	\$56,428.1	\$25,516.7	\$1,677.0	\$1,751.2	\$9,917.7	\$2,109.0	\$1,677.0	\$1,677.0	\$1,677.0	\$1,677.0	\$1,677.0	\$1,677.0	\$1,677.0
6.1 Transit Facilities	\$43,900.0	\$31,637.5	\$12,262.5	\$766.8	\$834.3	\$4,861.8	\$1,198.8	\$766.8	\$766.8	\$766.8	\$766.8	\$766.8	\$766.8	\$766.8
6.2 Fleet & Equipment	\$32,519.8	\$20,757.3	\$11,762.4	\$761.7	\$761.7	\$4,907.4	\$761.7	\$761.7	\$761.7	\$761.7	\$761.7	\$761.7	\$761.7	\$761.7
6.3 Studies	\$5,525.0	\$4,033.3	\$1,491.8	\$148.5	\$155.3	\$148.5	\$148.5	\$148.5	\$148.5	\$148.5	\$148.5	\$148.5	\$148.5	\$148.5
7.0 WASTE DIVERSION	\$45,251.2	\$0.0	\$45,251.2	\$25.1	\$25.1	\$25.1	\$25.1	\$25.1	\$45,025.1	\$25.1	\$25.1	\$25.1	\$25.1	\$25.1
7.1 Facilities, Vehicles & Equipment	\$45,251.2	\$0.0	\$45,251.2	\$25.1	\$25.1	\$25.1	\$25.1	\$25.1	\$45,025.1	\$25.1	\$25.1	\$25.1	\$25.1	\$25.1
TOTAL - GENERAL SERVICES	\$234,470.7	\$71,782.1	\$162,688.5	\$62,621.6	\$2,890.3	\$10,956.8	\$2,523.1	\$2,066.1	\$47,066.1	\$3,366.1	\$2,066.1	\$7,066.1	\$22,066.1	

TABLE 4

CITY OF WINDSOR
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM
FOR CITY-WIDE ENGINEERED SERVICES 2020 - 2029
(in \$000)

Service	Gross Cost	Grants/ Subsidies	Municipal Cost	Total Net Capital Program											
				2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030+	
1.0 SERVICES RELATED TO A HIGHWAY															
1.1 ROADS & RELATED	\$1,348,997.9	\$26,512.9	\$1,322,485.1	\$64,000.9	\$40,905.8	\$40,905.8	\$40,750.1	\$40,750.1	\$22,882.9	\$117,708.3	\$117,708.3	\$117,708.3	\$175,238.3	\$543,926.3	
1.1.1 City-wide Roads & Related Infrastructure	\$857,447.7	\$26,512.9	\$830,934.8	\$49,150.2	\$27,479.0	\$27,479.0	\$27,479.0	\$27,479.0	\$9,774.1	\$29,542.0	\$29,542.0	\$29,542.0	\$29,542.0	\$543,926.3	
1.1.2 City-Wide Component of Sandwich South Projects	\$489,260.0	\$0.0	\$489,260.0	\$13,522.7	\$13,229.7	\$13,229.7	\$13,074.0	\$13,074.0	\$13,074.0	\$88,131.5	\$88,131.5	\$88,131.5	\$145,661.5	\$0.0	
1.1.3 Roads & Related Studies	\$2,290.2	\$0.0	\$2,290.2	\$1,328.0	\$197.1	\$197.1	\$197.1	\$197.1	\$34.8	\$34.8	\$34.8	\$34.8	\$34.8	\$0.0	
1.2 BUILDINGS & FLEET	\$1,741.4	\$40.3	\$1,701.2	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$0.0	
1.2.1 Buildings, Vehicles & Equipment	\$1,741.4	\$40.3	\$1,701.2	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$170.1	\$0.0	
1.3 CITY-WIDE STUDIES	\$200.0	\$0.0	\$200.0	\$0.0	\$0.0	\$0.0	\$0.0	\$100.0	\$0.0	\$0.0	\$0.0	\$0.0	\$100.0	\$0.0	
1.3.1 Development-Related Studies	\$200.0	\$0.0	\$200.0	\$0.0	\$0.0	\$0.0	\$0.0	\$100.0	\$0.0	\$0.0	\$0.0	\$0.0	\$100.0	\$0.0	
2.0 SEWAGE TREATMENT¹	\$379,163.0	\$53,000.0	\$326,163.0	\$57,060.0	\$60.0	\$60.0	\$60.0	\$60.0	\$60.0	\$0.0	\$0.0	\$0.0	\$0.0	\$268,863.0	
2.1 Lou Romano Water Reclamation Plant (Remaining Costs)	\$110,000.0	\$53,000.0	\$57,000.0	\$57,000.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
2.2 Little River Pollution Control Plant	\$268,863.0	\$0.0	\$268,863.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$268,863.0	
2.3 Studies	\$300.0	\$0.0	\$300.0	\$60.0	\$60.0	\$60.0	\$60.0	\$60.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
3.0 SANITARY SEWER	\$46,418.8	\$23,456.0	\$22,962.8	\$13,473.0	\$891.4	\$891.4	\$813.8	\$813.8	\$189.5	\$189.5	\$189.5	\$189.5	\$189.5	\$5,131.8	
3.1 City-wide Sanitary Sewer Infrastructure	\$8,589.8	\$0.0	\$8,589.8	\$960.9	\$624.3	\$624.3	\$624.3	\$624.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$5,131.8	
3.2 City-Wide Component of Sandwich South Projects	\$37,829.0	\$23,456.0	\$14,373.0	\$12,512.2	\$267.2	\$267.2	\$189.5	\$189.5	\$189.5	\$189.5	\$189.5	\$189.5	\$189.5	\$0.0	
4.0 STORM SEWER & MUNICIPAL DRAINS	\$102,928.4	\$29,952.2	\$72,976.2	\$11,122.1	\$3,838.8	\$3,838.8	\$3,838.8	\$3,838.8	\$1,248.4	\$1,248.4	\$1,248.4	\$12,435.9	\$12,435.9	\$17,882.2	
4.1 City-wide Storm Sewer & Municipal Drains Infrastructure	\$102,928.4	\$29,952.2	\$72,976.2	\$11,122.1	\$3,838.8	\$3,838.8	\$3,838.8	\$3,838.8	\$1,248.4	\$1,248.4	\$1,248.4	\$12,435.9	\$12,435.9	\$17,882.2	
5.0 WATER²	\$78,970.0	\$5,608.0	\$73,362.0	\$10,884.1	\$10,884.1	\$10,884.1	\$10,884.1	\$10,884.1	\$3,788.3	\$3,788.3	\$3,788.3	\$3,788.3	\$3,788.3	\$0.0	
5.1 City-Wide Water Infrastructure	\$78,010.0	\$5,357.0	\$72,653.0	\$10,813.2	\$10,813.2	\$10,813.2	\$10,813.2	\$10,813.2	\$3,717.4	\$3,717.4	\$3,717.4	\$3,717.4	\$3,717.4	\$0.0	
5.2 Studies	\$960.0	\$251.0	\$709.0	\$70.9	\$70.9	\$70.9	\$70.9	\$70.9	\$70.9	\$70.9	\$70.9	\$70.9	\$70.9	\$0.0	
TOTAL - ENGINEERED SERVICES	\$1,958,419.6	\$138,569.3	\$1,819,850.3	\$156,710.2	\$56,750.2	\$56,750.2	\$56,516.9	\$56,616.9	\$28,279.2	\$123,104.6	\$123,104.6	\$134,292.1	\$191,922.1	\$835,803.3	

Note 1: Sewage Treatment Projects not subject to annual cashflow

Note 2: Water Grants and Subsidies also include Tecumseh and LaSalle shares of project costs

TABLE 5

CITY OF WINDSOR
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM
FOR SANDWICH SOUTH ENGINEERED SERVICES 2020 - 2041
(in \$000)

Service	Gross Cost	Grants/ Subsidies	Municipal Cost	Total Net Capital Program									
				2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1.0 ROADS & RELATED	\$495,360.0	\$0.0	\$495,360.0	\$8,619.9	\$10,446.9	\$8,326.9	\$9,231.3	\$8,755.3	\$8,755.3	\$27,519.6	\$27,519.6	\$27,519.6	\$26,935.6
1.1 Road Improvements	\$112,330.0	\$0.0	\$112,330.0	\$3,425.0	\$3,425.0	\$3,425.0	\$3,425.0	\$3,425.0	\$3,425.0	\$3,425.0	\$3,425.0	\$3,425.0	\$3,425.0
1.2 Road Construction	\$382,270.0	\$0.0	\$382,270.0	\$4,746.3	\$6,866.3	\$4,746.3	\$5,806.3	\$5,330.3	\$5,330.3	\$24,094.6	\$24,094.6	\$24,094.6	\$23,510.6
1.3 Studies & Other	\$760.0	\$0.0	\$760.0	\$448.7	\$155.7	\$155.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
2.0 SANITARY SEWER	\$64,653.6	\$23,456.0	\$41,197.6	\$13,402.3	\$1,157.3	\$1,157.3	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6
2.1 Sewer Infrastructure	\$64,420.6	\$23,456.0	\$40,964.6	\$13,324.6	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6	\$1,079.6
2.2 Studies & Other	\$233.0	\$0.0	\$233.0	\$77.7	\$77.7	\$77.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
3.0 STORM SEWER & MUNICIPAL DRAINS	\$224,058.0	\$36,521.4	\$187,536.6	\$2,614.7	\$2,210.3	\$2,921.3	\$905.3	\$913.7	\$8.4	\$11,125.3	\$11,125.3	\$11,125.3	\$11,125.3
3.1 Upper Little River Stormwater Management	\$214,832.0	\$36,521.4	\$178,310.6	\$439.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$11,116.9	\$11,116.9	\$11,116.9	\$11,116.9
3.2 Drains	\$4,441.0	\$0.0	\$4,441.0	\$710.8	\$905.3	\$905.3	\$905.3	\$913.7	\$8.4	\$8.4	\$8.4	\$8.4	\$8.4
3.3 Studies & Other	\$4,785.0	\$0.0	\$4,785.0	\$1,464.0	\$1,305.0	\$2,016.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
4.0 WATER¹	\$34,465.0	\$0.0	\$34,465.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$15,176.0	\$0.0	\$0.0	\$0.0	\$0.0
4.1 Water Infrastructure	\$34,465.0	\$0.0	\$34,465.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$15,176.0	\$0.0	\$0.0	\$0.0	\$0.0
TOTAL - SANDWICH SOUTH SERVICES	\$818,536.6	\$59,977.4	\$758,559.2	\$24,636.9	\$13,814.5	\$12,405.5	\$11,216.2	\$10,748.5	\$25,019.2	\$39,724.5	\$39,724.5	\$39,724.5	\$39,140.5

Note 1: Water Grants and Subsidies also include Tecumseh and LaSalle shares of project costs

6. DCs ARE CALCULATED IN ACCORDANCE WITH THE DCA

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

For residential development, the adjusted total per capita amount is then converted to a variable charge by housing unit type using various unit occupancy factors. For non-residential development, the charges are based on gross floor area (GFA) of building space.

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

A. DEVELOPMENT CHARGES CALCULATION

i. Unadjusted Residential and Non-Residential Development Charge Rates

The capital forecast for the City-wide general services incorporates those projects identified to be related to development anticipated in the next ten years. However, not all of the capital costs are to be recovered from new development by way of development charges. Table 6 shows that \$135.85 million of the capital forecast relates to replacement of existing capital facilities or for shares of projects that provide benefit existing development. In addition, \$3.79 million has been committed to projects in the capital forecast from existing development charge reserve funds. Another share of the forecast, \$10.09 million, is either attributable to development beyond 2029 (and can therefore only be recovered under future development charge studies) or represents a service level increase in the City. The remaining amount of \$12.96 million is deemed to be eligible for recovery through DCs in the 2020 to 2029 period. This amount is then allocated to new residential development (\$12.03 million) and non-residential development (\$932,400).

The total net development related capital costs eligible for recovery for the City-wide general services results in unadjusted development charges for each service expressed as a per capita charge for residential development and a charge per square metre of new gross floor area (GFA) for non-residential development. These unadjusted development charges are displayed at the right of Table 6.

Table 7 presents the “unadjusted” residential and non-residential development charges for the City-wide engineered services. It shows that of the total net cost of the capital program, \$613.70 million is considered to replace existing infrastructure or to benefit the existing community. A total amount of \$23.54 million has been, or will be, funded through the existing DC reserve funds and has also been removed from the development charges calculation. A further \$346.91 million is considered to be associated with future development in Sandwich South, and has been removed from the City-wide calculations for Roads and Related, Sanitary Sewer, and Storm Sewer and Municipal Drains services. Finally, \$735.69 million is attributed to development anticipated to occur beyond the 2020-2029 planning period. After these deductions, the remaining \$100.00 million is carried forward to the development charge calculation. This amount is then allocated to new residential development (\$96.41 million) and non-residential development (\$3.58 million).

The allocation of City-wide engineering service costs yields unadjusted charges for each service expressed as a per capita charge for residential development and a charge per square foot for new non-residential development. The non-residential development charges are further broken down by sector (industrial and non-industrial).

Finally, Table 8 presents the calculation of unadjusted development charges for the Sandwich South Planning District. Of the net municipal costs, \$106.09 million is considered to replace existing infrastructure or to benefit the existing community. An amount of \$62.80 has been included in the City-wide engineered services calculations, and as such has been removed from the area-specific DC calculations. Approximately \$301.34 million is attributed to development anticipated to occur beyond the 2020-2041 planning period. After these deductions, the remaining \$288.32 million is carried forward to the development charge calculation. This amount is then allocated to residential development (\$172.99 million) and non-residential development (\$115.33 million).

The allocation of area-specific costs yields unadjusted charges for each service expressed as a per capita charge for residential development and a charge per square foot for new non-residential development, broken down by the industrial and non-industrial sectors.

TABLE 6

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 10-YEAR CAPITAL PROGRAM FOR GENERAL SERVICES

10 Year Growth in Population in New Units	19,402
10 Year Growth in New Building Space (Square Metre)	188,326

Service	Development-Related Capital Program (2020 - 2029)					Residential Share		Non-Residential Share	
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Available DC Reserves (\$000)	Post-2029 Benefit (\$000)	Total DC Eligible Costs for Recovery (\$000)	%	(\$000)	%	(\$000)
	1.0 LIBRARY SERVICES	\$5,925.8	\$4,388.2	\$122.2	\$0.0	\$1,415.4	100%	\$1,415.4	0%
Unadjusted Development Charge Per Capita							\$72.95		
Unadjusted Development Charge Per Square Metre									\$0.00
2.0 FIRE SERVICES	\$33,439.3	\$20,966.1	\$95.0	\$8,784.5	\$3,593.7	89%	\$3,198.4	11%	\$395.31
Unadjusted Development Charge Per Capita							\$164.85		
Unadjusted Development Charge Per Square Metre									\$2.10
3.0 POLICE SERVICES	\$8,020.4	\$6,093.3	\$57.0	\$0.0	\$1,870.0	89%	\$1,664.3	11%	\$205.70
Unadjusted Development Charge Per Capita							\$85.78		
Unadjusted Development Charge Per Square Metre									\$1.09
4.0 INDOOR RECREATION	\$41,208.4	\$37,087.5	\$2,777.8	\$0.0	\$1,343.0	100%	\$1,343.0	0%	\$0.00
Unadjusted Development Charge Per Capita							\$69.22		
Unadjusted Development Charge Per Square Metre									\$0.00
5.0 PARK DEVELOPMENT	\$3,326.8	\$2,120.3	\$676.3	\$0.0	\$530.1	100%	\$530.1	0%	\$0.00
Unadjusted Development Charge Per Capita							\$27.32		
Unadjusted Development Charge Per Square Metre									\$0.00
6.0 TRANSIT	\$25,516.7	\$22,445.0	\$59.4	\$0.0	\$3,012.2	89%	\$2,680.9	11%	\$331.35
Unadjusted Development Charge Per Capita							\$138.18		
Unadjusted Development Charge Per Square Metre									\$1.76
7.0 WASTE DIVERSION	\$45,251.2	\$42,750.0	\$0.0	\$1,303.9	\$1,197.3	100%	\$1,197.3	0%	\$0.00
Unadjusted Development Charge Per Capita							\$61.71		
Unadjusted Development Charge Per Square Metre									\$0.00
TOTAL 10 YEAR GENERAL SERVICES	\$162,688.5	\$135,850.5	\$3,787.8	\$10,088.5	\$12,961.8		\$12,029.4		\$932.4
Unadjusted Development Charge Per Capita							\$620.01		
Unadjusted Development Charge Per Square Metre									\$4.95



TABLE 7

**CITY OF WINDSOR
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
10-YEAR CAPITAL PROGRAM FOR CITY-WIDE ENGINEERED SERVICES**

	City-Wide	Excl. Sand. S.
Growth in Population in New Units 2020-2029	19,402	13,032
Employment Growth in New Space 2020-2029	2,365	340
Growth in New Building Space (Square Metres) 2020-2029	188,326	28,415
<i>Industrial</i>	<i>115,997</i>	<i>20,095</i>
<i>Non-Industrial</i>	<i>72,330</i>	<i>8,320</i>

Service	Development-Related Capital Program (2020 - 2029)						Residential		Non-Residential	
	Net Municipal Cost	Replacement & Benefit to Existing	Available DC Reserves	Sandwich South Share	Post-Period Benefit	Total DC Eligible Costs for Recovery	Share	(\$000)	Share	(\$000)
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	%		%	
1.0 SERVICES RELATED TO A HIGHWAY										
1.1 ROADS & RELATED	\$1,322,485.1	\$485,254.2	\$7,185.6	\$335,893.4	\$420,075.4	\$74,076.5	97%	\$71,854.2	3%	\$2,222.30
Unadjusted Development Charge Per Capita								\$5,513.67		
Unadjusted Development Charge Per Square Metre										\$78.21
<i>Unadjusted Industrial Charge Per Square Metre</i>									59%	\$65.25
<i>Unadjusted Non-Industrial Charge Per Square Metre</i>									41%	\$109.51
1.2 BUILDINGS & FLEET	\$1,701.2	\$0.0	\$225.2	\$0.0	\$0.0	\$1,476.0	89%	\$1,313.6	11%	\$162.36
Unadjusted Development Charge Per Capita								\$67.71		
Unadjusted Development Charge Per Square Metre										\$0.86
1.3 CITY-WIDE STUDIES	\$200.0	\$0.0	\$0.0	\$0.0	\$0.0	\$200.0	89%	\$178.0	11%	\$22.00
Unadjusted Development Charge Per Capita								\$9.17		
Unadjusted Development Charge Per Square Metre										\$0.12
2.0 SEWAGE TREATMENT	\$326,163.0	\$43,790.0	\$3,279.8	\$0.0	\$273,466.6	\$5,626.6	89%	\$5,007.7	11%	\$618.93
Unadjusted Development Charge Per Capita								\$258.10		
Unadjusted Development Charge Per Square Metre										\$3.29
<i>Unadjusted Industrial Charge Per Square Metre</i>									49%	\$2.61
<i>Unadjusted Non-Industrial Charge Per Square Metre</i>									51%	\$4.36



TABLE 7

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 10-YEAR CAPITAL PROGRAM FOR CITY-WIDE ENGINEERED SERVICES

	City-Wide	Excl. Sand. S.
Growth in Population in New Units 2020-2029	19,402	13,032
Employment Growth in New Space 2020-2029	2,365	340
Growth in New Building Space (Square Metres) 2020-2029	188,326	28,415
<i>Industrial</i>	115,997	20,095
<i>Non-Industrial</i>	72,330	8,320

Service	Development-Related Capital Program (2020 - 2029)						Residential		Non-Residential	
	Net Municipal Cost	Replacement & Benefit to Existing	Available DC Reserves	Sandwich South Share	Post-Period Benefit	Total DC Eligible Costs for Recovery	Share %	(\$000)	Share %	(\$000)
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)				
3.0 SANITARY SEWER	\$22,962.8	\$2,461.3	\$2,344.2	\$10,921.3	\$5,332.3	\$1,903.8	97%	\$1,846.7	3%	\$57.11
Unadjusted Development Charge Per Capita								\$141.70		
Unadjusted Development Charge Per Square Metre										\$2.01
<i>Unadjusted Industrial Charge Per Square Metre</i>									59%	\$1.68
<i>Unadjusted Non-Industrial Charge Per Square Metre</i>									41%	\$2.81
4.0 STORM SEWER & MUNICIPAL DRAINS	\$72,976.2	\$40,696.0	\$8,893.2	\$99.2	\$19,357.6	\$3,930.3	97%	\$3,812.4	3%	\$117.91
Unadjusted Development Charge Per Capita								\$292.54		
Unadjusted Development Charge Per Square Metre										\$4.15
<i>Unadjusted Industrial Charge Per Square Metre</i>									59%	\$3.46
<i>Unadjusted Non-Industrial Charge Per Square Metre</i>									41%	\$5.81
5.0 WATER	\$73,362.0	\$41,500.0	\$1,615.3	\$0.0	\$17,462.7	\$12,784.0	97%	\$12,400.4	3%	\$383.52
Unadjusted Development Charge Per Capita								\$951.54		
Unadjusted Development Charge Per Square Metre										\$13.50
<i>Unadjusted Industrial Charge Per Square Metre</i>									59%	\$11.26
<i>Unadjusted Non-Industrial Charge Per Square Metre</i>									41%	\$18.90
TOTAL 10 YEAR ENGINEERED SERVICES	\$1,819,850.3	\$613,701.4	\$23,543.2	\$346,913.8	\$735,694.6	\$99,997.2		\$96,413.1		\$3,584.1
Unadjusted Development Charge Per Capita								\$7,234.43		
Unadjusted Development Charge Per Square Metre										\$102.14
<i>Unadjusted Industrial Charge Per Square Metre</i>										<i>\$85.24</i>
<i>Unadjusted Non-Industrial Charge Per Square Metre</i>										<i>\$142.37</i>



TABLE 8

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 2020-2041 CAPITAL PROGRAM FOR SANDWICH SOUTH ENGINEERED SERVICES

Growth in Population in New Units 2020-2041	14,212
Employment Growth in New Space 2020-2041	9,468
Growth in New Building Space (Square Metres) 2020-2041	706,879
Industrial	341,000
Non-Industrial	359,879

Service	Development-Related Capital Program (2020 - 2041)						Residential Share		Non-Residential Share	
	Net Municipal Cost	Replacement & Benefit to Existing	Available DC Reserves	City-Wide DC Share	Post-Period Benefit	Total DC Eligible Costs for Recovery	%	(\$000)	%	(\$000)
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)				
1.0 ROADS & RELATED	\$495,360.0	\$95,556.0	\$0.0	\$59,335.6	\$148,012.8	\$192,455.5	60%	\$115,473.3	40%	\$76,982.21
Unadjusted Development Charge Per Capita								\$8,125.06		
Unadjusted Development Charge Per Square Metre										\$108.90
Unadjusted Industrial Charge Per Square Metre									37%	\$82.08
Unadjusted Non-Industrial Charge Per Square Metre									63%	\$134.76
2.0 SANITARY SEWER	\$41,197.6	\$0.0	\$0.0	\$3,451.8	\$22,679.2	\$15,066.7	60%	\$9,040.0	40%	\$6,026.67
Unadjusted Development Charge Per Capita								\$636.08		
Unadjusted Development Charge Per Square Metre										\$8.53
Unadjusted Industrial Charge Per Square Metre									37%	\$6.43
Unadjusted Non-Industrial Charge Per Square Metre									63%	\$10.55
3.0 STORM SEWER & MUNICIPAL DRAINS	\$187,536.6	\$754.0	\$0.0	\$17.5	\$121,106.2	\$65,658.9	60%	\$39,395.3	40%	\$26,263.54
Unadjusted Development Charge Per Capita								\$2,771.98		
Unadjusted Development Charge Per Square Metre										\$37.15
Unadjusted Industrial Charge Per Square Metre									37%	\$28.00
Unadjusted Non-Industrial Charge Per Square Metre									63%	\$45.98
4.0 WATER	\$34,465.0	\$9,781.3	\$0.0	\$0.0	\$9,544.5	\$15,139.2	60%	\$9,083.5	40%	\$6,055.68
Unadjusted Development Charge Per Capita								\$639.14		
Unadjusted Development Charge Per Square Metre										\$8.57
Unadjusted Industrial Charge Per Square Metre									37%	\$6.46
Unadjusted Non-Industrial Charge Per Square Metre									63%	\$10.60
TOTAL 2020-2041 SANDWICH SOUTH SERVICES	\$758,559.2	\$106,091.2	\$0.0	\$62,804.9	\$301,342.8	\$288,320.3		\$172,992.2		\$115,328.1
Unadjusted Development Charge Per Capita								\$12,172.26		
Unadjusted Development Charge Per Square Metre										\$163.15
Unadjusted Industrial Charge Per Square Metre										\$122.97
Unadjusted Non-Industrial Charge Per Square Metre										\$201.89



ii. **Adjusted Residential and Non-Residential Development Charge Rates**

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

Table 9 summarizes the results of the adjustment for the residential component of the City-wide development charge rates. As shown, the adjusted per capita rate is increased slightly by \$69 from \$7,854 per capita to \$7,923 per capita after the cash flow analysis. The calculated rates by residential unit with the total charge per unit range from a high of \$30,488 per single detached unit to a low of \$14,110 for apartments. The rate per semi, row, or multiple unit is \$17,158.

The calculated unadjusted and adjusted City-wide non-residential development charge rates are presented in Table 10. The total adjusted rates are \$87.09 per square metre for new industrial development and \$146.68 per square metre for non-industrial development. In both cases, the rates have been reduced after the cash flow analysis.

Table 11 summarizes the results of the adjustment for the residential component of the Sandwich South area-specific development charge rates. The adjusted per capita rate is reduced by \$754 from \$12,172 per capita to \$11,418 per capita after the cash flow analysis. The calculated rates by residential unit with the total charge per unit, including the applicable calculated City-wide DCs, are \$47,735 per single detached unit, \$26,856 per semi, row, or multiple unit, and \$22,091 per apartment unit.

The calculated unadjusted and adjusted Sandwich South area-specific non-residential development charge rates are presented in Table 12. The total adjusted rates, including the applicable calculated City-wide DCs, are \$131.36 per square metre for new industrial development and \$212.10 per square metre for non-industrial development. The cash flow analyses for the area-specific non-residential rates results in a very slight overall rate reduction.

TABLE 9

**CITY OF WINDSOR
CITY-WIDE DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES**

Service	Unadjusted Charge Per Capita	Adjusted Charge After Cashflow Per Capita	Charge By Unit Type (1)		
			Single Detached	Semis, Rows & Other Multiples	Apartments
<i>Parking Charge (By-law 60-2015)</i>			\$105	\$75	\$50
Library Services	\$73	\$76	\$291	\$164	\$135
Fire Services	\$165	\$188	\$721	\$405	\$334
Police Services	\$86	\$98	\$374	\$210	\$173
Indoor Recreation	\$69	\$72	\$276	\$155	\$128
Park Development	\$27	\$31	\$119	\$67	\$55
Transit	\$138	\$142	\$543	\$306	\$251
Waste Diversion	\$62	\$63	\$240	\$135	\$111
City-Wide General Services Charge Per Unit	\$620	\$669	\$2,669	\$1,517	\$1,237
Services Related To A Highway					
<i>Roads & Related</i>	<i>\$5,514</i>	<i>\$5,527</i>	<i>\$21,194</i>	<i>\$11,917</i>	<i>\$9,807</i>
<i>Buildings & Fleet</i>	<i>\$68</i>	<i>\$68</i>	<i>\$259</i>	<i>\$146</i>	<i>\$120</i>
<i>City-Wide Studies</i>	<i>\$9</i>	<i>\$9</i>	<i>\$35</i>	<i>\$19</i>	<i>\$16</i>
Sewage Treatment	\$258	\$258	\$989	\$556	\$458
Sanitary Sewer	\$142	\$159	\$610	\$343	\$282
Storm Sewer & Municipal Drains	\$293	\$285	\$1,093	\$614	\$506
Water	\$952	\$949	\$3,639	\$2,046	\$1,684
City-Wide Engineered Services Charge Per Unit	\$7,234	\$7,255	\$27,819	\$15,641	\$12,873
TOTAL CITY-WIDE RESIDENTIAL CHARGE BY UNIT TYPE	\$7,854	\$7,923	\$30,488	\$17,158	\$14,110
(1) Based on Persons Per Unit Of:			3.83	2.16	1.77

TABLE 10

**CITY OF WINDSOR
CITY-WIDE DEVELOPMENT CHARGES
NON-RESIDENTIAL DEVELOPMENT CHARGES**

Service	Industrial		Non-Industrial	
	Unadjusted Charge (\$/m2)	Adjusted Charge After Cashflow (\$/m2)	Unadjusted Charge (\$/m2)	Adjusted Charge After Cashflow (\$/m2)
<i>Parking Charge (By-law 60-2015)</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.36</i>
Library Services	\$0.00	\$0.00	\$0.00	\$0.00
Fire Services	\$2.10	\$2.29	\$2.10	\$2.29
Police Services	\$1.09	\$1.19	\$1.09	\$1.19
Indoor Recreation	\$0.00	\$0.00	\$0.00	\$0.00
Park Development	\$0.00	\$0.00	\$0.00	\$0.00
Transit	\$1.76	\$1.75	\$1.76	\$1.75
Waste Diversion	\$0.00	\$0.00	\$0.00	\$0.00
General Services Charge Per Square Metre	\$4.95	\$5.23	\$4.95	\$5.59
Services Related To A Highway				
<i>Roads & Related</i>	<i>\$65.25</i>	<i>\$62.45</i>	<i>\$109.51</i>	<i>\$108.25</i>
<i>Buildings & Fleet</i>	<i>\$0.86</i>	<i>\$0.85</i>	<i>\$0.86</i>	<i>\$0.85</i>
<i>City-Wide Studies</i>	<i>\$0.12</i>	<i>\$0.12</i>	<i>\$0.12</i>	<i>\$0.12</i>
Sewage Treatment	\$2.61	\$2.61	\$4.36	\$4.36
Sanitary Sewer	\$1.68	\$1.88	\$2.81	\$3.38
Storm Sewer & Municipal Drains	\$3.46	\$3.22	\$5.81	\$5.57
Water	\$11.26	\$10.73	\$18.90	\$18.56
Engineered Services Charge Per Square Metre	\$85.24	\$81.86	\$142.37	\$141.09
TOTAL DEVELOPMENT CHARGE PER SQUARE METRE	\$90.19	\$87.09	\$147.32	\$146.68

TABLE 11

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT DEVELOPMENT CHARGES
 RESIDENTIAL DEVELOPMENT CHARGES

Service	Unadjusted Charge Per Capita	Adjusted Charge After Cashflow Per Capita	Charge By Unit Type		
			Single Detached	Semis, Rows & Other Multiples	Apartments
Roads & Related	\$8,125	\$7,610	\$29,181	\$16,408	\$13,503
Sanitary Sewer	\$636	\$656	\$2,515	\$1,414	\$1,164
Storm Sewer & Municipal Drains	\$2,772	\$2,468	\$9,464	\$5,321	\$4,379
Water	\$639	\$684	\$2,623	\$1,475	\$1,214
Total Area-Specific DCs	\$12,172	\$11,418	\$43,783	\$24,618	\$20,260
Applicable City-Wide DCs	\$955	\$1,003	\$3,952	\$2,238	\$1,831
TOTAL SANDWICH SOUTH CHARGE	\$13,127	\$12,421	\$47,735	\$26,856	\$22,091
(1) Based on Persons Per Unit Of:			3.83	2.16	1.77

TABLE 12

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT DEVELOPMENT CHARGES
 NON-RESIDENTIAL DEVELOPMENT CHARGES

Service	Industrial		Non-Industrial	
	Unadjusted Charge (\$/m ²)	Adjusted Charge After Cashflow (\$/m ²)	Unadjusted Charge (\$/m ²)	Adjusted Charge After Cashflow (\$/m ²)
Roads & Related	\$82.08	\$81.55	\$134.76	\$133.88
Sanitary Sewer	\$6.43	\$6.92	\$10.55	\$11.35
Storm Sewer & Municipal Drains	\$28.00	\$27.08	\$45.98	\$44.45
Water	\$6.46	\$7.00	\$10.60	\$11.50
Total Area-Specific DCs	\$122.97	\$122.55	\$201.89	\$201.18
Applicable City-Wide DCs	\$8.54	\$8.81	\$10.29	\$10.92
TOTAL CHARGE PER SQUARE METRE	\$131.51	\$131.36	\$212.18	\$212.10

B. COMPARISON CALCULATED AND CURRENT DEVELOPMENT CHARGES

Tables 13 and 14 present a comparison of the newly calculated City-wide residential and non-residential (non-industrial) development charges with the City's current charges. A comparison of industrial charges is not provided, as the City currently provides a full DC exemption for industrial development.

Overall, the calculated City-wide residential charge per single detached unit represents an increase of 1% over the current charge. The calculated non-residential, non-industrial charge represents an increase of 3%.

Tables 15 and 16 present a comparison of the newly calculated area-specific residential and non-residential (non-industrial) development charges with the City's current area-specific charges for Sandwich South. For illustrative purposes and to provide an accurate comparison, the area-specific charges are combined with the applicable calculated City-wide DC rates.

Overall, the calculated residential charge per single detached unit in Sandwich South represents an increase of 8% over the current total charge. The calculated non-residential, non-industrial charge represents an increase of 22%. These increases are primarily due to construction cost inflation, the identification of additional Sandwich South-related infrastructure costs, and refinements to the area-specific development forecasts.

TABLE 13

**CITY OF WINDSOR
COMPARISON OF CURRENT AND CALCULATED
CITY-WIDE DEVELOPMENT CHARGES
RESIDENTIAL**

Service	Current Residential Charge / SDU	Calculated Residential Charge / SDU	Difference in Charge	
<i>Parking (By-law 60-2015)</i>	\$105	\$105	\$0	0%
Library Services	\$145	\$291	\$146	101%
Fire Services	\$197	\$721	\$524	266%
Police Services	\$186	\$374	\$188	101%
Indoor Recreation	\$671	\$276	(\$395)	-59%
Park Development	\$575	\$119	(\$456)	-79%
Transit	\$176	\$543	\$367	209%
Waste Diversion	\$0	\$240	\$240	N/A
City-Wide General Services Charge Per Unit	\$2,055	\$2,669	\$614	30%
Services Related To A Highway				
<i>Roads & Related</i>	<i>\$15,140</i>	<i>\$21,194</i>	<i>\$6,054</i>	<i>40%</i>
<i>Buildings & Fleet</i>	<i>\$116</i>	<i>\$259</i>	<i>\$143</i>	<i>123%</i>
<i>City-Wide Studies (1)</i>	<i>\$111</i>	<i>\$35</i>	<i>(\$76)</i>	<i>-68%</i>
Sewage Treatment	\$1,160	\$989	(\$171)	-15%
Sanitary Sewer	\$1,353	\$610	(\$743)	-55%
Storm Sewer & Municipal Drains	\$7,926	\$1,093	(\$6,833)	-86%
Water	\$2,192	\$3,639	\$1,447	66%
City-Wide Engineered Services Charge Per Unit	\$27,998	\$27,819	(\$179)	-1%
TOTAL CITY-WIDE RESIDENTIAL CHARGE BY UNIT TYPE	\$30,053	\$30,488	\$435	1%
(1) Current City-Wide Studies charge represents current General Government DC per By-law 60-2015				

TABLE 14

**CITY OF WINDSOR
COMPARISON OF CURRENT AND CALCULATED
CITY-WIDE DEVELOPMENT CHARGES
NON-INDUSTRIAL**

Service	Current Non-Industrial Charge / m2	Calculated Non-Industrial Charge / m2	Difference in Charge	
<i>Parking (By-law 60-2015)</i>	<i>\$0.36</i>	<i>\$0.36</i>	<i>\$0.00</i>	<i>0%</i>
Library Services	\$0.00	\$0.00	\$0.00	N/A
Fire Services	\$0.65	\$2.29	\$1.64	252%
Police Services	\$0.65	\$1.19	\$0.54	83%
Indoor Recreation	\$0.00	\$0.00	\$0.00	N/A
Park Development	\$0.00	\$0.00	\$0.00	N/A
Transit	\$0.58	\$1.75	\$1.17	202%
Waste Diversion	\$0.00	\$0.00	\$0.00	N/A
General Services Charge Per Square Metre	\$2.24	\$5.59	\$3.35	150%
Services Related To A Highway				
<i>Roads & Related</i>	<i>\$76.43</i>	<i>\$108.25</i>	<i>\$31.82</i>	<i>42%</i>
<i>Buildings & Fleet</i>	<i>\$0.41</i>	<i>\$0.85</i>	<i>\$0.44</i>	<i>107%</i>
<i>City-Wide Studies (1)</i>	<i>\$0.41</i>	<i>\$0.12</i>	<i>(\$0)</i>	<i>-71%</i>
Sewage Treatment	\$5.89	\$4.36	(\$1.53)	-26%
Sanitary Sewer	\$6.76	\$3.38	(\$3.38)	-50%
Storm Sewer & Municipal Drains	\$39.92	\$5.57	(\$34.35)	-86%
Water	\$10.83	\$18.56	\$7.73	71%
Engineered Services Charge Per Square Metre	\$140.65	\$141.09	\$0.44	0%
TOTAL DEVELOPMENT CHARGE PER SQUARE METRE	\$142.89	\$146.68	\$3.79	3%
(1) Current City-Wide Studies charge represents current General Government DC per By-law 60-2015				

TABLE 15

**CITY OF WINDSOR
COMPARISON OF CURRENT AND CALCULATED
SANDWICH SOUTH PLANNING DISTRICT DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES**

Service	Current Residential Charge / SDU	Calculated Residential Charge / SDU	Difference in Charge	
Roads & Related	\$27,222	\$29,181	\$1,959	7%
Sanitary Sewer	\$2,019	\$2,515	\$496	25%
Storm Sewer & Municipal Drains	\$9,292	\$9,464	\$172	2%
Water	\$2,221	\$2,623	\$402	18%
Total Area-Specific DCs	\$40,754	\$43,783	\$3,029	7%
Applicable City-Wide DCs	\$3,442	\$3,952	\$510	15%
TOTAL SANDWICH SOUTH CHARGE	\$44,196	\$47,735	\$3,539	8%

TABLE 16

**CITY OF WINDSOR
COMPARISON OF CURRENT AND CALCULATED
SANDWICH SOUTH PLANNING DISTRICT DEVELOPMENT CHARGES
NON-INDUSTRIAL**

Service	Current Non-Industrial Charge / m2	Calculated Non-Industrial Charge / m2	Difference in Charge	
Roads & Related	\$110.31	\$133.88	\$23.57	21%
Sanitary Sewer	\$8.17	\$11.35	\$3.18	39%
Storm Sewer & Municipal Drains	\$37.66	\$44.45	\$6.79	18%
Water	\$9.00	\$11.50	\$2.50	28%
Total Area-Specific DCs	\$165.14	\$201.18	\$36.04	22%
Applicable City-Wide DCs	\$8.95	\$10.92	\$1.97	22%
TOTAL SANDWICH SOUTH CHARGE	\$174.09	\$212.10	\$38.01	22%

7. COST OF GROWTH ANALYSIS

This section provides a brief examination of the long-term capital and operating costs as well as the asset management-related annual provisions for the capital facilities and infrastructure to be included in the DC by-law. This examination is required as one of the provisions of the DCA. Additional details on the cost of growth analysis, including asset management analysis is included in Appendix F.

A. ASSET MANAGEMENT PLAN

Tables 17 to 19 provide the calculated annual asset management contribution for both the gross capital expenditures and the share related to the City-wide general services, City-wide engineered services, and area-specific DC recoverable portions over the 2020-2029 and 2020-2041 planning periods. The year 2030 and 2042 have been included to calculate the annual contribution for these periods as the expenditures in 2029 and 2041 will not trigger asset management contributions until 2030 and 2042, respectively.

As shown in Table 17, by 2030 the City should fund an additional \$645,416 per annum in order to fund the full life cycle costs of the new assets related to the City-wide general services supported under the development charges by-law.

By 2030, the City should fund an additional \$3.70 million per annum associated with the full life cycle costs of the new assets related to the City-wide engineered services support under the DC by-law (Table 18).

Finally, as shown in Table 19, the annual provision related to the development-related Sandwich South infrastructure in 2042 amounts to \$8.66 million.

TABLE 17
CITY OF WINDSOR
SUMMARY OF ASSET MANAGEMENT PROVISIONS FOR CITY-WIDE GENERAL SERVICES

City-wide General Services	2020 - 2029 Capital Program		Calculated AMP Annual Provision by 2030	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Library Services	\$ 1,537,578	\$ 4,915,683	\$ 115,650	\$ 124,032
Fire Services	\$ 3,688,720	\$ 29,927,871	\$ 124,965	\$ 958,920
Police Services	\$ 1,927,039	\$ 6,093,349	\$ 65,789	\$ 307,102
Indoor Recreation	\$ 4,120,838	\$ 51,327,815	\$ 103,977	\$ 1,295,103
Park Development	\$ 1,206,467	\$ 2,529,303	\$ 31,839	\$ 85,262
Transit	\$ 3,071,656	\$ 78,873,113	\$ 156,172	\$ 3,644,697
Waste Diversion	\$ 1,197,291	\$ 44,053,936	\$ 47,024	\$ 1,227,261
Total	\$ 16,749,590	\$ 217,721,070	\$ 645,416	\$ 7,642,377

TABLE 18
CITY OF WINDSOR
SUMMARY OF ASSET MANAGEMENT PROVISIONS FOR CITY-WIDE ENGINEERED SERVICES

City-wide General Services	2020 - 2029 Capital Program		Calculated AMP Annual Provision by 2030	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Roads & Related	\$ 81,262,094	\$ 722,144,585	\$ 2,820,917	\$ 26,341,300
Buildings & Fleet	\$ 1,701,169	\$ 40,262	\$ 167,440	\$ 3,963
City-Wide Studies	\$ 200,000	\$ -	\$ -	\$ -
Sewage Treatment	\$ 5,626,621	\$ 104,673,379	\$ 88,103	\$ 1,686,343
Sanitary Sewer	\$ 4,247,957	\$ 37,039,001	\$ 248,053	\$ 2,169,114
Storm Sewer & Municipal Drains	\$ 12,823,511	\$ 72,222,733	\$ 206,751	\$ 1,279,337
Water	\$ 14,399,299	\$ 64,570,701	\$ 172,796	\$ 782,158
Total	\$ 120,260,652	\$ 1,000,690,660	\$ 3,704,060	\$ 32,262,215

TABLE 19
CITY OF WINDSOR
SUMMARY OF ASSET MANAGEMENT PROVISIONS FOR SANDWICH SOUTH ENGINEERED SERVICES

City-wide General Services	2020 - 2029 Capital Program		Calculated AMP Annual Provision by 2042	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Roads & Related	\$ 192,455,531	\$ 302,904,469	\$ 7,068,338	\$ 11,422,598
Sanitary Sewer	\$ 15,066,670	\$ 49,586,974	\$ 203,076	\$ 633,575
Storm Sewer & Municipal Drains	\$ 65,658,857	\$ 158,399,143	\$ 1,164,773	\$ 2,798,475
Water	\$ 15,139,210	\$ 19,325,790	\$ 220,325	\$ 272,622
Total	\$ 288,320,268	\$ 530,216,376	\$ 8,656,512	\$ 15,127,270

B. LONG-TERM CAPITAL AND OPERATING COSTS

Appendix F also summarizes the estimated increase in net operating costs that the City will experience for additions associated with the planned capital forecast. These estimates are based on City budget information provided by City staff.

By 2029, the City's net operating costs are estimated to increase by \$10.67 million. The most significant portion of this increase relates to operating costs arising from the Organic Waste Processing Facility planned for 2025. It is noted that while this project is associated with a significant benefit-to-existing share, the operating costs associated with the entire new facility are included as part of this analysis.

Appendix F also summarizes the components of the development related capital program that will require funding from non-development charge sources:

- Of the \$1.98 billion in City-wide net capital programs, about \$745.16 million will need to be financed from non-development charge sources over the planning period of 2020-2029. This share is related to capital replacement and non-growth shares of projects that provide benefit to the existing community.
- Of the \$758.56 million in area-specific net capital programs for the Sandwich South Planning District, about \$106.09 million is related to capital replacement and benefits to the existing community, and will need to be financed from non-development charge sources over the planning period of 2020-2041. However, of this amount, \$94.69 million has been captured within the above noted City-wide non-growth related share of \$745.16 million; this amount is related to capital projects that have both a City-wide and area-specific component. As such, the area-specific capital programs would only require additional non-development charge funding sources in the amount of \$11.40 million over the 2020-2041 planning period.

Council is made aware of these factors so that they understand the financial implications of the quantum and timing of the projects included in the development related capital forecast in this study.

C. THE PROGRAM IS DEEMED TO BE FINANCIALLY SUSTAINABLE

In summary, the asset management plan and long-term capital and operating analysis contained in Appendix F demonstrates that the City can afford to invest and operate the

identified general and engineered services infrastructure over the ten-year and long-term planning period.

Importantly, the City's annual budget review allows staff to continue to monitor and implement mitigating measures should the program become less sustainable.

8. DEVELOPMENT CHARGES POLICY AND ADMINISTRATION

This section addresses the requirement under the DCA for Council to consider area rating for development charges as well as development charge by-law policies and administration.

A. BY-LAW ADMINISTRATION

Many of the administrative requirements of the DCA will be similar to those presently followed by the City. However, changes will likely be required in the collection practices for the new development charges. In this regard:

- It is recommended that current practices regarding collection of development charges and by-law administration continue to the extent possible. It is noted that the City has recently reviewed its collection and administration practices to align with changes enacted through Bill 108, the *More Homes, More Choices Act* on January 1, 2020.
- As required under the DCA, the City should continue codify any rules regarding application of the by-laws and any exemptions within the development charges by-laws proposed for adoption.
- It is recommended that the City continue to report policies consistent with the requirements of the DCA.
- It is recommended that Council adopt the development-related capital forecasts included in this background study for City-wide and area-specific services, subject to annual review through the City's normal capital budget process.

A copy of the by-law will be made two weeks prior to the Public Meeting as required by the legislation.

B. CONSIDERATION FOR AREA RATING

In accordance with the DCA, Council must give consideration to the use of area rating, also known as area-specific development charges, as part of the DC Background Study. As part of the City's 2020 DC update, the area-specific development charges are calculated for the Sandwich South Planning District to properly reflect the infrastructure requirements to service development in that service area.

APPENDIX A: DEVELOPMENT FORECAST

DEVELOPMENT FORECAST

This appendix provides details of the development forecast used to prepare the 2020 Development Charges Background Study for the City of Windsor. The forecast method and assumptions are discussed and the results are presented in a series of tables.

The forecasts of population, households, employment, and non-residential building space were prepared by Hemson Consulting Ltd. Data sources include Statistics Canada Census information and building permits, CMHC housing completions, municipal planning documents, and other information provided through consultation with City staff. City-wide forecasts were prepared, along with area-specific forecasts for the Sandwich South Planning District, and City-wide excluding Sandwich South, for the purposes of the engineered services development charge calculations.

The forecast results are set out as follows:

Historical Development

Table 1	Historical Population, Dwellings, & Employment
Table 2	Historical Annual Housing Completions
Table 3	Historical Annual Residential Building Permits
Table 4	Historical Households by Period of Construction Showing Household Size

Forecast Development – City-Wide

Table 5	Population, Household & Employment Forecast Summary
Table 6	Forecast of Building Permit Issuances by Unit Type
Table 7	Forecast Population Growth in New Households by Unit Type
Table 8	Non-Residential Growth by Employment Category
Table 9	Employment Growth in New Non-Residential Space by Category

Forecast Development – City-Wide Excluding Sandwich South Planning District

Table 10	Forecast of Building Permit Issuances by Unit Type
Table 11	Forecast Population Growth in New Households by Unit Type
Table 12	Employment Growth in New Non-Residential Space by Category

Forecast Development – Sandwich South Planning District

Table 13	Forecast of Building Permit Issuances by Unit Type
Table 14	Forecast Population Growth in New Households by Unit Type
Table 15	Employment Growth in New Non-Residential Space by Category

A. FORECAST APPROACH AND KEY ASSUMPTIONS

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

Three development forecasts were prepared for the purposes of the 2020 Development Charges Background Study:

- A ten-year (2020-2029) City-wide forecast was prepared for the calculation of City-wide Library Services, Fire Services, Police Services, Indoor Recreation, Park Development, Transit, Waste Diversion, Buildings and Fleet, City-wide Engineering Studies, and Sewage Treatment development charges.
- A ten-year (2020-2029) City-wide, excluding Sandwich South, forecast was prepared for the calculation of Roads and Related, Sanitary Sewer, Storm Sewer and Municipal Drains, and Water development charges applying to development across the City with the exception of Sandwich South.
- An area-specific forecast for the Sandwich South Planning District, from 2020 to 2041, was prepared for the calculation of area-specific Roads and Related, Sanitary Sewer, Storm Sewer and Municipal Drains, and Water development charges.

The City-wide forecast was prepared in consultation with City staff. It considers recent Statistics Canada Census data, building permits, and CMHC housing completion data, along with the City’s most recent forecasts and targets.

The area-specific development forecast for the Sandwich South Planning District assumes that development in Sandwich South over the planning period of 2020 to 2041 will be primarily contained within the East Pelton and County Road 42 Secondary Plan areas, and that build-out of the two Secondary Plan areas will occur over this timeframe. The development forecasts were prepared through a review of the Secondary Plan land use designations and policies, active development applications within Sandwich South, and discussions with City planning staff.

The City-wide excluding Sandwich South forecast represents the ten-year City-wide forecast, net of anticipated growth in Sandwich South over the 2020 to 2029 planning period.

B. HISTORICAL DEVELOPMENT IN THE CITY

Historical growth and development figures presented here are based on Statistics Canada Census data, Canada Mortgage Housing Corporation (CMHC) housing market information, and building permit data. Figures shown in the development forecast represent mid-year estimates. Population figures are equivalent to the population recorded in the Census (“Census population”). This definition does not include the Census net undercoverage, which is typically included in the definition of “total” population commonly used in municipal planning documents.

For development charges purposes, a ten-year historical period of 2010 to 2019 is used for calculating historical service levels. Since 2016 was the last year of the Census, figures from 2017 to 2019 are estimated.

Table 1 shows that the City’s population and employment declined for several years leading up to the 2011 Census year. This decline can be largely attributed to shifts in the manufacturing and industrial sector that occurred in many southern Ontario municipalities during that time. However, the City has seen its growth rates rebound over the last several years. Overall, the population of Windsor has increased from approximately 211,960 in 2009 to 220,030 in 2019 – an increase of 8,070 people. Total occupied households increased from 87,980 to 93,840 over the same period.

“Place of work” employment figures in the forecasts record where people work rather than their place of residence. It includes employment with a regular or no fixed place of work. As shown in Table 1, place of work employment has grown from 102,490 in 2009 to 109,550 in 2019 – an increase of 7,060 jobs. The City’s activity rate (the ratio of employment to population) has increased slightly over this period, from 48.4% in 2009 to 49.8% in 2019.

Details on new housing growth in the City are provided in Tables 2 (completions) and 3 (building permits). The overall market share of single detached units completed over the last decade has been 56%, though the number of units completed in any one year varies. The market share of semi-detached and row houses over the same period has been 39%, while apartments make up the remaining 5%. Over the same period, residential building permits have been comprised of 49% singles, 32% semis and rows, and 19% apartments, with particularly high rates of apartment permits in recent years.

Table 4 provides details on historical occupancy patterns for occupied households in Windsor. The overall average occupancy level in the City for single detached units is 2.63 persons per housing unit (PPU). Occupancy levels for units constructed between 2006 and 2016 are higher than the overall average and are used in the development charges

calculation since they better reflect the number of people that are likely to reside in new development. The average PPU of single detached units built in the City in the period 2006 to 2016 is 3.83. Average PPUs for recently constructed row and apartment housing, are 2.16 and 1.77 respectively.

C. FORECAST METHOD AND RESULTS

This section describes the method used to establish the development charges forecasts for the planning periods of 2020 to 2029 (City-wide) and 2020 to 2041 (Sandwich South).

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

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

Development charges are levied on non-residential development as a charge per square metre of Gross Floor Area (GFA). As with the residential forecast, the non-residential forecast requires both a projection of *employment growth* as well as a projection of the *employment growth associated with new floor space* in the City.

i. Residential Forecasts

As shown in Table 5, the City's population is forecast to grow by 10,430, to 230,460 by 2029. Occupied households are forecast to increase by 6,380 units over the next 10 years.

In keeping with recent trends, just over half (55%) of new housing (64 per cent) is anticipated to be single detached dwelling units, while semis, rows and multiples will comprise 35%, and apartments will make up the remaining 10% (Table 6).

Population growth in the new units is estimated by applying the following PPUs to the housing unit forecast: 3.83 for single detached units; 2.16 for semis, rows and multiples; and 1.77 for apartments. The assumptions are informed by the historical occupancy patterns for permanently occupied, recently constructed units set out in Table 4. The

forecast growth in population in new housing units over the 2020 to 2029 period is 19,400, of which 13,460 (69 per cent) will be in single detached housing types (Table 7).

Net of growth anticipated in the Sandwich South Planning District, the remaining ten-year housing growth in the City of Windsor is forecast at 4,160 units (Table 10). The forecast population in these new units is 13,020 (Table 11).

The Sandwich South Planning District forecast assumes a constant rate of growth as the East Pelton and Country Road 42 Secondary Plan areas are built out over the 2020 to 2041 period. Approximately 5,000 residential units are anticipated, comprised of 2,380 singles (48%), 1,150 semis, rows and multiples (23%), and 1,470 apartments (29%), as shown in Table 13. Applying the same PPU's as the City-wide forecast, the population in these new units is calculated at 14,210 (Table 14).

ii. Non-Residential Development Forecasts

The employment forecast is divided into two land-use based categories:

- Industrial employment refers to traditional types of employment primarily accommodated in low-rise industrial buildings in business parks and employment areas. Given the spatial and operational needs of these types of jobs, they are almost exclusively located in lands zoned for industrial uses.
- Non-industrial employment includes employment that primarily serves a resident population (e.g. retail, education, healthcare, and local government), which generally grows in line with population growth. This category also includes major office employment. Jobs under the non-industrial category typically locate in land zoned for commercial and institutional uses, but may also be located in residential and mixed-use areas.

As shown in Table 8, overall employment in the City is forecast to increase by 2,710 jobs over to 2020 to 2029 planning period. However, for the purposes of the development charges population, work at home employment is excluded from the analysis as it is not considered to require building floor space for its activities. This leaves 2,370 jobs requiring non-residential floor space, including 1,160 industrial jobs and 1,210 non-industrial jobs.

An assumed floor space per worker (FSW) is applied to the employment forecast in order to project growth in new non-residential space in the City. The FSWs used are:

Population-Related	60 m ² per employee
Employment Land-Related	100 m ² per employee

The overall growth in new non-residential building space across the City between 2020 and 2029 is 188,330 square metres, of which 116,000 will be industrial and 72,330 will be on non-industrial (Table 9).

The majority of future employment growth is anticipated to occur in the Sandwich South Planning District. As such, only 340 jobs requiring new space are anticipated outside of Sandwich South over the planning period, including 200 industrial jobs and 140 non-industrial jobs. This growth translates to 28,420 square metres of new non-residential space (Table 12).

Approximately 9,470 jobs are anticipated in Sandwich South over the 2020 to 2041 period (Table 15). This includes 6,000 non-industrial jobs, of which 3,000 are anticipated to be associated with the planned regional hospital within the County Road 42 Secondary Plan area. Industrial job growth is estimate at 3,470. Applying the same FSW factors as the City-wide forecast, the Sandwich South non-residential space forecast is 706,880 square metres.

APPENDIX A

TABLE 1

CITY OF WINDSOR
HISTORICAL POPULATION, DWELLINGS, & EMPLOYMENT

Mid-Year	Census Population	Annual Growth	Occupied Households	Annual Growth	HH Size (PPU)	Employment by Place of Work	Annual Growth	Activity Rate
2006	216,473		88,469		2.45	116,521		53.8%
2007	215,715	-758	88,381	-88	2.44	110,695	-5,826	51.3%
2008	213,881	-1,834	88,204	-177	2.42	109,035	-1,660	51.0%
2009	211,956	-1,925	87,983	-221	2.41	102,493	-6,542	48.4%
2010	211,214	-742	87,851	-132	2.40	103,108	615	48.8%
2011	210,891	-323	87,830	-21	2.40	103,262	154	49.0%
2012	211,524	633	88,181	351	2.40	104,605	1,343	49.5%
2013	213,216	1,692	89,063	882	2.39	105,128	523	49.3%
2014	214,282	1,066	89,865	802	2.38	105,286	158	49.1%
2015	215,139	857	90,629	764	2.37	106,234	948	49.4%
2016	217,170	2,031	91,630	1,001	2.37	107,765	1,531	49.6%
2017	218,119	949	92,362	732	2.36	108,357	592	49.7%
2018	219,072	953	93,100	738	2.35	108,953	596	49.7%
2019	220,029	957	93,844	744	2.34	109,552	599	49.8%
Growth 2010-2019		8,073		5,861			7,059	

Source: Statistics Canada, Census of Canada

APPENDIX A
TABLE 2

CITY OF WINDSOR
HISTORICAL ANNUAL HOUSING COMPLETIONS

Year	CMHC Annual Housing Completions - Units				Completions - Shares By Unit Type			
	Singles	Semis & Rows	Apts.	Total	Singles	Semis & Rows	Apts.	Total
2010	162	91	0	253	64%	36%	0%	100%
2011	106	51	12	169	63%	30%	7%	100%
2012	199	146	16	361	55%	40%	4%	99%
2013	161	97	6	264	61%	37%	2%	100%
2014	199	121	17	337	59%	36%	5%	100%
2015	204	127	0	331	62%	38%	0%	100%
2016	271	153	3	427	63%	36%	1%	100%
2017	231	206	84	521	44%	40%	16%	100%
2018	120	218	13	351	34%	62%	4%	100%
2019	206	91	18	315	65%	29%	6%	100%
Total	1,859	1,301	169	3,329	56%	39%	5%	100%
<i>Last 10 Years</i>	<i>186</i>	<i>130</i>	<i>17</i>	<i>333</i>				
<i>Last 5 Years</i>	<i>206</i>	<i>159</i>	<i>24</i>	<i>389</i>				

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

APPENDIX A
TABLE 3

CITY OF WINDSOR
HISTORICAL ANNUAL RESIDENTIAL BUILDING PERMITS

Year	Annual Building Permits				Building Permits - Shares By Unit Type			
	Singles	Semis & Rows	Apts.	Total	Singles	Semis & Rows	Apts.	Total
2010	152	63	22	237	64%	27%	9%	100%
2011	139	102	27	268	52%	38%	10%	100%
2012	160	98	8	266	60%	37%	3%	100%
2013	200	93	19	312	64%	30%	6%	100%
2014	191	104	20	315	61%	33%	6%	100%
2015	262	155	100	517	51%	30%	19%	100%
2016	290	186	41	517	56%	36%	8%	100%
2017	153	180	31	364	42%	49%	9%	100%
2018	134	147	86	367	37%	40%	23%	100%
2019	232	135	408	775	30%	17%	53%	100%
Total	1,913	1,263	762	3,938	49%	32%	19%	100%
<i>Last 10 Years</i>	<i>191</i>	<i>126</i>	<i>76</i>	<i>394</i>				
<i>Last 5 Years</i>	<i>214</i>	<i>161</i>	<i>133</i>	<i>508</i>				

Source: Statistics Canada

APPENDIX A
TABLE 4

CITY OF WINDSOR
HISTORICAL HOUSEHOLDS BY PERIOD OF CONSTRUCTION SHOWING HOUSEHOLD SIZE

Dwelling Unit Type	Period of Construction										Period of Construction Summaries		
	Pre 1945	1946-1960	1961-1970	1971-1980	1981-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2016	Pre 2006	2006-2016	Total
Singles													
Household Population	27,450	35,185	18,115	14,470	6,775	6,065	12,520	15,000	5,815	4,270	135,580	10,085	145,665
Households	11,815	15,540	7,310	5,490	2,320	2,060	3,885	4,255	1,545	1,085	52,675	2,630	55,305
Household Size	2.32	2.26	2.48	2.64	2.92	2.94	3.22	3.53	3.76	3.94	2.57	3.83	2.63
Semis													
Household Population	940	855	960	1,960	1,070	705	1,620	1,800	570	350	9,910	920	10,830
Households	450	340	320	660	325	250	690	765	215	160	3,800	375	4,175
Household Size	2.09	2.51	3.00	2.97	3.29	2.82	2.35	2.35	2.65	2.19	2.61	2.45	2.59
Rows													
Household Population	870	1,180	2,100	3,320	2,070	1,140	1,130	1,430	810	825	13,240	1,635	14,875
Households	390	490	805	1,230	755	395	460	745	380	430	5,270	810	6,080
Household Size	2.23	2.41	2.61	2.70	2.74	2.89	2.46	1.92	2.13	1.92	2.51	2.02	2.45
Semis and Rows													
Household Population	1,810	2,035	3,060	5,280	3,140	1,845	2,750	3,230	1,380	1,175	23,150	2,555	25,705
Households	840	830	1,125	1,890	1,080	645	1,150	1,510	595	590	9,070	1,185	10,255
Household Size	2.15	2.45	2.72	2.79	2.91	2.86	2.39	2.14	2.32	1.99	2.55	2.16	2.51
Apartments (excl. Duplexes)													
Household Population	4,640	4,750	6,835	7,820	4,425	1,750	1,755	1,345	905	275	33,320	1,180	34,500
Households	3,030	3,235	4,570	5,155	2,830	1,070	1,015	870	515	150	21,775	665	22,440
Household Size	1.53	1.47	1.50	1.52	1.56	1.64	1.73	1.55	1.76	1.83	1.53	1.77	1.54
Duplexes													
Household Population	3,350	1,900	1,025	710	365	140	340	110	40	0	7,940	40	7,980
Households	1,600	940	500	290	125	65	75	35	20	10	3,630	30	3,660
Household Size	2.09	2.02	2.05	2.45	2.92	2.15	4.53	3.14	2.00	0.00	2.19	1.33	2.18
All Units													
Household Population	37,250	43,870	29,035	28,280	14,705	9,800	17,365	19,685	8,140	5,720	199,990	13,860	213,850
Households	17,285	20,545	13,505	12,825	6,355	3,840	6,125	6,670	2,675	1,835	87,150	4,510	91,660
Household Size	2.16	2.14	2.15	2.21	2.31	2.55	2.84	2.95	3.04	3.12	2.29	3.07	2.33

Source: Statistics Canada, Census of Canada

APPENDIX A
TABLE 5

CITY OF WINDSOR
POPULATION, HOUSEHOLD & EMPLOYMENT FORECAST SUMMARY

Mid-Year	Census Population	Census Pop'n Growth	Total Occupied Households	Occupied Household Growth	HH Size	Employment by POW	Employment by POW Growth	Activity Rate
2020	220,991	962	94,593	749	2.35	110,154	602	49.8%
2021	221,957	966	95,348	755	2.34	110,760	606	49.9%
2022	222,994	1,037	95,970	622	2.33	110,987	227	49.8%
2023	224,036	1,042	96,596	626	2.33	111,215	228	49.6%
2024	225,082	1,046	97,226	630	2.32	111,443	228	49.5%
2025	226,133	1,051	97,861	635	2.32	111,672	229	49.4%
2026	227,189	1,056	98,500	639	2.32	111,900	228	49.3%
2027	228,275	1,086	99,071	571	2.31	112,046	146	49.1%
2028	229,366	1,091	99,646	575	2.31	112,158	112	48.9%
2029	230,462	1,096	100,224	578	2.30	112,265	107	48.7%
2030	231,564	1,102	100,805	581	2.30	112,366	101	48.5%
2031	232,671	1,107	101,390	585	2.30	112,467	101	48.3%
2032	233,545	874	101,840	450	2.29	112,568	101	48.2%
2033	234,422	877	102,292	452	2.29	112,675	107	48.1%
2034	235,302	880	102,746	454	2.29	112,788	113	47.9%
2035	236,186	884	103,203	457	2.28	113,014	226	47.8%
2036	237,073	887	103,662	459	2.28	113,275	261	47.8%
2037	237,653	580	104,106	444	2.28	113,745	470	47.9%
2038	238,235	582	104,552	446	2.27	114,216	471	47.9%
2039	238,818	583	105,000	448	2.27	114,689	473	48.0%
2040	239,403	585	105,450	450	2.27	115,164	475	48.1%
2041	239,989	586	105,903	453	2.27	115,641	477	48.2%
2020-2029		10,433		6,380			2,713	
2020-2041		19,960		12,059			6,089	

Source: Hemson Consulting, 2019



APPENDIX A
TABLE 6

CITY OF WINDSOR
FORECAST OF BUILDING PERMIT ISSUANCES BY UNIT TYPE

Mid-Year	Singles	Semis, Rows & Other Multiples	Apartments	Total New HH
2020	412	262	75	749
2021	415	264	75	755
2022	342	218	62	622
2023	344	219	63	626
2024	347	221	63	630
2025	349	222	64	635
2026	352	224	64	639
2027	314	200	57	571
2028	316	201	58	575
2029	318	202	58	578
2020-2029	3,509	2,233	638	6,380

Source: Hemson Consulting, 2019

APPENDIX A
TABLE 8

CITY OF WINDSOR
NON-RESIDENTIAL GROWTH BY EMPLOYMENT CATEGORY

Mid-Year	Industrial		Non-Industrial		Total for DC Study		Work at Home		Total	
	Total Emp	Emp Growth	Total Emp	Empl Growth	Total Emp	Empl Growth	Total Emp	Emp Growth	Total Emp	Empl Growth
2020	47,097	257	48,946	267	96,043	525	14,111	77	110,154	602
2021	47,356	259	49,215	269	96,571	528	14,189	78	110,760	606
2022	47,453	97	49,316	101	96,769	198	14,218	29	110,987	227
2023	47,551	97	49,417	101	96,968	199	14,247	29	111,215	228
2024	47,648	97	49,519	101	97,167	199	14,276	29	111,443	228
2025	47,746	98	49,620	102	97,367	200	14,305	29	111,672	229
2026	47,844	98	49,722	101	97,566	199	14,335	29	111,900	228
2027	47,906	62	49,786	65	97,693	127	14,353	19	112,046	146
2028	47,954	48	49,836	50	97,790	98	14,368	14	112,158	112
2029	48,000	46	49,884	48	97,884	93	14,381	14	112,265	107
2020-2029		1,160		1,205		2,365		348		2,713

Source: Hemson Consulting, 2019

**APPENDIX A
TABLE 9**

**CITY OF WINDSOR
EMPLOYMENT GROWTH IN NEW NON-RESIDENTIAL SPACE BY CATEGORY**

Employment Density

Non-Industrial 60.0 m² per employee

Industrial 100.0 m² per employee

Mid-Year	<u>Industrial</u>		<u>Non-Industrial</u>		<u>Total Emp in New Space</u>	
	Emp Growth	Growth in New Space (m ²)	Emp Growth	Growth in New Space (m ²)	Emp Growth	Space (m ²)
2020	257	25,739	267	16,050	525	41,789
2021	259	25,902	269	16,151	528	42,053
2022	97	9,714	101	6,057	198	15,771
2023	97	9,748	101	6,079	199	15,827
2024	97	9,748	101	6,079	199	15,827
2025	98	9,791	102	6,105	200	15,896
2026	98	9,765	101	6,089	199	15,853
2027	62	6,226	65	3,882	127	10,108
2028	48	4,789	50	2,986	98	7,775
2029	46	4,575	48	2,853	93	7,428
2020-2029	1,160	115,997	1,205	72,330	2,365	188,326

Source: Hemson Consulting, 2019

APPENDIX A
TABLE 10

CITY OF WINDSOR
EXCLUDING SANDWICH SOUTH PLANNING DISTRICT
FORECAST OF BUILDING PERMIT ISSUANCES BY UNIT TYPE

Mid-Year	Singles	Semis, Rows & Other Multiples	Apartments	Total New HH
2020	304	210	8	522
2021	307	212	9	528
2022	234	165	0	400
2023	236	167	0	403
2024	239	168	0	407
2025	241	170	0	411
2026	244	171	0	415
2027	206	147	0	353
2028	208	149	0	357
2029	210	150	0	360
2020-2029	2,429	1,710	17	4,156

Source: Hemson Consulting, 2019

APPENDIX A
TABLE 12

CITY OF WINDSOR
EXCLUDING SANDWICH SOUTH PLANNING DISTRICT
EMPLOYMENT GROWTH IN NEW NON-RESIDENTIAL SPACE BY CATEGORY

Employment Density

Non-Industrial 60.0 m² per employee
Industrial 100.0 m² per employee

Mid-Year	<u>Industrial</u>		<u>Non-Industrial</u>		<u>Total Emp in New Space</u>	
	Emp Growth	Growth in New Space (m ²)	Emp Growth	Growth in New Space (m ²)	Emp Growth	Space (m ²)
2020	100	9,966	31	1,846	130	11,813
2021	101	10,129	31	1,858	132	11,987
2022	0	0	12	697	12	697
2023	0	0	12	699	12	699
2024	0	0	12	699	12	699
2025	0	0	12	702	12	702
2026	0	0	12	700	12	700
2027	0	0	7	447	7	447
2028	0	0	6	343	6	343
2029	0	0	5	328	5	328
2020-2029	201	20,095	139	8,320	340	28,415

Source: Hemson Consulting, 2019

APPENDIX A

TABLE 13

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT
 FORECAST OF BUILDING PERMIT ISSUANCES BY UNIT TYPE

Mid-Year	Singles	Semis, Rows & Other Multiples	Apartments	Total New HH
2020	108	52	67	227
2021	108	52	67	227
2022	108	52	67	227
2023	108	52	67	227
2024	108	52	67	227
2025	108	52	67	227
2026	108	52	67	227
2027	108	52	67	227
2028	108	52	67	227
2029	108	52	67	227
2030	108	52	67	227
2031	108	52	67	227
2032	108	52	67	227
2033	108	52	67	227
2034	108	52	67	227
2035	108	52	67	227
2036	108	52	67	227
2037	108	52	67	227
2038	108	52	67	227
2039	108	52	67	227
2040	108	52	67	227
2041	108	52	67	227
2020-2041	2,375	1,151	1,473	4,999

Source: Hemson Consulting, 2020

APPENDIX A

TABLE 14

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT
 FORECAST POPULATION GROWTH IN NEW HOUSEHOLDS BY UNIT TYPE*

Mid-Year	Singles	Semis, Rows & Other Multiples	Apartments	Total Population in New HH
2020	414	113	119	646
2021	414	113	119	646
2022	414	113	119	646
2023	414	113	119	646
2024	414	113	119	646
2025	414	113	119	646
2026	414	113	119	646
2027	414	113	119	646
2028	414	113	119	646
2029	414	113	119	646
2030	414	113	119	646
2031	414	113	119	646
2032	414	113	119	646
2033	414	113	119	646
2034	414	113	119	646
2035	414	113	119	646
2036	414	113	119	646
2037	414	113	119	646
2038	414	113	119	646
2039	414	113	119	646
2040	414	113	119	646
2041	414	113	119	646
2020-2041	9,108	2,486	2,618	14,212

*Based on PPU's

3.83

2.16

1.77

Source: Hemson Consulting, 2020



**APPENDIX A
TABLE 15**

**CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT
EMPLOYMENT GROWTH IN NEW NON-RESIDENTIAL SPACE BY CATEGORY**

Employment Density

Non-Industrial 60.0 m² per employee
Industrial 100.0 m² per employee

Mid-Year	<u>Industrial</u>		<u>Non-Industrial</u>		<u>Total Emp in New Space</u>	
	Emp Growth in New Space	Growth in New Space (m ²)	Emp Growth in New Space	Growth in New Space (m ²)	Emp Growth in New Space	Space (m ²)
2020	158	15,773	273	16,358	430	32,131
2021	158	15,773	273	16,358	430	32,131
2022	158	15,773	273	16,358	430	32,131
2023	158	15,773	273	16,358	430	32,131
2024	158	15,773	273	16,358	430	32,131
2025	158	15,773	273	16,358	430	32,131
2026	158	15,773	273	16,358	430	32,131
2027	158	15,773	273	16,358	430	32,131
2028	158	15,773	273	16,358	430	32,131
2029	158	15,773	273	16,358	430	32,131
2030	158	15,773	273	16,358	430	32,131
2031	158	15,773	273	16,358	430	32,131
2032	158	15,773	273	16,358	430	32,131
2033	158	15,773	273	16,358	430	32,131
2034	158	15,773	273	16,358	430	32,131
2035	158	15,773	273	16,358	430	32,131
2036	158	15,773	273	16,358	430	32,131
2037	158	15,773	273	16,358	430	32,131
2038	158	15,773	273	16,358	430	32,131
2039	158	15,773	273	16,358	430	32,131
2040	158	15,773	273	16,358	430	32,131
2041	158	15,773	273	16,358	430	32,131
2020-2041	3,470	347,000	5,998	359,879	9,468	706,879

Source: Hemson Consulting, 2020

APPENDIX B
GENERAL SERVICES
TECHNICAL APPENDIX

GENERAL SERVICES

This appendix provides the detailed analysis undertaken to establish the development charge rates for each of the eligible general services provided by the City of Windsor. Seven services have been analysed as part of this Development Charges (DC) Background Study:

Appendix B.1 Library Services

Appendix B.2 Fire Services

Appendix B.3 Police Services

Appendix B.4 Indoor Recreation

Appendix B.5 Park Development

Appendix B.6 Transit

Appendix B.7 Waste Diversion

Every sub-section, with the exception of Transit, contains a set of three tables. The tables provide the background data and analysis undertaken to arrive at the calculated development charge rates for that particular service. An overview of the content and purpose of each of the tables is given below.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 presents the data used to determine the ten-year historical service level. The *DCA* and *Ontario Regulation 82/98* require that development charges be set at a level no higher than the average service level provided in a municipality over the ten-year period immediately preceding the preparation of the background study, on a service by service basis. For the purpose of this study, the historical inventory period is defined as 2010-2019.

O. Reg. 82/98 requires that when defining and determining historical service levels, both the quantity and quality of service be taken into consideration. In most cases, the service levels are initially established in quantitative terms. For example, service levels for buildings are presented in terms of square feet. The qualitative aspect is introduced by considering the monetary value of the facility or service. In the case of buildings, for example, the cost would be shown in terms of cost per square foot to replace or construct a facility of the same quality. This approach helps to ensure that the development-related capital facilities

that are to be funded by new growth reflect not only the quantity (number and size), but also the quality (replacement value or cost) of service provided by the municipality in the past. Both the quantitative and qualitative aspects of service levels used in the current analysis are based on information provided by City staff in consultation with Hemson. This information is generally based on historical records and experience with costs to acquire or construct similar facilities, equipment and infrastructure.

In this DC Study, the approach used to calculate service levels and maximum funding envelopes is described as follows: for those services with a residential impact only (Library, Indoor Recreation, Park Development and Waste Diversion), the service level measure of net population has been utilized. For the remaining services that levy both a residential and non-residential charge (Fire and Police), the service level measure of net population + employment has been utilized. The *DCA* (s.5.2 (3)) requires that in estimating the increase in need for Transit Services, the increased need “shall not exceed the planned level of service over the ten-year period immediately following the preparation of the background study”. Therefore, a service level and maximum funding envelope is not required for Transit as it based on a *planned* level of services as opposed to a *historical* level of service.

There is also a requirement in the *DCA* to consider “excess capacity” within the City’s existing infrastructure that may be available to partially meet the future servicing requirements. If Council has expressed its intent before or at the time the capacity was created to recoup the cost of providing the capacity from new development, it is considered “committed excess capacity” under the *DCA*, and the associated capital cost is eligible for recovery. This requirement has been addressed through the use of “net” population and employment in the determination of maximum permissible funding envelopes.

The maximum allowable funding envelope is defined as the ten-year historical service level (expressed as \$/capita or \$/population and employment) multiplied by the forecast increase in net population or net population and employment over the future planning period. The resulting figure is the value of capital infrastructure that would have to be constructed for that particular service so that the ten-year historical service level is maintained.

TABLE 2 2020 – 2029 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The *DCA* requires that Council express its intent to provide capital facilities to support future development. Based on the development forecasts presented in Appendix A, City

staff in collaboration with consultants, have created a growth-related capital forecast that sets out the projects required to service anticipated development for the ten-year period from 2020–2029.

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

A replacement share represents the portion of a capital project that will benefit the existing community. It could, for example, represent a portion of a new facility that will, at least in part, replace a facility that is demolished, redeployed or will otherwise not be available to serve its former function. The replacement share of the capital program is not deemed to be development-related and is therefore removed from the development charge calculation. The capital cost for replacement will require funding from non-development charge sources, typically property taxes or user fees.

The capital program less any replacement shares or benefit to existing shares yields the development-related costs. Although deemed development-related, not all of the net development-related capital program may be recoverable from development charges in the period from 2020 to 2029. For some services, reserve fund balances may be available to fund a share of the program. In addition, a portion of the capital program may service growth occurring after 2029. This portion of the capital program is deemed “pre-built” service capacity and is considered as committed excess capacity to be recovered under future development charges, or is a service level increase.

The remaining portion of the net capital program represents the development-related cost that may be included in the development charge. In most cases, as required, this amount is equal to or less than the maximum allowable capital amount as calculated at the end of Table 1. The result is the discounted development-related net capital costs eligible for recovery against growth over the forecast period from 2020 to 2029.

Calculation of the Unadjusted Development Charges Rates

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

The first step in determining the unadjusted development charge rate is to allocate the development-related net capital cost between the residential and non-residential sectors.

For general services with the exception of Library, Indoor Recreation, Park Development and Waste Diversion, the development-related costs have been apportioned as 89 per cent residential and 11 per cent non-residential. This apportionment is based on the anticipated shares of population in new units and employment growth in new space over the ten-year forecast period.

The development-related costs associated with Library, Indoor Recreation, Park Development and Waste Diversion have been allocated 100 per cent to the residential sector, as the need for this service is driven by residential development.

The residential share of the 2020–2029 DC eligible costs are then divided by the forecasted population growth in new dwelling units. This gives the unadjusted residential development charge per capita. The non-residential development-related net capital costs are divided by the forecasted increase in non-residential gross floor area (GFA) net of re-occupation of existing vacant non-residential space. This yields a charge per square metre of new non-residential development.

TABLE 3 CASH FLOW ANALYSIS

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

In order to determine appropriate development charge rates reflecting borrowing and earnings necessary to support the net development-related funding requirement, assumptions are used for the inflation rate and interest rate. An inflation rate of 2.0 per cent is used for the funding requirements, an interest rate of 5.5 per cent is used for borrowing on the funds and an interest rate of 3.5 per cent is applied to positive balances.

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

APPENDIX B.1

LIBRARY SERVICES

LIBRARY SERVICES

The Windsor Public Library provides library services from 10 branches located throughout the City. Each branch offers an array of collection materials and delivers community services, including adult literacy, career counselling, computer courses, multicultural materials and accessibility services.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the ten-year historical inventory for buildings, land, materials and furniture and equipment (excluding computer equipment) for Library Services in the City of Windsor. The building space for all ten branches amounts to 163,893 square feet, valued at \$79.16 million. The largest of these branches is the Central Resource Library located in the city centre at 100,000 square feet. All ten branches occupy 4.99 hectares of land, which is worth approximately \$2.50 million. Collection materials, including more than 356,000 books, periodicals, database subscriptions and e-books total over \$8.52 million. Finally, the total value of all furniture and equipment, other than computer equipment at all ten branches adds approximately \$8.10 million to the total value of the inventory.

The 2019 combined replacement value of the inventory of capital assets for Library Services is \$98.27 million, resulting in a ten-year historical average service level of \$458.72 per capita. This historical service level, multiplied by the ten-year net population growth (10,433), results in a ten-year maximum allowable funding envelope of \$4.79 million.

TABLE 2 2020–2029 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

In 2013, the Windsor Public Library undertook a Service Model Enhancement Initiatives study recommending many changes to the current structure of the Library system. In 2014, Council approved \$7.00 million in dedicated funding towards the implementation of initiatives recommended as part of the study. Among the recommendations was a complete reorganization of the existing library branches, including consolidating some smaller locations into centralized branches in more strategic locations, and opening new branches to better serve the population. The development charges capital program for Library Services is based on the recommendations within the enhancement report.

The capital program for Library Services largely recovers the remaining costs of various buildings, totaling \$5.40 million. The largest of these is the revitalization of the Budimir and Riverside District Libraries for \$1.89 million, while the remaining \$3.52 million is allocated toward the recovery of a new consolidated branch, the relocation of the Central Resource Library and the new Sandwich Area library branch. Finally, an annual provision for additional collections materials is included in the capital program for \$1.05 million.

Altogether, the Library Services capital program totals \$6.45 million. A grant amount of \$527,500 is dedicated toward the Budimir and Riverside District Libraries, bringing the net municipal cost to \$5.93 million. Given that the included buildings projects relate in part to a re-organization of the existing library system, 90 per cent of the project costs (for buildings only) have been identified as a benefit-to-existing/replacement share. This share totals \$4.39 million and will not be eligible for development charge funding.

Lastly, \$122,200 of reserve funds have been applied and removed from the development charges calculation. The total DC recoverable cost for the 2020-2029 period is \$1.42 million.

The development-related net capital cost is allocated entirely to residential development and is divided by the ten-year growth in population in new dwelling units (19,402) to derive an unadjusted charge of \$72.95 per capita.

TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, the residential calculated charge increases slightly to \$76 per capita. The following table summarizes the calculation of the Library Services development charge:

LIBRARY SERVICES SUMMARY						
10-year Hist.	2020 - 2029		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per capita	Total	Net DC Recoverable	\$/capita	\$/m ²	\$/capita	\$/m ²
\$458.72	\$6,453,261	\$1,415,376	\$72.95	\$0.00	\$76	\$0.00

**APPENDIX B.1
TABLE 1**

**CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
LIBRARY SERVICES**

BUILDINGS Branch Name	# of Square Feet										UNIT COST (\$/sq.ft.)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Bridgeview Library	5,100	5,100	5,100	5,100	5,100	5,100	5,100	5,100	5,100	5,100	5,100	\$483
Budimir Resource Library	9,385	9,385	9,385	9,385	9,385	9,385	9,385	9,385	9,385	9,385	9,385	\$483
Central Resource Library	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	\$483
Fontainebleau	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	8,200	\$483
Forest Glade Optimist	6,270	6,270	6,270	6,270	6,270	6,270	6,270	6,270	6,270	6,270	6,270	\$483
Remington Park Neighbourhood	2,493	2,493	2,493	2,493	2,493	2,493	2,493	2,493	-	-	-	\$483
Riverside Resource Library	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	\$483
Sandwich Library	4,425	4,425	4,425	4,425	2,950	2,950	2,950	2,950	2,950	2,950	2,950	\$483
Seminole Community	4,092	4,092	4,092	4,092	4,092	4,092	4,092	4,092	4,092	4,092	4,092	\$483
South Walkerville Community	3,400	3,400	3,400	3,400	3,400	3,400	3,400	-	-	-	-	\$483
W. F. Chisholm Library	-	-	-	-	-	-	-	6,500	6,500	6,500	6,500	\$483
John Muir Library	-	-	-	-	-	-	-	-	-	7,396	7,396	\$483
Total (sq.ft.)	157,365	157,365	157,365	157,365	155,890	155,890	155,890	158,990	156,497	163,893		
Total (\$000)	\$76,007.3	\$76,007.3	\$76,007.3	\$76,007.3	\$75,294.9	\$75,294.9	\$75,294.9	\$76,792.2	\$75,588.1	\$79,160.3		

LAND Branch Name	# of Hectares										UNIT COST (\$/ha)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Bridgeview Library	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	\$500,000
Budimir Resource Library	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	\$500,000
Central Resource Library	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	\$500,000
Fontainebleau	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	\$500,000
Forest Glade Optimist	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	\$500,000
Remington Park Neighbourhood	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	-	-	-	\$500,000
Riverside Resource Library	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	\$500,000
Sandwich Library	0.47	0.47	0.47	0.47	0.31	0.31	0.31	0.31	0.31	0.31	0.31	\$500,000
Seminole Community	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	\$500,000
South Walkerville Community	1.89	1.89	1.89	1.89	1.89	1.89	1.89	-	-	-	-	\$500,000
W. F. Chisholm Library	-	-	-	-	-	-	-	0.45	0.45	0.45	0.45	\$500,000
John Muir Library	-	-	-	-	-	-	-	-	-	0.15	0.15	\$500,000
Total (ha)	6.68	6.68	6.68	6.68	6.52	6.52	6.52	5.08	4.84	4.99		
Total (\$000)	\$3,340.0	\$3,340.0	\$3,340.0	\$3,340.0	\$3,261.7	\$3,261.7	\$3,261.7	\$2,541.7	\$2,421.7	\$2,496.7		



**APPENDIX B.1
TABLE 1**

**CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
LIBRARY SERVICES**

MATERIALS Type of Collection	# of Collection Materials										UNIT COST (\$/item)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Books	547,712	556,844	661,742	604,585	525,884	342,347	301,715	300,627	268,866	268,866	\$21
Periodicals	24,489	23,666	21,020	20,114	19,104	16,240	13,190	12,040	12,630	12,630	\$10
CDs, video tapes, etc.	55,687	42,050	44,337	45,112	47,020	46,304	45,322	45,843	42,940	42,940	\$28
Database Subscriptions	36	34	34	37	38	34	23	16	21	21	\$13,000
E-Books	2,370	3,416	6,765	9,108	11,037	28,583	30,052	32,018	31,840	31,840	\$43
Total (#)	630,294	626,010	733,898	678,956	603,083	433,508	390,302	390,544	356,297	356,297	
Total (\$000)	\$13,683.8	\$13,501.1	\$15,848.2	\$14,819.9	\$13,333.6	\$10,194.0	\$9,216.9	\$9,190.6	\$8,516.8	\$8,516.8	

FURNITURE & EQUIPMENT Branch Name	Total Value of Furniture and Equipment (\$)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Bridgeview Library	\$239,240	\$240,620	\$242,080	\$242,670	\$243,160	\$246,668	\$256,137	\$258,581	\$270,345	\$270,345
Budimir Resource Library	\$438,640	\$441,180	\$443,870	\$444,960	\$445,860	\$452,316	\$469,740	\$474,237	\$495,885	\$495,885
Central Resource Library	\$4,690,940	\$4,718,000	\$4,746,640	\$4,758,220	\$4,767,750	\$4,836,540	\$5,022,202	\$5,070,119	\$5,300,785	\$5,300,785
Fontainebleau	\$384,660	\$386,880	\$389,230	\$390,180	\$390,960	\$396,601	\$411,825	\$415,754	\$434,669	\$434,669
Forest Glade Optimist	\$294,120	\$295,820	\$297,620	\$298,350	\$298,950	\$303,263	\$314,904	\$317,909	\$332,371	\$332,371
Remington Park Neighbourhood	\$116,950	\$117,620	\$118,330	\$118,620	\$118,860	\$120,575	\$125,203	\$126,398	\$0	\$0
Riverside Resource Library	\$656,730	\$660,520	\$664,530	\$666,150	\$667,480	\$677,111	\$703,103	\$709,812	\$742,105	\$742,105
Sandwich Library	\$207,580	\$208,780	\$210,050	\$210,560	\$210,980	\$213,009	\$218,486	\$219,900	\$226,705	\$226,705
Seminole Community	\$191,960	\$193,070	\$204,790	\$205,260	\$205,650	\$208,465	\$216,062	\$218,023	\$227,462	\$227,462
South Walkerville Community	\$159,490	\$160,410	\$161,380	\$161,770	\$162,090	\$164,429	\$170,741	\$0	\$0	\$0
Ford E250 Cargo Van (Mtc van)	34,370.00	34,370.00	34,370.00	34,370.00	34,370.00	\$34,370	\$34,370	\$34,370	\$34,370	\$34,370
2005 GMC C6500 (Bookmobile; purchased used)7	-	-	-	-	-	\$0	\$16,883	\$16,883	\$16,883	\$16,883
W. F. Chisholm Library	-	-	-	-	-	\$0	\$0	\$3,115	\$18,108	\$18,108
John Muir Library	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0
Total (\$000)	\$7,414.7	\$7,457.3	\$7,512.9	\$7,531.1	\$7,546.1	\$7,653.3	\$7,959.7	\$7,865.1	\$8,099.7	\$8,099.7



**APPENDIX B.1
TABLE 1**

**CITY OF WINDSOR
CALCULATION OF SERVICE LEVELS
LIBRARY SERVICES**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Historical Population	211,214	210,891	211,524	213,216	214,282	215,139	217,170	218,119	219,072	220,029

INVENTORY SUMMARY (\$000)

Buildings	\$76,007.3	\$76,007.3	\$76,007.3	\$76,007.3	\$75,294.9	\$75,294.9	\$75,294.9	\$76,792.2	\$75,588.1	\$79,160.3
Land	\$3,340.0	\$3,340.0	\$3,340.0	\$3,340.0	\$3,261.7	\$3,261.7	\$3,261.7	\$2,541.7	\$2,421.7	\$2,496.7
Materials	\$13,683.8	\$13,501.1	\$15,848.2	\$14,819.9	\$13,333.6	\$10,194.0	\$9,216.9	\$9,190.6	\$8,516.8	\$8,516.8
Furniture & Equipment	\$7,414.7	\$7,457.3	\$7,512.9	\$7,531.1	\$7,546.1	\$7,653.3	\$7,959.7	\$7,865.1	\$8,099.7	\$8,099.7
Total (\$000)	\$100,445.8	\$100,305.7	\$102,708.4	\$101,698.3	\$99,436.2	\$96,403.9	\$95,733.1	\$96,389.6	\$94,626.2	\$98,273.4

SERVICE LEVEL (\$/capita)											Average Service Level
Buildings	\$359.86	\$360.41	\$359.33	\$356.48	\$351.38	\$349.98	\$346.71	\$352.07	\$345.04	\$359.77	\$354.10
Land	\$15.81	\$15.84	\$15.79	\$15.66	\$15.22	\$15.16	\$15.02	\$11.65	\$11.05	\$11.35	\$14.26
Materials	\$64.79	\$64.02	\$74.92	\$69.51	\$62.22	\$47.38	\$42.44	\$42.14	\$38.88	\$38.71	\$54.50
Furniture & Equipment	\$35.11	\$35.36	\$35.52	\$35.32	\$35.22	\$35.57	\$36.65	\$36.06	\$36.97	\$36.81	\$35.86
Total (\$/capita)	\$475.56	\$475.63	\$485.56	\$476.97	\$464.04	\$448.10	\$440.82	\$441.91	\$431.94	\$446.64	\$458.72

**CITY OF WINDSOR
CALCULATION OF MAXIMUM ALLOWABLE
LIBRARY SERVICES**

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2010 - 2019	\$458.72
Net Population Growth 2020 - 2029	10,433
Maximum Allowable Funding Envelope	\$4,785,826



APPENDIX B.1
TABLE 2

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
LIBRARY SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE Shares	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2020-2029	Post 2029
1.0 LIBRARY SERVICES									
1.1 Buildings, Land & Furnishings									
1.1.1 Budimir and Riverside District Libraries Revitalization (Remaining Costs)	2020	\$ 1,887,901	\$ 527,482	\$ 1,360,419	\$ 1,224,377	\$ 136,042	\$ 122,202	\$ 13,840	\$ -
1.1.2 New Consolidated Branch (20,000 sq.ft.) (Remaining Costs)	2020	\$ 1,094,250	\$ -	\$ 1,094,250	\$ 984,825	\$ 109,425	\$ -	\$ 109,425	\$ -
1.1.3 Relocate Central Resource Library to Downtown Hub (Remaining Costs)	2020	\$ 1,776,250	\$ -	\$ 1,776,250	\$ 1,598,625	\$ 177,625	\$ -	\$ 177,625	\$ -
1.1.4 New Sandwich Area Library Branch (5,000 sq.ft) (Remaining Costs)	2020	\$ 644,859	\$ -	\$ 644,859	\$ 580,374	\$ 64,486	\$ -	\$ 64,486	\$ -
Subtotal Buildings, Land & Furnishings		\$ 5,403,261	\$ 527,482	\$ 4,875,779	\$ 4,388,201	\$ 487,578	\$ 122,202	\$ 365,376	\$ -
1.2 Materials & Equipment									
1.2.1 Additional Collection Materials	Various	\$ 1,050,000	\$ -	\$ 1,050,000	\$ -	\$ 1,050,000	\$ -	\$ 1,050,000	\$ -
Subtotal Materials & Equipment		\$ 1,050,000	\$ -	\$ 1,050,000	\$ -	\$ 1,050,000	\$ -	\$ 1,050,000	\$ -
TOTAL LIBRARY SERVICES		\$ 6,453,261	\$ 527,482	\$ 5,925,779	\$ 4,388,201	\$ 1,537,578	\$ 122,202	\$ 1,415,376	\$ -

Residential Development Charge Calculation		
Residential Share of 2020 - 2029 DC Eligible Costs	100%	\$1,415,376
10-Year Growth in Population in New Units		19,402
Unadjusted Development Charge Per Capita		\$72.95
Non-Residential Development Charge Calculation		
Non-Residential Share of 2020 - 2029 DC Eligible Costs	0%	\$0
10-Year Non-Residential Growth in New Space (Square Metres)		188,326
Unadjusted Development Charge Per Square Metre		\$0.00

2020 - 2029 Net Funding Envelope	\$4,785,826
Reserve Fund Balance	
Balance as at December 31, 2019	\$122,202

APPENDIX B.1
TABLE 3

CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
LIBRARY SERVICES
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

LIBRARY SERVICES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.0	(\$305.4)	(\$250.1)	(\$222.8)	(\$192.2)	(\$158.1)	(\$119.9)	(\$77.6)	(\$50.4)	(\$19.8)	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
- Library Services: Non Inflated	\$470.4	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$105.0	\$1,415.4
- Library Services: Inflated	\$470.4	\$107.1	\$109.2	\$111.4	\$113.7	\$115.9	\$118.2	\$120.6	\$123.0	\$125.5	\$1,515.1
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	2,278	2,296	1,892	1,903	1,916	1,931	1,943	1,736	1,749	1,758	19,402
REVENUE											
- DC Receipts: Inflated	\$173.1	\$178.0	\$149.6	\$153.5	\$157.6	\$162.0	\$166.3	\$151.6	\$155.7	\$159.7	\$1,607.1
INTEREST											
- Interest on Opening Balance	\$0.0	(\$16.8)	(\$13.8)	(\$12.3)	(\$10.6)	(\$8.7)	(\$6.6)	(\$4.3)	(\$2.8)	(\$1.1)	(\$76.8)
- Interest on In-year Transactions	(\$8.2)	\$1.2	\$0.7	\$0.7	\$0.8	\$0.8	\$0.8	\$0.5	\$0.6	\$0.6	(\$1.4)
TOTAL REVENUE	\$165.0	\$162.4	\$136.6	\$142.0	\$147.8	\$154.1	\$160.5	\$147.8	\$153.5	\$159.2	\$1,529.0
CLOSING CASH BALANCE	(\$305.4)	(\$250.1)	(\$222.8)	(\$192.2)	(\$158.1)	(\$119.9)	(\$77.6)	(\$50.4)	(\$19.8)	\$13.9	

2020 Adjusted Charge Per Capita	\$76
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Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.2

FIRE SERVICES

FIRE SERVICES

The Windsor Fire Department is responsible for the provision of fire prevention, inspections, public education, and emergency response services. The department operates out of seven stations located throughout the City of Windsor.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the ten-year historical inventory for buildings, land, vehicles and equipment for Fire Services. The department operates out of seven fire stations and three other training facilities with a total building area of approximately 101,441 square feet. The total replacement value of the buildings is \$60.86 million. The land associated with all ten facilities totals 4.95 hectares and is valued at \$2.47 million. Station equipment, such as communications and training equipment, as well as personal fire fighter protective gear totals \$7.52 million. Finally, the 2019 Fire Department fleet totals 20 vehicles with a replacement value of \$20.40 million.

The 2019 combined replacement value of the inventory of capital assets for Fire Services is \$91.26 million, resulting in a ten-year historical average service level of \$273.37 per population and employment. The historical service level, multiplied by the ten-year net population and employment growth (13,146), results in a ten-year maximum allowable funding envelope of \$3.59 million.

TABLE 2 2020–2029 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The 2020 to 2029 development-related capital program recovers for various building projects, vehicle and equipment acquisitions and studies. The projects included in the capital program were sourced from the City’s 2020 budget and discussions with City staff.

Development-related building projects include the remaining costs of the new Fire Hall Station #8, which replaced the small existing facility currently located at the airport, and combined the facility with a new Emergency Operations Centre (E.O.C). The total remaining cost of the project is \$6.56 million, less \$177,290 in grants and subsidies. An additional \$3.18 million has been removed as that is the share associated with the E.O.C. The remaining \$3.21 million is growth-related.

A Fire Training Centre is planned in 2028 with a net municipal cost of \$5.00 million. Additionally, there are plans to replace and expand the current Station 1. This project will occur in 2029 with a total cost of \$20.00 million. The City will also be acquiring new vehicles and equipment over the planning horizon, with a gross cost of \$1.68 million. Lastly, there is a Fire Maser Plan scheduled for 2020 with a total cost of \$373,300.

In total, the Fire Services capital program amounts to \$33.62 million. Grants and subsidies of \$177,300 have been removed from the calculation. Non-growth shares relating to replacement and benefit to the existing community total \$20.97 million. These shares account for the replacement of existing fire stations, training centre, vehicles and equipment and studies as well as shares of population and employment growth over the existing base in the City.

\$8.78 million is the amount by which the DC eligible costs exceed the maximum allowable funding envelope, which is deemed to provide benefit to development beyond 2029. This share will be eligible for funding under subsequent development charges studies. The remaining \$3.59 million is related to development in the 2020–2029 planning period and is eligible for DC recovery. The development-related net capital cost is allocated 89 per cent to residential development (\$3.20 million) and 11 per cent to non-residential development (\$395,309). The residential share of the net development-related capital cost is divided by the ten-year growth in population in new dwelling units to derive an unadjusted charge of \$164.85 per capita. The non-residential share of the net growth-related capital cost is divided by the ten-year forecast growth in floor space, resulting in an unadjusted charge of \$2.10 per square metre.

TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, both the residential and non-residential calculated charges increase to \$188 per capita and \$2.29 per square metre. This increase reflects the front-ended nature of the timing of anticipated capital projects.

The following table summarizes the calculation of the Fire Services development charge:

FIRE SERVICES SUMMARY						
10-year Hist. Service Level per pop & emp	2020 - 2029		Unadjusted		Adjusted	
	Development-Related Total	Capital Program Net DC Recoverable	Development Charge \$/capita	Development Charge \$/m ²	Development Charge \$/capita	Development Charge \$/m ²
\$273.37	\$33,616,592	\$3,593,722	\$164.85	\$2.10	\$188	\$2.29

APPENDIX B.2
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
FIRE SERVICES

BUILDINGS Station Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Station #1	19,753	19,753	19,753	19,753	19,753	19,753	19,753	19,753	19,753	19,753	\$600
Station #2	6,636	6,636	6,636	6,636	6,636	-	-	-	-	-	\$600
Station #3	5,402	5,402	5,402	5,402	5,402	5,402	5,402	5,402	5,402	5,402	\$600
Station #4	7,566	7,566	7,566	7,566	7,566	7,566	7,566	7,566	7,566	7,566	\$600
Station #5	5,329	5,329	5,329	5,329	5,329	5,329	5,329	-	-	-	\$600
Station #6	4,568	4,568	4,568	4,568	4,568	4,568	4,568	-	-	-	\$600
Station #7	4,247	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	\$600
Station #8 (Airport)	5,000	5,000	5,000	5,000	5,000	5,000	5,000	-	-	-	\$600
Apparatus & Training	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	\$600
QM store/Fire Prevention	5,724	5,724	5,724	5,724	5,724	5,724	5,724	5,724	5,724	5,724	\$600
Training Tower	280	280	280	280	280	280	280	280	280	280	\$600
New Station 2	-	-	-	-	-	10,758	10,758	10,758	10,758	10,758	\$600
New Station 6 & EOC	-	-	-	-	-	-	-	13,000	13,000	13,000	\$600
New Station 5	-	-	-	-	-	-	-	10,758	10,758	10,758	\$600
Total (sq.ft.)	82,705	88,458	88,458	88,458	88,458	92,580	92,580	101,441	101,441	101,441	
Total (\$000)	\$49,623.0	\$53,074.8	\$53,074.8	\$53,074.8	\$53,074.8	\$55,548.0	\$55,548.0	\$60,864.6	\$60,864.6	\$60,864.6	

LAND Station Name	# of Hectares										UNIT COST (\$/ha)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Station #1 + QM Store/Fire Prevention	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	\$500,000
Station #2	0.52	0.52	0.52	0.52	0.52	-	-	-	-	-	\$500,000
Station #3	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	\$500,000
Station #4 + Training Tower	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	\$500,000
Station #5	0.82	0.82	0.82	0.82	0.82	0.82	0.82	-	-	-	\$500,000
Station #6	0.91	0.91	0.91	0.91	0.91	0.91	0.91	-	-	-	\$500,000
Station #7	0.37	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	\$500,000
Station #8 (Airport) (1)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-	-	-	\$500,000
Apparatus & Training	2.47	2.47	2.47	2.47	2.47	-	-	-	-	-	\$500,000
New Station 2	-	-	-	-	-	0.5	0.5	0.5	0.5	0.5	\$500,000
New Station 5	-	-	-	-	-	-	-	0.6	0.6	0.6	\$500,000
New Station 6 & EOC	-	-	-	-	-	-	-	0.5	0.5	0.5	\$500,000
Total (ha)	8.42	8.45	8.45	8.45	8.45	6.00	6.00	4.95	4.95	4.95	
Total (\$000)	\$4,210.0	\$4,225.0	\$4,225.0	\$4,225.0	\$4,225.0	\$3,001.1	\$3,001.1	\$2,474.4	\$2,474.4	\$2,474.4	



APPENDIX B.2
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
FIRE SERVICES

EQUIPMENT & GEAR Station Name	Total Value of Equipment (\$)										UNIT COST (\$/firefighter)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Opticom Traffic Controller Pre-Emption Device	\$1,080,000	\$1,080,000	\$1,080,000	\$1,080,000	\$1,080,000	\$1,080,000	\$1,080,000	\$1,080,000	\$1,080,000	\$1,080,000	\$1,080,000	
Communications Equipment	\$1,504,000	\$1,504,000	\$1,504,000	\$1,504,000	\$1,504,000	\$1,504,000	\$1,504,000	\$1,504,000	\$1,504,000	\$1,504,000	\$1,504,000	
Other Station Equipment	\$360,000	\$360,000	\$360,000	\$360,000	\$360,000	\$360,000	\$360,000	\$360,000	\$360,000	\$360,000	\$360,000	
Training/EOC/Fire Prevention	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$680,000	\$680,000	\$680,000	
Dispatch consoles	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$750,000	
Number of Firefighters	246	246	246	246	246	258	258	258	258	258	258	
Personal Fire Fighter Protective Equipment	\$1,328,400	\$1,328,400	\$1,328,400	\$1,328,400	\$1,328,400	\$1,393,200	\$1,393,200	\$1,393,200	\$1,393,200	\$1,393,200	\$1,393,200	\$5,400
Self Contained Breathing Apparatus (SCBA)	\$1,722,000	\$1,722,000	\$1,722,000	\$1,722,000	\$1,722,000	\$1,722,000	\$1,722,000	\$1,722,000	\$1,722,000	\$1,722,000	\$1,754,000	
Total (\$000)	\$6,404.4	\$6,404.4	\$6,404.4	\$6,404.4	\$6,404.4	\$6,469.2	\$6,469.2	\$7,039.2	\$7,039.2	\$7,521.2		

VEHICLES Vehicle Type	# of Vehicles										UNIT COST (\$/vehicle)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Rehab Support Vehicle/ESU	1	1	1	1	1	1	1	1	1	1	1	\$597,300
Command Post Unit (Fire Share)	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	\$1,100,000
Pumpers (heavy duty custom) includes spare 3 units	8	8	8	8	8	8	8	8	8	8	8	\$991,500
Rescue Pumper	-	-	-	-	-	-	-	-	-	-	1	\$991,500
Aerial	4	4	4	4	4	4	4	4	4	4	4	\$2,186,100
Quint	1	-	-	-	-	-	-	-	-	-	-	\$1,430,000
Rescue	1	1	1	1	1	1	1	1	1	1	-	\$2,186,100
District Chief Command cars (Pick up truck)	-	-	-	-	-	2	2	2	2	2	2	\$131,400
HAZMAT Pick-up & Trailer	1	1	1	1	1	-	-	-	-	-	-	\$330,000
Pumper/Tanker	1	1	1	1	1	-	-	-	-	-	-	\$600,000
HAZMAT Pick-up & Trailer	1	1	1	1	1	1	-	-	-	-	-	\$330,000
Pumper/Tanker	1	1	1	1	1	1	1	1	1	1	1	\$991,500
HazMat Truck Heavy	-	-	-	-	-	-	1	1	1	1	1	\$238,900
HazMat advance/support Team vehicle	-	-	-	-	-	-	1	1	1	1	1	\$95,600
Total (#)	20	19	19	19	19	19	20	20	20	20	20	
Total (\$000)	\$24,241.3	\$22,811.3	\$22,811.3	\$22,811.3	\$22,261.3	\$21,594.1	\$21,598.6	\$21,598.6	\$21,598.6	\$21,598.6	\$20,404.0	



APPENDIX B.2

TABLE 1

CITY OF WINDSOR
CALCULATION OF SERVICE LEVELS
FIRE SERVICES

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Historical Population	211,214	210,891	211,524	213,216	214,282	215,139	217,170	218,119	219,072	220,029
Historical Employment	<u>103,108</u>	<u>103,262</u>	<u>104,605</u>	<u>105,128</u>	<u>105,286</u>	<u>106,234</u>	<u>107,765</u>	<u>108,357</u>	<u>108,953</u>	<u>109,552</u>
Total Population & Employment	314,322	314,153	316,129	318,344	319,568	321,373	324,935	326,476	328,025	329,581

INVENTORY SUMMARY (\$000)

Buildings	\$49,623.0	\$53,074.8	\$53,074.8	\$53,074.8	\$53,074.8	\$55,548.0	\$55,548.0	\$60,864.6	\$60,864.6	\$60,864.6
Land	\$4,210.0	\$4,225.0	\$4,225.0	\$4,225.0	\$4,225.0	\$3,001.1	\$3,001.1	\$2,474.4	\$2,474.4	\$2,474.4
Equipment & Gear	\$6,404.4	\$6,404.4	\$6,404.4	\$6,404.4	\$6,404.4	\$6,469.2	\$6,469.2	\$7,039.2	\$7,039.2	\$7,521.2
Vehicles	\$24,241.3	\$22,811.3	\$22,811.3	\$22,811.3	\$22,261.3	\$21,594.1	\$21,598.6	\$21,598.6	\$21,598.6	\$20,404.0
Total (\$000)	\$84,478.7	\$86,515.5	\$86,515.5	\$86,515.5	\$85,965.5	\$86,612.4	\$86,616.9	\$91,976.8	\$91,976.8	\$91,264.2

SERVICE LEVEL (\$/pop+emp)

											Average Service Level
Buildings	\$157.87	\$168.95	\$167.89	\$166.72	\$166.08	\$172.85	\$170.95	\$186.43	\$185.55	\$184.67	\$172.80
Land	\$13.39	\$13.45	\$13.36	\$13.27	\$13.22	\$9.34	\$9.24	\$7.58	\$7.54	\$7.51	\$10.79
Equipment & Gear	\$20.38	\$20.39	\$20.26	\$20.12	\$20.04	\$20.13	\$19.91	\$21.56	\$21.46	\$22.82	\$20.71
Vehicles	\$77.12	\$72.61	\$72.16	\$71.66	\$69.66	\$67.19	\$66.47	\$66.16	\$65.84	\$61.91	\$69.08
Total (\$/pop+emp)	\$268.76	\$275.39	\$273.67	\$271.77	\$269.01	\$269.51	\$266.57	\$281.73	\$280.40	\$276.91	\$273.37

CITY OF WINDSOR
CALCULATION OF MAXIMUM ALLOWABLE
FIRE SERVICES

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2010 - 2019	\$273.37
Net Population & Employment Growth 2020 - 2029	13,146
Maximum Allowable Funding Envelope	\$3,593,722



APPENDIX B.2
TABLE 2
CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
FIRE SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs	Total DC Eligible Costs	DC Eligible Costs		
					Replacement & BTE Shares		Available DC Reserves	2020-2029	Post 2029
2.0 FIRE SERVICES									
2.1 Buildings, Land & Furnishings									
2.1.1 New Fire Hall Station #8 & EOC (Remaining Costs)	2020	\$ 6,562,913	\$ 177,290	\$ 6,385,623	\$ 3,180,091	\$ 3,205,532	\$ 94,998	\$ 3,110,533	\$ -
2.1.2 Fire Training Centre	2028	\$ 5,000,000	\$ -	\$ 5,000,000	\$ 4,500,000	\$ 500,000	\$ -	\$ -	\$ 500,000
2.1.3 Station 1 Replacement & Expansion	2029	\$ 20,000,000	\$ -	\$ 20,000,000	\$ 12,500,000	\$ 7,500,000	\$ -	\$ -	\$ 7,500,000
Subtotal Buildings, Land & Furnishings		\$ 31,562,913	\$ 177,290	\$ 31,385,623	\$ 20,180,091	\$ 11,205,532	\$ 94,998	\$ 3,110,533	\$ 8,000,000
2.2 Vehicles & Equipment									
2.2.1 Additional Vehicles & Equipment	Various	\$ 1,180,379	\$ -	\$ 1,180,379	\$ -	\$ 1,180,379	\$ -	\$ 395,859	\$ 784,521
2.2.2 Traffic Control System Overhaul	2021	\$ 500,000	\$ -	\$ 500,000	\$ 450,000	\$ 50,000	\$ -	\$ 50,000	\$ -
Subtotal Vehicles & Equipment		\$ 1,680,379	\$ -	\$ 1,680,379	\$ 450,000	\$ 1,230,379	\$ -	\$ 445,859	\$ 784,521
2.3 Studies									
2.3.1 Fire Master Plan	2020	\$ 373,300	\$ -	\$ 373,300	\$ 335,970	\$ 37,330	\$ -	\$ 37,330	\$ -
Subtotal Studies		\$ 373,300	\$ -	\$ 373,300	\$ 335,970	\$ 37,330	\$ -	\$ 37,330	\$ -
TOTAL FIRE SERVICES		\$ 33,616,592	\$ 177,290	\$ 33,439,302	\$ 20,966,061	\$ 12,473,241	\$ 94,998	\$ 3,593,722	\$ 8,784,521

Residential Development Charge Calculation		
Residential Share of 2020 - 2029 DC Eligible Costs	89%	\$3,198,413
10-Year Growth in Population in New Units		19,402
Unadjusted Development Charge Per Capita		\$164.85
Non-Residential Development Charge Calculation		
Non-Residential Share of 2020 - 2029 DC Eligible Costs	11%	\$395,309
10-Year Non-Residential Growth in New Space (Square Metres)		188,326
Unadjusted Development Charge Per Square Metre		\$2.10

2020 - 2029 Net Funding Envelope	\$3,593,722
Reserve Fund Balance Balance as at December 31, 2019	\$94,998



APPENDIX B.2
TABLE 3

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

FIRE SERVICES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.0	(\$2,474.8)	(\$2,245.7)	(\$2,029.9)	(\$1,793.3)	(\$1,534.0)	(\$1,250.2)	(\$940.7)	(\$652.2)	(\$338.1)	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
- Fire Services: Non Inflated	\$2,836.8	\$79.7	\$35.2	\$35.2	\$35.2	\$35.2	\$35.2	\$35.2	\$35.2	\$35.2	\$3,198.4
- Fire Services: Inflated	\$2,836.8	\$81.3	\$36.7	\$37.4	\$38.1	\$38.9	\$39.7	\$40.5	\$41.3	\$42.1	\$3,232.8
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	2,278	2,296	1,892	1,903	1,916	1,931	1,943	1,736	1,749	1,758	19,402
REVENUE											
- DC Receipts: Inflated	\$428.3	\$440.3	\$370.1	\$379.7	\$389.9	\$400.8	\$411.4	\$374.9	\$385.3	\$395.0	\$3,975.5
INTEREST											
- Interest on Opening Balance	\$0.0	(\$136.1)	(\$123.5)	(\$111.6)	(\$98.6)	(\$84.4)	(\$68.8)	(\$51.7)	(\$35.9)	(\$18.6)	(\$729.2)
- Interest on In-year Transactions	(\$66.2)	\$6.3	\$5.8	\$6.0	\$6.2	\$6.3	\$6.5	\$5.9	\$6.0	\$6.2	(\$11.1)
TOTAL REVENUE	\$362.0	\$310.4	\$252.4	\$274.0	\$297.4	\$322.8	\$349.1	\$329.0	\$355.4	\$382.6	\$3,235.2
CLOSING CASH BALANCE	(\$2,474.8)	(\$2,245.7)	(\$2,029.9)	(\$1,793.3)	(\$1,534.0)	(\$1,250.2)	(\$940.7)	(\$652.2)	(\$338.1)	\$2.4	

2020 Adjusted Charge Per Capita	\$188
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.2
TABLE 3

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

FIRE SERVICES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.00	(\$261.93)	(\$186.62)	(\$163.26)	(\$137.81)	(\$110.27)	(\$80.33)	(\$48.14)	(\$28.82)	(\$14.37)	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Fire Services: Non Inflated	\$350.6	\$9.9	\$4.4	\$4.4	\$4.4	\$4.4	\$4.4	\$4.4	\$4.4	\$4.4	\$395.3
- Fire Services: Inflated	\$350.6	\$10.1	\$4.5	\$4.6	\$4.7	\$4.8	\$4.9	\$5.0	\$5.1	\$5.2	\$399.6
NEW NON-RESIDENTIAL DEVELOPMENT											
- Growth in Square Metres of New Building Space	41,789	42,053	15,771	15,827	15,827	15,896	15,853	10,108	7,775	7,428	188,326
REVENUE											
- DC Receipts: Inflated	\$95.7	\$98.2	\$37.6	\$38.5	\$39.2	\$40.2	\$40.9	\$26.6	\$20.9	\$20.3	\$458.0
INTEREST											
- Interest on Opening Balance	\$0.0	(\$14.4)	(\$10.3)	(\$9.0)	(\$7.6)	(\$6.1)	(\$4.4)	(\$2.6)	(\$1.6)	(\$0.8)	(\$56.7)
- Interest on In-year Transactions	(\$7.0)	\$1.5	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.4	\$0.3	\$0.3	(\$1.5)
TOTAL REVENUE	\$88.7	\$85.4	\$27.9	\$30.1	\$32.3	\$34.7	\$37.1	\$24.3	\$19.6	\$19.8	\$399.8
CLOSING CASH BALANCE	(\$261.9)	(\$186.6)	(\$163.3)	(\$137.8)	(\$110.3)	(\$80.3)	(\$48.1)	(\$28.8)	(\$14.4)	\$0.2	

2020 Adjusted Charge Per Square Metre	\$2.29
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.3

POLICE SERVICES

POLICE

Windsor Police Services provide protection services to the City through an extensive inventory of facilities, equipment and 501 sworn officers.

TABLE 1 HISTORICAL SERVICE LEVELS

The Police Services inventory of capital assets includes six facilities including the headquarters, two patrol stations, two training and administrative facilities, as well as a boathouse. These facility total 214,370 square feet, valued at approximately \$61.64 million. The facilities occupy roughly 8.41 hectares of land, which is worth almost \$4.21 million. The furniture and equipment required to provide Police services in all locations, including communication equipment, specialty vehicles, boats, and personal police equipment totals \$15.81 million.

The current value of the total Police Services capital infrastructure, including buildings, land, furniture and equipment is valued at \$81.66 million, resulting in a ten-year historical average service level of \$248.28 per population and employment. The historical service level, multiplied by the ten-year net population and employment growth (13,146), results in a ten-year maximum allowable funding envelope of \$3.26 million.

TABLE 2 2020–2029 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The 2020 to 2029 development-related capital program for Police Services in the City of Windsor totals \$8.02 million and includes provisions for expansions to the Internet Crime Unit, Major Crimes, Equipment & Evidence Storage Handling Area as well as the Collision Reporting centre and various equipment acquisitions.

No grants, subsidies, or other recoveries are anticipated to fund any share of the above mentioned projects and as such, the net cost to the municipality remains at \$8.02 million. Replacement shares total \$6.09 million and account for 76 per cent of the net municipal cost. The total development-related costs do not exceed the maximum allowable funding envelope, so no post-period shares have been allocated. Lastly, \$57,022 of reserve funds have been applied and removed from the development charges calculation. The total DC recoverable cost for the 2020-2029 period is \$1.87 million.

The development-related net capital cost is allocated 89 per cent to residential development (\$1.66 million) and 11 per cent to non-residential development (\$205,702). The residential share of the net development-related capital cost is divided by the ten-year growth in population in new dwelling units to derive an unadjusted charge of \$85.78 per capita. The non-residential share of the net growth related capital cost is divided by the ten-year forecast growth in floor space, resulting in an unadjusted charge of \$1.09 per square metre.

TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, both the residential and non-residential development charges increase to \$98 per capita and \$1.19 per square metre, respectively.

The following table summarizes the calculation of the Police Services development charge:

POLICE SERVICES SUMMARY						
10-year Hist.	2020 - 2029		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per pop & emp	Total	Net DC Recoverable	\$/capita	\$/m ²	\$/capita	\$/m ²
\$248.28	\$8,020,388	\$1,870,017	\$85.78	\$1.09	\$98	\$1.19

APPENDIX B.3
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
POLICE SERVICES

BUILDINGS Facility Name	# of Square Feet										UNIT COST (\$/sq.ft.)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Windsor Police Headquarters	174,500	174,500	174,500	174,500	174,500	174,500	174,500	174,500	174,500	174,500	174,500	\$300
Jefferson Operational Support Services Facility	12,800	12,800	12,800	12,800	12,800	12,800	12,800	12,800	12,800	12,800	15,070	\$250
Sandwich Community Patrol Station	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	\$240
Tilston Armoury & Police Training Centre	20,950	20,950	20,950	20,950	20,950	20,950	20,950	20,950	20,950	20,950	20,950	\$220
Safety Village Police Office & Classroom	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	\$240
Marine Unit Boathouse & Storage	300	300	300	300	300	300	300	300	300	300	300	\$220
Total (#)	212,100	212,100	212,100	212,100	212,100	212,100	212,100	212,100	212,100	212,100	214,370	
Total (\$000)	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,644.5	

LAND Facility Name	# of Hectares										UNIT COST (\$/ha)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Windsor Police Headquarters	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	\$500,000
Jefferson Operational Support Services Facility	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	\$500,000
Sandwich Community Patrol Station	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	\$500,000
Tilston Armoury & Police Training Centre	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	\$500,000
Safety Village Police Office & Classroom	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	\$500,000
Total (ha)	8.41	8.41	8.41	8.41	8.41	8.41	8.41	8.41	8.41	8.41	8.41	
Total (\$000)	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	

FURNITURE & EQUIPMENT Description	Total Value of Furniture & Equipment (\$)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Police Headquarters Contents	\$3,600,000	\$3,600,000	\$3,600,000	\$3,600,000	\$3,600,000	\$4,900,000	\$4,900,000	\$4,900,000	\$4,900,000	\$4,900,000
Jefferson Operational Support Services Facility	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$60,000
Communication Equipment	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000	\$3,200,000
Emergency Vehicle Equipment	\$73,500	\$73,500	\$73,500	\$73,500	\$73,500	\$73,500	\$73,500	\$73,500	\$80,000	\$80,000
Garage Contents	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000	\$52,000
Police Patrol Boats	\$480,000	\$480,000	\$480,000	\$480,000	\$550,000	\$550,000	\$550,000	\$550,000	\$550,000	\$550,000
Police Specialty Vehicles (Tactical, Mobile Command, Bomb)	\$1,130,000	\$1,130,000	\$1,130,000	\$1,130,000	\$1,130,000	\$1,200,000	\$1,200,000	\$1,200,000	\$1,250,000	\$1,400,000
Training & Community Services Facility Contents	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$75,000	\$75,000	\$75,000
Number of Police Officers (# Sworn)	473	470	460	448	448	447	447	447	459	501
Personal Police Equipment (\$)	\$5,155,700	\$5,123,000	\$5,014,000	\$4,883,200	\$4,883,200	\$4,900,000	\$4,900,000	\$4,900,000	\$5,032,000	\$5,494,000
Total (\$000)	\$13,791.2	\$13,758.5	\$13,649.5	\$13,518.7	\$13,588.7	\$14,975.5	\$14,975.5	\$14,980.5	\$15,169.0	\$15,811.0



APPENDIX B.3

TABLE 1

CITY OF WINDSOR
CALCULATION OF SERVICE LEVELS
POLICE SERVICES

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Historical Population	211,214	210,891	211,524	213,216	214,282	215,139	217,170	218,119	219,072	220,029
Historical Employment	<u>103,108</u>	<u>103,262</u>	<u>104,605</u>	<u>105,128</u>	<u>105,286</u>	<u>106,234</u>	<u>107,765</u>	<u>108,357</u>	<u>108,953</u>	<u>109,552</u>
Total Population & Employment	314,322	314,153	316,129	318,344	319,568	321,373	324,935	326,476	328,025	329,581

INVENTORY SUMMARY (\$000)

Buildings	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,077.0	\$61,644.5
Land	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8	\$4,205.8
Furniture & Equipment	\$13,791.2	\$13,758.5	\$13,649.5	\$13,518.7	\$13,588.7	\$14,975.5	\$14,975.5	\$14,980.5	\$15,169.0	\$15,811.0
Total (\$000)	\$79,074.0	\$79,041.3	\$78,932.3	\$78,801.5	\$78,871.5	\$80,258.3	\$80,258.3	\$80,263.3	\$80,451.8	\$81,661.3

SERVICE LEVEL (\$/pop+emp)

											Average Service Level
Buildings	\$194.31	\$194.42	\$193.20	\$191.86	\$191.12	\$190.05	\$187.97	\$187.08	\$186.20	\$187.04	\$190.32
Land	\$13.38	\$13.39	\$13.30	\$13.21	\$13.16	\$13.09	\$12.94	\$12.88	\$12.82	\$12.76	\$13.09
Furniture & Equipment	\$43.88	\$43.80	\$43.18	\$42.47	\$42.52	\$46.60	\$46.09	\$45.89	\$46.24	\$47.97	\$44.86
Total (\$/pop+emp)	\$251.57	\$251.60	\$249.68	\$247.54	\$246.81	\$249.74	\$247.00	\$245.85	\$245.26	\$247.77	\$248.28

CITY OF WINDSOR
CALCULATION OF MAXIMUM ALLOWABLE
POLICE SERVICES

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2010 - 2019	\$248.28
Net Population & Employment Growth 2020 - 2029	13,146
Maximum Allowable Funding Envelope	\$3,263,889



APPENDIX B.3
TABLE 2
CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
POLICE SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE Shares	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2020-2029	Post 2029
3.0 POLICE SERVICES									
3.1 Buildings, Land & Furnishings									
3.1.1 Internet Crime Unit Expansion	2020	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ 50,000	\$ -	\$ -
3.1.2 Expansion of Patrol Space	2020	\$ 700,000	\$ -	\$ 700,000	\$ -	\$ 700,000	\$ 7,022	\$ 692,978	\$ -
3.1.3 Major Crimes Expansion	2020	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -
3.1.4 Equipment & Evidence Storage Handling Area Expansion	2021	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -
3.1.5 Collision Reporting Centre Expansion (5,400 sq.ft)	2020	\$ 4,701,249	\$ -	\$ 4,701,249	\$ 4,231,124	\$ 470,125	\$ -	\$ 470,125	\$ -
Subtotal Buildings, Land & Furnishings		\$ 5,951,249	\$ -	\$ 5,951,249	\$ 4,231,124	\$ 1,720,125	\$ 57,022	\$ 1,663,103	\$ -
3.2 Equipment									
3.2.1 Provision for Equipment for Additional Officers	Various	\$ 219,139	\$ -	\$ 219,139	\$ 197,225	\$ 21,914	\$ -	\$ 21,914	\$ -
3.2.2 Tasers	2022	\$ 525,000	\$ -	\$ 525,000	\$ 472,500	\$ 52,500	\$ -	\$ 52,500	\$ -
3.2.3 Training Equipment: Use of Force Simulator	2022	\$ 125,000	\$ -	\$ 125,000	\$ 112,500	\$ 12,500	\$ -	\$ 12,500	\$ -
3.2.4 Body/In-Car Cameras for Uniformed Officers	2026	\$ 1,000,000	\$ -	\$ 1,000,000	\$ 900,000	\$ 100,000	\$ -	\$ 100,000	\$ -
3.2.5 Carbines for all Patrol Cruisers (Remaining Costs)	2020	\$ 200,000	\$ -	\$ 200,000	\$ 180,000	\$ 20,000	\$ -	\$ 20,000	\$ -
Subtotal Equipment		\$ 2,069,139	\$ -	\$ 2,069,139	\$ 1,862,225	\$ 206,914	\$ -	\$ 206,914	\$ -
TOTAL POLICE SERVICES		\$ 8,020,388	\$ -	\$ 8,020,388	\$ 6,093,349	\$ 1,927,039	\$ 57,022	\$ 1,870,017	\$ -

Residential Development Charge Calculation		
Residential Share of 2020 - 2029 DC Eligible Costs	89%	\$1,664,315
10-Year Growth in Population in New Units		19,402
Unadjusted Development Charge Per Capita		\$85.78
Non-Residential Development Charge Calculation		
Non-Residential Share of 2020 - 2029 DC Eligible Costs	11%	\$205,702
10-Year Non-Residential Growth in New Space (Square Metres)		188,326
Unadjusted Development Charge Per Square Metre		\$1.09

2020 - 2029 Net Funding Envelope	\$3,263,889
Reserve Fund Balance Balance as at December 31, 2019	\$57,022



**APPENDIX B.3
TABLE 3**

**CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
POLICE SERVICES
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

POLICE SERVICES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.0	(\$1,084.3)	(\$1,144.6)	(\$1,075.6)	(\$936.5)	(\$784.4)	(\$618.2)	(\$539.4)	(\$373.5)	(\$193.0)	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
- Police Services: Non Inflated	\$1,277.4	\$224.5	\$59.8	\$2.0	\$2.0	\$2.0	\$91.0	\$2.0	\$2.0	\$2.0	\$1,664.3
- Police Services: Inflated	\$1,277.4	\$228.9	\$62.2	\$2.1	\$2.1	\$2.2	\$102.4	\$2.2	\$2.3	\$2.3	\$1,684.2
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	2,278	2,296	1,892	1,903	1,916	1,931	1,943	1,736	1,749	1,758	19,402
REVENUE											
- DC Receipts: Inflated	\$222.1	\$228.3	\$191.9	\$196.9	\$202.2	\$207.9	\$213.3	\$194.4	\$199.8	\$204.8	\$2,061.8
INTEREST											
- Interest on Opening Balance	\$0.0	(\$59.6)	(\$63.0)	(\$59.2)	(\$51.5)	(\$43.1)	(\$34.0)	(\$29.7)	(\$20.5)	(\$10.6)	(\$371.2)
- Interest on In-year Transactions	(\$29.0)	(\$0.0)	\$2.3	\$3.4	\$3.5	\$3.6	\$1.9	\$3.4	\$3.5	\$3.5	(\$4.0)
TOTAL REVENUE	\$193.1	\$168.7	\$131.2	\$141.2	\$154.2	\$168.3	\$181.3	\$168.1	\$182.7	\$197.8	\$1,686.6
CLOSING CASH BALANCE	(\$1,084.3)	(\$1,144.6)	(\$1,075.6)	(\$936.5)	(\$784.4)	(\$618.2)	(\$539.4)	(\$373.5)	(\$193.0)	\$2.4	

2020 Adjusted Charge Per Capita	\$98
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.3
TABLE 3

CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
POLICE SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

POLICE SERVICES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.00	(\$111.13)	(\$94.09)	(\$87.23)	(\$71.95)	(\$55.43)	(\$37.50)	(\$30.82)	(\$18.74)	(\$9.03)	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Police Services: Non Inflated	\$157.9	\$27.7	\$7.4	\$0.2	\$0.2	\$0.2	\$11.2	\$0.2	\$0.2	\$0.2	\$205.7
- Police Services: Inflated	\$157.9	\$28.3	\$7.7	\$0.3	\$0.3	\$0.3	\$12.7	\$0.3	\$0.3	\$0.3	\$208.2
NON-RESIDENTIAL SPACE GROWTH											
- Growth in Square Metres of New Building Space	41,789	42,053	15,771	15,827	15,827	15,896	15,853	10,108	7,775	7,428	188,326
REVENUE											
- DC Receipts: Inflated	\$49.7	\$51.0	\$19.5	\$20.0	\$20.4	\$20.9	\$21.2	\$13.8	\$10.8	\$10.6	\$238.0
INTEREST											
- Interest on Opening Balance	\$0.0	(\$6.1)	(\$5.2)	(\$4.8)	(\$4.0)	(\$3.0)	(\$2.1)	(\$1.7)	(\$1.0)	(\$0.5)	(\$28.4)
- Interest on In-year Transactions	(\$3.0)	\$0.4	\$0.2	\$0.3	\$0.4	\$0.4	\$0.2	\$0.2	\$0.2	\$0.2	(\$0.6)
TOTAL REVENUE	\$46.8	\$45.3	\$14.6	\$15.5	\$16.8	\$18.2	\$19.3	\$12.4	\$10.0	\$10.2	\$209.1
CLOSING CASH BALANCE	(\$111.1)	(\$94.1)	(\$87.2)	(\$71.9)	(\$55.4)	(\$37.5)	(\$30.8)	(\$18.7)	(\$9.0)	\$0.9	

2020 Adjusted Charge Per Square Metre	\$1.19
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.4

INDOOR RECREATION

INDOOR RECREATION

The City of Windsor Recreation and Culture Department is responsible for the indoor recreation, leisure, and healthy living needs of the community. The department provides more than 8,000 recreation programs in the City’s arenas, community centres, and pools to the residents of Windsor and surrounding area.

TABLE 1 HISTORICAL SERVICE LEVELS

The ten-year historic inventory of capital assets for Indoor Recreation includes 785,129 square feet of building space in 13 facilities. These facilities include arenas, community centres, indoor pools and major recreation complexes. The total value of the indoor recreation buildings in 2019 was \$298.35 million. This amount excludes shares of the Windsor International Aquatic and Training Centre (WIATC), which was completed in 2013, as well as the Warm-Up Pool at the WFCU centre, which are still being recovered in the 2020-2029 capital program. The land associated with the various indoor recreation centres totals 31.12 hectares valued at \$15.56 million.

The City owns and maintains a substantial amount of equipment used to provide indoor recreation services at all facilities. The total replacement value of all indoor recreation equipment is \$4.26 million.

The total value of capital assets for Indoor Recreation in the City of Windsor amounts to \$318.17 million. The ten-year historical average service level is \$1,398.72 per capita, and this, multiplied by the ten-year net population growth (10,433), results in a ten-year maximum allowable funding envelope of \$14.59 million.

TABLE 2 2020–2029 DEVELOPMENT-RELATED PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The 2020-2029 development-related capital program for Indoor Recreation totals \$55.45 million. The first project included is dedicated to the remaining debt recovery of the Windsor International Aquatic Centre, which was built and opened in January 2014 for \$49.30 million. The second project is the remaining costs of the warm-up pool at the WFCU Centre for \$6.15 million. The new warm-up pool was built to accommodate the FINA (Fédération Internationale de Natation) games in 2016, however, due to increasing demand on indoor

aquatic centres in the City of Windsor, it has been kept on as a municipal facility available to the public.

In total, \$14.24 million was provided by the provincial government to fund a portion of the Windsor International Aquatic Centre. Significant replacement shares have also been calculated, recognizing the benefits of both facilities to the current population in the City of Windsor. 90 per cent of the net municipal costs have been netted of the eligible share, totalling \$37.09 million. Available reserve funds in the amount of \$2.78 million have been deducted from the eligible share.

The remaining 2020-2029 Indoor Recreation DC costs eligible for recovery amount to \$1.34 million, which is allocated entirely against future residential development in the City. This results in an unadjusted development charge of \$69.22 per capita.

A. TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, the residential calculated charge increases to \$72 per capita. The following table summarizes the calculation of the Indoor Recreation development charge:

INDOOR RECREATION SUMMARY						
10-year Hist.	2020 - 2029		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per capita	Total	Net DC Recoverable	\$/capita	\$/m ²	\$/capita	\$/m ²
\$3,630.41	\$55,448,653	\$1,343,020	\$69.22	\$0.00	\$72	\$0.00

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
INDOOR RECREATION

MAJOR FACILITIES Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Adie Knox Herman Recreation Complex	58,686	58,686	58,686	58,686	58,686	58,686	58,686	58,686	58,686	58,686	58,686	\$380
College Avenue Community Centre	13,515	13,515	-	-	-	-	-	-	-	-	-	\$380
Forest Glade Arena	57,246	57,246	57,246	57,246	57,246	57,246	57,246	57,246	57,246	57,246	57,246	\$380
Forest Glade Community Centre	11,538	11,538	11,538	11,538	11,538	11,538	11,538	11,538	11,538	11,538	11,538	\$380
Glengary Community Centre	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	\$380
Gino A. Marcus Community Centre	22,100	22,100	22,100	22,100	22,100	22,100	22,100	22,100	22,100	22,100	22,100	\$380
John Atkinson Community Centre	20,458	20,458	20,458	20,458	20,458	20,458	20,458	20,458	20,458	20,458	20,458	\$380
Malden Park Community Building	3,890	3,890	3,890	3,890	3,890	3,890	3,890	3,890	3,890	3,890	3,890	\$380
Oakwood Community Centre	11,420	11,420	11,420	11,420	11,420	11,420	11,420	-	-	-	-	\$380
Ojibway Nature Centre	7,870	7,870	7,870	7,870	7,870	7,870	7,870	7,870	7,870	7,870	7,870	\$380
Optimist Community Centre	10,146	10,146	10,146	10,146	10,146	10,146	10,146	10,146	10,146	10,146	10,146	\$380
Remington Booster Community Centre	3,010	3,010	3,010	3,010	3,010	3,010	3,010	3,010	3,010	3,010	3,010	\$380
South Windsor Recreation Complex	83,119	83,119	83,119	83,119	83,119	83,119	83,119	96,119	96,119	96,119	96,119	\$380
Windsor Arena	38,700	38,700	38,700	38,700	-	-	-	-	-	-	-	\$380
WFCU Centre	327,100	327,100	327,100	327,100	327,100	327,100	352,100	352,100	352,100	352,100	352,100	\$380
<i>Excess Capacity</i>							(1,617)	(1,617)	(1,617)	(1,617)	(1,617)	\$380
Windsor International Aquatic Training Centre/Adventure Bay	-	-	-	-	123,500	123,500	123,500	123,500	123,500	123,500	123,500	\$380
<i>Excess Capacity</i>					(1,917)	(1,917)	(1,917)	(1,917)	(1,917)	(1,917)	(1,917)	\$380
Total (sq.ft.)	690,798	690,798	677,283	677,283	760,166	760,166	783,549	785,129	785,129	785,129	785,129	
Total (\$000)	\$262,503.2	\$262,503.2	\$257,367.5	\$257,367.5	\$288,863.1	\$288,863.1	\$297,748.5	\$298,348.9	\$298,348.9	\$298,348.9	\$298,348.9	

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
INDOOR RECREATION

LAND Facility Name	# of Hectares										UNIT COST (\$/ha)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Adie Knox Herman Recreation Complex	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	\$500,000
College Avenue Community Centre	0.94	0.94	-	-	-	-	-	-	-	-	-	\$500,000
Forest Glade Arena	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	\$500,000
Forest Glade Community Centre	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	\$500,000
Glengary Community Centre	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	\$500,000
Gino A. Marcus Community Centre	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	\$500,000
John Atkinson Community Centre	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	\$500,000
Malden Park Community Building	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	\$500,000
Oakwood Community Centre	1.73	1.73	1.73	1.73	1.73	1.73	1.73	-	-	-	-	\$500,000
Ojibway Nature Centre	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	\$500,000
Optimist Community Centre	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	\$500,000
Remington Booster Community Centre	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	\$500,000
South Windsor Recreation Complex	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	\$500,000
Windsor Arena	0.95	0.95	0.95	0.95	-	-	-	-	-	-	-	\$500,000
WFCU Centre	16.59	16.59	16.59	16.59	16.59	16.59	16.59	16.59	16.59	16.59	16.59	\$500,000
Windsor International Aquatic Training Centre/Adventure Bay	-	-	-	-	0.99	0.99	0.99	0.99	0.99	0.99	0.99	\$500,000
Total (ha)	33.75	33.75	32.81	32.81	32.85	32.85	32.85	31.12	31.12	31.12		
Total (\$000)	\$16,875.0	\$16,875.0	\$16,405.0	\$16,405.0	\$16,423.5	\$16,423.5	\$16,423.5	\$15,558.5	\$15,558.5	\$15,558.5		

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
INDOOR RECREATION

FURNITURE & EQUIPMENT Facility Name	Total Value of Furniture & Equipment (\$)										UNIT COST (\$/sq.ft)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Adie Knox Herman Recreation Complex	\$286,700	\$286,700	\$286,700	\$286,700	\$286,700	\$286,700	\$286,700	\$286,700	\$286,700	\$286,700	\$286,700	
Adstoll Arena	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Begley Neighborhood Centre	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
College Avenue Community Centre	\$66,000	\$66,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Edward Street Neighborhood & Seniors Centre	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Forest Glade Arena	\$279,600	\$279,600	\$279,600	\$279,600	\$279,600	\$279,600	\$279,600	\$279,600	\$279,600	\$279,600	\$279,600	
Forest Glade Community Centre	\$56,400	\$56,400	\$56,400	\$56,400	\$56,400	\$56,400	\$56,400	\$56,400	\$56,400	\$56,400	\$56,400	
Glengary Community Centre	\$107,500	\$107,500	\$107,500	\$107,500	\$107,500	\$107,500	\$107,500	\$107,500	\$107,500	\$107,500	\$107,500	
Gino A. Marcus Community Centre	\$108,000	\$108,000	\$108,000	\$108,000	\$108,000	\$108,000	\$108,000	\$108,000	\$108,000	\$108,000	\$108,000	
John Atkinson Community Centre	\$99,900	\$99,900	\$99,900	\$99,900	\$99,900	\$99,900	\$99,900	\$99,900	\$99,900	\$99,900	\$99,900	
Malden Park Community Building	\$19,000	\$19,000	\$19,000	\$19,000	\$19,000	\$19,000	\$19,000	\$19,000	\$19,000	\$19,000	\$19,000	
Marlborough Community Centre	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Oakwood Community Centre	\$55,800	\$55,800	\$55,800	\$55,800	\$55,800	\$55,800	\$55,800	\$0	\$0	\$0	\$0	
Ojibway Nature Centre	\$38,400	\$38,400	\$38,400	\$38,400	\$38,400	\$38,400	\$38,400	\$38,400	\$38,400	\$38,400	\$38,400	
Optimist Community Centre	\$49,600	\$49,600	\$49,600	\$49,600	\$49,600	\$49,600	\$49,600	\$49,600	\$49,600	\$49,600	\$49,600	
Remington Booster Community Centre	\$14,700	\$14,700	\$14,700	\$14,700	\$14,700	\$14,700	\$14,700	\$14,700	\$14,700	\$14,700	\$14,700	
Riverside Arena	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
South Windsor Recreation Complex	\$406,000	\$406,000	\$406,000	\$406,000	\$406,000	\$406,000	\$406,000	\$553,935	\$553,935	\$553,935	\$553,935	
Windsor Arena	\$189,100	\$189,100	\$189,100	\$189,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
WFCU Centre	\$1,597,900	\$1,597,900	\$1,597,900	\$1,597,900	\$1,597,900	\$1,597,900	\$1,710,161	\$1,822,422	\$1,934,683	\$2,046,944	\$2,046,944	
Windsor International Aquatic Training Centre/Adventure Bay	\$0	\$0	\$0	\$0	\$603,300	\$603,300	\$603,300	\$603,300	\$603,300	\$603,300	\$603,300	
Total (\$000)	\$3,374.6	\$3,374.6	\$3,308.6	\$3,308.6	\$3,722.8	\$3,722.8	\$3,835.1	\$4,039.5	\$4,151.7	\$4,264.0		

**APPENDIX B.5
TABLE 1**

**CITY OF WINDSOR
CALCULATION OF SERVICE LEVELS
INDOOR RECREATION**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Historical Population	211,214	210,891	211,524	213,216	214,282	215,139	217,170	218,119	219,072	220,029

INVENTORY SUMMARY (\$000)

Major Facilities	\$262,503.2	\$262,503.2	\$257,367.5	\$257,367.5	\$288,863.1	\$288,863.1	\$297,748.5	\$298,348.9	\$298,348.9	\$298,348.9
Land	\$16,875.0	\$16,875.0	\$16,405.0	\$16,405.0	\$16,423.5	\$16,423.5	\$16,423.5	\$15,558.5	\$15,558.5	\$15,558.5
Furniture & Equipment	\$3,374.6	\$3,374.6	\$3,308.6	\$3,308.6	\$3,722.8	\$3,722.8	\$3,835.1	\$4,039.5	\$4,151.7	\$4,264.0
Total (\$000)	\$282,752.8	\$282,752.8	\$277,081.1	\$277,081.1	\$309,009.4	\$309,009.4	\$318,007.1	\$317,946.9	\$318,059.1	\$318,171.4

SERVICE LEVEL (\$/capita)											Average Service Level
Major Facilities	\$1,242.8	\$1,244.73	\$1,216.73	\$1,207.07	\$1,348.05	\$1,342.68	\$1,371.04	\$1,367.83	\$1,361.88	\$1,355.95	\$1,305.88
Land	\$79.9	\$80.02	\$77.56	\$76.94	\$76.64	\$76.34	\$75.62	\$71.33	\$71.02	\$70.71	\$75.61
Furniture & Equipment	\$16.0	\$16.00	\$15.64	\$15.52	\$17.37	\$17.30	\$17.66	\$18.52	\$18.95	\$19.38	\$17.23
Total (\$/capita)	\$1,338.70	\$1,340.75	\$1,309.93	\$1,299.53	\$1,442.07	\$1,436.32	\$1,464.32	\$1,457.68	\$1,451.85	\$1,446.04	\$1,398.72

**CITY OF WINDSOR
CALCULATION OF MAXIMUM ALLOWABLE
INDOOR RECREATION**

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2010 - 2019	\$1,398.72
Net Population Growth 2020 - 2029	10,433
Discounted Maximum Allowable Funding Envelope	\$14,592,846



APPENDIX B.4
TABLE 2

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
INDOOR RECREATION

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE Shares	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2020-2029	Post 2029
4.0 INDOOR RECREATION									
4.1 Indoor Recreation Facilities									
4.1.1 Windsor International Aquatic Centre (Remaining Costs)	2020	\$ 49,302,474	\$ 14,240,273	\$ 35,062,201	\$ 31,555,981	\$ 3,506,220	\$ 2,777,818	\$ 728,402	\$ -
4.1.2 New Warm-up Pool at WFCU (FINA 2016) (Remaining Costs)	2020	\$ 6,146,179	\$ -	\$ 6,146,179	\$ 5,531,561	\$ 614,618	\$ -	\$ 614,618	\$ -
Subtotal Indoor Recreation Facilities		\$ 55,448,653	\$ 14,240,273	\$ 41,208,380	\$ 37,087,542	\$ 4,120,838	\$ 2,777,818	\$ 1,343,020	\$ -
TOTAL INDOOR RECREATION		\$ 55,448,653	\$ 14,240,273	\$ 41,208,380	\$ 37,087,542	\$ 4,120,838	\$ 2,777,818	\$ 1,343,020	\$ -

Residential Development Charge Calculation		
Residential Share of 2020 - 2029 DC Eligible Costs	100%	\$1,343,020
10-Year Growth in Population in New Units		19,402
Unadjusted Development Charge Per Capita		\$69.22
Non-Residential Development Charge Calculation		
Non-Residential Share of 2020 - 2029 DC Eligible Costs	0%	\$0
10-Year Non-Residential Growth in New Space (Square Metres)		188,326
Unadjusted Development Charge Per Square Metre		\$0.00

2020 - 2029 Net Funding Envelope	\$14,592,846
Reserve Fund Balance	
Balance as at December 31, 2019	\$2,777,818

APPENDIX B.4
TABLE 3

CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
INDOOR RECREATION
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

INDOOR RECREATION	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.00	(\$1,059.63)	(\$946.34)	(\$854.18)	(\$753.22)	(\$642.71)	(\$521.87)	(\$390.27)	(\$265.64)	(\$130.13)	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
- Indoor Recreation: Non Inflated	\$1,195.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,195.3
- Indoor Recreation: Inflated	\$1,195.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,195.3
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	2,278	2,296	1,892	1,903	1,916	1,931	1,943	1,736	1,749	1,758	19,402
REVENUE											
- DC Receipts: Inflated	\$164.0	\$168.6	\$141.7	\$145.4	\$149.3	\$153.5	\$157.5	\$143.6	\$147.5	\$151.3	\$1,522.5
INTEREST											
- Interest on Opening Balance	\$0.0	(\$58.3)	(\$52.0)	(\$47.0)	(\$41.4)	(\$35.3)	(\$28.7)	(\$21.5)	(\$14.6)	(\$7.2)	(\$306.0)
- Interest on In-year Transactions	(\$28.4)	\$3.0	\$2.5	\$2.5	\$2.6	\$2.7	\$2.8	\$2.5	\$2.6	\$2.6	(\$4.6)
TOTAL REVENUE	\$135.7	\$113.3	\$92.2	\$101.0	\$110.5	\$120.8	\$131.6	\$124.6	\$135.5	\$146.8	\$1,211.9
CLOSING CASH BALANCE	(\$1,059.6)	(\$946.3)	(\$854.2)	(\$753.2)	(\$642.7)	(\$521.9)	(\$390.3)	(\$265.6)	(\$130.1)	\$16.6	

2020 Adjusted Charge Per Capita	\$72
--	-------------

Allocation of Capital Program	
Residential Sector	89.0%
Non-Residential Sector	11.0%
Rates for 2020	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.5

PARK DEVELOPMENT

PARK DEVELOPMENT

The City of Windsor Parks Department is responsible for the outdoor recreation and leisure needs of the community, including the provision and maintenance of over 200 parks featuring gardens, monuments, sports fields, play units, and other outdoor amenities.

TABLE 1 HISTORICAL SERVICE LEVELS

The ten-year historic inventory of capital assets for Windsor’s City Parks includes 1,025 hectares of developed parkland. The combined value of neighbourhood, community and regional parks as well as natural heritage areas and linear trails amounts to \$409.81 million. The City also owns and maintains many park facilities, including 62 baseball diamonds, 57 soccer fields, 38 tennis courts, 6 football fields, and 135 playgrounds. Other park facilities include outdoor rinks, pools, and skate parks. The combined value of all park facilities in 2019 was \$128.28 million. Parks development is also responsible for outdoor buildings, equipment and parks fleet, which has a total value of \$399.44 million.

The combined value of capital assets for Parks Development totals \$937.53 million. The ten-year historical average service level is \$3,630.41 per capita, and this, multiplied by the ten-year net population growth (10,433), results in a ten-year maximum allowable funding envelope of \$37.88 million.

TABLE 2 2020-2029 DEVELOPMENT-RELATED PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The capital program includes recovering the remaining costs of park development throughout the ten-year planning period for neighborhood parks (\$863,612), regional parks 434,010) and community parks (\$216,460), as well as several specific park development projects for \$1.96 million and the Parks Master Plan for \$266,264.

In total, the Park Development capital program totals \$3.74 million. Grants and subsidies of \$408,998 have been identified and, as such, the remaining net municipal costs is \$3.33 million. Replacement shares total \$2.12 million and account for 90 per cent the majority of project costs, with the exception of neighborhood park development and the Parks Master Plan, recognizing that these facilities are providing benefit to the existing population in

Windsor. Available reserve funds of \$676,337 are used to fund a portion of the development-related costs.

The remaining DC costs eligible for recovery amount to \$530,131, which is allocated entirely against future residential development in the City. This results in an unadjusted development charge of \$27.32 per capita.

TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, the residential calculated charge increases to \$31 per capita.

The following table summarizes the calculation of the Parks and Recreation development charge:

PARK DEVELOPMENT SUMMARY						
10-year Hist.	2020 - 2029		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per pop & emp	Total	Net DC Recoverable	\$/capita	\$/m ²	\$/capita	\$/m ²
\$186.77	\$3,735,770	\$530,131	\$27.32	\$0.00	\$31	\$0.00

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARKLAND DEVELOPMENT

PARK DEVELOPMENT Park Type	# of Hectares of Developed Parkland										UNIT COST
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	(\$/ha)
Neighborhood Parks	126.9	126.9	126.9	126.9	126.9	124.3	124.3	124.3	124.3	124.3	\$400,000
Community Parks	185.9	185.9	185.9	185.9	185.9	151.1	151.1	151.1	151.1	151.1	\$400,000
Regional Parks	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	\$400,000
Natural Heritage or Naturalized Area	311.3	311.3	311.3	311.3	311.3	311.3	311.3	311.3	311.3	311.3	\$400,000
Linear Greenway/Trail	64.0	64.0	64.0	64.0	64.0	168.9	168.9	168.9	168.9	168.9	\$400,000
<i>Excess Capacity</i>	-	-	-	-	-	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	\$400,000
Total (#)	958.0	958.0	958.0	958.0	958.0	1,024.6	1,024.6	1,024.6	1,024.6	1,024.5	
Total (\$000)	\$383,203.0	\$383,203.0	\$383,203.0	\$383,206.2	\$383,206.2	\$409,824.4	\$409,824.4	\$409,824.4	\$409,824.4	\$409,813.3	

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK FACILITIES

BASEBALL DIAMONDS Park Name	# of Diamonds										UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Major - Lit											
Forest Glade Optimist	2	2	2	2	2	2	2	2	2	2	\$1,589,981
Jackson	1	1	1	1	1	3	3	3	3	3	\$1,589,981
Mic Mac	4	4	4	4	4	5	5	5	5	5	\$1,589,981
Riverside Baseball	1	1	1	1	1	1	1	1	1	1	\$1,589,981
Wigle	1	1	1	1	-	-	-	-	-	-	\$1,589,981
Major - Unlit											
AKO	1	1	1	1	-	-	-	-	-	-	\$624,349
Bellewood	1	1	1	1	1	1	1	1	1	1	\$624,349
Bridgeview	1	1	1	1	-	-	-	-	-	-	\$624,349
Central	3	3	3	3	3	3	3	3	3	3	\$624,349
Chopin	1	1	1	1	1	1	1	1	1	1	\$624,349
Curry	2	2	2	2	2	2	2	2	2	2	\$624,349
Devonshire	1	1	1	1	1	1	1	1	1	1	\$624,349
Ford Test Track	2	2	2	2	-	-	-	-	-	-	\$624,349
Forest Glade Optimist	3	3	3	3	3	3	3	3	3	3	\$624,349
George Avenue	1	1	1	-	-	-	-	-	-	-	\$624,349
Gignac	3	3	-	-	-	-	-	-	-	-	\$624,349
Holburn	1	1	1	1	1	1	1	1	1	1	\$624,349
Jackson	2	2	2	2	2	1	1	1	1	1	\$624,349
Jackson	1	1	1	1	1						\$624,349
Lanspeary	1	1	1	-	-	-	-	-	-	-	\$624,349
Leaffield	1	1	1	1	1	1	1	1	1	1	\$624,349
Matthew Rodzik	1	1	1	1	1	1	1	1	1	1	\$624,349
Maurice Belanger	1	1	1	1	1	1	1	1	1	1	\$624,349
Mic Mac	1	1	1	1	1	6	6	6	6	6	\$624,349
Mic Mac	4	4	4	4	4	-	-	-	-	-	\$624,349
Mitchell	1	1	-	-	-	-	-	-	-	-	\$624,349

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK FACILITIES

BASEBALL DIAMONDS (Cont'd) Park Name	# of Diamonds										UNIT COST (\$/unit)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
North Talbot	1	1	1	1	1	1	1	1	1	1	1	624,349
Partington	1	1	1	1	1	1	-	-	-	-	-	624,349
Pykes	1	1	1	1	1	1	1	1	1	1	1	624,349
Realtor	1	1	1	1	1	1	3	3	3	3	3	624,349
Realtor	2	2	2	2	2	2	-	-	-	-	-	624,349
Remington Booster	1	1	1	1	1	1	1	1	1	1	1	624,349
Robert McDonald	2	2	2	2	2	2	2	2	2	2	2	624,349
Roseland	1	1	1	1	1	1	1	1	1	1	1	624,349
Roseville Gardens	1	1	1	1	1	1	1	1	1	1	1	624,349
Stillmeadow	1	1	1	1	1	1	1	1	1	1	1	624,349
Stodgell	1	1	1	1	1	1	1	1	-	-	-	624,349
Thompson	1	1	1	1	1	1	1	1	1	1	1	624,349
Walker Homesite	1	1	1	1	-	-	-	-	-	-	-	624,349
Wilson	2	2	2	2	2	2	2	2	2	2	2	624,349
Minor - Unlit												
Goldenwood	1	1	1	1	1	1	1	1	1	1	-	298,264
Kiwanis	1	1	1	1	1	1	1	1	1	1	1	298,264
Maple Leaf	1	1	1	1	1	1	1	1	1	1	1	298,264
Mic Mac	1	1	1	1	1	1	-	-	-	-	-	298,264
Mic Mac	2	2	2	2	2	2	-	-	-	-	-	298,264
Optimist Memorial	3	3	3	3	3	3	3	3	3	3	3	298,264
Patrick Maguire	1	1	1	1	1	1	1	1	1	1	1	298,264
Polonia	1	1	1	1	1	1	1	1	1	1	1	298,264
Riverside Baseball	1	1	1	1	1	1	1	1	1	1	1	298,264
Tranby Park	4	4	4	4	4	4	4	4	4	4	4	298,264
Veterans Memorial	3	3	3	3	3	3	3	3	3	3	3	298,264
Total (#)	78	78	74	72	66	64	64	63	63	62		
Total (\$000)	\$51,194.3	\$51,194.3	\$48,696.9	\$47,448.2	\$42,736.5	\$45,362.9	\$45,362.9	\$44,738.6	\$44,738.6	\$44,440.3		

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK FACILITIES

SOCCER FIELDS Park Name	# of Fields										UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Major - Lit											
Ford Test Track	2	2	2	2	2	2	2	2	2	2	\$869,900
McHugh	2	2	2	2	2	2	2	2	2	2	\$869,900
Mic Mac	2	2	2	2	2	3	3	3	3	3	\$869,900
Wigle	1	1	1	1	-	-	-	-	-	-	\$869,900
Major - Unlit											
Elizabeth Kishkon	2	2	2	2	2	4	4	4	4	4	\$228,812
Ernest Atkinson	1	1	1	1	1	1	1	1	1	1	\$228,812
Fontainebleau	1	1	-	-	-	-	-	-	-	-	\$228,812
Gignac	1	1	1	1	1	1	1	1	1	1	\$228,812
Little River Acres	1	1	1	1	1	1	1	1	1	1	\$228,812
McHugh	2	2	2	2	2	2	2	2	2	2	\$228,812
Meadowbrook	1	1	-	-	-	-	-	-	-	-	\$228,812
Mic Mac	2	2	2	2	2	-	-	-	-	-	\$228,812
Polonia	1	1	1	1	1	1	1	1	1	1	\$228,812
Realtor	2	2	2	2	2	-	-	-	-	-	\$228,812
Remington Booster	1	1	1	1	1	1	1	1	1	1	\$228,812
Robert McDonald	2	2	2	2	2	2	2	5	5	5	\$228,812
Stillmeadow	1	1	1	1	1	1	1	1	1	1	\$228,812
Superior	1	1	1	1	1	1	1	1	1	1	\$228,812
Udine	1	1	-	-	-	-	-	-	-	-	\$228,812
Long Park	1	1	1	1	-	-	-	-	-	-	\$228,812
Minor - Unlit											
Bridgeview	1	1	1	1	1	1	1	1	1	1	\$131,581
Captain John Wilson			4	4	4	4	4	4	4	4	\$131,581
Cora Greenwood	1	1	1	1	1	1	1	1	1	1	\$131,581
Derwent	1	1	1	1	1	1	1	1	1	1	\$131,581
East End Park	1	1	1	1	1	1	1	1	1	1	\$131,581
Ford Test Track	15	15	15	15	15	15	15	15	15	15	\$131,581
Garry Dugal	1	1	1	1	1	1	1	1	1	1	\$131,581
Garwood	1	1	1	1	1	1	1	1	1	1	\$131,581
Kinsmen	1	1	1	1	1	1	1	1	1	1	\$131,581
Labadie	1	1	1	1	1	1	1	1	1	1	\$131,581
Lanspeary	1	1	1	1	1	1	1	1	1	1	\$131,581
Mitchell	1	1	1	1	1	1	1	1	1	1	\$131,581
Rivard	1	1	1	1	1	1	1	1	1	1	\$131,581
Roseville Gardens	1	1	1	1	1	1	1	1	1	1	\$131,581
Wildwood	1	1	1	1	1	1	1	1	1	1	\$131,581
Total (#)	56	56	57	57	55	54	54	57	57	57	
Total (\$000)	\$14,578.6	\$14,578.6	\$14,418.5	\$14,418.5	\$13,319.8	\$13,732.1	\$13,732.1	\$14,418.5	\$14,418.5	\$14,418.5	



APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK FACILITIES

TENNIS COURTS Park Name	# of Courts										UNIT COST (\$/unit)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Lit												
Central	4	4	4	4	4	4	4	4	4	4	4	\$267,199
Forest Glade Optimist	9	9	9	9	9	9	9	9	9	9	9	\$267,199
Remington Booster	4	4	4	4	4	4	4	4	4	4	4	\$267,199
Unlit												
Adstoll	3	3	3	3	-	-	-	-	-	-	-	\$187,063
Bellewood	2	2	2	2	2	2	2	2	2	2	2	\$187,063
Garry Dugal	2	2	2	2	-	1	1	1	1	1	1	\$187,063
East End	2	2	2	2	2	2	2	2	2	2	2	\$187,063
Meadowbrook	2	2	2	2	-	-	-	-	-	-	-	\$187,063
Realtor	2	2	2	2	2	2	2	2	2	2	2	\$187,063
Riverside Baseball	1	1	1	-	-	-	-	-	-	-	-	\$187,063
Veterans Memorial	2	2	2	2	2	2	2	2	2	2	2	\$187,063
Mic Mac	1	1	1	1	-	-	-	-	-	-	-	\$187,063
Mitchell	2	2	2	2	2	2	2	2	2	2	2	\$187,063
Somme	1	1	1	1	1	1	1	1	1	1	1	\$187,063
Jackson	9	9	9	9	9	9	9	9	9	9	9	\$187,063
Total (#)	46	46	46	45	37	38	38	38	38	38	38	
Total (\$000)	\$9,967.2	\$9,967.2	\$9,967.2	\$9,780.2	\$8,283.7	\$8,470.7	\$8,470.7	\$8,470.7	\$8,470.7	\$8,470.7	\$8,470.7	

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK FACILITIES

FOOTBALL FIELDS Park Name	# of Fields										UNIT COST (\$/unit)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Unit												
AKO	1	1	1	1	1	1	1	1	2	2	\$232,108	
Mic Mac	1	1	1	1	1	1	1	1	2	2	\$232,108	
Realtor	2	2	2	2	2	2	2	2	2	2	\$232,108	
Superior	1	1	1	1	1	-	-	-	-	-	\$232,108	
Central	1	-	-	-	-	-	-	-	-	-	\$232,108	
Total (#)	6	5	5	5	5	4	4	4	6	6		
Total (\$000)	\$1,392.6	\$1,160.5	\$1,160.5	\$1,160.5	\$1,160.5	\$928.4	\$928.4	\$928.4	\$1,392.6	\$1,392.6		

PLAYGROUNDS Park Name	# of Playgrounds										UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Aboriginal	1	1	1	1	1	1	1	1	1	1	\$192,385
Adstoll Arena	1	1	1	1	-	-	-	-	-	-	\$192,385
AKO	1	1	1	1	1	1	1	1	1	1	\$361,289
AKO South	1	1	1	1	-	-	-	-	-	-	\$361,289
Alexander	1	1	1	1	1	1	1	1	1	1	\$361,289
Alton C Parker	1	1	1	1	1	1	1	1	1	1	\$192,385
Assumption	1	1	1	1	-	-	-	-	-	-	\$192,385
Avon Court	1	1	1	1	1	1	1	1	1	1	\$192,385
Avondale Playlot	1	1	1	1	1	1	1	1	1	1	\$192,385
Balsamo	1	1	1	1	1	1	1	1	1	1	\$289,590
Bellewood	1	1	1	1	1	1	1	1	1	1	\$289,590
Bradley	1	1	1	1	1	1	1	1	1	1	\$289,590
Bridgeview	1	1	1	1	1	1	1	1	1	1	\$361,289
Brookview	-	-	-	-	-	-	-	-	-	1	\$192,385

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK FACILITIES

PLAYGROUNDS (Cont'd) Park Name	# of Playgrounds											UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Bruce Avenue	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Brumpton	1	1	1	1	1	-	-	-	-	-	-	\$289,590
Brumpton	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Bush	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Calderwood	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Captain John Wilson	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Captain John Wilson	-	-	1	1	1	1	1	1	1	1	1	\$361,289
Centennial	1	1	1	1	1	-	-	-	-	-	-	\$361,289
Central	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Chopin	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Clay	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Clay	1	1	1	1	1	-	-	-	-	-	-	\$289,590
Coletta	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Cora Greenwood	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Crowley	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Curry	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Curry Playlot	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Dawson	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Devonshire Heights	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Dieppe Garden	1	1	1	1	-	-	-	-	-	-	-	\$192,385
Dynasty	1	1	1	1	1	1	1	1	1	1	1	\$192,385
East End	1	1	1	1	1	1	1	1	1	1	1	\$289,590
East Riverside - Radcliff/McNorton	1	1	1	1	1	1	1	1	1	1	1	\$289,590
East Riverside - Blue Heron	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Edward St Centre	1	1	1	1	-	-	-	-	-	-	-	\$361,289
Elizabeth Kishkon	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Elizabeth Kishkon					1	1	1	1	1	1	1	\$192,385
Emilia Street Park (Seven Sisters)	1	1	1	1	1	1	1	1	-	-	-	\$192,385
Ernest Atkinson	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Esdras	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Factoria	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Fazio	-	-	-	-	-	-	-	-	-	1	1	\$289,590
Field of Dreams	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Flora	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Fontainebleau	1	1	1	-	-	1	1	1	1	1	1	\$361,289

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK FACILITIES

PLAYGROUNDS (Cont'd) Park Name	# of Playgrounds											UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Ford Test Track	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Forest Glade-North	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Forest Glade-Comm Centre	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Francois	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Fred Thomas	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Ganatchio Trail	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Garry Dugal	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Garwood	1	1	1	1	1	1	1	1	1	1	1	\$289,590
George	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Gignac	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Goldenwood	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Great Western	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Hall Farms	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Hawthorne	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Holburn	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Holburn	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Homesite	-	-	-	-	-	-	-	-	-	1	1	\$289,590
Jackson	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Jennifer	1	1	1	1	1	1	-	-	-	-	-	\$289,590
Kenilworth	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Kennedy	1	1	1	1	1	1	-	-	-	-	-	\$289,590
Kid's Alliance	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Kinsmen Chatham Street	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Kiwanis	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Kiwanis	1	1	1	1	1	1	-	-	-	-	-	\$289,590
Kominar	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Labadie	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Lake Como	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Lake Como	1	1	1	1	1	1	-	-	-	-	-	\$624,349
Lake Laguna	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Lake Trail	1	1	1	1	1	1	1	1	1	1	1	\$168,985
Langlois Court	1	1	1	1	1	1	-	-	-	-	-	\$289,590
Lanspeary	1	1	1	1	1	1	1	1	1	1	1	\$289,590

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK FACILITIES

PLAYGROUNDS (Cont'd) Park Name	# of Playgrounds											UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Leaffield	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Legacy	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Little River Acres	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Little River Corridor	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Long	1	1	1	1	1	-	-	-	-	-	-	\$361,289
Malden	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Maple Leaf	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Marguriet	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Mark	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Matthew Rodzik	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Maurice Belanger	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Mayfair	1	1	1	1	1	1	1	1	1	1	1	\$289,590
McDonald South	1	1	1	-	-	-	-	-	-	-	-	\$289,590
McKee	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Meadowbrook	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Meadowbrook	1	1	1	1	1	1	1	1	1	1	1	\$168,985
Merrit South	1	1	1	1	-	-	-	-	-	-	-	\$289,590
Mic Mac	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Mic Mac	-	-	-	-	-	1	1	1	1	1	1	\$289,590
Mill St Heritage Park	1	1	1	1	-	-	-	-	-	-	-	\$289,590
Mitchell	1	1	1	1	1	1	1	1	1	1	1	\$289,590
MorningStar	1	1	1	1	1	1	1	1	1	1	1	\$192,385
North Merritt	1	1	1	1	1	1	1	1	1	1	1	\$192,385
North Talbot	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Oak Elm	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Oakwood Park-Capri Recreation C	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Optimist Memorial	1	1	1	1	1	1	1	1	1	1	1	\$361,289
Palmetto	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Parent	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Partington	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Paterson	1	1	1	1	1	1	1	1	1	1	1	\$192,385
Patrick McGuire	1	1	1	1	1	1	1	1	1	1	1	\$289,590
Polonia	1	1	1	1	1	1	1	1	1	1	1	\$361,289

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK FACILITIES

OTHER PARK FACILITIES Park Name	# of Units										UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Outdoor Rinks											
Charles Clark Square	1	1	1	1	1	1	1	1	1	1	\$3,000,000
Lanspeary	1	1	1	1	1	1	1	1	1	1	\$3,000,000
Outdoor Aquatics - Pools											
Ernest Atkinson	1	1	1	1	1	1	1	1	1	1	\$1,500,000
Central	1	1	1	1	1	1	1	1	1	1	\$1,500,000
Lanspeary	1	1	1	1	1	1	1	1	1	1	\$1,500,000
Mic Mac	1	1	1	1	1	1	1	1	1	1	\$1,500,000
Remington Booster	1	1	1	1	1	1	1	1	1	1	\$1,500,000
Centennial	1	1	1	1	1	1	1	1	1	1	\$1,500,000
Remington Booster	1	1	1	1	1	1	1	1	1	1	\$500,000
Remington Booster	1	1	1	1	1	1	1	1	1	1	\$2,000,000
Outdoor Aquatics - Splash Pads											
AKO	1	1	1	1	1	1	1	1	1	1	\$300,000
Captain John Wilson	-	-	-	1	1	1	1	1	1	1	\$300,000
Garry Dugal	1	1	1	1	1	1	1	1	1	1	\$300,000
Fred Thomas	1	1	1	1	1	1	1	1	1	1	\$300,000
Mic Mac	1	1	1	1	1	1	1	1	1	1	\$300,000
Mic Mac	1	1	1	1	1	1	1	1	1	1	\$300,000
Jackson	1	1	1	1	1	1	1	1	1	1	\$300,000
Realtor	-	-	-	-	-	-	-	-	1	1	\$300,000
Remington Booster	1	1	1	1	1	1	1	1	1	1	\$300,000
Centennial	1	1	1	1	1	1	1	1	1	1	\$300,000
Skateboard Parks											
Ernest Atkinson	1	1	1	1	1	1	1	1	1	1	\$300,000
Forest Glade Optimist	1	1	1	1	1	1	1	1	1	1	\$800,000
Total (#)	20	20	20	21	21	21	21	21	22	22	
Total (\$000)	\$21,000.0	\$21,000.0	\$21,000.0	\$21,300.0	\$21,300.0	\$21,300.0	\$21,300.0	\$21,300.0	\$21,600.0	\$21,600.0	

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK BUILDINGS & EQUIPMENT

PARK BUILDINGS Description	# of Square Feet										UNIT COST (\$/sq.ft)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Administration Building (sq.ft.)	8,140	8,140	8,140	8,140	8,140	16,100	16,100	16,100	16,100	16,100	\$400
Comfort Stations	48,192	48,192	48,192	48,192	48,192	73,404	73,404	73,404	73,404	73,404	\$400
Marina Buildings	2,220	2,220	2,220	2,220	2,220	700	700	700	700	700	\$400
Marina Slips (# of slips)	272	272	272	272	234	226	226	226	226	226	\$41,857
Minor Recreation Buildings	75,400	75,400	75,400	75,400	75,400	731,564	731,564	731,564	731,564	731,564	\$400
Outdoor Pool Buildings	12,540	12,540	12,540	12,540	12,540	12,435	12,435	12,435	12,435	12,435	\$400
Park Structures	13,079	13,079	13,079	13,079	13,079	34,121	34,121	34,121	34,121	34,121	\$400
Storage Buildings	6,380	6,380	6,380	6,380	6,380	26,100	26,100	26,100	26,100	26,100	\$400
Miscellaneous Outdoor Buildings											
AKO Frat Clubhouse	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	\$400
Festival Plaza - Riverfront Stage	13,196	13,196	13,196	13,196	13,196	13,196	13,196	13,196	13,196	13,196	\$400
Lanspeary Park Residence	1,650	1,650	1,650	1,650	1,650	1,650	1,650	1,650	1,650	1,650	\$400
Reaume Park (Peace Fountain Mechanical Room)	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$400
McHugh Clubhouse	1,555	1,555	1,555	1,555	1,555	1,555	1,555	1,555	1,555	1,555	\$400
Walker Homesite Field House	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	\$400
Centennial Irrigation Pump House	144	144	144	144	144	144	144	144	144	144	\$400
Charles Clark Sq Concession Building	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	\$400
Jackson Electrical Building / Lunchroom	300	300	300	300	300	300	300	300	300	300	\$400
Jackson Field House	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	\$400
Lanspeary Greenhouses Stone House	400	400	400	400	400	400	400	400	400	400	\$400
Willistead Coach House	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	\$400
Willistead Manor	13,201	13,201	13,201	13,201	13,201	13,201	13,201	13,201	13,201	13,201	\$400
Willistead Gate House	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	\$400
Malden Gatehouse	690	690	690	690	690	690	690	690	690	690	\$400
Total (sq.ft)	227,709	227,709	227,709	227,709	227,671	956,136	956,136	956,136	956,136	956,136	
Total (\$000)	\$102,359.9	\$102,359.9	\$102,359.9	\$102,359.9	\$100,769.3	\$391,823.7	\$391,823.7	\$391,823.7	\$391,823.7	\$391,823.7	



APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK BUILDINGS & EQUIPMENT

VEHICLES & EQUIPMENT Description	# of Units										UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Tractors											
John Deere Tractor John Derre Tractor (interstater)	1	1	1	1	1	1	1	1	1	1	\$126,541
Kubota Tractor C/W Front End Loader	1	1	1	1	1	1	1	1	1	1	\$82,947
Kubota Tractor C/W Loader & Cab	1	1	1	1	1	1	1	1	1	1	\$50,150
Ford Tractor 250C Frey Loader	3	3	3	3	3	3	3	2	2	2	\$36,885
Kubota Tractor 2550 DT	1	1	1	1	1	1	-	-	-	-	\$26,000
Kubota Tractor L-3940	-	7	7	7	7	7	7	7	7	7	\$40,767
International Model 5088	1	1	1	1	1	1	1	-	-	-	\$36,000
Kubota Tractor, Snow Blower	1	1	1	1	1	-	-	-	-	-	\$55,000
Case Tractor/Cab & Loader CX50	1	1	1	1	1	1	1	1	1	-	\$93,000
Kubota Tractor L3240D	1	1	1	1	1	1	1	1	1	1	\$33,087
Kubota L4150	1	1	1	1	1	1	1	1	1	1	\$40,767
Kubota B3030	1	1	1	1	1	1	1	1	1	1	\$40,767
Kubota L4060	-	-	-	-	-	-	-	-	-	1	\$39,575
Case Tractor/Cab & Loader 621	2	2	2	2	2	2	2	2	2	2	\$60,000
John Deere 6125	-	-	-	-	1	1	1	1	1	1	\$228,480
John Deere 1025R	-	-	-	-	-	-	-	-	1	1	\$198,283
Trackless Municipal Tractor MT5	-	-	-	-	-	-	-	-	2	2	\$78,470
Kioti PX1153	-	-	-	-	-	-	-	-	1	1	\$56,984

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK BUILDINGS & EQUIPMENT

VEHICLES & EQUIPMENT (cont'd) Description	# of Units										UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Mowers											
Kubota Zero Steer Model ZD-331	1	4	8	8	8	8	7	7	7	5	\$17,932
Mower Jacobsen Winged Mower Model 9016	6	5	5	5	5	5	5	5	4	3	\$104,308
Mower Jacobsen Winged Mower Model HR-15	-	-	-	-	-	-	-	-	-	-	\$104,308
Toro Winged Mower 5900	2	2	2	2	2	2	3	3	6	7	\$114,962
Mower Toro Groundmaster 580D Model 30581	1	1	1	1	1	1	1	1	-	-	\$104,308
Mower Toro GroundsMaster 4000D 10 Ft.	6	10	10	10	10	10	10	10	14	14	\$77,309
Mower Toro 4500-D Groundmaster Striper	1	1	1	1	1	1	1	1	1	1	\$89,448
Mower Jacobsen HR6010	6	6	6	6	6	6	6	3	-	-	\$77,309
Ransome Sports Striper AR250	2	1	1	1	1	1	1	1	-	-	\$77,309
Mower John Deere Model 1600	1	1	1	1	1	1	-	-	-	-	\$77,309
Mower Kut Kwick Slope Master SSM38	1	2	2	2	2	2	-	-	-	-	\$104,308
Kubota Mower/Paint Striper F3080	-	1	1	1	1	1	1	1	1	1	\$51,680
Spider Remote Controlled Mower	1	1	1	1	1	1	1	1	1	1	\$62,533
Mower Toro GroundsMaster 580D 16 ft.	2	2	2	2	2	2	2	1	-	-	\$77,309
Kubota ZD1211L-72	-	-	-	-	-	-	-	-	-	3	\$18,553
Toro Timecutter SS5000	-	-	-	-	-	-	1	1	1	1	\$102,585
Steiner 440	-	-	-	-	-	1	2	2	2	2	\$52,544
Jacobsen HR800	-	-	-	-	-	-	-	1	1	1	\$104,308
Jacobsen R311T	-	-	-	-	-	2	2	2	2	2	\$60,291
Jacobsen AR722T	-	-	-	-	-	-	1	1	1	1	\$88,701
Skid Steer/Loaders											
BobCat Melroe Uni-loader Model 873	1	1	1	1	-	-	-	-	-	-	\$64,133
BobCat Melroe Uni-loader Model A300 Turbo	1	1	1	1	1				-	-	\$44,825
BobCat Melroe Uni-loader Model S-300	-	1	1	1	1	1	1	1	1	1	\$44,825
Bobcat Skid Steer Loader S-750	1	1	1	1	1	1	1	1	1	1	\$64,133
Bobcat Skid Steer Loader A-770	-	-	-	-	-	1	1	1	1	1	\$50,903
Forklifts											
JCB Fork Lift - Model 930	1	1	1	1	1	1	1	-	-	-	\$86,624
Stark Material Handling Forklift	1	1	1	1	1	1	1	1	1	1	\$86,624
Noble Forklift	1	1	1	1	1	-	-	1	1	1	\$35,567
Rakes											
Toro model 3040 Sand Pro	2	2	2	2	2	2	2	2	2	2	\$16,389
Bunker Rake Smithco 42-000C	2	2	2	2	2	2	2	2	2	-	\$36,135
Bunker Rake Smithco 42-000D	1	1	1	1	1	1	1	1	1	1	\$36,135
Bunker Rake Smithco 42-000F	1	1	1	1	1	1	1	1	1	1	\$22,886
Bunker Rake Smithco 42-000B	1	1	1	1	1	1	-	-	-	-	\$22,886



APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK BUILDINGS & EQUIPMENT

VEHICLES & EQUIPMENT (cont'd) Description	# of Units										UNIT COST (\$/unit)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Attachments												
Mower Woods 15' Flexible Wing Model 3180-3	1	1	1	1	1	1	1	1	1	1	-	\$31,502
Mower Terrain King 15' Model # TK15-IV	1	1	1	1	1	1	1	1	1	1	-	\$31,502
Mower Woods Tow Type Model 9180RD-2	1	1	1	1	1	1	1	1	1	1	1	\$31,502
(Beach Cleaner) Barber 400 Surf & Turf Rake	1	1	1	1	1	1	1	1	1	1	1	\$78,432
Bannerman Leaf Air Rake	1	1	1	1	1	-	-	-	-	-	-	\$31,502
Soil Dresser TY Crop Top Dresser	1	1	1	1	1	1	1	1	1	1	1	\$32,985
Aerator Bannerman SuperJet	1	1	1	1	1	1	1	1	1	1	1	\$40,415
Bannerman Quick Slitt Seeder	1	1	1	1	1	1	1	1	1	1	1	\$45,105
Soil Renovator Dairon Model RD150	1	1	1	1	1	1	1	1	1	1	1	\$51,598
Aquacide Environmental Weed Control	2	2	2	2	2	1	1	1	1	1	-	\$40,415
Nolte Sandcleaner Nolte Sandcleaner MD-BC1000	1	1	1	1	1	-	-	-	-	-	-	\$40,415
Bannerman Top Dressing Machine	1	1	1	1	1	-	-	-	-	-	-	\$31,502
Powerscreen Soil Shredder Powerscreen Soil Shredder	-	-	-	-	-	-	-	-	-	-	-	\$51,598
Turco CR-7 Seeder	-	1	1	1	1	1	1	1	1	1	1	\$15,315
Bannerman Scarifier	-	1	1	1	1	1	1	1	1	1	1	\$21,540
Snow Blade	1	1	1	1	1							\$21,540
Bush Hog Rotary Cutter 1100	1	1	1	1	1	1	1	1	1	1	1	\$21,445
Bush Hog Flex Wing Rotary Cutter 13810RR2	-	-	-	-	-	-	-	1	1	1	1	\$21,445
Titan Rotary Cutter BH16-2	-	-	-	-	-	-	-	-	-	-	1	\$21,445
Trailers												
Brouwer 12 CU Trailer Vac	2	2	2	2	2	2	2	2	2	2	2	\$53,615
Canadian Trailer Tip Model	1	1	2	2	2	2	2	2	2	2	2	\$13,009
Hydration System	-	-	-	1	1	1	1	1	1	1	1	\$60,778
Cultivators												
Dowdeswell 24" Cultivator	1	1	1	1	1	1	1	1	-	-	-	\$21,445
Zambonis												
Zamboni Ice Resurfacing Machine	13	13	13	13	13	13	13	13	13	13	14	\$109,200



APPENDIX B.5
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT
PARK BUILDINGS & EQUIPMENT

VEHICLES & EQUIPMENT (cont'd) Description	# of Units										UNIT COST (\$/unit)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
All Terrain Vehicles												
Club Car CarryAll XRT	2	2	2	2	2	-	-	-	-	-	-	\$23,995
Pioneer Bobcat Club Car All Terrain	5	5	5	5	5	2	2	2	2	2	2	\$23,995
Bobcat Model 3200 All Terrain	1	1	1	1	1	1	1	1	1	1	1	\$12,920
Club Car Carryall 272	4	4	4	4	4	5	5	5	5	5	5	\$16,048
Club Car Carryall II	9	9	9	9	9	-	-	-	-	-	-	\$16,048
BobCat Workmate 2100	4	4	4	4	4	4	4	4	4	4	1	\$23,072
Club Car Carryall - Manual Dump	1	1	1	1	1	-	-	-	-	-	-	\$16,048
John Deere 4x4 Utility Vehicle Gator	1	1	1	1	1	1	1	1	1	1	-	\$23,072
Bobcat Toolcat 5600	1	1	1	4	4	4	4	4	4	4	3	\$41,181
John Deere Gator 6x4	-	-	-	-	-	-	-	-	-	1	1	\$15,692
Yamaha YDREX6PTV	-	-	-	-	-	-	1	1	1	1	1	\$17,832
Kubota RTV X1100C	-	-	-	-	-	-	2	2	2	2	2	\$35,983
Kubota RTV500	-	-	-	-	-	5	10	10	10	10	10	\$13,783
Total (#)	118	135	140	144	144	131	137	133	137	130		
Total (\$000)	\$6,626.0	\$7,330.4	\$7,415.2	\$7,599.5	\$7,763.8	\$7,491.6	\$7,656.4	\$7,349.0	\$7,814.4	\$7,612.9		

APPENDIX B.5
TABLE 1

CITY OF WINDSOR
CALCULATION OF SERVICE LEVELS
PARK DEVELOPMENT

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Historical Population	211,214	210,891	211,524	213,216	214,282	215,139	217,170	218,119	219,072	220,029

INVENTORY SUMMARY (\$000)

Parkland Development	\$383,203.0	\$383,203.0	\$383,203.0	\$383,206.2	\$383,206.2	\$409,824.4	\$409,824.4	\$409,824.4	\$409,824.4	\$409,813.3
Park Facilities	\$140,548.7	\$140,316.6	\$138,212.8	\$136,136.5	\$126,107.4	\$126,498.6	\$126,498.6	\$126,560.7	\$127,904.1	\$128,280.2
Park Buildings & Equipment	\$108,985.9	\$109,690.3	\$109,775.1	\$109,959.4	\$108,533.2	\$399,315.3	\$399,480.1	\$399,172.6	\$399,638.0	\$399,436.6
Total (\$000)	\$632,737.6	\$633,210.0	\$631,190.9	\$629,302.1	\$617,846.8	\$935,638.3	\$935,803.1	\$935,557.8	\$937,366.6	\$937,530.0

SERVICE LEVEL (\$/capita)

Average
Service
Level

Parkland Development	\$1,814.29	\$1,817.07	\$1,811.63	\$1,797.27	\$1,788.33	\$1,904.93	\$1,887.11	\$1,878.90	\$1,870.73	\$1,862.54	\$1,843.28
Park Facilities	\$665.43	\$665.35	\$653.41	\$638.49	\$588.51	\$587.99	\$582.49	\$580.24	\$583.85	\$583.01	\$612.88
Park Buildings & Equipment	\$516.00	\$520.13	\$518.97	\$515.72	\$506.50	\$1,856.08	\$1,839.48	\$1,830.07	\$1,824.23	\$1,815.38	\$1,174.26
Total (\$/capita)	\$2,995.72	\$3,002.55	\$2,984.02	\$2,951.48	\$2,883.34	\$4,348.99	\$4,309.08	\$4,289.21	\$4,278.81	\$4,260.94	\$3,630.41

CITY OF WINDSOR
CALCULATION OF MAXIMUM ALLOWABLE
PARK DEVELOPMENT

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2010 - 2019	\$3,630.41
Net Population 2020 - 2029	10,433
Maximum Allowable Funding Envelope	\$37,876,068



APPENDIX B.5
TABLE 2

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE Shares	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2020-2029	Post 2029
5.0 PARK DEVELOPMENT									
5.1 Neighbourhood Park Development									
5.1.1 Stogel Park - Play Area (Remaining Costs)	2020	\$ 220,250	\$ 79,499	\$ 140,751	\$ -	\$ 140,751	\$ 140,751	\$ -	\$ -
5.1.2 Ambassador Park - Play Area (Remaining Costs)	2020	\$ 220,250	\$ 79,499	\$ 140,751	\$ -	\$ 140,751	\$ 140,751	\$ -	\$ -
5.1.3 Mitchell Park - Accessible Playground (Remaining Costs)	2020	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ 96,024	\$ 153,976	\$ -
5.1.4 Mitchell Park - Pathways, Court, Lights, Shelter (Remaining Costs)	2020	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -
5.1.5 Mitchell Park Finish Improvements (Remaining Costs)	2020	\$ 30,001	\$ -	\$ 30,001	\$ -	\$ 30,001	\$ -	\$ 30,001	\$ -
5.1.6 Leaffield Park Improvements (Remaining Costs)	2020	\$ 18,111	\$ -	\$ 18,111	\$ -	\$ 18,111	\$ -	\$ 18,111	\$ -
5.1.7 Kennedy Park Improvements (Remaining Costs)	2020	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -
Subtotal Neighbourhood Park Development		\$ 863,612	\$ 158,998	\$ 704,614	\$ -	\$ 704,614	\$ 377,526	\$ 327,088	\$ -
5.2 Regional Park Development									
5.2.1 Mic Mac Park - Accessible Playground (Remaining Costs)	2020	\$ 34,010	\$ -	\$ 34,010	\$ 30,609	\$ 3,401	\$ 3,401	\$ -	\$ -
5.2.2 Jackson Park Sunken Garden - Washrooms (Remaining Costs)	2020	\$ 75,000	\$ -	\$ 75,000	\$ 67,500	\$ 7,500	\$ 7,500	\$ -	\$ -
5.2.3 Sandpoint Beach and Stop 26 Complete Redevelopment (Study)	2023	\$ 25,000	\$ -	\$ 25,000	\$ 22,500	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2.4 New Park - Sandwich South Planning District	2026	\$ 300,000	\$ -	\$ 300,000	\$ 270,000	\$ 30,000	\$ -	\$ 30,000	\$ -
Subtotal Regional Park Development		\$ 434,010	\$ -	\$ 434,010	\$ 390,609	\$ 43,401	\$ 10,901	\$ 32,500	\$ -



APPENDIX B.5
TABLE 2

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE Shares	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2020-2029	Post 2029
5.0 PARK DEVELOPMENT									
5.3 Community Park Development									
5.3.1 Forest Glade Parking Lot & Trails - Part II (Remaining Costs)	2020	\$ 114,200	\$ -	\$ 114,200	\$ 102,780	\$ 11,420	\$ 11,420	\$ -	\$ -
5.3.2 MacDonald Park - Accessible Playground (Remaining Costs)	2020	\$ 25,000	\$ -	\$ 25,000	\$ 22,500	\$ 2,500	\$ 2,500	\$ -	\$ -
5.3.3 Bridgview Park - Accessible Playground (Remaining Costs)	2020	\$ 50,000	\$ -	\$ 50,000	\$ 45,000	\$ 5,000	\$ 5,000	\$ -	\$ -
5.3.4 Bellewood Park - Accessible Playground (Remaining Costs)	2020	\$ 27,260	\$ -	\$ 27,260	\$ 24,534	\$ 2,726	\$ 2,726	\$ -	\$ -
Subtotal Community Park Development		\$ 216,460	\$ -	\$ 216,460	\$ 194,814	\$ 21,646	\$ 21,646	\$ -	\$ -
5.4 Park Development Projects									
5.4.1 Central Riverfront Improvements (Remaining Costs)	Various	\$ 115,794	\$ -	\$ 115,794	\$ 104,215	\$ 11,579	\$ -	\$ 11,579	\$ -
5.4.2 Parkland Development - Riverfront Park (Remaining Costs)	Various	\$ 1,324,760	\$ 250,000	\$ 1,074,760	\$ 967,284	\$ 107,476	\$ -	\$ 107,476	\$ -
5.4.3 Lakeview Park Marina Upgrades (Remaining Costs)	2020	\$ 514,870	\$ -	\$ 514,870	\$ 463,383	\$ 51,487	\$ -	\$ 51,487	\$ -
Subtotal Park Development Projects		\$ 1,955,424	\$ 250,000	\$ 1,705,424	\$ 1,534,882	\$ 170,542	\$ -	\$ 170,542	\$ -
5.5 Development-Related Studies									
5.5.1 Parks Master Plan (Remaining Costs)	2020	\$ 266,264	\$ -	\$ 266,264	\$ -	\$ 266,264	\$ 266,264	\$ -	\$ -
TOTAL PARK DEVELOPMENT		\$ 3,735,770	\$ 408,998	\$ 3,326,772	\$ 2,120,305	\$ 1,206,467	\$ 676,337	\$ 530,131	\$ -

Residential Development Charge Calculation		
Residential Share of 2020 - 2029 DC Eligible Costs	100%	\$530,131
10-Year Growth in Population in New Units		19,402
Unadjusted Development Charge Per Capita		\$27.32
Non-Residential Development Charge Calculation		
Non-Residential Share of 2020 - 2029 DC Eligible Costs	0%	\$0
10-Year Non-Residential Growth in New Space (Square Metres)		188,326
Unadjusted Development Charge Per Square Metre		\$0.00

2020 - 2029 Net Funding Envelope	\$37,876,068
Reserve Fund Balance	
Balance as at December 31, 2019	\$676,337



APPENDIX B.5
TABLE 3

CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PARK DEVELOPMENT
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PARK DEVELOPMENT	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.00	(\$328.66)	(\$285.22)	(\$251.42)	(\$217.11)	(\$176.74)	(\$132.59)	(\$118.88)	(\$76.44)	(\$30.19)	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
- Park Development: Non Inflated	\$390.5	\$11.9	\$11.9	\$14.4	\$11.9	\$11.9	\$41.9	\$11.9	\$11.9	\$11.9	\$530.1
- Park Development: Inflated	\$390.5	\$12.1	\$12.4	\$15.3	\$12.9	\$13.1	\$47.2	\$13.7	\$13.9	\$14.2	\$545.4
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	2,278	2,296	1,892	1,903	1,916	1,931	1,943	1,736	1,749	1,758	19,402
REVENUE											
- DC Receipts: Inflated	\$70.6	\$72.6	\$61.0	\$62.6	\$64.3	\$66.1	\$67.8	\$61.8	\$63.5	\$65.1	\$655.5
INTEREST											
- Interest on Opening Balance	\$0.0	(\$18.1)	(\$15.7)	(\$13.8)	(\$11.9)	(\$9.7)	(\$7.3)	(\$6.5)	(\$4.2)	(\$1.7)	(\$88.9)
- Interest on In-year Transactions	(\$8.8)	\$1.1	\$0.9	\$0.8	\$0.9	\$0.9	\$0.4	\$0.8	\$0.9	\$0.9	(\$1.3)
TOTAL REVENUE	\$61.8	\$55.6	\$46.2	\$49.6	\$53.3	\$57.3	\$60.9	\$56.1	\$60.2	\$64.4	\$565.3
CLOSING CASH BALANCE	(\$328.7)	(\$285.2)	(\$251.4)	(\$217.1)	(\$176.7)	(\$132.6)	(\$118.9)	(\$76.4)	(\$30.2)	\$19.9	

2020 Adjusted Charge Per Capita	\$31
---------------------------------	------

Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2020	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.6

TRANSIT

TRANSIT

Transit Windsor provides public transportation services in the City of Windsor through a service network operating out of the Transit Centre, the Downtown Terminal and the West End Terminal.

This appendix provides details of the ridership forecast and capital program used to calculate DCs for Transit. The benefits of Transit are considered to be City-wide for the purposes of these calculations.

B. OVERVIEW OF TRANSIT SERVICE DELIVERY

Transit Windsor's 14 routes run regularly, with three routes providing interregional service that connects the City to parts of neighbouring communities. Transit ridership has grown in recent years and is anticipated to continue throughout the ten-year forecast period. The anticipated ridership in the system and the related capital program requirements are discussed further in the sections below.

C. TRANSIT RIDERSHIP

Under the *Development Charges Act*, Transit Services must be based on a “planned level of service” rather than the “ten-year historical average level of service”. For the purposes of determining the “planned level of service”, the City's Transit development-related capital program has been informed based on existing and proposed capital budget and forecast documents and discussions with staff.

Ontario Regulation 82/98 also requires that for Transit, the DC background study must include:

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

The ridership forecast used for the purposes of the background study was prepared based on the City's 2019 Transit Master Plan and discussions with City staff. As shown in Table 1, from 2012 to 2018 the City had an average annual increase in ridership of 4.4 per cent. Ridership was fairly consistent between 2012 and 2015, but the City experienced an

increase in ridership after 2015 with the implementation of the UPass with the University of Windsor. The large ridership increase in 2018 is a result of continued growth in student ridership with the University of Windsor and the international student influx at St. Clair College. The increase in ridership compares to population growth of about 4 per cent over the same period (see Appendix A).

Table 1 - Historical Transit Ridership		
Year	Ridership	Increase
2012	6,413,529	
2013	6,418,716	0.1%
2014	6,366,745	-0.8%
2015	6,348,844	-0.3%
2016	6,512,338	2.6%
2017	6,719,622	3.2%
2018	8,182,290	21.8%
Average Increase		4.4%

Source: City of Windsor

The City recently completed a [Transit Master Plan](#) in 2019. This plan provides a detailed forecasted system performance from 2019 to 2028. It is anticipated that ridership will continue to increase in the City over the ten-year period from 8.43 million in 2019 to 13.00 million in 2028. The detailed ridership forecast is outlined in Table 2 below. It is noted that the Transit Master Plan does not provide ridership figures for 2026, 2027, and 2029; for the purposes of this analysis, Hemson has assumed a constant rate of annual ridership growth between 2026 and 2029 in order to produce a complete annual ridership forecast for the ten-year period from 2020 to 2029.

Table 2 - Forecast Transit Ridership		
Year	Ridership	Increase
2019	8,430,000	
2020	8,510,000	0.9%
2021	8,780,000	3.2%
2022	9,220,000	5.0%
2023	10,110,000	9.7%
2024	10,570,000	4.5%
2025	11,580,000	9.6%
2026	12,035,205	3.9%
2027	12,508,304	3.9%
2028	13,000,000	3.9%
2029	13,511,000	3.9%
Average Increase		4.9%

Source: City of Windsor; Hemson Consulting Ltd.

D. TRANSIT DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF UNADJUSTED DEVELOPMENT CHARGES

The *DCA* (s.5.2 (3)) requires that the increased need for Transit services “shall not exceed the planned level of service over the ten-year period immediately following the preparation of the background study”. For the purposes of the DC calculations, the “planned level of service” is considered to be equivalent to the ten-year capital program (2020-2029) set out in Table 4. The program is based on the City’s capital budget and forecast documents and discussions with City staff.

The Transit capital program addresses additional facilities, fleet, equipment and studies required to meet existing and future demands. It includes substantial reorganization and expansion of transit facilities and bus fleet planned for in the City’s long-term capital forecast, including:

- A Garage Expansion Feasibility Study in 2021 (\$250,000) and the subsequent Garage Expansion in 2022 (\$13.65 million);
- A Bus Stop Investment Program valued at \$13.40 million that will take place throughout the ten-year planning period;
- The Phase 2 Expansion of the West End Terminal for \$1.60 million in 2023;
- Various service improvements as dictated in the Transit Master Plan for \$15.00 million over the planning period;
- 35 additional buses throughout the period for \$28.21 million;
- Phase 2 of the Smart Bus Technology equipment occurring in 2022 for \$4.31 million;
- An updated to the Bus Stop P&D Guidelines for \$25,000; and
- A Transit Priority Measures study for \$5.50 million to be completed over the ten-year planning period to 2029.

Altogether, the gross cost of the Transit capital program is \$81.94 million, of which \$56.43 million is to be funded by grants and the remaining \$25.52 million is to be funded by the City.

i. Allocation of Costs Benefitting Existing Development

The benefit to existing share for Transit has been determined based on the City's ridership forecast as well as the population forecast prepared as part of this DC Background Study (see Appendix A). As shown in Table 3, the Transit Master Plan's ridership targets are associated with an increase in mode share, or rides per capita, across the City's population. The calculation of the benefit to existing share assumes that this mode share increase will occur within the existing population as well as the new population forecast for the ten-year period.

The total 2019-2029 growth in annual ridership (5.08 million trips) attributed to the existing 2019 population (220,030) is calculated at 4.47 million trips, or 88%. Ridership associated with new population growth (10,430) over the same period is calculated at 611,640 trips, or 12%. On this basis, 88 per cent of total ridership could be attributed to existing residents and the remaining 12 per cent could be attributed to new development occurring over the planning period.

Year	Ridership	Population	Rides Per Capita	Ridership from Existing Population	Ridership from Population Growth
2019	8,430,000	220,029	38.31	8,430,000	
2020	8,510,000	220,991	38.51	8,472,955	37,045
2021	8,780,000	221,957	39.56	8,703,743	76,257
2022	9,220,000	222,994	41.35	9,097,408	122,592
2023	10,110,000	224,036	45.13	9,929,177	180,823
2024	10,570,000	225,082	46.96	10,332,708	237,292
2025	11,580,000	226,133	51.21	11,267,421	312,579
2026	12,035,205	227,189	52.97	11,655,899	379,306
2027	12,508,304	228,275	54.79	12,056,465	451,839
2028	13,000,000	229,366	56.68	12,470,798	529,202
2029	13,511,000	230,462	58.63	12,899,358	611,642
Growth 2019-2029	5,081,000	10,433	20.31	4,469,358 (88%)	611,642 (12%)

Source: City of Windsor; Hemson Consulting Ltd.

ii. Post-Period Benefit

No additional costs have been allocated as a “post-period” benefit. All projects included in the Transit capital program are considered to benefit development over the ten-year planning period, consistent with the Transit Master Plan and direction from City staff.

iii. Final Calculations

Altogether, \$3.07 million of the capital program is considered to be related to development over the next ten years. Available DC reserve funds in the amount of \$59,406 are available to fund these development-related costs.

The remaining 2020-2029 DC costs eligible for recovery total \$3.01 million, of which 89 per cent, or \$2.68 million, is allocated against new residential development and 11 per cent, or \$331,347, against non-residential development. This yields an unadjusted development charge of \$138.18 per capita and \$1.76 per square metre.

E. CASH FLOW ANALYSIS

Table 5 shows that after cash flow and reserve fund analysis, the residential calculated charge increases to \$142 per capita while the non-residential charge decreases slightly to \$1.75 per square metre.

The following table summarizes the calculation of the Transit development charge:

TRANSIT SUMMARY					
2020 - 2029		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/m ²	\$/capita	\$/m ²
\$81,944,769	\$3,012,250	\$138.18	\$1.76	\$142	\$1.75

APPENDIX B.6
TABLE 4
CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
TRANSIT

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE Shares	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2020-2029	Post 2029
6.0 TRANSIT									
6.1 Transit Facilities									
6.1.1 Garage Expansion Feasibility Study	2021	\$ 250,000	\$ 182,500	\$ 67,500	\$ 59,374	\$ 8,126	\$ 8,126	\$ -	\$ -
6.1.2 Garage Expansion	2022	\$ 13,650,000	\$ 9,555,000	\$ 4,095,000	\$ 3,602,051	\$ 492,949	\$ 51,280	\$ 441,669	\$ -
6.1.3 Bus Stop Investment Program	Various	\$ 13,400,000	\$ 9,782,000	\$ 3,618,000	\$ 3,182,471	\$ 435,529	\$ -	\$ 435,529	\$ -
6.1.4 West End Terminal - Phase 2 Expansion	2023	\$ 1,600,000	\$ 1,168,000	\$ 432,000	\$ 379,997	\$ 52,003	\$ -	\$ 52,003	\$ -
6.1.5 Transit Master Plan Service Improvements	Various	\$ 15,000,000	\$ 10,950,000	\$ 4,050,000	\$ 3,562,468	\$ 487,532	\$ -	\$ 487,532	\$ -
Subtotal Transit Facilities		\$ 43,900,000	\$ 31,637,500	\$ 12,262,500	\$ 10,786,361	\$ 1,476,139	\$ 59,406	\$ 1,416,733	\$ -
6.2 Fleet & Equipment									
3.2.1 Additional Buses (35)	Various	\$ 28,210,000	\$ 20,593,300	\$ 7,616,700	\$ 6,699,815	\$ 916,885	\$ -	\$ 916,885	\$ -
6.2.2 Smart Bus Technology - Phase 2 (Remaining Costs)	2022	\$ 4,309,769	\$ 164,026	\$ 4,145,743	\$ 3,646,685	\$ 499,057	\$ -	\$ 499,057	\$ -
Subtotal Fleet & Equipment		\$ 32,519,769	\$ 20,757,326	\$ 11,762,443	\$ 10,346,500	\$ 1,415,943	\$ -	\$ 1,415,943	\$ -
6.3 Studies									
6.3.1 Update to Bus Stop P&D Guidelines	2021	\$ 25,000	\$ 18,250	\$ 6,750	\$ 5,937	\$ 813	\$ -	\$ 813	\$ -
6.3.2 Transit Priority Measures	Various	\$ 5,500,000	\$ 4,015,000	\$ 1,485,000	\$ 1,306,238	\$ 178,762	\$ -	\$ 178,762	\$ -
Subtotal Studies		\$ 5,525,000	\$ 4,033,250	\$ 1,491,750	\$ 1,312,176	\$ 179,574	\$ -	\$ 179,574	\$ -
TOTAL TRANSIT		\$ 81,944,769	\$ 56,428,076	\$ 25,516,693	\$ 22,445,037	\$ 3,071,656	\$ 59,406	\$ 3,012,250	\$ -

Residential Development Charge Calculation		
Residential Share of 2020 - 2029 DC Eligible Costs	89%	\$2,680,902
10-Year Growth in Population in New Units		19,402
Unadjusted Development Charge Per Capita		\$138.18
Non-Residential Development Charge Calculation		
Non-Residential Share of 2020 - 2029 DC Eligible Costs	11%	\$331,347
10-Year Non-Residential Growth in New Space (Square Metres)		188,326
Unadjusted Development Charge Per Square Metre		\$1.76

Reserve Fund Balance	
Balance as at December 31, 2019	\$59,406

Transit Ridership Analysis - DC Allocations			
10-Year Ridership Growth		Allocation	DC Allocation
2019 population	4,469,358	88%	BTE
2020-2029 growth	611,642	12%	In-Period
Total	5,081,000	100%	



APPENDIX B.6
TABLE 5

CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
TRANSIT
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

TRANSIT	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.0	\$145.6	\$301.2	(\$488.8)	(\$468.5)	(\$393.1)	(\$309.2)	(\$216.6)	(\$150.9)	(\$78.0)	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
- Transit: Non Inflated	\$179.7	\$180.4	\$1,016.9	\$225.9	\$179.7	\$179.7	\$179.7	\$179.7	\$179.7	\$179.7	\$2,680.9
- Transit: Inflated	\$179.7	\$184.0	\$1,058.0	\$239.8	\$194.5	\$198.4	\$202.3	\$206.4	\$210.5	\$214.7	\$2,888.2
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	2,278	2,296	1,892	1,903	1,916	1,931	1,943	1,736	1,749	1,758	19,402
REVENUE											
- DC Receipts: Inflated	\$322.8	\$331.9	\$278.9	\$286.2	\$293.9	\$302.1	\$310.1	\$282.6	\$290.4	\$297.7	\$2,996.4
INTEREST											
- Interest on Opening Balance	\$0.0	\$5.1	\$10.5	(\$26.9)	(\$25.8)	(\$21.6)	(\$17.0)	(\$11.9)	(\$8.3)	(\$4.3)	(\$100.1)
- Interest on In-year Transactions	\$2.5	\$2.6	(\$21.4)	\$0.8	\$1.7	\$1.8	\$1.9	\$1.3	\$1.4	\$1.5	(\$5.9)
TOTAL REVENUE	\$325.3	\$339.5	\$268.0	\$260.1	\$269.9	\$282.3	\$294.9	\$272.0	\$283.5	\$294.9	\$2,890.4
CLOSING CASH BALANCE	\$145.6	\$301.2	(\$488.8)	(\$468.5)	(\$393.1)	(\$309.2)	(\$216.6)	(\$150.9)	(\$78.0)	\$2.2	

2020 Adjusted Charge Per Capita	\$142
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



**APPENDIX B.6
TABLE 5**

**CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
TRANSIT
NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

TRANSIT	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.00	\$51.82	\$106.87	\$5.75	\$5.70	\$11.95	\$18.68	\$25.67	\$21.24	\$11.63	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Transit: Non Inflated	\$22.2	\$22.3	\$125.7	\$27.9	\$22.2	\$22.2	\$22.2	\$22.2	\$22.2	\$22.2	\$331.3
- Transit: Inflated	\$22.2	\$22.7	\$130.8	\$29.6	\$24.0	\$24.5	\$25.0	\$25.5	\$26.0	\$26.5	\$357.0
NON-RESIDENTIAL SPACE GROWTH											
- Growth in Square Metres of New Building Space	41,789	42,053	15,771	15,827	15,827	15,896	15,853	10,108	7,775	7,428	188,326
REVENUE											
- DC Receipts: Inflated	\$73.1	\$75.1	\$28.7	\$29.4	\$30.0	\$30.7	\$31.2	\$20.3	\$15.9	\$15.5	\$350.0
INTEREST											
- Interest on Opening Balance	\$0.0	\$1.8	\$3.7	\$0.2	\$0.2	\$0.4	\$0.7	\$0.9	\$0.7	\$0.4	\$9.1
- Interest on In-year Transactions	\$0.9	\$0.9	(\$2.8)	(\$0.0)	\$0.1	\$0.1	\$0.1	(\$0.1)	(\$0.3)	(\$0.3)	(\$1.4)
TOTAL REVENUE	\$74.0	\$77.8	\$29.6	\$29.6	\$30.3	\$31.2	\$32.0	\$21.1	\$16.4	\$15.6	\$357.7
CLOSING CASH BALANCE	\$51.8	\$106.9	\$5.8	\$5.7	\$12.0	\$18.7	\$25.7	\$21.2	\$11.6	\$0.7	

2020 Adjusted Charge Per Square Metre	\$1.75
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.7

WASTE DIVERSION

WASTE DIVERSION

The City of Windsor operates a recycling program, including facilities, vehicles and furniture and equipment. The costs of waste collection and diversion are eligible for DC recovery under the *DCA*.

This is a new service and has been determined to provide City-wide residential benefits for the purpose of the DC calculation.

TABLE 1 HISTORICAL SERVICE LEVELS

The ten-year historical inventory of capital assets for Waste Diversion includes buildings totaling 581,409 square feet, valued at \$11.52 million, situated on 6.21 hectares of land, valued at \$3.11 million. The City operates this service using 19 vehicles valued at \$5.72 million. Lastly, the City's furniture and equipment dedicated to this service is worth \$4.87 million.

The total value of the capital infrastructure in 2019 was \$25.22 million. The ten-year historical average service level is \$114.76 per capita and this, multiplied by the ten-year forecast net population growth (10,433), results in a ten-year maximum allowable funding envelope of \$1.20 million.

TABLE 2 2020–2029 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The Waste Diversion capital program includes an Organic Waste Processing Facility for \$45.00 million, as well as additional organic waste collection vehicles valued at \$251,227.

No grants or subsidies have been identified to offset the costs for these two capital expenditures. However, a replacement share of \$42.75 million related to the processing facility has been deducted from the calculation. This is based on the shares of population growth over the existing base in the City. Post-period benefit shares totaling \$1.30 million related to the facility has been identified; this may be recoverable under future DC by-laws.

The remaining 2020-2029 DC costs eligible for recovery amount to \$1.20 million and are allocated 100 per cent to residential development. This results in a charge of \$61.71 per capita.

TABLE 3 CASH FLOW ANALYSIS

After cash flow analysis, the residential calculated charge increases slightly to \$63 per capita.

The following table summarizes the calculation of the Waste Diversion development charge.

WASTE DIVERSION SUMMARY						
10-year Hist.	2020 - 2029		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per capita	Total	Net DC Recoverable	\$/capita	\$/m ²	\$/capita	\$/m ²
\$114.76	\$45,251,227	\$1,197,291	\$61.71	\$0.00	\$63	\$0.00

APPENDIX B.7
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
WASTE DIVERSION

BUILDINGS Branch Name	# of Square Feet										UNIT COST (\$/sq.ft.)	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
Environmental Services Admin Building & Garage	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	\$230
MHSW Building (Household Chemical Waste)	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	2,541	\$90
Container Recycling Building	33,323	33,323	33,323	33,323	33,323	33,323	33,323	33,323	33,323	33,323	33,323	\$110
Fibre Recycling Building	25,231	25,231	25,231	25,231	25,231	25,231	25,231	25,231	25,231	25,231	25,231	\$160
Attended Scale House & Public Drop Off Area	70,229	70,229	70,229	70,229	70,229	70,229	70,229	70,229	70,229	70,229	70,229	\$14
Unattended Scale House	5,963	5,963	5,963	5,963	5,963	5,963	5,963	5,963	5,963	5,963	5,963	\$2
Windsor Compost Pad	86,090	86,090	86,090	86,090	86,090	86,090	86,090	86,090	86,090	86,090	86,090	\$8
Regional Landfill Compost Pad	355,532	355,532	355,532	355,532	355,532	355,532	355,532	355,532	355,532	355,532	355,532	\$4
Total (sq.ft.)	581,409	581,409	581,409	581,409	581,409	581,409	581,409	581,409	581,409	581,409	581,409	
Total (\$000)	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	

LAND Branch Name	# of Hectares										UNIT COST (\$/ha)	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
3540 North Service Road	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	\$500,000
3820 North Service Road	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	\$500,000
Regional Landfill Compost Pad	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	\$500,000
Total (ha)	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21	
Total (\$000)	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	

APPENDIX B.7
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
WASTE DIVERSION

VEHICLES Type of Collection	# of Vehicles										UNIT COST (\$/item)
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Recycling Collection (Contract)	8	9	9	9	10	10	10	10	10	10	\$358,400
Yard Waste Collection (Contract)	4	4	4	4	7	7	7	7	7	7	\$298,700
Isuzu - Cube Van	1	1	1	1	1	1	1	1	1	1	\$37,530
Ford F150 Pick-up	1	1	1	1	1	1	1	1	1	1	\$11,900
Total (#)	14	15	15	15	19	19	19	19	19	19	
Total (\$000)	\$4,111.4	\$4,469.8	\$4,469.8	\$4,469.8	\$5,724.3	\$5,724.3	\$5,724.3	\$5,724.3	\$5,724.3	\$5,724.3	

FURNITURE & EQUIPMENT Type of Collection	# of Furniture & Equipment										UNIT COST (\$/item)
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Environmental Services Admin Building & Garage (Furniture)	1	1	1	1	1	1	1	1	1	1	\$25,090
Litter Bins for Recyclables on the Public Right-of-Way	100	100	100	100	100	100	100	100	100	100	\$1,430
Container Building Equipment	1	1	1	1	1	1	1	1	1	1	\$2,067,440
Fibre Building Equipment	1	1	1	1	1	1	1	1	1	1	\$2,149,050
Scale Equipment	1	1	1	1	1	1	1	1	1	1	\$38,800
TCM Forklift FD25-T3	1	1	1	1	1	1	1	1	1	1	\$23,260
John Deere 624K Loader	1	1	1	1	1	1	1	1	1	1	\$134,890
John Deere 244J Base Loader with Bucket	1	1	1	1	1	1	1	1	1	1	\$57,850
Caterpillar 930K Wheel Loader	1	1	1	1	1	1	1	1	1	1	\$121,880
CAT 420F Backhoe	1	1	1	1	1	1	1	1	1	1	\$78,990
Estimate for office & cafeteria furniture	1	1	1	1	1	1	1	1	1	1	\$29,870
Total (#)	110	110	110	110	110	110	110	110	110	110	
Total (\$000)	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	



**APPENDIX B.7
TABLE 1**

**CITY OF WINDSOR
CALCULATION OF SERVICE LEVELS
WASTE DIVERSION**

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Historical Population	211,214	210,891	211,524	213,216	214,282	215,139	217,170	218,119	219,072	220,029

INVENTORY SUMMARY (\$000)

Buildings	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2	\$11,521.2
Land	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0	\$3,105.0
Vehicles	\$4,111.4	\$4,469.8	\$4,469.8	\$4,469.8	\$5,724.3	\$5,724.3	\$5,724.3	\$5,724.3	\$5,724.3	\$5,724.3
Furniture & Equipment	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1	\$4,870.1
Total (\$000)	\$23,607.8	\$23,966.2	\$23,966.2	\$23,966.2	\$25,220.7	\$25,220.7	\$25,220.7	\$25,220.7	\$25,220.7	\$25,220.7

SERVICE LEVEL (\$/capita)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Average Service Level
Buildings	\$54.55	\$54.63	\$54.47	\$54.04	\$53.77	\$53.55	\$53.05	\$52.82	\$52.59	\$52.36	\$53.58
Land	\$14.70	\$14.72	\$14.68	\$14.56	\$14.49	\$14.43	\$14.30	\$14.24	\$14.17	\$14.11	\$14.44
Vehicles	\$19.47	\$21.19	\$21.13	\$20.96	\$26.71	\$26.61	\$26.36	\$26.24	\$26.13	\$26.02	\$24.08
Furniture & Equipment	\$23.06	\$23.09	\$23.02	\$22.84	\$22.73	\$22.64	\$22.43	\$22.33	\$22.23	\$22.13	\$22.65
Total (\$/capita)	\$111.77	\$113.64	\$113.30	\$112.40	\$117.70	\$117.23	\$116.13	\$115.63	\$115.13	\$114.62	\$114.76

**CITY OF WINDSOR
CALCULATION OF MAXIMUM ALLOWABLE
WASTE DIVERSION**

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2010 - 2019	\$114.76
Net Population Growth 2020 - 2029	10,433
Discounted Maximum Allowable Funding Envelope	\$1,197,291



APPENDIX B.7
TABLE 2
CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
WASTE DIVERSION

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs	Total DC Eligible Costs	DC Eligible Costs		
					Replacement & BTE Shares		Available DC Reserves	2020-2029	Post 2029
7.0 WASTE DIVERSION									
7.1 Facilities, Vehicles & Equipment									
7.1.1 Organic Waste Processing Facility	2025	\$ 45,000,000	\$ -	\$ 45,000,000	\$ 42,750,000	\$ 2,250,000	\$ -	\$ 946,064	\$ 1,303,936
7.1.2 Additional Organic Waste Collection Vehicles	Various	\$ 251,227	\$ -	\$ 251,227	\$ -	\$ 251,227	\$ -	\$ 251,227	\$ -
Subtotal Facilities, Vehicles & Equipment		\$ 45,251,227	\$ -	\$ 45,251,227	\$ 42,750,000	\$ 2,501,227	\$ -	\$ 1,197,291	\$ 1,303,936
TOTAL WASTE DIVERSION		\$ 45,251,227	\$ -	\$ 45,251,227	\$ 42,750,000	\$ 2,501,227	\$ -	\$ 1,197,291	\$ 1,303,936

Residential Development Charge Calculation		
Residential Share of 2020 - 2029 DC Eligible Costs	100%	\$1,197,291
10-Year Growth in Population in New Units		19,402
Unadjusted Development Charge Per Capita		\$61.71
Non-Residential Development Charge Calculation		
Non-Residential Share of 2020 - 2029 DC Eligible Costs	0%	\$0
10-Year Non-Residential Growth in New Space (Square Metres)		188,326
Unadjusted Development Charge Per Square Metre		\$0.00

2020 - 2029 Net Funding Envelope	\$1,197,291
Reserve Fund Balance Balance as at December 31, 2019	\$0

APPENDIX B.7
TABLE 3

CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WASTE DIVERSION
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

WASTE DIVERSION	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.0	\$119.3	\$246.3	\$353.5	\$467.2	\$587.8	(\$356.5)	(\$265.7)	(\$182.9)	(\$92.6)	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
- Waste Diversion: Non Inflated	\$25.1	\$25.1	\$25.1	\$25.1	\$25.1	\$971.2	\$25.1	\$25.1	\$25.1	\$25.1	\$1,197.3
- Waste Diversion: Inflated	\$25.1	\$25.6	\$26.1	\$26.7	\$27.2	\$1,072.3	\$28.3	\$28.9	\$29.4	\$30.0	\$1,319.6
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	2,278	2,296	1,892	1,903	1,916	1,931	1,943	1,736	1,749	1,758	19,402
REVENUE											
- DC Receipts: Inflated	\$142.4	\$146.4	\$123.0	\$126.2	\$129.6	\$133.2	\$136.8	\$124.6	\$128.1	\$131.3	\$1,321.6
INTEREST											
- Interest on Opening Balance	\$0.0	\$4.2	\$8.6	\$12.4	\$16.4	\$20.6	(\$19.6)	(\$14.6)	(\$10.1)	(\$5.1)	\$12.7
- Interest on In-year Transactions	\$2.1	\$2.1	\$1.7	\$1.7	\$1.8	(\$25.8)	\$1.9	\$1.7	\$1.7	\$1.8	(\$9.4)
TOTAL REVENUE	\$144.4	\$152.7	\$133.3	\$140.3	\$147.8	\$128.0	\$119.1	\$111.7	\$119.7	\$128.0	\$1,325.0
CLOSING CASH BALANCE	\$119.3	\$246.3	\$353.5	\$467.2	\$587.8	(\$356.5)	(\$265.7)	(\$182.9)	(\$92.6)	\$5.4	

2020 Adjusted Charge Per Capita	\$63
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Allocation of Capital Program	
Residential Sector	100%
Non-Residential Sector	0%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C
CITY-WIDE ENGINEERING SERVICES
TECHNICAL APPENDIX

CITY-WIDE ENGINEERING SERVICES

Through the Office of the City Engineer, the City of Windsor provides the municipal engineered services of roads and traffic operations, sewage treatment, sanitary sewerage, storm sewer management and municipal drains. These essential services are designed for the appropriate health, protection and quality of life of those living and working in Windsor. The department also provides review and inspection services to facilitate new development, maintain service standards and sustain exiting infrastructure. The engineered service of water supply and distribution is provided by the Windsor Utility Commission (WUC).

This appendix provides the detailed analysis undertaken to establish the development charge rates for the eligible City-wide engineered services. As indicated in the table below, certain development charges calculated in this section are intended to apply to development outside of the Sandwich South Planning District. These services include Roads and Related, Sanitary Sewer, Storm Sewer and Municipal Drains, and Water. The corresponding Sandwich South area-specific engineered services are addressed within Appendix D.

Appendix Section	Service	Geographic Area
C.1	Services Related to a Highway	
	Roads and Related	City-wide excluding Sandwich South
	Buildings and Fleet	City-wide
	City-Wide Studies	City-wide
C.2	Sewage Treatment	City-wide
C.3	Sanitary Sewer	City-wide excluding Sandwich South
C.4	Storm Sewer and Municipal Drains	City-wide excluding Sandwich South
C.5	Water	City-wide excluding Sandwich South

The basis of the development-related capital program is the City’s capital budget and detailed discussions with City staff. The projects identified in the capital program are required to service the demands of new development over the ten-year planning period, between 2020 and 2029, subject to annual capital budget reviews.

The following tables provide details of the projects included in the City-wide engineered infrastructure development charges calculations. With the exception of Appendix C.1, the content of the tables generally is as follows:

Table 1: Development-Related Capital Program

Table 2: Calculation of Unadjusted Development Charges

Table 3: Residential & Non-Residential Cash Flow Analysis

It is noted that the Services Related to a Highway development charges calculations are structured differently as it is comprised of three sub-service areas (see Appendix C.1).

ALLOCATION OF CAPITAL COSTS

Many of the projects included in the City-wide engineered services capital programs were previously included within the 2015 DC Background Study. These project costs have been updated to 2020 dollars to reflect current construction costs.

In calculating the development charges for all City-wide engineered services, several key assumptions have been used. These assumptions have been used for all engineered services with the exception of Buildings and Fleet and City-wide Studies, as the capital projects included under those service areas are considered to have much shorter benefitting horizons than typical engineered infrastructure.

The following table summarizes the allocation of engineered services capital costs (in thousands of dollars):

Service	Gross Cost	Net Cost	Benefit to Existing	Available Reserves	Sandwich South DC	Post-Period	DC Eligible
Roads & Related	\$1,348,997.9	\$1,322,485.1	\$485,254.2	\$7,185.6	\$335,893.4	\$420,075.4	\$74,076.5
Buildings & Fleet	\$1,741.4	\$1,701.2	\$0.0	\$255.2	\$0.0	\$0.0	\$1,476.0
City-Wide Eng. Studies	\$200.0	\$200.0	\$0.0	\$0.0	\$0.0	\$0.0	\$200.0
Sewage Treatment	\$379,163.0	\$326,163.0	\$43,790.0	\$3,279.8	\$0.0	\$273,466.6	\$5,626.6
Sanitary Sewer	\$46,418.8	\$22,962.8	\$2,461.3	\$2,344.2	\$10,921.3	\$5,332.3	\$1,903.8
Storm & Drains	\$102,928.4	\$72,976.2	\$40,696.0	\$8,893.2	\$99.2	\$19,357.6	\$3,930.3
Water	\$78,970.0	\$73,362.0	\$41,500.0	\$1,615.3	\$0.0	\$17,462.7	\$12,784.0
Total	\$1,958,419.6	\$1,819,850.3	\$613,701.4	\$23,543.2	\$346,913.8	\$735,694.6	\$99,997.2

The City-wide engineered services capital program totals \$1.96 billion, which is reduced by \$138.57 million in available grants, subsidies, and other funding sources. The remaining net cost to the municipality is \$1.82 billion. Of this amount:

- \$613.70 million (34%) is attributable to replacement or benefit-to-existing shares. Overall the benefit-to-existing shares used in the previous study have been maintained, unless otherwise instructed from City engineering staff;
- \$346.91 million (19%) has been identified as growth-related shares attributable to development in Sandwich South only. These shares are to be funded through the Sandwich South area-specific DC rates. Projects that have a share attributed to Sandwich South are also included within Appendix D; and
- \$735.69 million (40%) is attributable to development occurring beyond 2029. Similar to the 2015 DC Background Study, these shares have been attributed based on project timing. Assumptions have been adjusted from the previous DC study based on updates to the DC development forecast. Post-period share assumptions are as follows:
 - No post-period share has been assigned to projects completed prior to 2020;
 - A 45% post-period share has been assigned to projects that are anticipated to be completed in the next one to five years;
 - A 60% post-period share has been assigned to projects set to occur within the next one to ten years; and
 - Projects that have been identified for beyond the 2020-2029 period have been assigned 100% post-period, and are effectively excluded from the DC calculations.

After accounting for these deductions, the remaining \$100.00 million (5% of the gross capital program) is to be funded through City-wide DCs over the 2020-2029 planning period.

APPENDIX C.1

SERVICES RELATED TO A HIGHWAY

SERVICES RELATED TO A HIGHWAY

The Office of the City Engineer provides a range of services related to roadways and associated infrastructure, including maintenance of the City's public works buildings and fleet. This appendix provides the detailed analysis undertaken to establish the development charge rates for City-wide Services Related to a Highway. There are three sub-services:

- Roads and Related (Appendix C.1.1);
- Buildings and Fleet (Appendix C.1.2); and
- City-Wide Studies (Appendix C.1.3).

Details are provided within the following sections. It noted that the Roads and Related development charge calculation presented in this appendix excludes infrastructure that is deemed to benefit development in Sandwich South; an area-specific Roads and Related development charge is calculated within Appendix D. However, the costs included within the Buildings and Fleet and City-Wide Studies capital programs are considered to have a broader benefit, and charges are calculated on a City-wide basis, including the Sandwich South lands.

C.1.1 ROADS AND RELATED

Under the supervision of the City Engineer, the Public Works team currently maintains approximately 1,000 kilometres of road surfaces (excluding local roads) and 950 kilometres of sidewalks, along with 292 bridges and culverts and 292 traffic signals and pedestrian cross-overs. The capital program contained herein was assembled by the City's engineering staff and is designed to serve the anticipated population and employment growth between 2020 and 2029.

The 2020-2029 City-wide (excluding Sandwich South) Roads and Related capital program totals \$1.35 billion and includes City-wide road infrastructure as well as Sandwich South roads capital projects that contain a City-wide benefit share. It also includes development-related roads studies, such as environmental reports and master plans. The details and timing of each road project, and the cost breakdown are shown on Table 1.

The 2020-2029 development-related costs included in the capital program are not to be entirely recovered through future development charges. The City anticipates a total of \$26.51 million in grants and subsidies. Additionally, approximately \$485.25 million of the program has been identified as a benefit to the existing community, or replacement share. These shares represent the portion of the projects that will benefit the existing population in the City of Windsor, or the replacement portion of a road upgrade project.

Of the remaining growth-related capital costs, approximately \$335.89 million is considered to be related to Sandwich South and is to be recovered through area-specific DCs, as detailed in Appendix D.

Available reserve funds in the amount of \$7.19 million have been identified and will be used to fund completed or near-term development-related projects. These costs will be removed from the development charges calculation.

Finally, a share of \$420.08 million is deemed to benefit the City post 2029. As discussed previously, post-period shares have been calculated based on project timing. This amount includes the total growth-related cost of projects identified for beyond the 2020-2029 planning period.

The remaining \$74.08 million is identified as the net growth-related share eligible for funding through development charges in the ten-year planning period.

Table 2 summarizes the City-wide (excluding Sandwich South) Roads and Related program and calculation of the unadjusted residential and non-residential development charges. The DC eligible share of \$74.08 million has been allocated 97 per cent to new residential development and 3 per cent to non-residential development. The allocation of costs is based on the future shares of population in new units and employment growth in new space to 2029, excluding growth anticipated in Sandwich South. The residential share of the capital program totals \$71.85 million and, when divided by the forecast growth in population in new units (13,032), an unadjusted charge of \$5,513.67 per capita results.

The non-residential share, \$2.22 million is applied against the forecast increase in employment growth, and non-residential floor space, by sector. Of the 340 additional jobs anticipated in Windsor outside of Sandwich South between 2020 and 2029, 59% are anticipated to be industrial, and the remaining 41 per cent are anticipated to be non-industrial. The industrial share totals \$1.31 million, which, when divided by the increase in square metres of industrial building space (20,095), yields an unadjusted charge of \$65.25 per square metre. The remaining non-industrial share totals \$911,100 and yields an unadjusted charge of \$109.51 per square metre of new non-industrial development, when divided by the anticipated increase (8,320).

The residential and non-residential cash flow analysis is shown on Table 3. The analysis takes into consideration expenditure timing and DC revenue projections. Page 1 displays the residential cash flow analysis and pages 2 and 3 provide the non-residential analysis for industrial and non-industrial charges, respectively.

After cash flow considerations, the residential charge increases slightly to \$5,527 per capita, while the non-residential charges decrease slightly to \$62.45 per square metre (industrial) and \$108.25 per square metre (non-industrial), respectively.

2020 - 2029		ROADS & RELATED SUMMARY			Adjusted		
Development-Related Capital Program		Unadjusted Development Charge			Development Charge		
Total	Net DC Recoverable	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²
\$1,348,997,947	\$74,076,503	\$5,513.67	\$65.25	\$109.51	\$5,527	\$62.45	\$108.25

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TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
ROADS & RELATED

NO.	Infrastructure Requirement	From	To	Timing	Estimated Project Costs								
					Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	Sandwich South DC Share	Available DC Reserves	Post Period Allocation	Net Growth-Related	
City-wide Roads & Related Infrastructure													
1	Riverside Drive - Phase 1B	Lauzon Road	Solidarity Towers	2020 - 2024	\$6,964,000	\$0	\$6,964,000	75%	\$5,223,000	\$0	\$1,741,000	\$0	\$0
2	Sprucewood Avenue	Matchette Road	Ojibway Street	2020 - 2024	\$3,815,667	\$0	\$3,815,667	25%	\$953,917	\$0	\$2,861,750	\$0	\$0
3	Kamloops Street (Oversized Share) (Remaining Costs)	Marentette Avenue	W. of Calderwood Ave	2020 - 2020	\$127,246	\$0	\$127,246	0%	\$0	\$0	\$127,246	\$0	\$0
4	Matchette / Sprucewood Intersection	Sprucewood Avenue	North 500 m	2020 - 2024	\$2,434,476	\$0	\$2,434,476	25%	\$608,619	\$0	\$1,825,857	\$0	\$0
5	McHugh Street / Lauzon Road Intersection			2020 - 2024	\$370,000	\$0	\$370,000	0%	\$0	\$0	\$300,431	\$31,306	\$38,263
6	Tecumseh Road West	S. of Crawford Avenue	Dougall Avenue	2020 - 2029	\$7,083,373	\$0	\$7,083,373	50%	\$3,541,687	\$0	\$0	\$2,125,012	\$1,416,674
7	McDougall Road (Remaining Costs)	S. of Logan Avenue	C.P Tracks	2020 - 2020	\$1,750,758	\$0	\$1,750,758	75%	\$1,313,069	\$0	\$0	\$0	\$437,689
8	Bikeways Development			2020 - 2029	\$74,000,000	\$22,230,000	\$51,770,000	50%	\$25,885,000	\$0	\$0	\$15,531,000	\$10,354,000
9	Twin Oaks Drive	Val Tech Court	East 500 m	2020 - 2029	\$4,868,951	\$0	\$4,868,951	25%	\$1,217,238	\$0	\$0	\$2,191,028	\$1,460,685
10	Banwell Road Noise Barrier (Remaining Costs)	Arvilla Street	Firgrove Drive	2020 - 2020	\$66,586	\$0	\$66,586	25%	\$16,647	\$0	\$0	\$0	\$49,939
11	Catherine Street	Wal Mart	CNR/E. of Jefferson Blvd	2020 - 2029	\$3,361,895	\$0	\$3,361,895	10%	\$336,190	\$0	\$0	\$1,815,423	\$1,210,282
12	Conservation Drive	North Service Road	South Service Road	2026 - 2029	\$838,155	\$0	\$838,155	75%	\$628,616	\$0	\$0	\$125,723	\$83,816
13	Ouellette Avenue	Wyandotte Street E.	Elliott Street	2020 - 2020	\$7,517,640	\$0	\$7,517,640	85%	\$6,389,994	\$0	\$0	\$0	\$1,127,646
14	Walker Road Improvements	Foster Avenue	Airport Road	2026 - 2029	\$17,350,000	\$0	\$17,350,000	50%	\$8,675,000	\$0	\$0	\$5,205,000	\$3,470,000
15	Grand Marais Road	Howard Avenue	Parent Avenue	2030+	\$3,426,986	\$0	\$3,426,986	75%	\$2,570,240	\$0	\$0	\$856,746	\$0
16	Grand Marais Road	Parent Avenue	Walker Road	2030+	\$8,869,848	\$0	\$8,869,848	75%	\$6,652,386	\$0	\$0	\$2,217,462	\$0
17	Tecumseh Road East	E. of Lauzon Road	Forest Glade Drive	2020 - 2029	\$10,700,000	\$0	\$10,700,000	50%	\$5,350,000	\$0	\$0	\$3,210,000	\$2,140,000
18	Jefferson Boulevard	Tecumseh Road	Rose Avenue	2020 - 2029	\$3,015,000	\$0	\$3,015,000	50%	\$1,507,500	\$0	\$0	\$904,500	\$603,000
19	Tecumseh Rd E / Forest Glade Dr Intersection			2020 - 2029	\$7,000,000	\$0	\$7,000,000	50%	\$3,500,000	\$0	\$0	\$2,100,000	\$1,400,000
20	Little River Bridge at Tecumseh Rd			2020 - 2029	\$6,376,007	\$0	\$6,376,007	50%	\$3,188,004	\$0	\$0	\$1,912,802	\$1,275,201
21	Dougall Ave / Ouellette Pl Grade Separation	E.C. Row Expressway	Eugenie Street	2020 - 2024	\$10,800,000	\$0	\$10,800,000	50%	\$5,400,000	\$0	\$0	\$2,430,000	\$2,970,000
22	Walker Road	Wyandotte Street E.	Ottawa Street	2030+	\$10,604,251	\$1,665,000	\$8,939,251	85%	\$7,598,363	\$0	\$0	\$1,340,888	\$0
23	E.C. Row Expressway			2030+	\$121,524,383	\$0	\$121,524,383	75%	\$91,143,287	\$0	\$0	\$30,381,096	\$0
24	Howard Avenue	S. Cameron Boulevard	Cabana Road	2020 - 2024	\$10,691,173	\$0	\$10,691,173	50%	\$5,345,587	\$0	\$0	\$2,405,514	\$2,940,072



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TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
ROADS & RELATED

NO.	Infrastructure Requirement	From	To	Timing	Estimated Project Costs								
					Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	Sandwich South DC Share	Available DC Reserves	Post Period Allocation	Net Growth-Related	
City-wide Roads & Related Infrastructure													
25	Tecumseh Road East	E. of Forest Glade Dr	E. City Limits	2030+	\$14,850,000	\$0	\$14,850,000	50%	\$7,425,000	\$0	\$0	\$7,425,000	\$0
26	Riverside Drive - Phase 4	Riverdale Avenue	East City Limits	2030+	\$21,630,000	\$0	\$21,630,000	75%	\$16,222,500	\$0	\$0	\$5,407,500	\$0
27	Riverside Drive - Stage 5	Rosedale Avenue	Lincoln Road	2030+	\$36,050,000	\$0	\$36,050,000	85%	\$30,642,500	\$0	\$0	\$5,407,500	\$0
28	Bethlehem Avenue	West of Sixth Street	Malden Road	2030+	\$1,198,597	\$0	\$1,198,597	50%	\$599,299	\$0	\$0	\$599,298	\$0
29	Quebec Street	Huron Church Road	Dominion Boulevard	2030+	\$1,668,047	\$0	\$1,668,047	10%	\$166,805	\$0	\$0	\$1,501,242	\$0
30	Betts Avenue	Ojibway	Quebec	2030+	\$2,057,591	\$0	\$2,057,591	10%	\$205,759	\$0	\$0	\$1,851,832	\$0
31	Ojibway Street	Dominion Boulevard	South Cameron Street	2030+	\$549,357	\$0	\$549,357	10%	\$54,936	\$0	\$0	\$494,421	\$0
32	Dominion Road / Alexandra Avenue	Northwood Street	Totten Road	2030+	\$10,351,305	\$0	\$10,351,305	25%	\$2,587,826	\$0	\$0	\$7,763,479	\$0
33	Howard Avenue	Cabana Road	Dougall Pkwy	2030+	\$2,852,002	\$0	\$2,852,002	50%	\$1,426,001	\$0	\$0	\$1,426,001	\$0
34	Howard Avenue	Dougall Pkwy Interchange		2030+	\$2,341,734	\$0	\$2,341,734	50%	\$1,170,867	\$0	\$0	\$1,170,867	\$0
35	Howard Avenue	Dougall Pkwy	Hwy 3	2030+	\$6,440,732	\$0	\$6,440,732	50%	\$3,220,366	\$0	\$0	\$3,220,366	\$0
36	Wyandotte Street	Banwell Road	Jarvis Avenue	2020 - 2024	\$2,400,000	\$0	\$2,400,000	0%	\$0	\$0	\$0	\$1,080,000	\$1,320,000
37	Totten Road	Betts Avenue	Dominion Boulevard	2030+	\$481,794	\$0	\$481,794	50%	\$240,897	\$0	\$0	\$240,897	\$0
38	South Service Road	Marentette Street	Conservation Drive	2030+	\$2,447,135	\$0	\$2,447,135	85%	\$2,080,065	\$0	\$0	\$367,070	\$0
39	Malden Road	Huron Church Road	E.C. Row Expressway	2030+	\$7,957,350	\$0	\$7,957,350	50%	\$3,978,675	\$0	\$0	\$3,978,675	\$0
40	Malden Road	E.C. Row Expressway	City Limits	2030+	\$54,060,374	\$0	\$54,060,374	50%	\$27,030,187	\$0	\$0	\$27,030,187	\$0
41	Matchette Road	E.C. Row Expressway	Prince Road	2030+	\$2,782,258	\$0	\$2,782,258	50%	\$1,391,129	\$0	\$0	\$1,391,129	\$0
42	Central	Tecumseh Road	Grand Marais Road	2030+	\$4,086,441	\$0	\$4,086,441	75%	\$3,064,831	\$0	\$0	\$1,021,610	\$0
43	Edinborough Avenue	Howard Avenue	Dougall Avenue	2030+	\$1,950,000	\$0	\$1,950,000	50%	\$975,000	\$0	\$0	\$975,000	\$0
44	Howard Avenue / South Cameron Boulevard			2030+	\$13,500,000	\$0	\$13,500,000	50%	\$6,750,000	\$0	\$0	\$6,750,000	\$0
45	Temple Drive Extension			2030+	\$1,963,742	\$0	\$1,963,742	50%	\$981,871	\$0	\$0	\$981,871	\$0
46	Riverside Drive at C.P.R. Tracks			2030+	\$1,831,189	\$0	\$1,831,189	85%	\$1,556,511	\$0	\$0	\$274,678	\$0
47	Dominion Boulevard / Norfolk Street			2030+	\$283,002	\$0	\$283,002	75%	\$212,251	\$0	\$0	\$70,751	\$0
48	Riverside Drive - Phase 2A	St Rose Ave	Ford Blvd	2020 - 2029	\$9,735,000	\$2,292,851	\$7,442,149	0%	\$0	\$0	\$0	\$4,465,289	\$2,976,860
City-wide Roads & Related Infrastructure													



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TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
ROADS & RELATED

NO.	Infrastructure Requirement	From	To	Timing	Estimated Project Costs								
					Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	Sandwich South DC Share	Available DC Reserves	Post Period Allocation	Net Growth-Related	
49	Riverside Drive - Phase 2B	Ford Blvd	Lauzon Road	2030+	\$5,600,000	\$0	\$5,600,000	0%	\$0	\$0	\$0	\$5,600,000	\$0
50	Riverside Drive - Phase 3A	Strabane Ave	Ford Blvd	2030+	\$12,710,000	\$0	\$12,710,000	0%	\$0	\$0	\$0	\$12,710,000	\$0
51	Riverside Drive - Phase 3B	Lincoln Rd	Strabane Ave	2030+	\$9,900,000	\$0	\$9,900,000	0%	\$0	\$0	\$0	\$9,900,000	\$0
52	Banwell Road	Tecumseh	Mulberry	2020 - 2024	\$6,492,168	\$0	\$6,492,168	0%	\$0	\$0	\$0	\$2,921,476	\$3,570,692
53	Banwell Road/Mulberry Roundabout			2020 - 2029	\$2,500,000	\$0	\$2,500,000	0%	\$0	\$0	\$0	\$1,500,000	\$1,000,000
54	Banwell Interchange plus road construction	Mulberry	City Limits	2030+	\$103,650,000	\$0	\$103,650,000	0%	\$0	\$0	\$0	\$103,650,000	\$0
55	Cabana Road Improvements - Phase 1	Provincial Rd	Howard Ave.	2020 - 2020	\$5,900,000	\$146,250	\$5,753,750	60%	\$3,452,250	\$0	\$0	\$0	\$2,301,500
56	Cabana Road Improvements - Phase 2	Howard Ave.	Dougall Ave.	2020 - 2024	\$7,187,499	\$178,750	\$7,008,749	60%	\$4,205,250	\$0	\$0	\$1,261,575	\$1,541,925
57	Cabana Road Improvements - Phase 3	Dougall Ave.	Mt. Carmel Dr.	2020 - 2024	\$12,248,728	\$0	\$12,248,728	60%	\$7,349,237	\$0	\$0	\$2,204,771	\$2,694,720
58	Cabana Road Improvements - Phase 4	Mt. Carmel Dr.	HWY #3	2020 - 2024	\$12,821,571	\$0	\$12,821,571	60%	\$7,692,943	\$0	\$0	\$2,307,883	\$2,820,746
59	Cabana Road Improvements - Phase 5	Sixth Concession Rd	Walker Road	2020 - 2024	\$7,628,023	\$0	\$7,628,023	60%	\$4,576,814	\$0	\$0	\$1,373,044	\$1,678,165
60	Provincial /Division Corridor Improvements - Phase 3A	South of Cabana	South of Lone Pine St.	2026 - 2029	\$14,904,268	\$0	\$14,904,268	60%	\$8,942,561	\$0	\$0	\$3,577,024	\$2,384,683
61	Provincial /Division Corridor Improvements - Phase 3B	South of Lone Pine St.	Legacy Park Dr.	2026 - 2029	\$11,196,571	\$0	\$11,196,571	60%	\$6,717,942	\$0	\$0	\$2,687,177	\$1,791,451
62	Provincial /Division Corridor Improvements - Phase 4	Legacy Park Dr.	Walker Road	2026 - 2029	\$7,042,532	\$0	\$7,042,532	60%	\$4,225,519	\$0	\$0	\$1,690,208	\$1,126,805
63	Provincial/Division Corridor Phase 5 & plus	Howard Ave.	Clark Dr.	2030+	\$48,673,150	\$0	\$48,673,150	60%	\$29,203,890	\$0	\$0	\$19,469,260	\$0
64	Sixth Conc. / N. Talbot Rd. Infrastructure Impr.	Cabana / Howard	North Talbot / City Limit	2026 - 2029	\$27,740,000	\$0	\$27,740,000	50%	\$13,870,000	\$0	\$0	\$8,322,000	\$5,548,000
65	Banwell Corridor EA Study (Remaining Costs)	Tecumseh Road East	City Limits	2020 - 2020	\$79,146	\$0	\$79,146	0%	\$0	\$0	\$0	\$0	\$79,146
66	Dominion/Northwood Intersection			2020 - 2024	\$3,900,000	\$0	\$3,900,000	0%	\$0	\$0	\$0	\$1,755,000	\$2,145,000
67	Transportation Master Plan			2020 - 2024	\$500,000	\$0	\$500,000	75%	\$375,000	\$0	\$0	\$56,250	\$68,750
68	Dominion Road EA - N. of Ojibway			2020 - 2024	\$200,000	\$0	\$200,000	0%	\$0	\$0	\$0	\$90,000	\$110,000
69	Catherine Street EA			2020 - 2024	\$200,000	\$0	\$200,000	0%	\$0	\$0	\$0	\$90,000	\$110,000
70	Wyandotte Street	Banwell Road	Jarvis Avenue	2020 - 2024	\$50,000	\$0	\$50,000	0%	\$0	\$0	\$0	\$22,500	\$27,500
71	Northwood Extension		Dougall Ave.	2030+	\$29,300,000	\$0	\$29,300,000	0%	\$0	\$0	\$0	\$29,300,000	\$0
Subtotal Roads and Related Infrastructure					\$857,447,701	\$26,512,851	\$830,934,850		\$389,639,026	\$0	\$6,856,284	\$370,166,329	\$64,273,210



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TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
ROADS & RELATED

NO.	Infrastructure Requirement	From	To	Timing	Estimated Project Costs									
					Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	Sandwich South DC Share	Available DC Reserves	Post Period Allocation	Net Growth-Related		
City-Wide Component of Sandwich South Projects														
72	7th Concession	County Road 42	E-W Arterial	2020 - 2035	\$9,960,000	\$0	\$9,960,000	10%	\$996,000	\$7,619,400	\$0	\$1,008,450	\$336,150	
73	8th Concession	County Road 42	Hwy 401	2020 - 2035	\$19,100,000	\$0	\$19,100,000	10%	\$1,910,000	\$14,611,500	\$0	\$1,933,875	\$644,625	
74	9th Concession	County Road 42	Hwy 401	2020 - 2035	\$25,740,000	\$0	\$25,740,000	10%	\$2,574,000	\$19,691,100	\$0	\$2,606,175	\$868,725	
75	Baseline Road	7th Concession	E. City Limits	2030+	\$29,300,000	\$0	\$29,300,000	10%	\$2,930,000	\$22,414,500	\$0	\$3,955,500	\$0	
76	County Road 17	County Road 42	Hwy 401	2030+	\$28,230,000	\$0	\$28,230,000	10%	\$2,823,000	\$21,595,950	\$0	\$3,811,050	\$0	
77	Collector Roads - County Road 42 Secondary Plan			2020 - 2035	\$34,650,000	\$0	\$34,650,000	10%	\$3,465,000	\$26,507,250	\$0	\$3,508,313	\$1,169,438	
78	Collector Roads - East Pelton Secondary Plan			2020 - 2035	\$41,290,000	\$0	\$41,290,000	10%	\$4,129,000	\$31,586,850	\$0	\$4,180,613	\$1,393,538	
79	County Road 42 - Engineering & Construction	Walker Road	E. City Limits	2026 - 2041	\$75,060,000	\$0	\$75,060,000	25%	\$18,765,000	\$47,850,750	\$0	\$7,177,613	\$1,266,638	
80	Lauzon Parkway - Engineering & Construction	E.C. Row Expressway	Hwy 401	2026 - 2041	\$179,820,000	\$0	\$179,820,000	25%	\$44,955,000	\$114,635,250	\$0	\$17,195,288	\$3,034,463	
81	E-W Arterial - Engineering & Construction	Walker Road	Lauzon Parkway	2026 - 2041	\$45,350,000	\$0	\$45,350,000	25%	\$11,337,500	\$28,910,625	\$0	\$4,336,594	\$765,281	
82	Lauzon Pkwy / County Rd 42 / E-W Arterial EA (Remaining Costs) - City-wide share			2020 - 2020	\$293,000	\$0	\$293,000	50%	\$146,500	\$73,250	\$0	\$0	\$73,250	
83	Functional Servicing Reports			2020 - 2022	\$467,000	\$0	\$467,000	0%	\$0	\$396,950	\$0	\$0	\$70,050	
Subtotal City-wide Component of Sandwich South Projects					\$489,260,000	\$0	\$489,260,000		\$94,031,000	\$335,893,375	\$0	\$49,713,469	\$9,622,156	
Roads & Related Studies														
84	Active Transportation Master Plan			2020 - 2020	\$346,750	\$0	\$346,750	75%	\$260,063	\$0	\$86,687	\$0	\$0	
85	Tecumseh Road West ESR			2020 - 2020	\$178,110	\$0	\$178,110	75%	\$133,583	\$0	\$44,527	\$0	\$0	
86	Sixth Concession / North Talbot ESR (Remaining Costs)			2020 - 2020	\$186,260	\$0	\$186,260	50%	\$93,130	\$0	\$93,130	\$0	\$0	
87	Central Box ESR (Remaining Costs)			2020 - 2020	\$419,852	\$0	\$419,852	75%	\$314,889	\$0	\$104,963	\$0	\$0	
88	E.C. Row Expressway ESR			2020 - 2024	\$811,492	\$0	\$811,492	75%	\$608,619	\$0	\$0	\$91,293	\$111,580	
89	Truck Route Study			2020 - 2029	\$347,782	\$0	\$347,782	50%	\$173,891	\$0	\$0	\$104,335	\$69,556	
Subtotal Studies					\$2,290,246	\$0	\$2,290,246		\$1,584,175	\$0	\$329,307	\$195,627	\$181,137	
Total Roads Projects					\$1,348,997,947	\$26,512,851	\$1,322,485,096		\$485,254,201	\$335,893,375	\$7,185,591	\$420,075,426	\$74,076,503	



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TABLE 2

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
 ROADS & RELATED

Growth in Population in New Units 2020-2029	13,032
Employment Growth in New Space 2020-2029	340
Growth in New Building Space (Square Metres) 2020-2029	28,415
Industrial	20,095
Non-Industrial	8,320

	Growth-Related Capital Forecast							Residential		Non-Residential	
	Gross Project Cost (\$000)	Grants and Subsidies (\$000)	Benefit to Existing Share (\$000)	Available DC Reserves (\$000)	Sandwich South Share (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs (\$000)	%	\$000	%	\$000
ROADS & RELATED											
City-wide Roads & Related Infrastructure	\$857,447.70	\$26,512.85	\$389,639.03	\$6,856.28	\$0.00	\$370,166.33	\$64,273.21	97%	\$62,345.01	3%	\$1,928.20
City-Wide Component of Sandwich South Projects	\$489,260.00	\$0.00	\$94,031.00	\$0.00	\$335,893.38	\$49,713.47	\$9,622.16	97%	\$9,333.49	3%	\$288.66
Roads & Related Studies	\$2,290.25	\$0.00	\$1,584.18	\$329.31	\$0.00	\$195.63	\$181.14	97%	\$175.70	3%	\$5.43
TOTAL ROADS & RELATED	\$1,348,997.95	\$26,512.85	\$485,254.20	\$7,185.59	\$335,893.38	\$420,075.43	\$74,076.50		\$71,854.21		\$2,222.30
Unadjusted Development Charge Per Capita (\$)									\$5,513.67		
Unadjusted Development Charge Per Square Metre (\$)											\$78.21
									Non-Residential Allocation ¹		
									(\$000)	%	\$/m²
Unadjusted Charge Per Square Metre (\$) - Industrial									\$1,311.2	59%	\$65.25
Unadjusted Charge Per Square Metre (\$) - Non-Industrial									\$911.1	41%	\$109.51

1) Non-residential cost allocated based on percentage shares of employment growth over the period 2020-2029

Residential Development Charge Calculation		
Residential Share of 2020-2029 DC Eligible Costs	97%	\$71,854,208
10-year Growth in Population in New Units		13,032
Development Charge Per Capita (Unadjusted)		\$5,513.67
Development Charge Per Capita after Cash Flow		\$5,527
Charge per Single Detached Unit	3.83	\$21,194

Non-Residential Development Charge Calculation		
Non-Residential Share of 2020-2029 DC Eligible Costs	3%	\$2,222,295
10-year Growth in Non-Residential Building Space (Square Metre)		28,415
10-year Growth in Industrial Space		20,095
10-year Growth in Non-Industrial Space		8,320
Industrial Charge Per Square Metre (Unadjusted)	59%	\$65.25
Industrial Charge Per Square Metre After Cash Flow		\$62.45
Non-Industrial Charge Per Square Metre (Unadjusted)	41%	\$109.51
Non-Industrial Charge Per Square Metre After Cash Flow		\$108.25



APPENDIX C.1.1

TABLE 3

CITY OF WINDSOR

ROADS & RELATED

CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

ROADS & RELATED - RESIDENTIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	(\$3,191.9)	(\$1,107.9)	(\$1,175.4)	(\$1,156.5)	(\$1,061.9)	\$3,948.7	\$3,927.5	\$2,623.8	\$1,325.4	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
Roads & Related - Residential: Non Inflated	\$12,126.5	\$6,942.5	\$6,942.5	\$6,919.8	\$6,919.8	\$2,623.2	\$7,345.0	\$7,345.0	\$7,345.0	\$7,345.0	\$71,854.2
Roads & Related - Residential: Inflated	\$12,126.5	\$7,081.3	\$7,222.9	\$7,343.4	\$7,490.2	\$2,896.2	\$8,271.6	\$8,437.1	\$8,605.8	\$8,777.9	\$78,253.1
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	1,632	1,650	1,255	1,266	1,278	1,291	1,304	1,108	1,120	1,128	13,032
REVENUE											
- DC Receipts: Inflated	\$9,020.1	\$9,301.9	\$7,216.6	\$7,425.5	\$7,645.8	\$7,878.0	\$8,116.5	\$7,034.5	\$7,252.9	\$7,450.8	\$78,342.4
INTEREST											
- Interest on Opening Balance	\$0.0	(\$175.6)	(\$60.9)	(\$64.6)	(\$63.6)	(\$58.4)	\$138.2	\$137.5	\$91.8	\$46.4	(\$9.3)
- Interest on In-year Transactions	(\$85.4)	\$38.9	(\$0.2)	\$1.4	\$2.7	\$87.2	(\$4.3)	(\$38.6)	(\$37.2)	(\$36.5)	(\$71.9)
TOTAL REVENUE	\$8,934.6	\$9,165.2	\$7,155.5	\$7,362.3	\$7,584.9	\$7,906.8	\$8,250.4	\$7,133.3	\$7,307.5	\$7,460.6	\$78,261.2
CLOSING CASH BALANCE	(\$3,191.9)	(\$1,107.9)	(\$1,175.4)	(\$1,156.5)	(\$1,061.9)	\$3,948.7	\$3,927.5	\$2,623.8	\$1,325.4	\$8.1	

2020 Adjusted Charge Per Capita	\$5,527
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.1.1

TABLE 3

CITY OF WINDSOR
ROADS & RELATED

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

ROADS & RELATED: NON-RESIDENTIAL - INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	\$408.1	\$947.4	\$845.2	\$737.1	\$622.4	\$589.9	\$455.5	\$313.2	\$162.8	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Roads & Related: Non-Residential - Industrial: Non: Inflated	\$221.3	\$126.7	\$126.7	\$126.3	\$126.3	\$47.9	\$134.0	\$134.0	\$134.0	\$134.0	\$1,311.2
Roads & Related: Non-Residential - Industrial: Inflated	\$221.3	\$129.2	\$131.8	\$134.0	\$136.7	\$52.8	\$150.9	\$154.0	\$157.0	\$160.2	\$1,427.9
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Industrial Building GFA - square metres	9,966	10,129	-	-	-	-	-	-	-	-	20,095
REVENUE											
- DC Receipts: Inflated	\$622.4	\$645.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,267.6
INTEREST											
- Interest on Opening Balance	\$0.0	\$14.3	\$33.2	\$29.6	\$25.8	\$21.8	\$20.6	\$15.9	\$11.0	\$5.7	\$177.9
- Interest on In-year Transactions	\$7.0	\$9.0	(\$3.6)	(\$3.7)	(\$3.8)	(\$1.5)	(\$4.2)	(\$4.2)	(\$4.3)	(\$4.4)	(\$13.6)
TOTAL REVENUE	\$629.4	\$668.5	\$29.5	\$25.9	\$22.0	\$20.3	\$16.5	\$11.7	\$6.6	\$1.3	\$1,431.9
CLOSING CASH BALANCE	\$408.1	\$947.4	\$845.2	\$737.1	\$622.4	\$589.9	\$455.5	\$313.2	\$162.8	\$4.0	

2020 Adjusted Charge Per Square Metre	\$62.45
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Non-Residential Allocation	
Industrial	59%
Non-Industrial	41%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.1.1

TABLE 3

CITY OF WINDSOR
ROADS & RELATED

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

ROADS & RELATED: NON-RESIDENTIAL - NON-INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	\$46.9	\$165.9	\$158.2	\$150.6	\$142.5	\$195.5	\$182.3	\$135.8	\$73.2	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Roads & Related: Non-Residential - Non-Industrial: Non: Inflated	\$153.8	\$88.0	\$88.0	\$87.7	\$87.7	\$33.3	\$93.1	\$93.1	\$93.1	\$93.1	\$911.1
Roads & Related: Non-Residential - Non-Industrial: Inflated	\$153.8	\$89.8	\$91.6	\$93.1	\$95.0	\$36.7	\$104.9	\$107.0	\$109.1	\$111.3	\$992.3
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Non-Industrial Building GFA - square metres	1,846	1,858	697	699	699	702	700	447	343	328	8,320
REVENUE											
- DC Receipts: Inflated	\$199.9	\$205.1	\$78.5	\$80.3	\$81.9	\$83.9	\$85.4	\$55.5	\$43.6	\$42.5	\$956.6
INTEREST											
- Interest on Opening Balance	\$0.0	\$1.6	\$5.8	\$5.5	\$5.3	\$5.0	\$6.8	\$6.4	\$4.8	\$2.6	\$43.8
- Interest on In-year Transactions	\$0.8	\$2.0	(\$0.4)	(\$0.4)	(\$0.4)	\$0.8	(\$0.5)	(\$1.4)	(\$1.8)	(\$1.9)	(\$3.1)
TOTAL REVENUE	\$200.7	\$208.8	\$83.9	\$85.5	\$86.8	\$89.7	\$91.7	\$60.5	\$46.5	\$43.1	\$997.3
CLOSING CASH BALANCE	\$46.9	\$165.9	\$158.2	\$150.6	\$142.5	\$195.5	\$182.3	\$135.8	\$73.2	\$5.0	

2020 Adjusted Charge Per Square Metre	\$108.25
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Non-Residential Allocation	
Industrial	59%
Non-Industrial	41%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



C.1.2 BUILDINGS AND FLEET

This section deals with Buildings and Fleet related to the construction, operation, and maintenance of the City's Roads and Related infrastructure. Buildings and Fleet fall under the responsibility of the Public Works department.

The Buildings and Fleet inventory of capital assets is shown in Table 1. The City of Windsor conducts public works from five main facilities, with smaller-scale operations occurring across the City in various other locations. Operations occurred within 147,100 square feet of building space that was worth almost \$28.36 million in 2019. The 4.70 hectares of land associated with this space was valued at \$2.35 million. The combined value of all furniture and equipment required to deliver the service at all locations totals \$8.49 million. Finally, the total value of municipal fleet has a combined value of \$20.23 million, which accounts for approximately 430 vehicles.

The total value of the Buildings and Fleet capital inventory is \$59.43 million. The ten-year historical average service level is \$186.77 per population and employment, and this, multiplied by the ten-year growth in population and employment (13,146), results in a maximum allowable funding envelope of \$2.46 million.

As shown in Table 2, the ten-year development-related capital program for Buildings and Fleet totals \$1.74 million. This accounts for ongoing purchases of additional municipal fleet throughout the planning period. No additional building space is anticipated for the 2020-2029 period.

An amount of \$40,262 in grants has been identified, leaving a net municipal cost of \$1.70 million. No replacement shares have been identified as these acquisitions are anticipated to be net additions to the existing fleet. A portion of the program, \$225,164 will be funded by the available DC reserve fund balance. The remaining \$1.48 million is related to development in the 2020-2029 planning period and is eligible for DC recovery.

The Buildings and Fleet DC is intended to apply to all lands across the City, including Sandwich South. As such, the \$1.48 million in development-related costs is allocated 89 per cent, or \$1.31 million against new residential development, and 11 per cent, or \$162,361 against new non-residential development, based on shares of population and employment growth anticipated across the City. This yields an unadjusted residential development charge of \$67.71 per capita and \$0.86 per square metre of new non-residential development.

After cash flow consideration (Table 3), the residential calculated charge is adjusted slightly to \$68 per capita and the non-residential charge is \$0.85 per square metre.

BUILDINGS & FLEET SUMMARY						
10-year Hist.	2020 - 2029		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per pop & emp	Total	Net DC Recoverable	\$/capita	\$/m ²	\$/capita	\$/m ²
\$186.77	\$1,741,431	\$1,476,005	\$67.71	\$0.86	\$68	\$0.85

APPENDIX C.1.2
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
BUILDINGS & FLEET

BUILDINGS Facility Name	# of Square Feet										UNIT COST (\$/sq.ft.)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
1531 Crawford Avenue											
Operations - Main Building	65,227	65,227	65,227	65,227	65,227	65,227	65,227	65,227	65,227	65,227	\$232.48
Brine Tank #1	172	172	172	172	172	172	172	-	-	-	\$44
Brine Tanks #2 & #3	924	924	924	924	924	924	924	708	708	708	\$28
Carpenter Shop & Storage	5,815	5,815	5,815	5,815	5,815	5,815	5,815	5,815	5,815	5,815	\$148
Field Services Building (formerly Compound - Storage)	2,866	2,866	2,866	2,866	2,866	2,866	6,200	6,200	6,200	6,200	\$117
Fuel Site and Tanks (3)	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	\$195
Salt Dome - 100' diameter	8,490	8,490	8,490	8,490	8,490	8,490	8,490	-	-	-	\$35
Salt Storage Building	-	-	-	-	-	-	-	7,654	7,654	7,654	\$117
Security Building	-	-	220	220	220	220	220	220	220	220	\$322
Storage Building - Flammable Materials	387	387	387	387	387	387	387	387	-	-	\$24
Storage Building - Post & Beam	-	-	6,384	6,384	6,384	6,384	6,384	6,384	6,384	6,384	\$28
Storage Building - Signs/Barricades	286	286	286	286	286	286	286	286	286	286	\$24
Top Soil & Cold Mix Storage	509	509	509	509	509	509	509	-	-	-	\$24
Storage Shed - Outside Carpenter Shop	234	234	234	234	234	234	234	234	234	234	\$24
2545 Pillette Street											
Field Services Building	9,863	9,863	9,863	9,863	9,863	-	-	-	-	-	\$589
Quonset Hut	827	827	827	827	827	-	-	-	-	-	\$24
Storage Shed	124	124	124	124	124	-	-	-	-	-	\$24
3540 EC Row Expressway											
Brine Tanks (2)	763	763	763	763	763	763	763	763	763	763	\$26
Fuel Site and Tank (1)	-	346	346	346	346	346	346	346	346	346	\$94
Salt Dome - 100' diameter	8,490	8,490	8,490	8,490	8,490	8,490	8,490	8,490	8,490	-	\$35
Salt Storage Building	-	-	-	-	-	-	-	-	-	7,957	\$79
Winter Control Site Trailer (3540 North Service Rd)	480	480	480	480	480	480	480	480	480	480	\$54
1266 McDougall Street											
Operations & Administration Building	15,246	15,246	15,246	15,246	15,246	15,246	15,246	15,246	15,246	15,246	\$285
1269 Mercer Street											
Traffic Operations Facility	15,548	15,548	15,548	15,548	15,548	15,548	15,548	15,548	15,548	15,548	\$190
Traffic Operations Paint Storage & Garage	7,830	7,830	7,830	7,830	7,830	7,830	7,830	7,830	7,830	7,830	\$197
Other Facilities											
Fuel Site & Tanks (2) (Parks Opns - 2461 McDougall Street)	1,123	1,123	1,123	1,123	1,123	1,123	1,123	1,123	1,123	1,123	\$97
Fuel Site and Tanks (2) (Mic Mac Park - 1059 Prince Road)	1,092	1,092	-	-	-	-	-	-	-	-	\$47
Fuel Site and Tanks (2) (Little River Park - 9578 Little River Rd)	312	312	312	312	312	312	312	312	312	312	\$166
Fuel Site and Tanks (2) (Malden Park - 4255 Matchette Rd)	-	-	468	468	468	468	660	660	660	660	\$66
Fuel Site and Tank (1) (Fire HQ - 815 Goyeau Street)	-	-	-	-	-	282	282	282	282	281	\$208
Fuel Site and Tanks (2) (Fire Apparatus - 2885 Kew Drive)	-	-	-	-	-	393	393	478	478	478	\$109
Fuel Site and Tank (1) (Fire Station #2 - 3121 Milloy Street)	-	-	-	-	-	380	380	380	380	380	\$55
Fuel Site and Tank (1) (Fire Station #3 - 2750 Ouellette)	-	-	-	-	-	164	164	164	164	164	\$102
Total (#)	149,408	149,754	155,734	155,734	155,734	149,473	149,665	148,017	147,630	147,096	
Total (\$000)	\$32,490.1	\$32,522.6	\$32,750.1	\$32,750.1	\$32,750.1	\$27,449.1	\$27,461.7	\$28,036.7	\$28,027.4	\$28,359.1	



APPENDIX C.1.2
TABLE 1

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
BUILDINGS & FLEET

LAND Facility Name	# of Hectares										UNIT COST (\$/ha)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
1531 Crawford Avenue	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	\$500,000
2545 Pillette Street	0.57	0.57	0.57	0.57	0.57	-	-	-	-	-	-	\$500,000
1269 Mercer Street	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	\$500,000
1266 McDougall Street	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	\$500,000
3540 EC Row Expressway	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	\$500,000
Total (ha)	5.27	5.27	5.27	5.27	5.27	4.70	4.70	4.70	4.70	4.70	4.70	
Total (\$000)	\$2,635.0	\$2,635.0	\$2,635.0	\$2,635.0	\$2,635.0	\$2,350.0	\$2,350.0	\$2,350.0	\$2,350.0	\$2,350.0	\$2,350.0	

FURNITURE & EQUIPMENT Description	Total Value of Furniture & Equipment (\$)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1266 McDougall Street	\$881,310	\$953,592	\$953,592	\$939,301	\$955,179	\$1,068,273	\$1,137,358	\$1,088,343	\$1,073,654	\$1,010,931
1269 Mercer Street	\$3,366,319	\$3,496,706	\$3,600,698	\$3,643,136	\$3,702,866	\$4,132,959	\$4,254,571	\$3,602,597	\$3,653,067	\$3,686,067
2545 Pillette Street	\$409,798	\$409,798	\$409,798	\$409,798	\$409,798	\$0	\$0	\$0	\$0	\$0
Field Services Building (formerly Compound - Storage)	\$0	\$0	\$0	\$0	\$0	\$675,037	\$730,083	\$748,964	\$792,029	\$794,419
All other facilities not identified separately	\$2,958,157	\$2,958,157	\$2,958,157	\$2,958,157	\$2,958,157	\$2,958,157	\$2,970,958	\$2,970,958	\$2,995,567	\$2,995,567
Total (\$000)	\$7,615.6	\$7,818.3	\$7,922.2	\$7,950.4	\$8,026.0	\$8,834.4	\$9,093.0	\$8,410.9	\$8,514.3	\$8,487.0

FLEET Description	Total Value of Fleet Inventory (\$000)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total Value of Fleet Inventory	\$18,001.0	\$18,574.9	\$18,711.3	\$18,441.8	\$18,658.1	\$18,451.7	\$18,866.6	\$19,841.6	\$19,726.7	\$20,232.7
Total (\$000)	\$18,001.0	\$18,574.9	\$18,711.3	\$18,441.8	\$18,658.1	\$18,451.7	\$18,866.6	\$19,841.6	\$19,726.7	\$20,232.7

APPENDIX C.1.2
TABLE 1

CITY OF WINDSOR
CALCULATION OF SERVICE LEVELS
BUILDINGS & FLEET

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Historical Population	211,214	210,891	211,524	213,216	214,282	215,139	217,170	218,119	219,072	220,029
Historical Employment	<u>103,108</u>	<u>103,262</u>	<u>104,605</u>	<u>105,128</u>	<u>105,286</u>	<u>106,234</u>	<u>107,765</u>	<u>108,357</u>	<u>108,953</u>	<u>109,552</u>
Total Population & Employment	314,322	314,153	316,129	318,344	319,568	321,373	324,935	326,476	328,025	329,581

INVENTORY SUMMARY (\$000)

Buildings	\$32,490.1	\$32,522.6	\$32,750.1	\$32,750.1	\$32,750.1	\$27,449.1	\$27,461.7	\$28,036.7	\$28,027.4	\$28,359.1
Land	\$2,635.0	\$2,635.0	\$2,635.0	\$2,635.0	\$2,635.0	\$2,350.0	\$2,350.0	\$2,350.0	\$2,350.0	\$2,350.0
Furniture & Equipment	\$7,615.6	\$7,818.3	\$7,922.2	\$7,950.4	\$8,026.0	\$8,834.4	\$9,093.0	\$8,410.9	\$8,514.3	\$8,487.0
Fleet	\$18,001.0	\$18,574.9	\$18,711.3	\$18,441.8	\$18,658.1	\$18,451.7	\$18,866.6	\$19,841.6	\$19,726.7	\$20,232.7
Total (\$000)	\$60,741.6	\$61,550.7	\$62,018.6	\$61,777.3	\$62,069.2	\$57,085.2	\$57,771.2	\$58,639.1	\$58,618.4	\$59,428.8

SERVICE LEVEL (\$/pop+emp)

											Average Service Level
Buildings	\$103.37	\$103.52	\$103.60	\$102.88	\$102.48	\$85.41	\$84.51	\$85.88	\$85.44	\$86.05	\$94.31
Land	\$8.38	\$8.39	\$8.34	\$8.28	\$8.25	\$7.31	\$7.23	\$7.20	\$7.16	\$7.13	\$7.77
Furniture & Equipment	\$24.23	\$24.89	\$25.06	\$24.97	\$25.12	\$27.49	\$27.98	\$25.76	\$25.96	\$25.75	\$25.72
Fleet	\$57.27	\$59.13	\$59.19	\$57.93	\$58.39	\$57.42	\$58.06	\$60.77	\$60.14	\$61.39	\$58.97
Total (\$/pop+emp)	\$193.25	\$195.93	\$196.18	\$194.06	\$194.23	\$177.63	\$177.79	\$179.61	\$178.70	\$180.32	\$186.77

CITY OF WINDSOR
CALCULATION OF MAXIMUM ALLOWABLE
BUILDINGS & FLEET

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2010 - 2019	\$186.77
Net Population & Employment Growth 2020 - 2029	13,146
Maximum Allowable Funding Envelope	\$2,455,278



APPENDIX C.1.2
TABLE 2
CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
BUILDINGS & FLEET

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE Shares	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2020-2029	Post 2029
1.2 BUILDINGS & FLEET									
1.2.1 Buildings, Vehicles & Equipment									
1.2.1.1 Purchase of Additional Fleet	Various	\$ 1,741,431	\$ 40,262	\$ 1,701,169	\$ -	\$ 1,701,169	\$ 225,164	\$ 1,476,005	\$ -
Subtotal Buildings, Vehicles & Equipment		\$ 1,741,431	\$ 40,262	\$ 1,701,169	\$ -	\$ 1,701,169	\$ 225,164	\$ 1,476,005	\$ -
TOTAL BUILDINGS & FLEET		\$ 1,741,431	\$ 40,262	\$ 1,701,169	\$ -	\$ 1,701,169	\$ 225,164	\$ 1,476,005	\$ -

Residential Development Charge Calculation		
Residential Share of 2020 - 2029 DC Eligible Costs	89%	\$1,313,645
10-Year Growth in Population in New Units		19,402
Unadjusted Development Charge Per Capita		\$67.71
Non-Residential Development Charge Calculation		
Non-Residential Share of 2020 - 2029 DC Eligible Costs	11%	\$162,361
10-Year Non-Residential Growth in New Space (Square Metres)		188,326
Unadjusted Development Charge Per Square Metre		\$0.86

2020 - 2029 Net Funding Envelope	\$2,455,278
Reserve Fund Balance	
Balance as at December 31, 2019	\$225,164

APPENDIX C.1.2
TABLE 3

CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
BUILDINGS & FLEET
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

BUILDINGS & FLEET	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.00	\$22.79	\$48.10	\$45.88	\$44.31	\$43.60	\$43.96	\$45.25	\$30.10	\$15.13	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
- Buildings & Fleet: Non Inflated	\$131.4	\$131.4	\$131.4	\$131.4	\$131.4	\$131.4	\$131.4	\$131.4	\$131.4	\$131.4	\$1,313.6
- Buildings & Fleet: Inflated	\$131.4	\$134.0	\$136.7	\$139.4	\$142.2	\$145.0	\$147.9	\$150.9	\$153.9	\$157.0	\$1,438.4
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	2,278	2,296	1,892	1,903	1,916	1,931	1,943	1,736	1,749	1,758	19,402
REVENUE											
- DC Receipts: Inflated	\$153.8	\$158.1	\$132.9	\$136.3	\$140.0	\$143.9	\$147.7	\$134.6	\$138.3	\$141.8	\$1,427.4
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.8	\$1.7	\$1.6	\$1.6	\$1.5	\$1.5	\$1.6	\$1.1	\$0.5	\$11.9
- Interest on In-year Transactions	\$0.4	\$0.4	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.4)	(\$0.4)	(\$0.4)	(\$0.8)
TOTAL REVENUE	\$154.2	\$159.3	\$134.4	\$137.8	\$141.5	\$145.4	\$149.2	\$135.7	\$138.9	\$141.9	\$1,438.5
CLOSING CASH BALANCE	\$22.8	\$48.1	\$45.9	\$44.3	\$43.6	\$44.0	\$45.3	\$30.1	\$15.1	\$0.1	

2020 Adjusted Charge Per Capita	\$68
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.1.2
TABLE 3

CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
BUILDINGS & FLEET
NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

BUILDINGS & FLEET	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.00	\$19.62	\$40.56	\$38.95	\$37.28	\$35.49	\$33.64	\$31.62	\$23.71	\$12.95	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Buildings & Fleet: Non Inflated	\$16.2	\$16.2	\$16.2	\$16.2	\$16.2	\$16.2	\$16.2	\$16.2	\$16.2	\$16.2	\$162.4
- Buildings & Fleet: Inflated	\$16.2	\$16.6	\$16.9	\$17.2	\$17.6	\$17.9	\$18.3	\$18.7	\$19.0	\$19.4	\$177.8
NON-RESIDENTIAL SPACE GROWTH											
- Growth in Square Metres of New Building Space	41,789	42,053	15,771	15,827	15,827	15,896	15,853	10,108	7,775	7,428	188,326
REVENUE											
- DC Receipts: Inflated	\$35.5	\$36.5	\$13.9	\$14.3	\$14.6	\$14.9	\$15.2	\$9.9	\$7.7	\$7.5	\$170.0
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.7	\$1.4	\$1.4	\$1.3	\$1.2	\$1.2	\$1.1	\$0.8	\$0.5	\$9.6
- Interest on In-year Transactions	\$0.3	\$0.3	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.2)	(\$0.3)	(\$0.3)	(\$0.6)
TOTAL REVENUE	\$35.9	\$37.5	\$15.3	\$15.6	\$15.8	\$16.1	\$16.3	\$10.7	\$8.3	\$7.7	\$179.0
CLOSING CASH BALANCE	\$19.6	\$40.6	\$38.9	\$37.3	\$35.5	\$33.6	\$31.6	\$23.7	\$12.9	\$1.2	

2020 Adjusted Charge Per Square Metre	\$0.85
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



C.1.3 CITY-WIDE STUDIES

The City-Wide Studies service includes studies that broadly support the growth-related services included in Appendix C and Appendix D. Service- and project-specific studies, such as environmental assessment studies and service area master plans, are included within the individual service areas.

As shown in Table 1, the 2020-2029 development-related gross cost for City-Wide Studies is \$200,000, and includes two five-year updates to the development charges study at a cost of \$100,000 each. Because these studies are related to growth in the City of Windsor, no benefit to existing shares have been deducted. The full amount is carried forward to the development charges calculation.

This amount is apportioned 89 per cent (\$178,000) to residential development and 11 per cent (\$22,000) to non-residential development. This apportionment is based on shares of population and employment growth anticipated across the City over the 2020-2029 period. The resulting unadjusted charges are \$9.17 per capita and \$0.12 per square metre.

The cash-flow analysis is displayed in Table 2 and considers the timing of the development charges revenues to determine the adjusted rates. After cash flow considerations, the residential calculated charge is adjusted slightly to \$9 per capita and the non-residential charge remains at \$0.12 per square metre.

CITY-WIDE STUDIES SUMMARY					
2020 - 2029		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/m ²	\$/capita	\$/m ²
\$200,000	\$200,000	\$9.17	\$0.12	\$9	\$0.12

APPENDIX C.1.3
TABLE 1
CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
CITY-WIDE STUDIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE Shares	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2020-2029	Post 2029
1.3 CITY-WIDE STUDIES									
1.3.1 Development-Related Studies									
1.3.1.1 Development Charges Study	2024	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -
1.3.1.2 Development Charges Study	2029	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -
Subtotal Development-Related Studies		\$ 200,000	\$ -	\$ 200,000	\$ -	\$ 200,000	\$ -	\$ 200,000	\$ -
TOTAL CITY-WIDE STUDIES		\$ 200,000	\$ -	\$ 200,000	\$ -	\$ 200,000	\$ -	\$ 200,000	\$ -

Residential Development Charge Calculation		
Residential Share of 2020 - 2029 DC Eligible Costs	89%	\$178,000
10-Year Growth in Population in New Units		19,402
Unadjusted Development Charge Per Capita		\$9.17
Non-Residential Development Charge Calculation		
Non-Residential Share of 2020 - 2029 DC Eligible Costs	11%	\$22,000
10-Year Non-Residential Growth in New Space (Square Metres)		188,326
Unadjusted Development Charge Per Square Metre		\$0.12

Reserve Fund Balance	
Balance as at December 31, 2019	\$0



APPENDIX C.1.3
TABLE 2

CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
CITY-WIDE STUDIES
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

CITY-WIDE STUDIES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.0	\$20.9	\$43.0	\$62.6	\$83.3	\$6.4	\$26.1	\$47.1	\$67.0	\$88.1	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
- City-Wide Studies: Non Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$89.0	\$0.0	\$0.0	\$0.0	\$0.0	\$89.0	\$178.0
- City-Wide Studies: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$96.3	\$0.0	\$0.0	\$0.0	\$0.0	\$106.4	\$202.7
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	2,278	2,296	1,892	1,903	1,916	1,931	1,943	1,736	1,749	1,758	19,402
REVENUE											
- DC Receipts: Inflated	\$20.5	\$21.1	\$17.7	\$18.2	\$18.7	\$19.2	\$19.7	\$17.9	\$18.4	\$18.9	\$190.3
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.7	\$1.5	\$2.2	\$2.9	\$0.2	\$0.9	\$1.6	\$2.3	\$3.1	\$15.5
- Interest on In-year Transactions	\$0.4	\$0.4	\$0.3	\$0.3	(\$2.1)	\$0.3	\$0.3	\$0.3	\$0.3	(\$2.4)	(\$1.9)
TOTAL REVENUE	\$20.9	\$22.2	\$19.5	\$20.7	\$19.4	\$19.7	\$21.0	\$19.9	\$21.1	\$19.6	\$204.0
CLOSING CASH BALANCE	\$20.9	\$43.0	\$62.6	\$83.3	\$6.4	\$26.1	\$47.1	\$67.0	\$88.1	\$1.3	

2020 Adjusted Charge Per Capita	\$9
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



**APPENDIX C.1.3
TABLE 2**

**CITY OF WINDSOR
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
CITY-WIDE STUDIES
NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

CITY-WIDE STUDIES	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE	\$0.00	\$5.10	\$10.52	\$12.89	\$15.39	\$5.81	\$8.15	\$10.62	\$12.41	\$13.96	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- City-Wide Studies: Non Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$11.0	\$0.0	\$0.0	\$0.0	\$0.0	\$11.0	\$22.0
- City-Wide Studies: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$11.9	\$0.0	\$0.0	\$0.0	\$0.0	\$13.1	\$25.1
NON-RESIDENTIAL SPACE GROWTH											
- Growth in Square Metres of New Building Space	41,789	42,053	15,771	15,827	15,827	15,896	15,853	10,108	7,775	7,428	188,326
REVENUE											
- DC Receipts: Inflated	\$5.0	\$5.1	\$2.0	\$2.0	\$2.1	\$2.1	\$2.1	\$1.4	\$1.1	\$1.1	\$24.0
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.2	\$0.4	\$0.5	\$0.5	\$0.2	\$0.3	\$0.4	\$0.4	\$0.5	\$3.3
- Interest on In-year Transactions	\$0.1	\$0.1	\$0.0	\$0.0	(\$0.3)	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.3)	(\$0.2)
TOTAL REVENUE	\$5.1	\$5.4	\$2.4	\$2.5	\$2.3	\$2.3	\$2.5	\$1.8	\$1.5	\$1.2	\$27.1
CLOSING CASH BALANCE	\$5.1	\$10.5	\$12.9	\$15.4	\$5.8	\$8.2	\$10.6	\$12.4	\$14.0	\$2.0	

2020 Adjusted Charge Per Square Metre	\$0.12
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Allocation of Capital Program	
Residential Sector	89%
Non-Residential Sector	11%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.2

SEWAGE TREATMENT

SEWAGE TREATMENT

Through the Office of the City Engineer, the City of Windsor operates two sewage treatment plants: the Lou Romano Water Reclamation Plant and the Little River Pollution Control Plant, as well as 32 pumping stations throughout the City.

Consistent with the 2015 DC Background Study, included in the development charges calculation is the recovery of two plant expansion projects, as well as a pumping station study. The capital program contained herein totals \$379.16 million.

The details of each project, including the cost breakdown are shown on Table 1. The Lou Romano Water Reclamation Plant upgrade and expansion was completed in 2010 and the ongoing funding of the development-related share is included. The project cost totalled \$110.00 million, of which \$53.00 million was funded through grants and subsidies. The replacement share of \$43.79 million accounts for 40 per cent of the gross costs. This share was maintained from the 2015 DC Study. Of the remaining development-related costs, \$3.28 million has been funded from previous development charges and is removed from the development charge calculation. \$4.47 million in post-period share is then deducted from the remaining costs and will be eligible for recovery under future DC studies. Finally, the remaining development-related share eligible for recovery during the ten-year planning period amounts to \$5.46 million.

The Little River Pollution Control Plant expansion is included in the development-related capital program; however it is not expected to be required in the next ten years, due to existing available capacity. Therefore, 100 per cent of the \$268.86 million gross cost has been established as a post period benefit share.

The last project is a pumping station study that will be required in the next one to five years for \$300,000. This project is fully related to development. After removing a 45% post-period share of \$135,000, \$165,000 is brought forward to the DC calculation.

As shown in Table 2, the DC eligible shares have been allocated 89% to new residential development and 11% to non-residential development, based on the ten-year City-wide (including Sandwich South) forecast of population and employment. The residential share of the capital program totals \$5.01 million and, when divided by the forecast growth in population in new units (19,402), results in an unadjusted charge of \$258.10 per capita.

The non-residential share, \$618,930 is applied shared between the industrial (49%) and the non-industrial (51%) based on shares of anticipated development. The industrial share

totals \$303,300 and, when divided by the anticipated additional GFA of industrial building space (115,997) yields an unadjusted development charge of \$2.61 per square metre. The non-industrial share of \$315,700 yields a charge of \$4.36 when divided by the increase in non-residential non-industrial building space (72,330) to be built in the next ten years.

The development-related sewage treatment costs have not been subject to a cash-flow analysis and, as such, the adjusted development charges remain unchanged. It is noted that the residential charge has been rounded to the nearest dollar, at \$266 per capita.

2020 - 2029		SEWAGE TREATMENT SUMMARY			Adjusted		
Development-Related Capital Program		Unadjusted Development Charge			Development Charge		
Total	Net DC Recoverable	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²
\$379,163,000	\$5,626,621	\$258.10	\$2.61	\$4.36	\$258	\$2.61	\$4.36

APPENDIX C.2

TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
CITY-WIDE (2020 - 2029)
SEWAGE TREATMENT

NO.	Project Description	Timing			Estimated Project Costs							
					Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	Prior Funding	Post Period Allocation	Net Growth-Related	
City-wide Sewage Treatment Infrastructure												
Lou Romano Water Reclamation Plant (Remaining Costs)												
1	Plant Upgrade	2020	-	2020	\$75,000,000	\$32,000,000	\$43,000,000	81%	\$34,830,000	\$3,279,779	\$2,200,599	\$2,689,621
2	Plant Expansion	2020	-	2020	\$35,000,000	\$21,000,000	\$14,000,000	64%	\$8,960,000	\$0	\$2,268,000	\$2,772,000
Subtotal Lou Romano Water Reclamation Plant					\$110,000,000	\$53,000,000	\$57,000,000		\$43,790,000	\$3,279,779	\$4,468,599	\$5,461,621
Little River Pollution Control Plant												
1	Plant Expansion	2041+			\$200,000,000	\$0	\$200,000,000	0%	\$0	\$0	\$200,000,000	\$0
2	Debenture Financing (growth share)	2041+			\$68,863,000	\$0	\$68,863,000	0%	\$0	\$0	\$68,863,000	\$0
Subtotal Little River Pollution Control Plant					\$268,863,000	\$0	\$268,863,000		\$0	\$0	\$268,863,000	\$0
Studies												
1	Pumping Station Study (East Marsh/Pontiac)	2020	-	2024	\$300,000	\$0	\$300,000	0%	\$0	\$0	\$135,000	\$165,000
Subtotal Studies					\$300,000	\$0	\$300,000		\$0	\$0	\$135,000	\$165,000
Total Sewage Treatment					\$379,163,000	\$53,000,000	\$326,163,000		\$43,790,000	\$3,279,779	\$273,466,599	\$5,626,621



APPENDIX C.2

TABLE 2

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 CITY-WIDE (2020 - 2029)
 SEWAGE TREATMENT

Growth in Population in New Units 2020-2029	19,402
Employment Growth in New Space 2020-2029	2,365
Growth in New Building Space (Square Metres) 2020-2029	188,326
<i>Industrial</i>	<i>115,997</i>
<i>Non-Industrial</i>	<i>72,330</i>

	Growth-Related Capital Forecast						Residential		Non-Residential	
	Gross	Grants and	Benefit	Prior	Post	Total	Share		Share	
	Project Cost (\$000)	Subsidies (\$000)	to Existing Share (\$000)	Funding (\$000)	Period Allocation (\$000)	Net Capital Costs (\$000)	%	\$000	%	\$000
SEWAGE TREATMENT										
Lou Romano Water Reclamation Plant (Remaining Costs)	\$110,000.00	\$53,000.00	\$43,790.00	\$3,279.78	\$4,468.60	\$5,461.62	89%	\$4,860.84	11%	\$600.78
Little River Pollution Control Plant	\$268,863.00	\$0.00	\$0.00	\$0.00	\$268,863.00	\$0.00	89%	\$0.00	11%	\$0.00
Studies	\$300.00	\$0.00	\$0.00	\$0.00	\$135.00	\$165.00	89%	\$146.85	11%	\$18.15
TOTAL SEWAGE TREATMENT	\$379,163.00	\$53,000.00	\$43,790.00	\$3,279.78	\$273,466.60	\$5,626.62		\$5,007.69		\$618.93
Unadjusted Development Charge Per Capita (\$)								\$258.10		
Unadjusted Development Charge Per Square Metre (\$)										\$3.29
								Non-Residential Allocation ¹		
								(\$000)	%	\$/m²
Unadjusted Charge Per Square Metre (\$) - Industrial								\$303.3	49%	\$2.61
Unadjusted Charge Per Square Metre (\$) - Non-Industrial								\$315.7	51%	\$4.36

1) Non-residential cost allocated based on percentage shares of employment growth over the period 2020-2029

Residential Development Charge Calculation		
Residential Share of 2020-2029 DC Eligible Costs	89%	\$5,007,693
10-year Growth in Population in New Units		19,402
Development Charge Per Capita (Unadjusted)		\$258.10
Development Charge Per Capita after Cash Flow		\$258
Charge per Single Detached Unit	3.83	\$989

Non-Residential Development Charge Calculation		
Non-Residential Share of 2020-2029 DC Eligible Costs	11%	\$618,928
10-year Growth in Non-Residential Building Space (Square Metre)		188,326
10-year Growth in Industrial Space		115,997
10-year Growth in Non-Industrial Space		72,330
Industrial Charge Per Square Metre (Unadjusted)	49%	\$2.61
Industrial Charge Per Square Metre After Cash Flow		\$2.61
Non-Industrial Charge Per Square Metre (Unadjusted)	51%	\$4.36
Non-Industrial Charge Per Square Metre After Cash Flow		\$4.36

APPENDIX C.3

SANITARY SEWER

SANITARY SEWER

The Office of the City Engineer is responsible for the planning, design and maintenance of the City's sewer and drainage systems. The capital program for Sanitary Sewer Services was assembled by the City's engineering staff and is designed to serve the anticipated population and employment growth between 2020 and 2029.

The 2020-2029 Sanitary Sewer capital program totals \$46.42 million and includes City-wide sanitary sewers, as well as sewers in Sandwich South which also have a City-wide benefit share. The details and timing of each project, and the cost breakdown are shown on Table 1.

The development-related costs included in the capital program are not to be entirely recovered through future DCs. The City previously received an Infrastructure Stimulus Funding grant of \$23.46 million to fund a share of completed Sandwich South sewer projects. Approximately \$2.46 million of the program has been identified as a benefit to the existing community, or replacement share. The majority of replacement shares have been carried forward from the previous DC Background Study.

The majority of costs associated with the Sandwich South projects, or \$10.92 million, have been removed from the City-wide DC calculation. Of the remaining City-wide growth-related costs, \$2.34 million is to be funded through the existing DC reserve fund balance. An additional \$5.33 million has been attributed to development occurring beyond 2029, based on the timing of the projects, and is removed from the DC calculation. The remaining \$1.90 million is identified as the net growth-related share eligible for funding through development charges in the ten-year planning period.

Table 2 summarizes the capital program and calculation of the unadjusted residential and non-residential development charges. The DC eligible share of \$1.90 million has been allocated 97 per cent to new residential development and 3 per cent to non-residential development based on shares of population in new units and employment growth in new space to 2029, excluding development anticipated in Sandwich South. The residential share of the capital program totals \$1.85 million and, when divided by the forecast growth in population in new units (13,032), an unadjusted charge of \$141.70 per capita results.

The non-residential share, \$57,110 is applied against the forecast increase in square metres of non-residential floor space by type of development. The industrial share (59%) totals \$33,700, which, when divided by the increase in square metres of industrial building space (20,095), yields an unadjusted charge of \$1.68 per square metre. The remaining non-

industrial share totals \$23,400 and yields an unadjusted charge of \$2.81 per square metre of new non-industrial development, when divided by the anticipated increase (8,320).

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

After cash flow considerations, both the residential and non-residential charges increase to \$159 per capita, \$1.88 per square metre (industrial) and \$3.38 per square metre (non-industrial), respectively. The increase in rates is due to the development which is anticipated to proceed later than projected DC expenditures.

SANITARY SEWER SUMMARY							
2020 - 2029		Unadjusted			Adjusted		
Development-Related Capital Program		Development Charge			Development Charge		
Total	Net DC Recoverable	Residential	Industrial	Non-Industrial	Residential	Industrial	Non-Industrial
		\$/capita	\$/m ²	\$/m ²	\$/capita	\$/m ²	\$/m ²
\$46,418,803	\$1,903,784	\$141.70	\$1.68	\$2.81	\$159	\$1.88	\$3.38

APPENDIX C.3

TABLE 1

CITY OF WINDSOR
 DEVELOPMENT-RELATED CAPITAL PROGRAM
 CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
 SANITARY SEWER

NO.	Road	From	To	Timing	Estimated Project Costs									
					Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	Sandwich South DC Share	Available DC Reserves	Post Period Allocation	Net Growth-Related		
City-wide Sanitary Sewer Infrastructure														
1	Matchette Road	Amanda Street	Titcombe Road	2020 - 2024	\$1,415,010	\$0	\$1,415,010	75%	\$1,061,258	\$0	\$0	\$159,189	\$194,564	
2	Matchette Road	Titcombe Road	Sprucewood Avenue	2020 - 2024	\$1,706,336	\$0	\$1,706,336	50%	\$853,168	\$0	\$0	\$383,926	\$469,242	
3	Malden Road	Kent Street	City Limits	2030+	\$4,573,000	\$0	\$4,573,000	10%	\$457,300	\$0	\$0	\$4,115,700	\$0	
4	Kenora Street	St. Clair Avenue	Everts Avenue	2030+	\$558,845	\$0	\$558,845	10%	\$55,885	\$0	\$0	\$502,961	\$0	
5	Ducharme Street (Remaining Costs)	Cancun Street	Helsinki Crescent	2020 - 2020	\$336,612	\$0	\$336,612	10%	\$33,661	\$0	\$302,951	\$0	\$0	
Subtotal City-Wide Sanitary Sewers					\$8,589,803	\$0	\$8,589,803		\$2,461,271	\$0	\$302,951	\$5,161,775	\$663,806	
City-Wide Component of Sandwich South Projects														
1	County Road 42	Pelton Spur	8th Concession	2020 - 2029	\$1,895,000	\$0	\$1,895,000	0%	\$0	\$1,610,750	\$0	\$170,550	\$113,700	
2	Sandwich South - Ph 1A, 1B, & 3 (Remaining Costs)			2020 - 2020	\$5,425,000	\$0	\$5,425,000	0%	\$0	\$4,611,250	\$813,750	\$0	\$0	
3	Sandwich South - Ph 2 & 4-6 (Remaining Costs)			2020 - 2020	\$30,276,000	\$23,456,000	\$6,820,000	0%	\$0	\$4,501,200	\$1,227,472	\$0	\$1,091,328	
4	Functional Servicing Reports			2020 - 2022	\$233,000	\$0	\$233,000	0%	\$0	\$198,050	\$0	\$0	\$34,950	
Subtotal City-Wide Sanitary Sewers					\$37,829,000	\$23,456,000	\$14,373,000		\$0	\$10,921,250	\$2,041,222	\$170,550	\$1,239,978	
Total Sanitary Sewers					\$46,418,803	\$23,456,000	\$22,962,803		\$2,461,271	\$10,921,250	\$2,344,173	\$5,332,325	\$1,903,784	



APPENDIX C.3

TABLE 2

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
 SANITARY SEWER

Growth in Population in New Units 2020-2029	13,032
Employment Growth in New Space 2020-2029	340
Growth in New Building Space (Square Metres) 2020-2029	28,415
Industrial	20,095
Non-Industrial	8,320

	Growth-Related Capital Forecast							Residential Share		Non-Residential Share	
	Gross Project Cost	Grants and Subsidies	Benefit to Existing Share	Available DC Reserves	Sandwich South Share	Post Period Allocation	Total Net Capital Costs	%	\$000	%	\$000
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)				
SANITARY SEWER											
City-wide Sanitary Sewer Infrastructure	\$8,589.80	\$0.00	\$2,461.27	\$302.95	\$0.00	\$5,161.77	\$663.81	97%	\$643.89	3%	\$19.91
City-Wide Component of Sandwich South Projects	\$37,829.00	\$23,456.00	\$0.00	\$2,041.22	\$10,921.25	\$170.55	\$1,239.98	97%	\$1,202.78	3%	\$37.20
TOTAL SANITARY SEWER	\$46,418.80	\$23,456.00	\$2,461.27	\$2,344.17	\$10,921.25	\$5,332.32	\$1,903.78		\$1,846.67		\$57.11
Unadjusted Development Charge Per Capita (\$)								\$141.70			
Unadjusted Development Charge Per Square Metre (\$)										\$2.01	
								Non-Residential Allocation ¹			
								(\$000)	%	\$/m ²	
Unadjusted Charge Per Square Metre (\$) - Industrial								\$33.7	59%	\$1.68	
Unadjusted Charge Per Square Metre (\$) - Non-Industrial								\$23.4	41%	\$2.81	

1) Non-residential cost allocated based on percentage shares of employment growth over the period 2020-2029

Residential Development Charge Calculation		
Residential Share of 2020-2029 DC Eligible Costs	97%	\$1,846,671
10-year Growth in Population in New Units		13,032
Development Charge Per Capital (Unadjusted)		\$141.70
Development Charge Per Capita after Cash Flow		\$159
Charge per Single Detached Unit	3.83	\$610

Non-Residential Development Charge Calculation		
Non-Residential Share of 2020-2029 DC Eligible Costs	3%	\$57,114
10-year Growth in Non-Residential Building Space (Square Metre)		28,415
10-year Growth in Industrial Space		20,095
10-year Growth in Non-Industrial Space		8,320
Industrial Charge Per Square Metre (Unadjusted)	59%	\$1.68
Industrial Charge Per Square Metre After Cash Flow		\$0.00
Non-Industrial Charge Per Square Metre (Unadjusted)	41%	\$2.81
Non-Industrial Charge Per Square Metre After Cash Flow		\$3.10



APPENDIX C.3

TABLE 3

CITY OF WINDSOR

SANITARY SEWER

CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

SANITARY SEWER - RESIDENTIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	(\$976.3)	(\$914.6)	(\$913.6)	(\$897.5)	(\$877.0)	(\$707.0)	(\$521.0)	(\$356.6)	(\$177.1)	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
Sanitary Sewer - Residential: Non Inflated	\$1,209.7	\$151.1	\$151.1	\$139.8	\$139.8	\$11.0	\$11.0	\$11.0	\$11.0	\$11.0	\$1,846.7
Sanitary Sewer - Residential: Inflated	\$1,209.7	\$154.1	\$157.2	\$148.4	\$151.3	\$12.2	\$12.4	\$12.7	\$12.9	\$13.2	\$1,884.1
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	1,632	1,650	1,255	1,266	1,278	1,291	1,304	1,108	1,120	1,128	13,032
REVENUE											
- DC Receipts: Inflated	\$259.5	\$267.6	\$207.6	\$213.6	\$220.0	\$226.6	\$233.5	\$202.4	\$208.6	\$214.3	\$2,253.7
INTEREST											
- Interest on Opening Balance	\$0.0	(\$53.7)	(\$50.3)	(\$50.2)	(\$49.4)	(\$48.2)	(\$38.9)	(\$28.7)	(\$19.6)	(\$9.7)	(\$348.7)
- Interest on In-year Transactions	(\$26.1)	\$2.0	\$0.9	\$1.1	\$1.2	\$3.8	\$3.9	\$3.3	\$3.4	\$3.5	(\$3.0)
TOTAL REVENUE	\$233.4	\$215.9	\$158.2	\$164.5	\$171.8	\$182.2	\$198.5	\$177.0	\$192.5	\$208.1	\$1,902.0
CLOSING CASH BALANCE	(\$976.3)	(\$914.6)	(\$913.6)	(\$897.5)	(\$877.0)	(\$707.0)	(\$521.0)	(\$356.6)	(\$177.1)	\$17.9	

2020 Adjusted Charge Per Capita	\$159
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.3

TABLE 3

CITY OF WINDSOR

SANITARY SEWER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

SANITARY SEWER: NON-RESIDENTIAL - INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	(\$3.4)	\$13.3	\$10.8	\$8.4	\$5.9	\$5.8	\$5.8	\$5.8	\$5.7	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Sanitary Sewer: Non-Residential - Industrial: Non: Inflated	\$22.1	\$2.8	\$2.8	\$2.6	\$2.6	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$33.7
Sanitary Sewer: Non-Residential - Industrial: Inflated	\$22.1	\$2.8	\$2.9	\$2.7	\$2.8	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$34.4
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Industrial Building GFA - square metres	9,966	10,129	-	-	-	-	-	-	-	-	20,095
REVENUE											
- DC Receipts: Inflated	\$18.7	\$19.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$38.2
INTEREST											
- Interest on Opening Balance	\$0.0	(\$0.2)	\$0.5	\$0.4	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$2.0
- Interest on In-year Transactions	(\$0.1)	\$0.3	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.1)
TOTAL REVENUE	\$18.6	\$19.5	\$0.4	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$40.1
CLOSING CASH BALANCE	(\$3.4)	\$13.3	\$10.8	\$8.4	\$5.9	\$5.8	\$5.8	\$5.8	\$5.7	\$5.7	

2020 Adjusted Charge Per Square Metre	\$1.88
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Non-Residential Allocation	
Industrial	59%
Non-Industrial	41%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.3

TABLE 3

CITY OF WINDSOR

SANITARY SEWER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

SANITARY SEWER: NON-RESIDENTIAL - NON-INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	(\$9.3)	(\$5.3)	(\$5.2)	(\$4.8)	(\$4.4)	(\$2.2)	\$0.3	\$1.9	\$3.2	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Sanitary Sewer: Non-Residential - Non-Industrial: Non: Inflated	\$15.3	\$1.9	\$1.9	\$1.8	\$1.8	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$23.4
Sanitary Sewer: Non-Residential - Non-Industrial: Inflated	\$15.3	\$2.0	\$2.0	\$1.9	\$1.9	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$23.9
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Non-Industrial Building GFA - square metres	1,846	1,858	697	699	699	702	700	447	343	328	8,320
REVENUE											
- DC Receipts: Inflated	\$6.2	\$6.4	\$2.5	\$2.5	\$2.6	\$2.6	\$2.7	\$1.7	\$1.4	\$1.3	\$29.9
INTEREST											
- Interest on Opening Balance	\$0.0	(\$0.5)	(\$0.3)	(\$0.3)	(\$0.3)	(\$0.2)	(\$0.1)	\$0.0	\$0.1	\$0.1	(\$1.5)
- Interest on In-year Transactions	(\$0.3)	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
TOTAL REVENUE	\$6.0	\$6.0	\$2.2	\$2.2	\$2.3	\$2.4	\$2.6	\$1.8	\$1.4	\$1.5	\$28.4
CLOSING CASH BALANCE	(\$9.3)	(\$5.3)	(\$5.2)	(\$4.8)	(\$4.4)	(\$2.2)	\$0.3	\$1.9	\$3.2	\$4.5	

2020 Adjusted Charge Per Square Metre	\$3.38
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Non-Residential Allocation	
Industrial	59%
Non-Industrial	41%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.4

STORM SEWER & MUNICIPAL DRAINS

STORM SEWER & MUNICIPAL DRAINS

Through the Office of the City Engineer, the public works department is responsible for the provision, maintenance and operation of a network of storm sewer management and municipal drain infrastructure. As was past practice, the services of storm sewer and municipal drains have been considered together as part of the development charges study, and a combined charge has been calculated.

The details and timing of the ten-year development-related capital program are shown on Table 1. The gross costs included in the program total \$102.93 million, which includes both future and past City-wide storm and drain projects.

Approximately \$29.95 million in grants has been identified, leaving \$72.98 million in net municipal costs. Replacement shares total \$40.70 million, which represent the benefit of incorporated projects to the existing City of Windsor residents. The majority of replacement shares have been carried forward from the previous development charges study.

Of the remaining growth-related costs, \$99,195, associated with the Little River Improvements project, has been attributed to future development in Sandwich South. A further \$8.89 million will be funded through the existing DC reserve fund balance. Finally, \$19.36 million has been attributed to development occurring after 2029 and has been removed from the DC calculation. The remaining \$3.93 million is identified as the net development-related share eligible for funding through development charges in the ten-year planning period, from 2020 to 2029.

Table 2 summarizes the capital program and calculation of the unadjusted residential and non-residential development charges. The DC eligible share of \$3.93 million has been allocated 97% to new residential development and 3% to non-residential development based on shares of population in new units and employment growth in new space to 2029, excluding development anticipated for Sandwich South.

The residential share of the capital program totals \$3.81 million and, when divided by the forecast growth in population in new units (13,032), results in an unadjusted charge of \$292.54 per capita.

The non-residential share, \$117,910 is applied against the forecast increase in square metres of non-residential floor space by type of development. The industrial share totals \$69,600, which, when divided by the increase in square metres of industrial building space (20,095), yields an unadjusted charge of \$3.46 per square metre. The remaining non-

industrial share totals \$48,300 and yields an unadjusted charge of \$5.81 per square metre of new non-residential non-industrial development, when divided by the anticipated increase (8,320).

The residential and non-residential cash flow analysis is shown on Table 3. The analysis takes into consideration expenditure timing and DC revenue projections. After cash flow considerations, the residential charge decreases to \$285 per capita and the non-residential charges decrease to \$3.22 per square metre (industrial) and \$5.57 per square metre (non-industrial). The changes in rates reflect the relationship between the timing of anticipated development and projected DC revenues.

STORM SEWER & MUNICIPAL DRAINS SUMMARY							
2020 - 2029		Unadjusted			Adjusted		
Development-Related Capital Program		Development Charge			Development Charge		
Total	Net DC Recoverable	Residential	Industrial	Non-Industrial	Residential	Industrial	Non-Industrial
		\$/capita	\$/m ²	\$/m ²	\$/capita	\$/m ²	\$/m ²
\$102,928,405	\$3,930,333	\$292.54	\$3.46	\$5.81	\$285	\$3.22	\$5.57

APPENDIX C.4

TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
STORM SEWER & MUNICIPAL DRAINS

NO.	Project Description	From	To	Timing	Estimated Project Costs								
					Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	Sandwich South DC Share	Available DC Reserves	Post Period Allocation	Net Growth-Related	
City-wide Storm Sewer & Municipal Drains Infrastructure													
1	Prince Road / Totten Street - Engineering			2030+	\$167,990	\$0	\$167,990	70%	\$117,593	\$0	\$0	\$50,397	\$0
2	Longfellow Avenue / Dominion Boulevard	Cleary Street	South Cameron Boulevard	2025 - 2029	\$2,512,495	\$0	\$2,512,495	50%	\$1,256,247	\$0	\$0	\$753,748	\$502,499
3	Ojibway Street	Betts Avenue	California Avenue	2025 - 2029	\$334,608	\$0	\$334,608	25%	\$83,652	\$0	\$0	\$150,574	\$100,382
4	Totten Street	Betts Avenue	Mark Avenue	2020 - 2024	\$4,057,459	\$0	\$4,057,459	70%	\$2,840,221	\$0	\$1,217,238	\$0	\$0
5	Tecumseh Rd / Lauzon Pkwy Planning Area	Walmart	CNR / E. of Jefferson Blvd	2030+	\$906,919	\$0	\$906,919	10%	\$90,692	\$0	\$0	\$816,227	\$0
6	Cleary Street	East of Glenwood	Dominion Boulevard	2030+	\$953,735	\$0	\$953,735	25%	\$238,434	\$0	\$0	\$715,301	\$0
7	Betts Avenue	Ojibway Street	Quebec Street	2030+	\$1,806,219	\$0	\$1,806,219	25%	\$451,555	\$0	\$0	\$1,354,664	\$0
8	California Avenue	Ojibway Street	South of Quebec Street	2030+	\$1,363,404	\$0	\$1,363,404	25%	\$340,851	\$0	\$0	\$1,022,553	\$0
9	St. Patrick's Avenue	Ojibway Street	Manitoba Street	2030+	\$1,180,697	\$0	\$1,180,697	25%	\$295,174	\$0	\$0	\$885,523	\$0
10	Manitoba Street	St. Patrick's Avenue	Glenwood Avenue	2030+	\$574,328	\$0	\$574,328	25%	\$143,582	\$0	\$0	\$430,746	\$0
11	Glenwood Avenue	Manitoba Street	Quebec Street	2030+	\$674,211	\$0	\$674,211	25%	\$168,553	\$0	\$0	\$505,658	\$0
12	Malden Planning Area	Armanda Street	Huron Church Road	2030+	\$8,190,410	\$0	\$8,190,410	10%	\$819,041	\$0	\$0	\$7,371,369	\$0
13	Northway Trunk Storm Sewer	Grand Marais Drain	Roxborough Boulevard	2030+	\$2,064,250	\$0	\$2,064,250	85%	\$1,754,612	\$0	\$0	\$309,637	\$0
14	Riverside Drive - Phase 2A - storm sewer	Ford Blvd	St Rose Ave	2020 - 2029	\$8,024,000	\$3,209,600	\$4,814,400	0%	\$0	\$0	\$1,408,370	\$2,043,618	\$1,362,412
15	Provincial /Division Corridor Improvements - Phase 2	North Roseland Pond	Captain Wilson Park	2020 - 2024	\$10,341,681	\$0	\$10,341,681	60%	\$6,205,009	\$0	\$4,136,672	\$0	\$0
16	Lennon Drain Improvements (Remaining Costs)	Dougall Ave.	Southwinds Dr.	2020 - 2020	\$3,737,497	\$0	\$3,737,497	80%	\$2,989,998	\$0	\$747,499	\$0	\$0
17	Grand Marais Drain Natural Channel	Elsmere Avenue	Howard Avenue	2020 - 2020	\$1,218,000	\$750,000	\$468,000	85%	\$397,800	\$0	\$70,200	\$0	\$0
18	Grand Marais Drain Natural Channel	Byng Road	Turner Road Bridge	2020 - 2020	\$2,485,370	\$1,400,000	\$1,085,370	85%	\$922,565	\$0	\$162,806	\$0	\$0
19	Grand Marais Drain Concrete Channel	Dougall Avenue	Herb Gray Parkway	2028 - 2029	\$44,750,000	\$22,375,000	\$22,375,000	85%	\$19,018,750	\$0	\$0	\$2,013,750	\$1,342,500
20	Cahill Drain Closure	Howard Avenue	Talbot Road	2020 - 2024	\$600,000	\$0	\$600,000	85%	\$510,000	\$0	\$90,000	\$0	\$0
21	Mt. Carmel Trunk Storm Sewer (Remaining Costs)	Cabana Rd W	Lennon Court	2020 - 2020	\$3,432,000	\$2,217,562	\$1,214,438	80%	\$971,550	\$0	\$242,888	\$0	\$0
22	Dominion Road	Northwood	Totten	2020 - 2029	\$1,075,133	\$0	\$1,075,133	25%	\$268,783	\$0	\$0	\$483,810	\$322,540
23	Howard Ave. Storm	Cabana Rd E	S. Cameron	2020 - 2024	\$300,000	\$0	\$300,000	0%	\$0	\$0	\$300,000	\$0	\$0
24	Tecumseh Road E. Storm	Banwell	Little River Stream	2020 - 2024	\$500,000	\$0	\$500,000	0%	\$0	\$0	\$500,000	\$0	\$0
25	Dominion Storm Study			2020 - 2029	\$300,000	\$0	\$300,000	0%	\$0	\$0	\$0	\$180,000	\$120,000
26	Matchette/Malden Drainage Study	HG Parkway	City limit	2020 - 2029	\$300,000	\$0	\$300,000	25%	\$75,000	\$0	\$0	\$135,000	\$90,000
27	Catherine Street Drainage Study	Via Rail	Tecumseh Rd E	2020 - 2029	\$300,000	\$0	\$300,000	25%	\$75,000	\$0	\$0	\$135,000	\$90,000
28	Littler River Improvements - City-wide share	Via Rail	Lauzon Road	2020 - 2024	\$778,000	\$0	\$778,000	85%	\$661,300	\$99,195	\$17,505	\$0	\$0
Subtotal City-Wide Storm Sewers					\$102,928,405	\$29,952,162	\$72,976,242		\$40,695,961	\$99,195	\$8,893,178	\$19,357,575	\$3,930,333
Total Storm Sewers					\$102,928,405	\$29,952,162	\$72,976,242		\$40,695,961	\$99,195	\$8,893,178	\$19,357,575	\$3,930,333



APPENDIX C.4

TABLE 2

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
 STORM SEWER & MUNICIPAL DRAINS

Growth in Population in New Units 2020-2029	13,032
Employment Growth in New Space 2020-2029	340
Growth in New Building Space (Square Metres) 2020-2029	28,415
Industrial	20,095
Non-Industrial	8,320

	Growth-Related Capital Forecast							Residential		Non-Residential	
	Gross Project Cost (\$000)	Grants and Subsidies (\$000)	Benefit to Existing Share (\$000)	Available DC Reserves (\$000)	Sandwich South DC Share (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs (\$000)	Share %	\$000	Share %	\$000
	STORM SEWER & MUNICIPAL DRAINS										
City-wide Storm Sewer & Municipal Drains Infrastructure	\$102,928.40	\$29,952.16	\$40,695.96	\$8,893.18	\$99.20	\$19,357.58	\$3,930.33	97%	\$3,812.42	3%	\$117.91
TOTAL STORM SEWER & MUNICIPAL DRAINS	\$102,928.40	\$29,952.16	\$40,695.96	\$8,893.18	\$99.20	\$19,357.58	\$3,930.33		\$3,812.42		\$117.91
Unadjusted Development Charge Per Capita (\$)									\$292.54		
Unadjusted Development Charge Per Square Metre (\$)											\$4.15
									Non-Residential Allocation ¹		
									(\$000)	%	\$/m²
Unadjusted Charge Per Square Metre (\$) - Industrial									\$69.6	59%	\$3.46
Unadjusted Charge Per Square Metre (\$) - Non-Industrial									\$48.3	41%	\$5.81

1) Non-residential cost allocated based on percentage shares of employment growth over the period 2020-2029

Residential Development Charge Calculation		
Residential Share of 2020-2029 DC Eligible Costs	97%	\$3,812,423
10-year Growth in Population in New Units		13,032
Development Charge Per Capital (Unadjusted)		\$292.54
Development Charge Per Capita after Cash Flow		\$285
Charge per Single Detached Unit	3.83	\$1,093

Non-Residential Development Charge Calculation		
Non-Residential Share of 2020-2029 DC Eligible Costs	3%	\$117,910
10-year Growth in Non-Residential Building Space (Square Metre)		28,415
10-year Growth in Industrial Space		20,095
10-year Growth in Non-Industrial Space		8,320
Industrial Charge Per Square Metre (Unadjusted)	59%	\$3.46
Industrial Charge Per Square Metre After Cash Flow		\$3.22
Non-Industrial Charge Per Square Metre (Unadjusted)	41%	\$5.81
Non-Industrial Charge Per Square Metre After Cash Flow		\$5.57



APPENDIX C.4

TABLE 3

CITY OF WINDSOR

STORM SEWER & MUNICIPAL DRAINS

CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

STORM SEWER & MUNICIPAL DRAINS - RESIDENTIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	\$277.3	\$575.3	\$770.2	\$978.9	\$1,202.2	\$1,310.0	\$1,427.0	\$1,484.3	\$764.1	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
Storm Sewer & Municipal Drains - Residential: Non Inflated	\$192.5	\$192.5	\$192.5	\$192.5	\$192.5	\$309.5	\$309.5	\$309.5	\$960.6	\$960.6	\$3,812.4
Storm Sewer & Municipal Drains - Residential: Inflated	\$192.5	\$196.4	\$200.3	\$204.3	\$208.4	\$341.7	\$348.5	\$355.5	\$1,125.5	\$1,148.0	\$4,321.3
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	1,632	1,650	1,255	1,266	1,278	1,291	1,304	1,108	1,120	1,128	13,032
REVENUE											
- DC Receipts: Inflated	\$465.1	\$479.7	\$372.1	\$382.9	\$394.3	\$406.2	\$418.5	\$362.7	\$374.0	\$384.2	\$4,039.7
INTEREST											
- Interest on Opening Balance	\$0.0	\$9.7	\$20.1	\$27.0	\$34.3	\$42.1	\$45.8	\$49.9	\$52.0	\$26.7	\$307.6
- Interest on In-year Transactions	\$4.8	\$5.0	\$3.0	\$3.1	\$3.3	\$1.1	\$1.2	\$0.1	(\$20.7)	(\$21.0)	(\$20.1)
TOTAL REVENUE	\$469.9	\$494.3	\$395.3	\$413.0	\$431.8	\$449.4	\$465.6	\$412.8	\$405.3	\$389.9	\$4,327.3
CLOSING CASH BALANCE	\$277.3	\$575.3	\$770.2	\$978.9	\$1,202.2	\$1,310.0	\$1,427.0	\$1,484.3	\$764.1	\$6.0	

2020 Adjusted Charge Per Capita	\$285
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.4

TABLE 3

CITY OF WINDSOR

STORM SEWER & MUNICIPAL DRAINS

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

STORM SEWER & MUNICIPAL DRAINS: NON-RESIDENTIAL - INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	\$29.1	\$60.3	\$58.7	\$56.9	\$55.0	\$50.5	\$45.7	\$40.6	\$21.0	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Storm Sewer & Municipal Drains: Non-Residential - Industrial: Non: Inflated	\$3.5	\$3.5	\$3.5	\$3.5	\$3.5	\$5.6	\$5.6	\$5.6	\$17.5	\$17.5	\$69.6
Storm Sewer & Municipal Drains: Non-Residential - Industrial: Inflated	\$3.5	\$3.6	\$3.7	\$3.7	\$3.8	\$6.2	\$6.4	\$6.5	\$20.5	\$20.9	\$78.9
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Industrial Building GFA - square metres	9,966	10,129	-	-	-	-	-	-	-	-	20,095
REVENUE											
- DC Receipts: Inflated	\$32.1	\$33.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$65.4
INTEREST											
- Interest on Opening Balance	\$0.0	\$1.0	\$2.1	\$2.1	\$2.0	\$1.9	\$1.8	\$1.6	\$1.4	\$0.7	\$14.6
- Interest on In-year Transactions	\$0.5	\$0.5	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.6)	(\$0.6)	(\$1.0)
TOTAL REVENUE	\$32.6	\$34.8	\$2.0	\$2.0	\$1.9	\$1.8	\$1.6	\$1.4	\$0.9	\$0.2	\$79.0
CLOSING CASH BALANCE	\$29.1	\$60.3	\$58.7	\$56.9	\$55.0	\$50.5	\$45.7	\$40.6	\$21.0	\$0.2	

2020 Adjusted Charge Per Square Metre	\$3.22
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Non-Residential Allocation	
Industrial	59%
Non-Industrial	41%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.4

TABLE 3

CITY OF WINDSOR

STORM SEWER & MUNICIPAL DRAINS

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

STORM SEWER & MUNICIPAL DRAINS: NON-RESIDENTIAL - NON-INDUSTRIA	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	\$8.0	\$16.5	\$18.6	\$20.8	\$23.1	\$23.9	\$24.7	\$23.9	\$12.4	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Storm Sewer & Municipal Drains: Non-Residential - Non-Industrial: Non: Inflated	\$2.4	\$2.4	\$2.4	\$2.4	\$2.4	\$3.9	\$3.9	\$3.9	\$12.2	\$12.2	\$48.3
Storm Sewer & Municipal Drains: Non-Residential - Non-Industrial: Inflated	\$2.4	\$2.5	\$2.5	\$2.6	\$2.6	\$4.3	\$4.4	\$4.5	\$14.3	\$14.6	\$54.8
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Non-Industrial Building GFA - square metres	1,846	1,858	697	699	699	702	700	447	343	328	8,320
REVENUE											
- DC Receipts: Inflated	\$10.3	\$10.6	\$4.0	\$4.1	\$4.2	\$4.3	\$4.4	\$2.9	\$2.2	\$2.2	\$49.2
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.3	\$0.6	\$0.6	\$0.7	\$0.8	\$0.8	\$0.9	\$0.8	\$0.4	\$6.0
- Interest on In-year Transactions	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.3)	(\$0.3)	(\$0.4)
TOTAL REVENUE	\$10.4	\$11.0	\$4.6	\$4.8	\$5.0	\$5.1	\$5.2	\$3.7	\$2.7	\$2.3	\$54.9
CLOSING CASH BALANCE	\$8.0	\$16.5	\$18.6	\$20.8	\$23.1	\$23.9	\$24.7	\$23.9	\$12.4	\$0.1	

2020 Adjusted Charge Per Square Metre	\$5.57
---------------------------------------	--------

Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Non-Residential Allocation	
Industrial	59%
Non-Industrial	41%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.5

WATER

WATER

The Windsor Utilities Commission is responsible for providing clean, reliable and safe drinking water to the City of Windsor and administers the service delivery on behalf of the municipality. The Windsor Utilities Commission has outsourced all of its operations to ENWIN.

The development-related capital program for water servicing was provided by the WUC. The total gross capital program amounts to \$78.97 million, which provides for pumping station upgrades, reservoir upgrades, watermain work, and development-related studies.

Not all of these costs relate to development in the City of Windsor during the ten-year planning period. Table 1 shows shares of the capital program that benefit the neighboring towns of LaSalle and Tecumseh. Because the City currently services the towns to the south and to the east, shares have been deducted to account for the portions of certain projects that will not benefit future development in the City of Windsor. The share deducted for LaSalle totals \$1.10 million and \$4.51 million for Tecumseh. These shares have been deducted from the capital program.

The benefit-to-existing shares shown on Table 1 were provided by WUC and they account for 100 per cent of several projects. In total, the replacement shares amount to \$41.50 million and must be deducted from the DC-eligible share.

Available reserve funds in the amount of \$1.62 million have been used to fund a share of near-terms projects in the capital program. Finally, post-period shares have been assigned based on project timing, and total \$17.46 million which is removed from the capital program.

The remaining \$12.78 million is considered to be related to development within the 2020 to 2029 planning period and is carried forward to the development charges calculation. As shown in Table 2, this share has been allocated 97% to new residential development and 3% to non-residential development based on shares of population in new units and employment growth in new space to 2029, excluding development anticipated for Sandwich South.

The residential share of \$12.40 million is divided by the anticipated growth in population in new units between 2020 and 2029 in the City of Windsor (13,032), which yields an unadjusted development charge of \$951.54 per capita. The non-residential share is allocated between the industrial (59%) and non-industrial (41%) sector based on shares of employment growth. The industrial portion of the non-residential share is \$226,300, which,

when divided by the anticipated increase in square metres of new industrial space (20,095) yields an unadjusted DC of \$11.26 per square metre. The non-industrial share of \$157,200 is divided by the ten-year growth in non-industrial GFA in Windsor (8,320), which results in an unadjusted non-industrial development charge of \$18.90 per square metre.

On Table 3, the cash flow analysis is shown. After cash flow analysis, the residential calculated charge decreases slightly to \$949 per capita. The adjusted industrial development charge also decreases to \$10.73 per square metre, and the non-industrial charge decreases to \$18.56 per square metre.

2020 - 2029		WATER SUMMARY			Adjusted		
Development-Related Capital Program		Unadjusted			Development Charge		
Total	Net DC Recoverable	Residential	Industrial	Non-Industrial	Residential	Industrial	Non-Industrial
		\$/capita	\$/m ²	\$/m ²	\$/capita	\$/m ²	\$/m ²
\$78,970,000	\$12,783,967	\$951.54	\$11.26	\$18.90	\$949	\$10.73	\$18.56

APPENDIX C.5

TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
WATER

NO.	Road	From	To	Timing	Estimated Project Costs									
					Gross Cost	LaSalle Share	Tecumseh Share	Net Municipal Costs	Benefit to Existing Share	Available DC Reserves	Post Period Allocation	Net Growth-Related		
City-Wide Water Infrastructure														
1	Cook Pump Upgrade			2020 - 2024	\$720,000	\$86,000	\$78,000	\$556,000	0%	\$0	\$556,000	\$0	\$0	
2	Refurbishment of Reservoir D			2020 - 2024	\$4,180,000	\$0	\$0	\$4,180,000	100%	\$4,180,000	\$0	\$0	\$0	
3	AJ Brian WTP to Cook PS Feedermain			2020 - 2024	\$29,560,000	\$0	\$0	\$29,560,000	100%	\$29,560,000	\$0	\$0	\$0	
4	George Avenue	AJ Brian	Franklin Street	2025 - 2029	\$1,350,000	\$0	\$167,000	\$1,183,000	0%	\$0	\$0	\$709,800	\$473,200	
5	County Rd 42 Sub Trunk	8th Concession	Banwell Road	2025 - 2029	\$11,230,000	\$0	\$1,388,000	\$9,842,000	0%	\$0	\$0	\$5,905,200	\$3,936,800	
6	Division Road	Cook	6th Concession Road	2020 - 2024	\$4,870,000	\$586,000	\$529,000	\$3,755,000	0%	\$0	\$1,059,332	\$1,213,051	\$1,482,617	
7	Division Road	6th Concession Road	Riberdy Road	2020 - 2024	\$2,430,000	\$293,000	\$264,000	\$1,873,000	0%	\$0	\$0	\$842,850	\$1,030,150	
8	Franklin Street	Central Avenue	Francois Road	2025 - 2029	\$1,980,000	\$0	\$244,000	\$1,736,000	0%	\$0	\$0	\$1,041,600	\$694,400	
9	South National Road	Francois Road	Tecumseh Rd E	2025 - 2029	\$3,590,000	\$0	\$444,000	\$3,146,000	0%	\$0	\$0	\$1,887,600	\$1,258,400	
10	South National Road	Francois Road	Tecumseh Rd E	2025 - 2029	\$10,340,000	\$0	\$1,278,000	\$9,062,000	0%	\$0	\$0	\$5,437,200	\$3,624,800	
11	Oldcastle Elevated Tank (Hanna Relocation)			2020 - 2024	\$7,760,000	\$0	\$0	\$7,760,000	100%	\$7,760,000	\$0	\$0	\$0	
Subtotal City-Wide Water Infrastructure					\$78,010,000	\$965,000	\$4,392,000	\$72,653,000		\$41,500,000	\$1,615,332	\$17,037,301	\$12,500,367	
Studies														
1	Schedule B Environmental Assessment Studies			2020 - 2029	\$720,000	\$132,000	\$119,000	\$469,000	0%	\$0	\$0	\$281,400	\$187,600	
2	Water Master Plan Update (\$100,000 every five years)			2020 - 2029	\$240,000	\$0	\$0	\$240,000	0%	\$0	\$0	\$144,000	\$96,000	
Subtotal Studies					\$960,000	\$132,000	\$119,000	\$709,000		\$0	\$0	\$425,400	\$283,600	
Total City-Wide Water Infrastructure					\$78,970,000	\$1,097,000	\$4,511,000	\$73,362,000		\$41,500,000	\$1,615,332	\$17,462,701	\$12,783,967	



APPENDIX C.5

TABLE 2

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 CITY-WIDE EXCLUDING SANDWICH SOUTH (2020 - 2029)
 WATER

Growth in Population in New Units 2020-2029	13,032
Employment Growth in New Space 2020-2029	340
Growth in New Building Space (Square Metres) 2020-2029	28,415
<i>Industrial</i>	20,095
<i>Non-Industrial</i>	8,320

	Growth-Related Capital Forecast							Residential		Non-Residential	
	Gross Project Cost (\$000)	Benefit to Existing Share (\$000)	LaSalle Share (\$000)	Tecumseh Share (\$000)	Available DC Reserves (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs (\$000)	%	\$000	%	\$000
WATER											
City-Wide Water Infrastructure	\$78,970.00	\$41,500.00	\$1,097.00	\$4,511.00	\$1,615.33	\$17,462.70	\$12,783.97	97%	\$12,400.45	3%	\$383.52
TOTAL WATER	\$78,970.00	\$41,500.00	\$1,097.00	\$4,511.00	\$1,615.33	\$17,462.70	\$12,783.97		\$12,400.45		\$383.52
Unadjusted Development Charge Per Capita (\$)									\$951.54		
Unadjusted Development Charge Per Square Metre (\$)											\$13.50
									Non-Residential Allocation¹		
									(\$000)	%	\$/m²
Unadjusted Charge Per Square Metre (\$) - Industrial									\$226.3	59%	\$11.26
Unadjusted Charge Per Square Metre (\$) - Non-Industrial									\$157.2	41%	\$18.90

1) Non-residential cost allocated based on percentage shares of employment growth over the period 2020-2029

Residential Development Charge Calculation		
Residential Share of 2020-2029 DC Eligible Costs	97%	\$12,400,448
10-year Growth in Population in New Units		13,032
Development Charge Per Capital (Unadjusted)		\$951.54
Development Charge Per Capita after Cash Flow		\$949
Charge per Single Detached Unit	3.83	\$3,639

Non-Residential Development Charge Calculation		
Non-Residential Share of 2020-2029 DC Eligible Costs	3%	\$383,519
10-year Growth in Non-Residential Building Space (Square Metre)		28,415
10-year Growth in Industrial Space		20,095
10-year Growth in Non-Industrial Space		8,320
Industrial Charge Per Square Metre (Unadjusted)	59%	\$11.26
Industrial Charge Per Square Metre After Cash Flow		\$10.73
Non-Industrial Charge Per Square Metre (Unadjusted)	41%	\$18.90
Non-Industrial Charge Per Square Metre After Cash Flow		\$18.56



APPENDIX C.5

TABLE 3

CITY OF WINDSOR

WATER

CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

WATER: RESIDENTIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	\$267.4	\$567.3	\$485.6	\$410.5	\$343.5	\$390.4	\$453.7	\$301.2	\$153.8	
2020 - 2029 RESIDENTIAL FUNDING REQUIREMENTS											
Water: Residential: Non Inflated	\$1,285.9	\$1,285.9	\$1,285.9	\$1,285.9	\$1,285.9	\$1,194.1	\$1,194.1	\$1,194.1	\$1,194.1	\$1,194.1	\$12,400.4
Water: Residential: Inflated	\$1,285.9	\$1,311.7	\$1,337.9	\$1,364.7	\$1,391.9	\$1,318.4	\$1,344.8	\$1,371.7	\$1,399.1	\$1,427.1	\$13,553.3
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	1,632	1,650	1,255	1,266	1,278	1,291	1,304	1,108	1,120	1,128	13,032
REVENUE											
- DC Receipts: Inflated	\$1,548.8	\$1,597.2	\$1,239.1	\$1,275.0	\$1,312.8	\$1,352.7	\$1,393.6	\$1,207.8	\$1,245.3	\$1,279.3	\$13,451.6
INTEREST											
- Interest on Opening Balance	\$0.0	\$9.4	\$19.9	\$17.0	\$14.4	\$12.0	\$13.7	\$15.9	\$10.5	\$5.4	\$118.1
- Interest on In-year Transactions	\$4.6	\$5.0	(\$2.7)	(\$2.5)	(\$2.2)	\$0.6	\$0.9	(\$4.5)	(\$4.2)	(\$4.1)	(\$9.1)
TOTAL REVENUE	\$1,553.4	\$1,611.5	\$1,256.2	\$1,289.5	\$1,325.0	\$1,365.3	\$1,408.1	\$1,219.2	\$1,251.6	\$1,280.6	\$13,560.6
CLOSING CASH BALANCE	\$267.4	\$567.3	\$485.6	\$410.5	\$343.5	\$390.4	\$453.7	\$301.2	\$153.8	\$7.3	

2020 Adjusted Charge Per Capita	\$949
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.5

TABLE 3

CITY OF WINDSOR

WATER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

WATER: NON-RESIDENTIAL - INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	\$84.9	\$176.4	\$157.4	\$137.4	\$116.1	\$95.4	\$73.5	\$50.4	\$25.9	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Water: Non-Residential - Industrial: Non: Inflated	\$23.5	\$23.5	\$23.5	\$23.5	\$23.5	\$21.8	\$21.8	\$21.8	\$21.8	\$21.8	\$226.3
Water: Non-Residential - Industrial: Inflated	\$23.5	\$23.9	\$24.4	\$24.9	\$25.4	\$24.1	\$24.5	\$25.0	\$25.5	\$26.0	\$247.3
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Industrial Building GFA - square metres	9,966	10,129	-	-	-	-	-	-	-	-	20,095
REVENUE											
- DC Receipts: Inflated	\$106.9	\$110.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$217.8
INTEREST											
- Interest on Opening Balance	\$0.0	\$3.0	\$6.2	\$5.5	\$4.8	\$4.1	\$3.3	\$2.6	\$1.8	\$0.9	\$32.1
- Interest on In-year Transactions	\$1.5	\$1.5	(\$0.7)	(\$0.7)	(\$0.7)	(\$0.7)	(\$0.7)	(\$0.7)	(\$0.7)	(\$0.7)	(\$2.5)
TOTAL REVENUE	\$108.4	\$115.4	\$5.5	\$4.8	\$4.1	\$3.4	\$2.7	\$1.9	\$1.1	\$0.2	\$247.4
CLOSING CASH BALANCE	\$84.9	\$176.4	\$157.4	\$137.4	\$116.1	\$95.4	\$73.5	\$50.4	\$25.9	\$0.1	

2020 Adjusted Charge Per Square Metre	\$10.73
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Non-Residential Allocation	
Industrial	59%
Non-Industrial	41%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.5

TABLE 3

CITY OF WINDSOR

WATER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

WATER: NON-RESIDENTIAL - NON-INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
OPENING CASH BALANCE (\$000)	\$0.0	\$18.3	\$37.8	\$35.5	\$33.1	\$30.6	\$29.2	\$27.8	\$20.7	\$10.8	
2020 - 2029 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Water: Non-Residential - Non-Industrial: Non: Inflated	\$16.3	\$16.3	\$16.3	\$16.3	\$16.3	\$15.1	\$15.1	\$15.1	\$15.1	\$15.1	\$157.2
Water: Non-Residential - Non-Industrial: Inflated	\$16.3	\$16.6	\$17.0	\$17.3	\$17.7	\$16.7	\$17.1	\$17.4	\$17.7	\$18.1	\$171.9
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Non-Industrial Building GFA - square metres	1,846	1,858	697	699	699	702	700	447	343	328	8,320
REVENUE											
- DC Receipts: Inflated	\$34.3	\$35.2	\$13.5	\$13.8	\$14.0	\$14.4	\$14.6	\$9.5	\$7.5	\$7.3	\$164.0
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.6	\$1.3	\$1.2	\$1.2	\$1.1	\$1.0	\$1.0	\$0.7	\$0.4	\$8.5
- Interest on In-year Transactions	\$0.3	\$0.3	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.2)	(\$0.3)	(\$0.3)	(\$0.6)
TOTAL REVENUE	\$34.6	\$36.1	\$14.7	\$14.9	\$15.1	\$15.4	\$15.6	\$10.3	\$7.9	\$7.4	\$172.0
CLOSING CASH BALANCE	\$18.3	\$37.8	\$35.5	\$33.1	\$30.6	\$29.2	\$27.8	\$20.7	\$10.8	\$0.1	

2020 Adjusted Charge Per Square Metre	\$18.56
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Allocation of Capital Program	
Residential Sector	97%
Non-Residential Sector	3%
Non-Residential Allocation	
Industrial	59%
Non-Industrial	41%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D

SANDWICH SOUTH AREA-SPECIFIC SERVICES

TECHNICAL APPENDIX

SANDWICH SOUTH AREA – SPECIFIC SERVICES

This appendix provides the detailed analysis undertaken to establish the area-specific development charge rates for Sandwich South Planning District service area. These engineered services include area-specific Roads and Related, Sanitary Sewer, Storm Sewer and Municipal Drains, and Water services.

The basis of the development-related capital program is the City’s capital budget, servicing plans, and discussions with City staff. Many of the projects listed were included in the previous DC Amendment Background Study for the Sandwich South Planning District. The projects identified in the capital program are required to service the demands of the anticipated development in the East Pelton and County Road 42 Secondary Plan areas to occur over the planning period of 2020 to 2041.

The following tables provide details of the projects included in the area-specific engineered infrastructure development charges calculations. The content of the tables is as follows:

Table 1: Development Related Capital Program

Table 2: Calculation of Unadjusted Development Charges

Table 3: Residential & Non-Residential Cash Flow Analysis

ALLOCATION OF CAPITAL COSTS

Many of the projects included in the City-wide engineered services capital programs were previously included within the 2015 DC Background Study, and subsequently the 2018 DC Amendment Study. These projects and costs have been reviewed and updated through discussions with City and WUC staff. Costs have been updated to 2020 dollars to reflect current construction costs.

The following table summarizes the allocation of the Sandwich South engineered services capital costs (in thousands of dollars):

Service	Gross Cost	Net Cost	Benefit to Existing	Available Reserves	City-Wide DC	Sandwich South	
						Post-2041	2020-2041
Roads & Related	\$495,360.0	\$495,360.0	\$95,556.0	\$0.0	\$59,335.6	\$148,012.8	\$192,455.5
Sanitary Sewer	\$64,653.6	\$41,197.6	\$0.0	\$0.0	\$3,451.8	\$22,679.2	\$15,066.7
Storm & Drains	\$224,058.0	\$187,536.6	\$754.0	\$0.0	\$17.5	\$121,106.2	\$65,658.9
Water	\$34,465.0	\$34,465.0	\$9,781.3	\$0.0	\$0.0	\$9,544.5	\$15,139.2
Total	\$818,536.6	\$758,559.2	\$106,091.2	\$0.0	\$62,804.9	\$301,342.8	\$288,320.3

The area-specific engineered services capital program totals \$818.54 million, which is reduced by \$59.98 million in available grants, subsidies, and other funding sources. The remaining net cost to the municipality is \$758.56 million. Of this amount:

- \$106.09 million (14%) is attributable to replacement or benefit-to-existing shares. Overall the benefit-to-existing shares used in the 2018 DC Amendment Study have been maintained, unless otherwise instructed from City engineering staff;
- \$62.80 million (8%) has been identified as City-wide DC shares. These shares are to be funded through the City-wide DC rates calculated in Appendix C; and
- \$301.34 million (40%) is attributable to development occurring beyond 2041. As stated previously, it is anticipated that over the 2020-2041 planning period development in Sandwich South will occur within the East Pelton and County Road 42 Secondary Plan areas. Through discussions with City engineering staff, a share of the capital projects has been identified to serve development within Sandwich South, but outside of the East Pelton and County Road 42 Secondary Plan areas. This share is allocated to post-period development and has been removed from the development charges calculation. Post-2041 shares for Water services were calculated by the WUC based on calculated flows to areas outside of the two Secondary Plan areas.

After accounting for these deductions, the remaining \$288.32 million (38% of the net municipal cost) is to be funded through the area-specific DCs over the 2020-2041 planning period.

APPENDIX D.1

SANDWICH SOUTH ROADS AND RELATED

SANDWICH SOUTH ROADS AND RELATED

Road surfaces, sidewalks, bridges, culverts, and traffic signals in the City of Windsor are maintained through the Office of the City Engineer. The capital program contained herein was assembled by the City's engineering staff and is designed to serve the anticipated population and employment growth in Sandwich South between 2020 and 2041.

The 2020-2041 Roads and Related capital program totals \$495.36 million and includes the urbanization of existing roads within Sandwich South, road construction, and environmental assessment and functional servicing studies. The details, timing, and cost breakdown of each road project are shown on Table 1.

The 2020-2041 development-related costs included in the capital program are not to be entirely recovered through future development charges. Approximately \$95.56 million of the program has been identified as a benefit to the existing community, or replacement share. The majority of replacement shares have been carried forward from the 2018 DC Amendment Study.

Shares allocated to the existing City-wide DC by-law are calculated at \$59.34 million. These costs are removed from the development charges calculation, and are included in the City-wide Roads and Related DC calculation (Appendix C).

Finally, a share of \$148.01 million is deemed to benefit future Sandwich South development outside of the East Pelton and County Road 42 Secondary Plan areas. This share of project costs is to be paid for largely by future development and will be considered under future development charges studies.

The remaining \$192.46 million is identified as the net development-related share eligible for funding through development charges over the 2020 to 2041 planning period.

Table 2 summarizes the Roads and Related program and calculation of the unadjusted residential and non-residential development charges. The DC eligible share of \$192.46 million has been allocated 60 per cent to new residential development and 40 per cent to non-residential development. The allocation of costs is based on the future shares of population in new units and employment growth in new space in Sandwich South to 2041. The residential share of the capital program totals \$115.47 million and, when divided by the forecast growth in population in new units (14,212), an unadjusted charge of \$8,125.06 per capita results.

The non-residential share, \$76.98 million is applied against the forecast increase in square metres of non-residential floor space by type of development. Employment growth between 2020 and 2041 in Sandwich South is anticipated to be 37% industrial, and 63% non-industrial. The industrial share of the capital program totals \$28.48 million, which, when divided by the increase in square metres of industrial building space (347,000), yields an unadjusted charge of \$82.08 per square metre. The remaining non-industrial share totals \$48.50 million and yields an unadjusted charge of \$134.76 per square metre of new non-industrial development, when divided by the anticipated increase in square metres (359,879).

The residential and non-residential cash flow analysis is shown on Table 3. The analysis takes into consideration expenditure timing and DC revenue projections. After cash flow considerations, the residential and non-residential charges decrease to \$7,610 per capita, \$81.55 per square metre (industrial) and \$133.88 per square metre (non-industrial), respectively.

SANDWICH SOUTH PLANNING DISTRICT - ROADS & RELATED SUMMARY							
2020 - 2041		Unadjusted			Adjusted		
Development-Related Capital Program		Development Charge			Development Charge		
Total	Net DC Recoverable	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²
\$495,360,000	\$192,455,531	\$8,125.06	\$82.08	\$134.76	\$7,610	\$81.55	\$133.88

APPENDIX D.1

TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
ROADS & RELATED

NO.	Infrastructure Requirement	From	To	Timing	Estimated Project Costs								
					Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	City-wide DC Share	Sandwich South Post-2041	East Pelton & County Road 42 2020-2041		
Sandwich South Planning District Roads & Related Infrastructure													
Road Improvements													
1	7th Concession	County Road 42	E-W Arterial	2020 - 2035	\$9,960,000	\$0	\$9,960,000	10%	\$996,000	\$1,344,600	\$3,992,388	\$3,627,012	
2	8th Concession	County Road 42	Hwy 401	2020 - 2035	\$19,100,000	\$0	\$19,100,000	10%	\$1,910,000	\$2,578,500	\$7,656,085	\$6,955,415	
3	9th Concession	County Road 42	Hwy 401	2020 - 2035	\$25,740,000	\$0	\$25,740,000	10%	\$2,574,000	\$3,474,900	\$10,317,677	\$9,373,423	
4	Baseline Road	7th Concession	E. City Limits	2030 - 2041	\$29,300,000	\$0	\$29,300,000	10%	\$2,930,000	\$3,955,500	\$11,744,675	\$10,669,825	
5	County Road 17	County Road 42	Hwy 401	2030 - 2041	\$28,230,000	\$0	\$28,230,000	10%	\$2,823,000	\$3,811,050	\$11,315,774	\$10,280,176	
Subtotal Road Improvements					\$112,330,000	\$0	\$112,330,000		\$11,233,000	\$15,164,550	\$45,026,600	\$40,905,850	
Road Construction													
6	Collector Roads - County Road 42 Secondary Plan			2020 - 2035	\$34,650,000	\$0	\$34,650,000	10%	\$3,465,000	\$4,677,750	\$0	\$26,507,250	
7	Collector Roads - East Pelton Secondary Plan			2020 - 2035	\$41,290,000	\$0	\$41,290,000	10%	\$4,129,000	\$5,574,150	\$0	\$31,586,850	
8	County Road 42 - Engineering			2021 - 2021	\$2,120,000	\$0	\$2,120,000	25%	\$530,000	\$0	\$833,123	\$756,877	
9	Lauzon Parkway / County Road 42 - Engineering			2023 - 2023	\$1,060,000	\$0	\$1,060,000	25%	\$265,000	\$0	\$416,561	\$378,439	
10	County Road 42 - Engineering & Land Acquisition			2024 - 2028	\$2,920,000	\$0	\$2,920,000	25%	\$730,000	\$0	\$1,147,509	\$1,042,491	
11	County Road 42 - Engineering & Construction	Walker Road	E. City Limits	2026 - 2041	\$75,060,000	\$0	\$75,060,000	25%	\$18,765,000	\$8,444,250	\$25,072,677	\$22,778,073	
12	Lauzon Parkway - Engineering & Construction	E.C. Row Expressway	Hwy 401	2026 - 2041	\$179,820,000	\$0	\$179,820,000	25%	\$44,955,000	\$20,229,750	\$60,066,198	\$54,569,052	
13	E-W Arterial - Engineering & Construction	Walker Road	Lauzon Parkway	2026 - 2041	\$45,350,000	\$0	\$45,350,000	25%	\$11,337,500	\$5,101,875	\$15,148,493	\$13,762,132	
Subtotal Road Construction					\$382,270,000	\$0	\$382,270,000		\$84,176,500	\$44,027,775	\$102,684,562	\$151,381,163	
Studies & Other													
14	Lauzon Pkwy / County Rd 42 / E-W Arterial EA (Remaining Costs)			2020 - 2020	\$293,000	\$0	\$293,000	50%	\$146,500	\$73,250	\$0	\$73,250	
15	Functional Servicing Reports			2020 - 2022	\$467,000	\$0	\$467,000	0%	\$0	\$70,050	\$301,682	\$95,268	
Subtotal Studies & Other					\$760,000	\$0	\$760,000		\$146,500	\$143,300	\$301,682	\$168,518	
Total Sandwich South Roads Projects					\$495,360,000	\$0	\$495,360,000		\$95,556,000	\$59,335,625	\$148,012,844	\$192,455,531	



APPENDIX D.1

TABLE 2

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 ROADS & RELATED

Growth in Population in New Units 2020-2041	14,212
Employment Growth in New Space 2020-2041	9,468
Growth in New Building Space (Square Metres) 2020-2041	706,879
Industrial	347,000
Non-Industrial	359,879

	Growth-Related Capital Forecast							Residential		Non-Residential	
	Gross Project Cost (\$000)	Grants and Subsidies (\$000)	Benefit to Existing Share (\$000)	Available DC Reserves (\$000)	City-wide DC Share (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs (\$000)	Share %	\$000	Share %	\$000
	ROADS & RELATED										
Road Improvements	\$112,330.00	\$0.00	\$11,233.00	\$0.00	\$15,164.55	\$45,026.60	\$40,905.85	60%	\$24,543.51	40%	\$16,362.34
Road Construction	\$382,270.00	\$0.00	\$84,176.50	\$0.00	\$44,027.78	\$102,684.56	\$151,381.16	60%	\$90,828.70	40%	\$60,552.47
Studies & Other	\$760.00	\$0.00	\$146.50	\$0.00	\$143.30	\$301.68	\$168.52	60%	\$101.11	40%	\$67.41
TOTAL ROADS & RELATED	\$495,360.00	\$0.00	\$95,556.00	\$0.00	\$59,335.63	\$148,012.84	\$192,455.53		\$115,473.32		\$76,982.21
Unadjusted Development Charge Per Capita (\$)									\$8,125.06		
Unadjusted Development Charge Per Square Metre (\$)											\$108.90
									Non-Residential Allocation¹		
									(\$000)	%	\$/m²
Unadjusted Charge Per Square Metre (\$) - Industrial									\$28,483.4	37%	\$82.08
Unadjusted Charge Per Square Metre (\$) - Non-Industrial									\$48,498.8	63%	\$134.76

1) Non-residential cost allocated based on percentage shares of employment growth over the period 2020-2041

Residential Development Charge Calculation		
Residential Share of 2020-2041 DC Eligible Costs	60%	\$115,473,319
2020-2041 Growth in Population in New Units		14,212
Development Charge Per Capital (Unadjusted)		\$8,125.06
Development Charge Per Capita after Cash Flow		\$7,610
Charge per Single Detached Unit	3.83	\$29,181

Non-Residential Development Charge Calculation		
Non-Residential Share of 2020-2041 DC Eligible Cos	40%	\$76,982,213
2020-2041 Growth in Non-Residential Building Space (Square		706,879
2020-2041 10-year Growth in Industrial Space		347,000
2020-2041 Growth in Non-Industrial Space		359,879
Industrial Charge Per Square Metre (Unadjusted)	37%	\$82.08
Industrial Charge Per Square Metre After Cash Flow		\$81.55
Non-Industrial Charge Per Square Metre (Unadjusted)	63%	\$134.76
Non-Industrial Charge Per Square Metre After Cash Flow		\$133.88



APPENDIX D.1

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 ROADS & RELATED
 CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

ROADS & RELATED - RESIDENTIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	\$1,959.9	\$3,601.9	\$5,813.5	\$7,919.7	\$10,250.0	\$12,702.8	\$11,351.0	\$9,915.9	\$8,393.9	\$6,934.9	\$4,259.3
2020 - 2041 RESIDENTIAL FUNDING REQUIREMENTS												
Roads & Related - Residential: Non Inflated	\$2,989.9	\$3,400.1	\$2,945.9	\$3,153.9	\$3,052.0	\$3,052.0	\$6,468.6	\$6,468.6	\$6,468.6	\$6,343.5	\$7,391.0	\$7,391.0
Roads & Related - Residential: Inflated	\$2,989.9	\$3,468.1	\$3,064.9	\$3,347.0	\$3,303.6	\$3,369.6	\$7,284.7	\$7,430.4	\$7,579.0	\$7,581.0	\$8,832.9	\$8,832.9
NEW RESIDENTIAL DEVELOPMENT												
- Population Growth in New Units	646	646	646	646	646	646	646	646	646	646	646	646
REVENUE												
- DC Receipts: Inflated	\$4,916.1	\$5,014.4	\$5,114.7	\$5,217.0	\$5,321.3	\$5,427.7	\$5,536.3	\$5,647.0	\$5,759.9	\$5,875.1	\$5,992.6	\$6,112.5
INTEREST												
- Interest on Opening Balance	\$0.0	\$68.6	\$126.1	\$203.5	\$277.2	\$358.7	\$444.6	\$397.3	\$347.1	\$293.8	\$242.7	\$149.1
- Interest on In-year Transactions	\$33.7	\$27.1	\$35.9	\$32.7	\$35.3	\$36.0	(\$48.1)	(\$49.0)	(\$50.0)	(\$46.9)	(\$78.1)	(\$74.8)
TOTAL REVENUE	\$4,949.8	\$5,110.0	\$5,276.6	\$5,453.2	\$5,633.8	\$5,822.5	\$5,932.8	\$5,995.2	\$6,057.0	\$6,122.0	\$6,157.3	\$6,186.8
CLOSING CASH BALANCE	\$1,959.9	\$3,601.9	\$5,813.5	\$7,919.7	\$10,250.0	\$12,702.8	\$11,351.0	\$9,915.9	\$8,393.9	\$6,934.9	\$4,259.3	\$1,613.1

APPENDIX D.1

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 ROADS & RELATED
 CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

ROADS & RELATED - RESIDENTIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	\$1,613.1	(\$1,000.0)	(\$3,596.5)	(\$6,205.1)	(\$8,823.8)	(\$7,870.7)	(\$6,727.8)	(\$5,382.0)	(\$3,819.3)	(\$2,024.9)	
2020 - 2041 RESIDENTIAL FUNDING REQUIREMENTS											
Roads & Related - Residential: Non: Inflated	\$7,391.0	\$7,391.0	\$7,391.0	\$7,391.0	\$4,464.1	\$4,464.1	\$4,464.1	\$4,464.1	\$4,464.1	\$4,464.1	\$115,473.3
Roads & Related - Residential: Inflated	\$8,832.9	\$8,832.9	\$8,832.9	\$8,832.9	\$5,335.0	\$5,335.0	\$5,335.0	\$5,335.0	\$5,335.0	\$5,335.0	\$134,425.5
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	646	646	646	646	646	646	646	646	646	646	14,212
REVENUE											
- DC Receipts: Inflated	\$6,234.8	\$6,359.4	\$6,486.6	\$6,616.4	\$6,748.7	\$6,883.7	\$7,021.3	\$7,161.8	\$7,305.0	\$7,451.1	\$134,203.4
INTEREST											
- Interest on Opening Balance	\$56.5	(\$55.0)	(\$197.8)	(\$341.3)	(\$485.3)	(\$432.9)	(\$370.0)	(\$296.0)	(\$210.1)	(\$111.4)	\$465.3
- Interest on In-year Transactions	(\$71.4)	(\$68.0)	(\$64.5)	(\$61.0)	\$24.7	\$27.1	\$29.5	\$32.0	\$34.5	\$37.0	(\$226.4)
TOTAL REVENUE	\$6,219.8	\$6,236.4	\$6,224.3	\$6,214.1	\$6,288.1	\$6,477.9	\$6,680.8	\$6,897.7	\$7,129.4	\$7,376.8	\$134,442.3
CLOSING CASH BALANCE	(\$1,000.0)	(\$3,596.5)	(\$6,205.1)	(\$8,823.8)	(\$7,870.7)	(\$6,727.8)	(\$5,382.0)	(\$3,819.3)	(\$2,024.9)	\$16.9	

2020 Adjusted Charge Per Capita	\$7,610
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Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.1

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
ROADS & RELATED

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

ROADS & RELATED: NON-RESIDENTIAL - INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	\$558.4	\$1,042.4	\$1,671.3	\$2,278.7	\$2,945.9	\$3,648.3	\$3,418.1	\$3,172.7	\$2,911.3	\$2,671.3	\$2,092.4
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS												
Roads & Related: Non-Residential - Industrial: Non: Inflated	\$737.5	\$838.7	\$726.7	\$778.0	\$752.8	\$752.8	\$1,595.6	\$1,595.6	\$1,595.6	\$1,564.7	\$1,823.1	\$1,823.1
Roads & Related: Non-Residential - Industrial: Inflated	\$737.5	\$855.5	\$756.0	\$825.6	\$814.9	\$831.2	\$1,796.9	\$1,832.8	\$1,869.5	\$1,870.0	\$2,222.4	\$2,266.8
NEW NON-RESIDENTIAL DEVELOPMENT												
- New Industrial Building GFA - square metres	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773
REVENUE												
- DC Receipts: Inflated	\$1,286.3	\$1,312.0	\$1,338.2	\$1,365.0	\$1,392.3	\$1,420.1	\$1,448.5	\$1,477.5	\$1,507.1	\$1,537.2	\$1,568.0	\$1,599.3
INTEREST												
- Interest on Opening Balance	\$0.0	\$19.5	\$36.5	\$58.5	\$79.8	\$103.1	\$127.7	\$119.6	\$111.0	\$101.9	\$93.5	\$73.2
- Interest on In-year Transactions	\$9.6	\$8.0	\$10.2	\$9.4	\$10.1	\$10.3	(\$9.6)	(\$9.8)	(\$10.0)	(\$9.2)	(\$18.0)	(\$18.4)
TOTAL REVENUE	\$1,295.9	\$1,339.5	\$1,384.9	\$1,432.9	\$1,482.2	\$1,533.6	\$1,566.7	\$1,587.4	\$1,608.1	\$1,630.0	\$1,643.4	\$1,654.2
CLOSING CASH BALANCE	\$558.4	\$1,042.4	\$1,671.3	\$2,278.7	\$2,945.9	\$3,648.3	\$3,418.1	\$3,172.7	\$2,911.3	\$2,671.3	\$2,092.4	\$1,479.8

APPENDIX D.1

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 ROADS & RELATED
 CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

ROADS & RELATED: NON-RESIDENTIAL - INDUSTRIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	\$1,479.8	\$832.0	\$147.6	(\$575.1)	(\$1,349.1)	(\$1,164.8)	(\$965.1)	(\$749.1)	(\$515.9)	(\$264.4)	
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Roads & Related: Non-Residential - Industrial: Non: Inflated	\$1,823.1	\$1,823.1	\$1,823.1	\$1,823.1	\$1,101.1	\$1,101.1	\$1,101.1	\$1,101.1	\$1,101.1	\$1,101.1	\$28,483.4
Roads & Related: Non-Residential - Industrial: Inflated	\$2,312.1	\$2,358.4	\$2,405.5	\$2,453.7	\$1,511.6	\$1,541.9	\$1,572.7	\$1,604.2	\$1,636.2	\$1,669.0	\$35,744.2
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Industrial Building GFA - square metres	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	347,000
REVENUE											
- DC Receipts: Inflated	\$1,631.3	\$1,663.9	\$1,697.2	\$1,731.1	\$1,765.8	\$1,801.1	\$1,837.1	\$1,873.8	\$1,911.3	\$1,949.5	\$35,113.8
INTEREST											
- Interest on Opening Balance	\$51.8	\$29.1	\$5.2	(\$31.6)	(\$74.2)	(\$64.1)	(\$53.1)	(\$41.2)	(\$28.4)	(\$14.5)	\$703.4
- Interest on In-year Transactions	(\$18.7)	(\$19.1)	(\$19.5)	(\$19.9)	\$4.4	\$4.5	\$4.6	\$4.7	\$4.8	\$4.9	(\$66.3)
TOTAL REVENUE	\$1,664.4	\$1,673.9	\$1,682.9	\$1,679.6	\$1,696.0	\$1,741.6	\$1,788.7	\$1,837.4	\$1,887.8	\$1,939.9	\$35,750.8
CLOSING CASH BALANCE	\$832.0	\$147.6	(\$575.1)	(\$1,349.1)	(\$1,164.8)	(\$965.1)	(\$749.1)	(\$515.9)	(\$264.4)	\$6.6	

2020 Adjusted Charge Per Square Metre	\$81.55
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Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Non-Residential Allocation	
Industrial	37%
Non-Industrial	63%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.1

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
ROADS & RELATED

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

ROADS & RELATED: NON-RESIDENTIAL - NON-INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	\$950.6	\$1,774.8	\$2,845.4	\$3,879.5	\$5,015.5	\$6,211.3	\$5,819.2	\$5,401.1	\$4,956.0	\$4,547.1	\$3,561.2
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS												
Roads & Related: Non-Residential - Non-Industrial: Non: Inflated	\$1,255.7	\$1,428.0	\$1,237.3	\$1,324.7	\$1,281.8	\$1,281.8	\$2,716.8	\$2,716.8	\$2,716.8	\$2,664.3	\$3,104.2	\$3,104.2
Roads & Related: Non-Residential - Non-Industrial: Inflated	\$1,255.7	\$1,456.6	\$1,287.3	\$1,405.7	\$1,387.5	\$1,415.2	\$3,059.6	\$3,120.7	\$3,183.2	\$3,184.0	\$3,784.0	\$3,859.7
NEW NON-RESIDENTIAL DEVELOPMENT												
- New Non-Industrial Building GFA - square metres	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358
REVENUE												
- DC Receipts: Inflated	\$2,190.0	\$2,233.8	\$2,278.5	\$2,324.1	\$2,370.6	\$2,418.0	\$2,466.3	\$2,515.7	\$2,566.0	\$2,617.3	\$2,669.6	\$2,723.0
INTEREST												
- Interest on Opening Balance	\$0.0	\$33.3	\$62.1	\$99.6	\$135.8	\$175.5	\$217.4	\$203.7	\$189.0	\$173.5	\$159.1	\$124.6
- Interest on In-year Transactions	\$16.3	\$13.6	\$17.3	\$16.1	\$17.2	\$17.5	(\$16.3)	(\$16.6)	(\$17.0)	(\$15.6)	(\$30.6)	(\$31.3)
TOTAL REVENUE	\$2,206.4	\$2,280.7	\$2,358.0	\$2,439.7	\$2,523.5	\$2,611.1	\$2,667.4	\$2,702.7	\$2,738.0	\$2,775.2	\$2,798.1	\$2,816.4
CLOSING CASH BALANCE	\$950.6	\$1,774.8	\$2,845.4	\$3,879.5	\$5,015.5	\$6,211.3	\$5,819.2	\$5,401.1	\$4,956.0	\$4,547.1	\$3,561.2	\$2,518.0

APPENDIX D.1

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
ROADS & RELATED

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

ROADS & RELATED: NON-RESIDENTIAL - NON-INDUSTRIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	\$2,518.0	\$1,414.8	\$249.2	(\$981.5)	(\$2,299.6)	(\$1,986.0)	(\$1,646.3)	(\$1,278.9)	(\$882.1)	(\$454.2)	
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Roads & Related: Non-Residential - Non-Industrial: Non: Inflated	\$3,104.2	\$3,104.2	\$3,104.2	\$3,104.2	\$1,874.9	\$1,874.9	\$1,874.9	\$1,874.9	\$1,874.9	\$1,874.9	\$48,498.8
Roads & Related: Non-Residential - Non-Industrial: Inflated	\$3,936.9	\$4,015.6	\$4,095.9	\$4,177.9	\$2,573.9	\$2,625.3	\$2,677.8	\$2,731.4	\$2,786.0	\$2,841.8	\$60,861.8
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Non-Industrial Building GFA - square metres	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	359,879
REVENUE											
- DC Receipts: Inflated	\$2,777.5	\$2,833.0	\$2,889.7	\$2,947.5	\$3,006.4	\$3,066.6	\$3,127.9	\$3,190.5	\$3,254.3	\$3,319.4	\$59,785.6
INTEREST											
- Interest on Opening Balance	\$88.1	\$49.5	\$8.7	(\$54.0)	(\$126.5)	(\$109.2)	(\$90.5)	(\$70.3)	(\$48.5)	(\$25.0)	\$1,196.0
- Interest on In-year Transactions	(\$31.9)	(\$32.5)	(\$33.2)	(\$33.8)	\$7.6	\$7.7	\$7.9	\$8.0	\$8.2	\$8.4	(\$113.0)
TOTAL REVENUE	\$2,833.7	\$2,850.0	\$2,865.2	\$2,859.7	\$2,887.5	\$2,965.1	\$3,045.2	\$3,128.2	\$3,213.9	\$3,302.7	\$60,868.6
CLOSING CASH BALANCE	\$1,414.8	\$249.2	(\$981.5)	(\$2,299.6)	(\$1,986.0)	(\$1,646.3)	(\$1,278.9)	(\$882.1)	(\$454.2)	\$6.8	

2020 Adjusted Charge Per Square Metre

\$133.88

Allocation of Capital Program

Residential Sector	60%
Non-Residential Sector	40%

Non-Residential Allocation

Industrial	37%
Non-Industrial	63%

Rates for 2020

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



APPENDIX D.2

SANDWICH SOUTH SANITARY SEWER

SANDWICH SOUTH SANITARY SEWER

The Office of the City Engineer is responsible for the planning, design and maintenance of the City's sewer and drainage systems. The capital program for Sanitary Sewer Services was assembled by the City's engineering staff and is designed to serve the anticipated population and employment growth in Sandwich South between 2020 and 2041.

The 2020-2041 Sanitary Sewer capital program totals \$64.65 million and includes sanitary sewers planned to serve development in Sandwich South, as well as the recovery of completed development-related projects not yet fully funded. It also includes a share of functional servicing study costs for Sandwich South. The details, timing, and cost breakdown of each project are shown on Table 1.

The development-related costs included in the capital program are not to be entirely recovered through future DCs. The City previously received an Infrastructure Stimulus Funding grant of \$23.46 million to fund a share of completed Sandwich South sewer projects, yielding a net municipal cost of \$41.20 million.

Consistent with the 2018 DC Amendment Study, no benefit-to-existing shares have been identified for these projects. However, some of the capital projects are allocated to the existing City-wide development charge calculations (Appendix C). This share, totaling \$3.45 million, has been excluded from the development charges calculation.

Finally, a share of \$22.68 million is deemed to benefit Sandwich South post-2041. These shares will be reconsidered through future DC Background Studies.

Of specific note is the Sandwich South Sanitary Sewer Projects Phases 1-6 (Projects 5 and 6). Although these projects were completed in 2007 and 2009-2012, respectively, they have been treated as a future project in the allocation of costs. The treatment of these specific projects is meant to reflect the long-term benefits of these projects as development in Sandwich South has not yet proceeded, and the benefits of the works will likely extend to 2041 and beyond.

The remaining \$15.07 million is identified as the net development-related share eligible for funding through development charges over the 2020-2041 planning period.

Table 2 summarizes the capital program and calculation of the unadjusted residential and non-residential development charges. The DC eligible share of has been allocated 60 per cent to new residential development and 40 per cent to non-residential development based

on shares of population in new units and employment growth in new space to 2041. The residential share of the capital program totals \$9.04 million and, when divided by the forecast growth in population in new units (14,212), an unadjusted charge of \$636.08 per capita results.

The non-residential share, \$6.03 million is applied against the forecast increase in square metres of non-residential floor space by type of development. The industrial share (37%) totals \$2.23 million, which, when divided by the increase in square metres of industrial building space (347,000), yields an unadjusted charge of \$6.43 per square metre. The remaining non-industrial (63%) share totals \$3.80 million and yields an unadjusted charge of \$10.55 per square metre of new non-industrial development, when divided by the anticipated increase (359,879).

The residential and non-residential cash flow analysis is shown on Table 3. The analysis takes into consideration expenditure timing and DC revenue projections. After cash flow considerations, the residential and non-residential charges increase to \$656 per capita, \$6.92 per square metre (industrial) and \$11.35 per square metre (non-industrial), respectively.

SANDWICH SOUTH PLANNING DISTRICT - SANITARY SEWER SUMMARY							
2020 - 2041		Unadjusted			Adjusted		
Development-Related Capital Program		Development Charge			Development Charge		
Total	Net DC Recoverable	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²
\$64,653,644	\$15,066,670	\$636.08	\$6.43	\$10.55	\$656	\$6.92	\$11.35

APPENDIX D.2

TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
SANITARY SEWER

NO.	Road	From	To	Length (m)	Timing	Estimated Project Costs									
						Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	City-Wide DC Share	Sandwich South Post-2041	East Pelton & County Road 42 2020-2041			
Sandwich South Planning District Sanitary Sewer Infrastructure															
Sewer Infrastructure															
1	County Road 42	Pelton Spur	8th Concession		2020 - 2029	\$1,895,000	\$0	\$1,895,000	0%	\$0	\$284,250	\$966,450	\$644,300		
2	9th Concession	County Road 42	Hwy 401	3.1	2020 - 2029	\$8,901,000	\$0	\$8,901,000	0%	\$0	\$0	\$5,340,600	\$3,560,400		
3	County Road 17	County Road 42	Hwy 401	3.45	2030 - 2041	\$10,163,000	\$0	\$10,163,000	0%	\$0	\$0	\$6,097,800	\$4,065,200		
4	Legacy Park Drive	Provincial Road	Walker Road	0.64	2030 - 2041	\$805,000	\$0	\$805,000	0%	\$0	\$0	\$483,000	\$322,000		
5	Sandwich South - Ph 1A, 1B, & 3 (Remaining Costs)			3.1	2020 - 2020	\$5,425,000	\$0	\$5,425,000	0%	\$0	\$813,750	\$2,766,750	\$1,844,500		
6	Sandwich South - Ph 2 & 4-6 (Remaining Costs)				2020 - 2020	\$30,276,000	\$23,456,000	\$6,820,000	0%	\$0	\$2,318,800	\$2,700,720	\$1,800,480		
7	Baseline Road	8th Concession	County Rd 17		2030 - 2041	\$6,955,644	\$0	\$6,955,644	0%	\$0	\$0	\$4,173,386	\$2,782,258		
Subtotal Sewer Infrastructure						\$64,420,644	\$23,456,000	\$40,964,644		\$0	\$3,416,800	\$22,528,706	\$15,019,138		
Studies & Other															
8	Functional Servicing Reports				2020 - 2022	\$233,000	\$0	\$233,000	0%	\$0	\$34,950	\$150,518	\$47,532		
Subtotal Studies & Other						\$233,000	\$0	\$233,000		\$0	\$34,950	\$150,518	\$47,532		
Total Sandwich South Sanitary Sewers						\$64,653,644	\$23,456,000	\$41,197,644		\$0	\$3,451,750	\$22,679,224	\$15,066,670		



APPENDIX D.2

TABLE 2

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 SANITARY SEWER

Growth in Population in New Units 2020-2041	14,212
Employment Growth in New Space 2020-2041	9,468
Growth in New Building Space (Square Metres) 2020-2041	706,879
<i>Industrial</i>	347,000
<i>Non-Industrial</i>	359,879

	Growth-Related Capital Forecast							Residential		Non-Residential	
	Gross Project Cost (\$000)	Grants and Subsidies (\$000)	Benefit to Existing Share (\$000)	Available DC Reserves (\$000)	City-wide DC Share (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs (\$000)	Share %	\$000	Share %	\$000
	SANITARY SEWER										
Sewer Infrastructure	\$64,420.64	\$23,456.00	\$0.00	\$0.00	\$3,416.80	\$22,528.71	\$15,019.14	60%	\$9,011.48	40%	\$6,007.66
Studies & Other	\$233.00	\$0.00	\$0.00	\$0.00	\$34.95	\$150.52	\$47.53	60%	\$28.52	40%	\$19.01
TOTAL SANITARY SEWER	\$64,653.64	\$23,456.00	\$0.00	\$0.00	\$3,451.75	\$22,679.22	\$15,066.67		\$9,040.00		\$6,026.67
Unadjusted Development Charge Per Capita (\$)								\$636.08			
Unadjusted Development Charge Per Square Metre (\$)										\$8.53	
								Non-Residential Allocation ¹			
								(\$000)	%	\$/m²	
Unadjusted Charge Per Square Metre (\$) - Industrial								\$2,229.9	37%	\$6.43	
Unadjusted Charge Per Square Metre (\$) - Non-Industrial								\$3,796.8	63%	\$10.55	

1) Non-residential cost allocated based on percentage shares of employment growth over the period 2020-2041

Residential Development Charge Calculation		
Residential Share of 2020-2041 DC Eligible Costs	60%	\$9,040,002
2020-2041 Growth in Population in New Units		14,212
Development Charge Per Capital (Unadjusted)		\$636.08
Development Charge Per Capita after Cash Flow		\$656
Charge per Single Detached Unit	3.83	\$2,515

Non-Residential Development Charge Calculation		
Non-Residential Share of 2020-2041 DC Eligible Costs	40%	\$6,026,668
2020-2041 Growth in Non-Residential Building Space (Square Metre)		706,879
2020-2041 10-year Growth in Industrial Space		347,000
2020-2041 Growth in Non-Industrial Space		359,879
Industrial Charge Per Square Metre (Unadjusted)	37%	\$6.43
Industrial Charge Per Square Metre After Cash Flow		\$6.92
Non-Industrial Charge Per Square Metre (Unadjusted)	63%	\$10.55
Non-Industrial Charge Per Square Metre After Cash Flow		\$11.35



APPENDIX D.2

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 SANITARY SEWER
 CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

SANITARY SEWER - RESIDENTIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	(\$2,080.7)	(\$2,027.0)	(\$1,967.0)	(\$1,890.0)	(\$1,805.1)	(\$1,711.7)	(\$1,609.4)	(\$1,497.4)	(\$1,375.3)	(\$1,242.4)	(\$1,221.1)
2020 - 2041 RESIDENTIAL FUNDING REQUIREMENTS												
Sanitary Sewer - Residential: Non Inflated	\$2,448.8	\$261.8	\$261.8	\$252.3	\$252.3	\$252.3	\$252.3	\$252.3	\$252.3	\$252.3	\$358.5	\$358.5
Sanitary Sewer - Residential: Inflated	\$2,448.8	\$267.0	\$272.4	\$267.7	\$273.1	\$278.5	\$284.1	\$289.8	\$295.6	\$301.5	\$428.4	\$428.4
NEW RESIDENTIAL DEVELOPMENT												
- Population Growth in New Units	646	646	646	646	646	646	646	646	646	646	646	646
REVENUE												
- DC Receipts: Inflated	\$423.8	\$432.3	\$440.9	\$449.7	\$458.7	\$467.9	\$477.2	\$486.8	\$496.5	\$506.5	\$516.6	\$526.9
INTEREST												
- Interest on Opening Balance	\$0.0	(\$114.4)	(\$111.5)	(\$108.2)	(\$104.0)	(\$99.3)	(\$94.1)	(\$88.5)	(\$82.4)	(\$75.6)	(\$68.3)	(\$67.2)
- Interest on In-year Transactions	(\$55.7)	\$2.9	\$2.9	\$3.2	\$3.2	\$3.3	\$3.4	\$3.4	\$3.5	\$3.6	\$1.5	\$1.7
TOTAL REVENUE	\$368.1	\$320.7	\$332.4	\$344.7	\$358.0	\$371.9	\$386.5	\$401.7	\$417.7	\$434.4	\$449.8	\$461.5
CLOSING CASH BALANCE	(\$2,080.7)	(\$2,027.0)	(\$1,967.0)	(\$1,890.0)	(\$1,805.1)	(\$1,711.7)	(\$1,609.4)	(\$1,497.4)	(\$1,375.3)	(\$1,242.4)	(\$1,221.1)	(\$1,188.0)

APPENDIX D.2

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 SANITARY SEWER
 CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

SANITARY SEWER - RESIDENTIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	(\$1,188.0)	(\$1,142.4)	(\$1,083.3)	(\$1,009.9)	(\$921.0)	(\$815.6)	(\$692.6)	(\$550.7)	(\$388.8)	(\$205.3)	
2020 - 2041 RESIDENTIAL FUNDING REQUIREMENTS											
Sanitary Sewer - Residential: Non: Inflated	\$358.5	\$358.5	\$358.5	\$358.5	\$358.5	\$358.5	\$358.5	\$358.5	\$358.5	\$358.5	\$9,040.0
Sanitary Sewer - Residential: Inflated	\$428.4	\$428.4	\$428.4	\$428.4	\$428.4	\$428.4	\$428.4	\$428.4	\$428.4	\$428.4	\$10,119.4
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	646	646	646	646	646	646	646	646	646	646	14,212
REVENUE											
- DC Receipts: Inflated	\$537.5	\$548.2	\$559.2	\$570.3	\$581.8	\$593.4	\$605.3	\$617.4	\$629.7	\$642.3	\$11,568.7
INTEREST											
- Interest on Opening Balance	(\$65.3)	(\$62.8)	(\$59.6)	(\$55.5)	(\$50.7)	(\$44.9)	(\$38.1)	(\$30.3)	(\$21.4)	(\$11.3)	(\$1,453.4)
- Interest on In-year Transactions	\$1.9	\$2.1	\$2.3	\$2.5	\$2.7	\$2.9	\$3.1	\$3.3	\$3.5	\$3.7	\$5.1
TOTAL REVENUE	\$474.0	\$487.5	\$501.9	\$517.3	\$533.8	\$551.4	\$570.3	\$590.4	\$611.8	\$634.8	\$10,120.4
CLOSING CASH BALANCE	(\$1,142.4)	(\$1,083.3)	(\$1,009.9)	(\$921.0)	(\$815.6)	(\$692.6)	(\$550.7)	(\$388.8)	(\$205.3)	\$1.0	

2020 Adjusted Charge Per Capita	\$656
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Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.2

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
SANITARY SEWER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

SANITARY SEWER: NON-RESIDENTIAL - INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	(\$508.5)	(\$490.2)	(\$470.0)	(\$445.2)	(\$418.0)	(\$388.3)	(\$355.8)	(\$320.6)	(\$282.3)	(\$240.8)	(\$228.3)
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS												
Sanitary Sewer: Non-Residential - Industrial: Non: Inflated	\$604.0	\$64.6	\$64.6	\$62.2	\$62.2	\$62.2	\$62.2	\$62.2	\$62.2	\$62.2	\$88.4	\$88.4
Sanitary Sewer: Non-Residential - Industrial: Inflated	\$604.0	\$65.9	\$67.2	\$66.0	\$67.4	\$68.7	\$70.1	\$71.5	\$72.9	\$74.4	\$107.8	\$109.9
NEW NON-RESIDENTIAL DEVELOPMENT												
- New Industrial Building GFA - square metres	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773
REVENUE												
- DC Receipts: Inflated	\$109.1	\$111.3	\$113.6	\$115.8	\$118.1	\$120.5	\$122.9	\$125.4	\$127.9	\$130.4	\$133.0	\$135.7
INTEREST												
- Interest on Opening Balance	\$0.0	(\$28.0)	(\$27.0)	(\$25.8)	(\$24.5)	(\$23.0)	(\$21.4)	(\$19.6)	(\$17.6)	(\$15.5)	(\$13.2)	(\$12.6)
- Interest on In-year Transactions	(\$13.6)	\$0.8	\$0.8	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$1.0	\$1.0	\$0.4	\$0.5
TOTAL REVENUE	\$95.5	\$84.2	\$87.4	\$90.9	\$94.5	\$98.4	\$102.5	\$106.7	\$111.2	\$115.9	\$120.3	\$123.6
CLOSING CASH BALANCE	(\$508.5)	(\$490.2)	(\$470.0)	(\$445.2)	(\$418.0)	(\$388.3)	(\$355.8)	(\$320.6)	(\$282.3)	(\$240.8)	(\$228.3)	(\$214.6)

APPENDIX D.2

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 SANITARY SEWER
 CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

SANITARY SEWER: NON-RESIDENTIAL - INDUSTRIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	(\$214.6)	(\$199.7)	(\$183.4)	(\$165.7)	(\$146.4)	(\$125.5)	(\$102.9)	(\$78.4)	(\$52.0)	(\$23.5)	
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Sanitary Sewer: Non-Residential - Industrial: Non: Inflated	\$88.4	\$88.4	\$88.4	\$88.4	\$88.4	\$88.4	\$88.4	\$88.4	\$88.4	\$88.4	\$2,229.9
Sanitary Sewer: Non-Residential - Industrial: Inflated	\$112.1	\$114.4	\$116.7	\$119.0	\$121.4	\$123.8	\$126.3	\$128.8	\$131.4	\$134.0	\$2,673.7
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Industrial Building GFA - square metres	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	347,000
REVENUE											
- DC Receipts: Inflated	\$138.4	\$141.2	\$144.0	\$146.9	\$149.8	\$152.8	\$155.9	\$159.0	\$162.2	\$165.4	\$2,979.6
INTEREST											
- Interest on Opening Balance	(\$11.8)	(\$11.0)	(\$10.1)	(\$9.1)	(\$8.1)	(\$6.9)	(\$5.7)	(\$4.3)	(\$2.9)	(\$1.3)	(\$299.2)
- Interest on In-year Transactions	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.4
TOTAL REVENUE	\$127.1	\$130.7	\$134.4	\$138.3	\$142.3	\$146.4	\$150.7	\$155.2	\$159.9	\$164.7	\$2,680.8
CLOSING CASH BALANCE	(\$199.7)	(\$183.4)	(\$165.7)	(\$146.4)	(\$125.5)	(\$102.9)	(\$78.4)	(\$52.0)	(\$23.5)	\$7.1	

2020 Adjusted Charge Per Square Metre	\$6.92
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Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Non-Residential Allocation	
Industrial	37%
Non-Industrial	63%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.2

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
SANITARY SEWER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

SANITARY SEWER: NON-RESIDENTIAL - NON-INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	(\$866.0)	(\$835.0)	(\$800.8)	(\$758.8)	(\$712.8)	(\$662.4)	(\$607.5)	(\$547.8)	(\$482.9)	(\$412.5)	(\$391.6)
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS												
Sanitary Sewer: Non-Residential - Non-Industrial: Non: Inflated	\$1,028.5	\$110.0	\$110.0	\$106.0	\$106.0	\$106.0	\$106.0	\$106.0	\$106.0	\$106.0	\$150.6	\$150.6
Sanitary Sewer: Non-Residential - Non-Industrial: Inflated	\$1,028.5	\$112.2	\$114.4	\$112.4	\$114.7	\$117.0	\$119.3	\$121.7	\$124.1	\$126.6	\$183.5	\$187.2
NEW NON-RESIDENTIAL DEVELOPMENT												
- New Non-Industrial Building GFA - square metres	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358
REVENUE												
- DC Receipts: Inflated	\$185.7	\$189.4	\$193.2	\$197.0	\$201.0	\$205.0	\$209.1	\$213.3	\$217.5	\$221.9	\$226.3	\$230.9
INTEREST												
- Interest on Opening Balance	\$0.0	(\$47.6)	(\$45.9)	(\$44.0)	(\$41.7)	(\$39.2)	(\$36.4)	(\$33.4)	(\$30.1)	(\$26.6)	(\$22.7)	(\$21.5)
- Interest on In-year Transactions	(\$23.2)	\$1.4	\$1.4	\$1.5	\$1.5	\$1.5	\$1.6	\$1.6	\$1.6	\$1.7	\$0.7	\$0.8
TOTAL REVENUE	\$162.5	\$143.1	\$148.6	\$154.5	\$160.7	\$167.3	\$174.2	\$181.5	\$189.0	\$197.0	\$204.4	\$210.1
CLOSING CASH BALANCE	(\$866.0)	(\$835.0)	(\$800.8)	(\$758.8)	(\$712.8)	(\$662.4)	(\$607.5)	(\$547.8)	(\$482.9)	(\$412.5)	(\$391.6)	(\$368.8)

APPENDIX D.2

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
SANITARY SEWER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

SANITARY SEWER: NON-RESIDENTIAL - NON-INDUSTRIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	(\$368.8)	(\$343.8)	(\$316.4)	(\$286.7)	(\$254.4)	(\$219.4)	(\$181.4)	(\$140.4)	(\$96.1)	(\$48.3)	
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Sanitary Sewer: Non-Residential - Non-Industrial: Non: Inflated	\$150.6	\$150.6	\$150.6	\$150.6	\$150.6	\$150.6	\$150.6	\$150.6	\$150.6	\$150.6	\$3,796.8
Sanitary Sewer: Non-Residential - Non-Industrial: Inflated	\$190.9	\$194.8	\$198.7	\$202.6	\$206.7	\$210.8	\$215.0	\$219.3	\$223.7	\$228.2	\$4,552.5
NEW RESIDENTIAL DEVELOPMENT											
- New Building GFA - square metres	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	359,879
REVENUE											
- DC Receipts: Inflated	\$235.5	\$240.2	\$245.0	\$249.9	\$254.9	\$260.0	\$265.2	\$270.5	\$275.9	\$281.4	\$5,068.5
INTEREST											
- Interest on Opening Balance	(\$20.3)	(\$18.9)	(\$17.4)	(\$15.8)	(\$14.0)	(\$12.1)	(\$10.0)	(\$7.7)	(\$5.3)	(\$2.7)	(\$513.4)
- Interest on In-year Transactions	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.6
TOTAL REVENUE	\$216.0	\$222.1	\$228.4	\$234.9	\$241.7	\$248.8	\$256.1	\$263.7	\$271.5	\$279.7	\$4,555.7
CLOSING CASH BALANCE	(\$343.8)	(\$316.4)	(\$286.7)	(\$254.4)	(\$219.4)	(\$181.4)	(\$140.4)	(\$96.1)	(\$48.3)	\$3.2	

2020 Adjusted Charge Per Square Metre	\$11.35
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Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Non-Residential Allocation	
Industrial	37%
Non-Industrial	63%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.3
SANDWICH SOUTH STORM SEWER &
MUNICIPAL DRAINS

SANDWICH SOUTH STORM SEWER & MUNICIPAL DRAINS

The Office of the City Engineer is responsible for the provision, maintenance and operation of a network of storm sewer management and municipal drain infrastructure. As is the practice for the City-wide services, the services of storm sewer and municipal drains have been considered together as part of the development charges study, and a combined charge has been calculated.

The details and timing of the 2020-2041 development-related Storm Sewer and Municipal Drains capital program are shown on Table 1. The gross costs included in the program total \$224.06 million, which includes both future and past area-specific storm sewer projects.

It is noted that the \$36.52 million identified in grants and subsidies for the Upper Little River Stormwater Management items represents a 17 per cent share falling under the responsibility of the neighbouring Town of Tecumseh. The resulting net municipal cost is \$187.54 million.

A benefit-to-existing share of 85 per cent has been identified for the Little River Improvements and Little River Study items. This is consistent with the 2018 DC Amendment Study's calculated share. Further, a portion of the Little River Improvements project (\$17,505) is allocated to the City-wide DC calculation (Appendix C).

Finally, a share of \$121.11 million is deemed to benefit Sandwich South development beyond 2041. The remaining \$65.66 million is identified as the net development-related share eligible for funding through development charges over the planning period from 2020 to 2041.

Table 2 summarizes the capital program and calculation of the unadjusted residential and non-residential development charges for both storm sewer and municipal drain servicing. The combined DC eligible share of \$65.66 million has been allocated 60 per cent to new residential development and 40 per cent to non-residential development based on shares of population in new units and employment growth in new space to 2041.

The residential share of the capital program totals \$39.40 million and, when divided by the forecast growth in population in new units (14,212), results in an unadjusted charge of \$2771.98 per capita.

The non-residential share, \$26.26 million is applied against the forecast increase in square metres of non-residential floor space by type of development. The industrial share totals

\$9.72 million, which, when divided by the increase in square metres of industrial building space (347,000), yields an unadjusted charge of \$28.00 per square metre. The remaining non-industrial share totals \$16.55 million and yields an unadjusted charge of \$45.98 per square metre of new non-industrial development, when divided by the anticipated increase (359,879).

The residential and non-residential cash flow analysis is shown in Table 3. After cash flow considerations, the residential charge decreases to \$2,468 per capita and the non-residential charges decrease to \$27.08 per square metre (industrial) and \$44.45 per square metre (non-industrial). The changes in rates reflect the relationship between the timing of anticipated development and projected DC revenues.

SANDWICH SOUTH PLANNING DISTRICT - STORM SEWER & MUNICIPAL DRAINS SUMMARY							
2020 - 2041		Unadjusted			Adjusted		
Development-Related Capital Program		Development Charge			Development Charge		
Total	Net DC Recoverable	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²
\$224,058,000	\$65,658,857	\$2,771.98	\$28.00	\$45.98	\$2,468	\$27.08	\$44.45

APPENDIX D.3

TABLE 1

CITY OF WINDSOR
DEVELOPMENT-RELATED CAPITAL PROGRAM
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
STORM SEWER & MUNICIPAL DRAINS

NO.	Project Description	From	To	Timing	Estimated Project Costs								
					Gross Cost	Grants and Subsidies	Net Municipal Cost	Benefit to Existing Share	City-Wide DC Share	Sandwich South Post-2041	East Pelton & County Road 42 2020-2041		
Sandwich South Planning District Storm Sewer & Municipal Drains Infrastructure													
Upper Little River Stormwater Management													
1	Engineering			2020 - 2020	\$530,000	\$90,100	\$439,900	0%	\$0	\$0	\$285,935	\$153,965	
2	Phased Engineering, Land Acquisition and Construction			2026 - 2041	\$214,302,000	\$36,431,340	\$177,870,660	0%	\$0	\$0	\$115,615,929	\$62,254,731	
Subtotal Upper Little River Stormwater Management					\$214,832,000	\$36,521,440	\$178,310,560		\$0	\$0	\$115,901,864	\$62,408,696	
Drains													
3	Little River Improvements	Via Rail	Lauzon Road	2021 - 2024	\$778,000	\$0	\$778,000	85%	\$661,300	\$17,505	\$64,477	\$34,718	
4	Little River Study	Lauzon Road	E.C. Row Exwy	2024 - 2036	\$109,000	\$0	\$109,000	85%	\$92,650	\$0	\$10,628	\$5,723	
5	Little River Drain Improvements	SS Diversion Drain	6th Conc. Drain	2020 - 2024	\$583,000	\$0	\$583,000	0%	\$0	\$0	\$244,860	\$338,140	
6	Sandwich South Drain Diversion	7th Concession	Little River	2020 - 2024	\$2,971,000	\$0	\$2,971,000	0%	\$0	\$0	\$1,247,820	\$1,723,180	
Subtotal Drains					\$4,441,000	\$0	\$4,441,000		\$753,950	\$17,505	\$1,567,784	\$2,101,761	
Studies & Other													
7	Annexed Lands Growth/Development - Stormwater Charge Study			2020 - 2020	\$159,000	\$0	\$159,000	0%	\$0	\$0	\$120,840	\$38,160	
8	Annexed Lands Growth/Development - Stormwater Charge Study			2022 - 2022	\$711,000	\$0	\$711,000	0%	\$0	\$0	\$540,360	\$170,640	
9	SSPD Master Servicing Studies			2020 - 2022	\$2,122,000	\$0	\$2,122,000	0%	\$0	\$0	\$1,612,720	\$509,280	
10	Upper Little River Floodplain Study			2020 - 2022	\$371,000	\$0	\$371,000	0%	\$0	\$0	\$281,960	\$89,040	
11	Functional Servicing Reports			2020 - 2022	\$1,422,000	\$0	\$1,422,000	0%	\$0	\$0	\$1,080,720	\$341,280	
Subtotal Studies & Other					\$4,785,000	\$0	\$4,785,000		\$0	\$0	\$3,636,600	\$1,148,400	
Total Sandwich South Storm Sewers					\$224,058,000	\$36,521,440	\$187,536,560		\$753,950	\$17,505	\$121,106,248	\$65,658,857	



APPENDIX D.3

TABLE 2

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 STORM SEWER & MUNICIPAL DRAINS

Growth in Population in New Units 2020-2041	14,212
Employment Growth in New Space 2020-2041	9,468
Growth in New Building Space (Square Metres) 2020-2041	706,879
Industrial	347,000
Non-Industrial	359,879

	Growth-Related Capital Forecast							Residential		Non-Residential	
	Gross Project Cost (\$000)	Grants and Subsidies (\$000)	Benefit to Existing Share (\$000)	Available DC Reserves (\$000)	City-wide DC Share (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs (\$000)	Share %	\$000	Share %	\$000
	STORM SEWER & MUNICIPAL DRAINS										
Upper Little River Stormwater Management	\$214,832.00	\$36,521.44	\$0.00	\$0.00	\$0.00	\$115,901.86	\$62,408.70	60%	\$37,445.22	40%	\$24,963.48
Drains	\$4,441.00	\$0.00	\$753.95	\$0.00	\$17.51	\$1,567.78	\$2,101.76	60%	\$1,261.06	40%	\$840.70
Studies & Other	\$4,785.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,636.60	\$1,148.40	60%	\$689.04	40%	\$459.36
TOTAL STORM SEWER & MUNICIPAL DRAINS	\$224,058.00	\$36,521.44	\$753.95	\$0.00	\$17.51	\$121,106.25	\$65,658.86		\$39,395.31		\$26,263.54
Unadjusted Development Charge Per Capita (\$)									\$2,771.98		
Unadjusted Development Charge Per Square Metre (\$)											\$37.15
									Non-Residential Allocation ¹		
									(\$000)	%	\$/m²
Unadjusted Charge Per Square Metre (\$) - Industrial									\$9,717.5	37%	\$28.00
Unadjusted Charge Per Square Metre (\$) - Non-Industrial									\$16,546.0	63%	\$45.98

1) Non-residential cost allocated based on percentage shares of employment growth over the period 2020-2041

Residential Development Charge Calculation		
Residential Share of 2020-2041 DC Eligible Costs	60%	\$39,395,314
2020-2041 Growth in Population in New Units		14,212
Development Charge Per Capital (Unadjusted)		\$2,771.98
Development Charge Per Capita after Cash Flow		\$2,468
Charge per Single Detached Unit	3.83	\$9,464

Non-Residential Development Charge Calculation		
Non-Residential Share of 2020-2041 DC Eligible Costs	40%	\$26,263,543
2020-2041 Growth in Non-Residential Building Space (Square Metre)		706,879
2020-2041 10-year Growth in Industrial Space		347,000
2020-2041 Growth in Non-Industrial Space		359,879
Industrial Charge Per Square Metre (Unadjusted)	37%	\$28.00
Industrial Charge Per Square Metre After Cash Flow		\$27.08
Non-Industrial Charge Per Square Metre (Unadjusted)	63%	\$45.98
Non-Industrial Charge Per Square Metre After Cash Flow		\$44.45



APPENDIX D.3

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 STORM SEWER & MUNICIPAL DRAINS
 CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

STORM SEWER & MUNICIPAL DRAINS - RESIDENTIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	\$1,062.0	\$2,296.7	\$3,490.2	\$5,061.2	\$6,715.8	\$8,741.6	\$8,190.7	\$7,603.4	\$6,978.1	\$6,313.0	\$5,663.9
2020 - 2041 RESIDENTIAL FUNDING REQUIREMENTS												
Storm Sewer & Municipal Drains - Residential: Non Inflated	\$550.6	\$440.5	\$542.9	\$252.6	\$252.8	\$0.3	\$2,334.8	\$2,334.8	\$2,334.8	\$2,334.8	\$2,334.8	\$2,334.8
Storm Sewer & Municipal Drains - Residential: Inflated	\$550.6	\$449.3	\$564.8	\$268.0	\$273.7	\$0.3	\$2,629.4	\$2,682.0	\$2,735.6	\$2,790.3	\$2,790.3	\$2,790.3
NEW RESIDENTIAL DEVELOPMENT												
- Population Growth in New Units	646	646	646	646	646	646	646	646	646	646	646	646
REVENUE												
- DC Receipts: Inflated	\$1,594.3	\$1,626.2	\$1,658.7	\$1,691.9	\$1,725.8	\$1,760.3	\$1,795.5	\$1,831.4	\$1,868.0	\$1,905.4	\$1,943.5	\$1,982.3
INTEREST												
- Interest on Opening Balance	\$0.0	\$37.2	\$80.4	\$122.2	\$177.1	\$235.1	\$306.0	\$286.7	\$266.1	\$244.2	\$221.0	\$198.2
- Interest on In-year Transactions	\$18.3	\$20.6	\$19.1	\$24.9	\$25.4	\$30.8	(\$22.9)	(\$23.4)	(\$23.9)	(\$24.3)	(\$23.3)	(\$22.2)
TOTAL REVENUE	\$1,612.6	\$1,684.0	\$1,758.3	\$1,839.0	\$1,928.3	\$2,026.1	\$2,078.5	\$2,094.7	\$2,110.3	\$2,125.3	\$2,141.1	\$2,158.4
CLOSING CASH BALANCE	\$1,062.0	\$2,296.7	\$3,490.2	\$5,061.2	\$6,715.8	\$8,741.6	\$8,190.7	\$7,603.4	\$6,978.1	\$6,313.0	\$5,663.9	\$5,031.9

APPENDIX D.3

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 STORM SEWER & MUNICIPAL DRAINS
 CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

STORM SEWER & MUNICIPAL DRAINS - RESIDENTIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	\$5,031.9	\$4,418.6	\$3,825.3	\$3,253.7	\$2,705.2	\$2,181.7	\$1,685.2	\$1,217.2	\$779.5	\$374.3	
2020 - 2041 RESIDENTIAL FUNDING REQUIREMENTS											
Storm Sewer & Municipal Drains - Residential: Non: Inflated	\$2,334.8	\$2,334.8	\$2,334.8	\$2,334.8	\$2,334.8	\$2,334.6	\$2,334.6	\$2,334.6	\$2,334.6	\$2,334.6	\$39,395.3
Storm Sewer & Municipal Drains - Residential: Inflated	\$2,790.3	\$2,790.3	\$2,790.3	\$2,790.3	\$2,790.3	\$2,790.0	\$2,790.0	\$2,790.0	\$2,790.0	\$2,790.0	\$46,426.2
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	646	646	646	646	646	646	646	646	646	646	14,212
REVENUE											
- DC Receipts: Inflated	\$2,022.0	\$2,062.4	\$2,103.7	\$2,145.8	\$2,188.7	\$2,232.4	\$2,277.1	\$2,322.6	\$2,369.1	\$2,416.5	\$43,523.5
INTEREST											
- Interest on Opening Balance	\$176.1	\$154.6	\$133.9	\$113.9	\$94.7	\$76.4	\$59.0	\$42.6	\$27.3	\$13.1	\$3,065.6
- Interest on In-year Transactions	(\$21.1)	(\$20.0)	(\$18.9)	(\$17.7)	(\$16.5)	(\$15.3)	(\$14.1)	(\$12.9)	(\$11.6)	(\$10.3)	(\$159.3)
TOTAL REVENUE	\$2,177.0	\$2,197.1	\$2,218.7	\$2,241.9	\$2,266.8	\$2,293.5	\$2,322.0	\$2,352.4	\$2,384.8	\$2,419.3	\$46,429.8
CLOSING CASH BALANCE	\$4,418.6	\$3,825.3	\$3,253.7	\$2,705.2	\$2,181.7	\$1,685.2	\$1,217.2	\$779.5	\$374.3	\$3.6	

2020 Adjusted Charge Per Capita	\$2,468
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Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.3
TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
STORM SEWER & MUNICIPAL DRAINS
CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

STORM SEWER & MUNICIPAL DRAINS: NON-RESIDENTIAL - INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	\$296.4	\$637.3	\$970.0	\$1,397.9	\$1,848.6	\$2,393.0	\$2,304.6	\$2,209.7	\$2,107.9	\$1,998.9	\$1,882.5
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS												
Storm Sewer & Municipal Drains: Non-Residential - Industrial: Non: Inflated	\$135.8	\$108.7	\$133.9	\$62.3	\$62.4	\$0.1	\$575.9	\$575.9	\$575.9	\$575.9	\$575.9	\$575.9
Storm Sewer & Municipal Drains: Non-Residential - Industrial: Inflated	\$135.8	\$110.8	\$139.3	\$66.1	\$67.5	\$0.1	\$648.6	\$661.6	\$674.8	\$688.3	\$702.0	\$716.1
NEW NON-RESIDENTIAL DEVELOPMENT												
- New Industrial Building GFA - square metres	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773
REVENUE												
- DC Receipts: Inflated	\$427.1	\$435.7	\$444.4	\$453.3	\$462.3	\$471.6	\$481.0	\$490.6	\$500.4	\$510.5	\$520.7	\$531.1
INTEREST												
- Interest on Opening Balance	\$0.0	\$10.4	\$22.3	\$34.0	\$48.9	\$64.7	\$83.8	\$80.7	\$77.3	\$73.8	\$70.0	\$65.9
- Interest on In-year Transactions	\$5.1	\$5.7	\$5.3	\$6.8	\$6.9	\$8.3	(\$4.6)	(\$4.7)	(\$4.8)	(\$4.9)	(\$5.0)	(\$5.1)
TOTAL REVENUE	\$432.2	\$451.7	\$472.0	\$494.0	\$518.2	\$544.5	\$560.2	\$566.6	\$573.0	\$579.3	\$585.6	\$591.9
CLOSING CASH BALANCE	\$296.4	\$637.3	\$970.0	\$1,397.9	\$1,848.6	\$2,393.0	\$2,304.6	\$2,209.7	\$2,107.9	\$1,998.9	\$1,882.5	\$1,758.3

APPENDIX D.3
TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
STORM SEWER & MUNICIPAL DRAINS
CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

STORM SEWER & MUNICIPAL DRAINS: NON-RESIDENTIAL - INDUSTRIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	\$1,758.3	\$1,626.0	\$1,485.1	\$1,335.3	\$1,176.3	\$1,007.6	\$828.9	\$639.6	\$439.4	\$227.7	
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Storm Sewer & Municipal Drains: Non-Residential - Industrial: Non: Inflated	\$575.9	\$575.9	\$575.9	\$575.9	\$575.9	\$575.9	\$575.9	\$575.9	\$575.9	\$575.9	\$9,717.5
Storm Sewer & Municipal Drains: Non-Residential - Industrial: Inflated	\$730.4	\$745.0	\$759.9	\$775.1	\$790.6	\$806.3	\$822.5	\$838.9	\$855.7	\$872.8	\$12,608.3
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Industrial Building GFA - square metres	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	347,000
REVENUE											
- DC Receipts: Inflated	\$541.7	\$552.5	\$563.6	\$574.9	\$586.4	\$598.1	\$610.0	\$622.2	\$634.7	\$647.4	\$11,660.1
INTEREST											
- Interest on Opening Balance	\$61.5	\$56.9	\$52.0	\$46.7	\$41.2	\$35.3	\$29.0	\$22.4	\$15.4	\$8.0	\$1,000.0
- Interest on In-year Transactions	(\$5.2)	(\$5.3)	(\$5.4)	(\$5.5)	(\$5.6)	(\$5.7)	(\$5.8)	(\$6.0)	(\$6.1)	(\$6.2)	(\$47.8)
TOTAL REVENUE	\$598.0	\$604.1	\$610.2	\$616.1	\$621.9	\$627.6	\$633.2	\$638.7	\$644.0	\$649.1	\$12,612.3
CLOSING CASH BALANCE	\$1,626.0	\$1,485.1	\$1,335.3	\$1,176.3	\$1,007.6	\$828.9	\$639.6	\$439.4	\$227.7	\$4.0	

2020 Adjusted Charge Per Square Metre	\$27.08
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Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Non-Residential Allocation	
Industrial	37%
Non-Industrial	63%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.3
TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
STORM SEWER & MUNICIPAL DRAINS
CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

STORM SEWER & MUNICIPAL DRAINS: NON-RESIDENTIAL - NON-INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	\$504.6	\$1,084.9	\$1,651.2	\$2,379.6	\$3,146.7	\$4,073.6	\$3,922.8	\$3,760.9	\$3,587.4	\$3,401.6	\$3,203.2
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS												
Storm Sewer & Municipal Drains: Non-Residential - Non-Industrial: Non: Inflated	\$231.2	\$185.0	\$228.0	\$106.1	\$106.2	\$0.1	\$980.6	\$980.6	\$980.6	\$980.6	\$980.6	\$980.6
Storm Sewer & Municipal Drains: Non-Residential - Non-Industrial: Inflated	\$231.2	\$188.7	\$237.2	\$112.6	\$114.9	\$0.1	\$1,104.3	\$1,126.4	\$1,149.0	\$1,171.9	\$1,195.4	\$1,219.3
NEW NON-RESIDENTIAL DEVELOPMENT												
- New Non-Industrial Building GFA - square metres	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358
REVENUE												
- DC Receipts: Inflated	\$727.1	\$741.7	\$756.5	\$771.6	\$787.1	\$802.8	\$818.9	\$835.2	\$851.9	\$869.0	\$886.4	\$904.1
INTEREST												
- Interest on Opening Balance	\$0.0	\$17.7	\$38.0	\$57.8	\$83.3	\$110.1	\$142.6	\$137.3	\$131.6	\$125.6	\$119.1	\$112.1
- Interest on In-year Transactions	\$8.7	\$9.7	\$9.1	\$11.5	\$11.8	\$14.0	(\$7.9)	(\$8.0)	(\$8.2)	(\$8.3)	(\$8.5)	(\$8.7)
TOTAL REVENUE	\$735.8	\$769.0	\$803.6	\$841.0	\$882.1	\$927.0	\$953.6	\$964.5	\$975.4	\$986.2	\$996.9	\$1,007.5
CLOSING CASH BALANCE	\$504.6	\$1,084.9	\$1,651.2	\$2,379.6	\$3,146.7	\$4,073.6	\$3,922.8	\$3,760.9	\$3,587.4	\$3,401.6	\$3,203.2	\$2,991.4

APPENDIX D.3
TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
STORM SEWER & MUNICIPAL DRAINS
CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

STORM SEWER & MUNICIPAL DRAINS: NON-RESIDENTIAL - NON-INDUSTRIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	\$2,991.4	\$2,765.8	\$2,525.6	\$2,270.3	\$1,999.2	\$1,711.6	\$1,407.0	\$1,084.4	\$743.0	\$382.2	
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Storm Sewer & Municipal Drains: Non-Residential - Non-Industrial: Non: Inflated	\$980.6	\$980.6	\$980.6	\$980.6	\$980.6	\$980.5	\$980.5	\$980.5	\$980.5	\$980.5	\$16,546.0
Storm Sewer & Municipal Drains: Non-Residential - Non-Industrial: Inflated	\$1,243.7	\$1,268.5	\$1,293.9	\$1,319.8	\$1,346.2	\$1,373.0	\$1,400.4	\$1,428.4	\$1,457.0	\$1,486.1	\$21,468.1
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Non-Industrial Building GFA - square metres	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	359,879
REVENUE											
- DC Receipts: Inflated	\$922.2	\$940.6	\$959.4	\$978.6	\$998.2	\$1,018.1	\$1,038.5	\$1,059.3	\$1,080.5	\$1,102.1	\$19,849.6
INTEREST											
- Interest on Opening Balance	\$104.7	\$96.8	\$88.4	\$79.5	\$70.0	\$59.9	\$49.2	\$38.0	\$26.0	\$13.4	\$1,700.9
- Interest on In-year Transactions	(\$8.8)	(\$9.0)	(\$9.2)	(\$9.4)	(\$9.6)	(\$9.8)	(\$10.0)	(\$10.2)	(\$10.4)	(\$10.6)	(\$81.5)
TOTAL REVENUE	\$1,018.0	\$1,028.4	\$1,038.6	\$1,048.7	\$1,058.6	\$1,068.3	\$1,077.8	\$1,087.1	\$1,096.1	\$1,104.9	\$21,469.0
CLOSING CASH BALANCE	\$2,765.8	\$2,525.6	\$2,270.3	\$1,999.2	\$1,711.6	\$1,407.0	\$1,084.4	\$743.0	\$382.2	\$0.9	

2020 Adjusted Charge Per Square Metre	\$44.45
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Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Non-Residential Allocation	
Industrial	37%
Non-Industrial	63%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.4

SANDWICH SOUTH WATER

SANDWICH SOUTH WATER

The Windsor Utilities Commission is responsible for providing clean, reliable and safe drinking water to the City of Windsor and administers the service delivery on behalf of the municipality. The Windsor Utilities Commission has outsourced all of its operations to ENWIN.

The development-related capital program for water servicing was provided by the WUC through their report WUC Water Servicing Plan Update 2018 – Sandwich South Planning District Area Development Charges, which was completed for the 2018 DC Amendment Study and includes watermain infrastructure necessary to service development in Sandwich South. Costs have been updated to reflect 2020 construction costs.

The total cost of the capital program is approximately \$34.47 million. Not all of these costs relate to development in the two Secondary Plan areas. The benefit-to-existing shares shown on Table 1 were provided by the WUC's report and account for a total of \$9.78 million. Further, shares of projects anticipated to benefit areas outside of the two Secondary Plans total \$9.54 million. The remaining \$15.14 million is considered to be related to development for the East Pelton & County Road 42 area during the 2020-2041 period.

As shown in Table 2, the development-related share has been allocated 60 per cent, or \$9.08 million to new residential development and 40 per cent, or \$6.06 million to new non-residential development.

The residential share is divided by the anticipated growth in population in new units between 2020 and 2041 in the Sandwich South area (14,212), which yields an unadjusted development charge of \$639.14 per capita. The non-residential share is allocated between the industrial (37 per cent) and non-industrial (63 per cent) sector based on shares of employment growth. The industrial portion of the non-residential share is \$2.24 million, which, when divided by the anticipated increase in square metres of new industrial space (347,000) yields an unadjusted DC of \$6.46 per square metre. The non-industrial share of \$3.82 million is divided by the growth in square metres of non-industrial space (359,879), which results in an unadjusted non-industrial development charge of \$10.60 per square metre.

On Table 3, the residential and non-residential cash flow analysis is shown. After cash flow analysis, the residential calculated charge increases to \$684 per capita. The adjusted

industrial development charge increases to \$7.00 per square metre, and the non-industrial charge increases to \$11.50 per square metre.

SANDWICH SOUTH PLANNING DISTRICT - WATER SUMMARY							
2020 - 2041		Unadjusted			Adjusted		
Development-Related Capital Program		Development Charge			Development Charge		
Total	Net DC Recoverable	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²	Residential \$/capita	Industrial \$/m ²	Non-Industrial \$/m ²
\$34,465,000	\$15,139,210	\$639.14	\$6.46	\$10.60	\$684	\$7.00	\$11.50

APPENDIX D.4

TABLE 1

CITY OF WINDSOR
 DEVELOPMENT-RELATED CAPITAL PROGRAM
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 WATER

NO.	Road	From	To	Timing	Estimated Project Costs								
					Gross Cost	Grants and Subsidies	Net Municipal Costs	Benefit to Existing Share	City-Wide DC Share	Sandwich South Post-2041	East Pelton & County Road 42 2020-2041		
Water Infrastructure													
1	WM1b - Division Rd./County Rd. 42	Cook PS	Walker Rd.	2025 - 2025	\$7,334,000	\$0	\$7,334,000	63%	\$4,620,420	\$0	\$1,173,440	\$1,540,140	
2	WM5 - County Rd. 42	8th Concession	Lauzon Rd.	2025 - 2025	\$7,842,000	\$0	\$7,842,000	47%	\$3,685,740	\$0	\$1,725,240	\$2,431,020	
3	Seg 1 - 8th Concession	County Rd. 42	Hwy 401 (N)	2030 - 2030	\$3,930,000	\$0	\$3,930,000	10%	\$393,000	\$0	\$589,500	\$2,947,500	
4	Seg 2 - 9th Concession	County Rd. 42	Hwy 401 (N)	2030 - 2030	\$5,131,000	\$0	\$5,131,000	10%	\$513,100	\$0	\$1,795,850	\$2,822,050	
5	Seg 3 - County Rd. 17	County Rd. 42	Hwy 401 (N)	2030 - 2030	\$5,690,000	\$0	\$5,690,000	10%	\$569,000	\$0	\$1,991,500	\$3,129,500	
6	Seg 5 - Hwy 401 (N)	8th Concession	9th Concession	2030 - 2030	\$2,335,000	\$0	\$2,335,000	0%	\$0	\$0	\$1,167,500	\$1,167,500	
7	Seg 4 - Hwy 401 (N)	9th Concession	County Rd. 17	2030 - 2030	\$2,203,000	\$0	\$2,203,000	0%	\$0	\$0	\$1,101,500	\$1,101,500	
Total Sandwich South Water Infrastructure					\$34,465,000	\$0	\$34,465,000		\$9,781,260	\$0	\$9,544,530	\$15,139,210	



APPENDIX D.4

TABLE 2

CITY OF WINDSOR
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 WATER

Growth in Population in New Units 2020-2041	14,212
Employment Growth in New Space 2020-2041	9,468
Growth in New Building Space (Square Metres) 2020-2041	706,879
Industrial	347,000
Non-Industrial	359,879

	Growth-Related Capital Forecast							Residential Share		Non-Residential Share	
	Gross Project Cost (\$000)	Grants and Subsidies (\$000)	Benefit to Existing Share (\$000)	Available DC Reserves (\$000)	City-wide DC Share (\$000)	Post Period Allocation (\$000)	Total Net Capital Costs (\$000)	%	\$000	%	\$000
WATER											
Water Infrastructure	\$34,465.00	\$0.00	\$9,781.26	\$0.00	\$0.00	\$9,544.53	\$15,139.21	60%	\$9,083.53	40%	\$6,055.68
TOTAL WATER	\$34,465.00	\$0.00	\$9,781.26	\$0.00	\$0.00	\$9,544.53	\$15,139.21		\$9,083.53		\$6,055.68
Unadjusted Development Charge Per Capita (\$)									\$639.14		
Unadjusted Development Charge Per Square Metre (\$)											\$8.57
									Non-Residential Allocation ¹		
									(\$000)	%	\$/m²
Unadjusted Charge Per Square Metre (\$) - Industrial									\$2,240.6	37%	\$6.46
Unadjusted Charge Per Square Metre (\$) - Non-Industrial									\$3,815.1	63%	\$10.60

1) Non-residential cost allocated based on percentage shares of employment growth over the period 2020-2041

Residential Development Charge Calculation		
Residential Share of 2020-2041 DC Eligible Costs	60%	\$9,083,526
2020-2041 Growth in Population in New Units		14,212
Development Charge Per Capital (Unadjusted)		\$639.14
Development Charge Per Capita after Cash Flow		\$684.00
Charge per Single Detached Unit	3.83	\$2,623

Non-Residential Development Charge Calculation		
Non-Residential Share of 2020-2041 DC Eligible Costs	40%	\$6,055,684
2020-2041 Growth in Non-Residential Building Space (Square Metre)		706,879
2020-2041 10-year Growth in Industrial Space		347,000
2020-2041 Growth in Non-Industrial Space		359,879
Industrial Charge Per Square Metre (Unadjusted)	37%	\$6.46
Industrial Charge Per Square Metre After Cash Flow		\$7.00
Non-Industrial Charge Per Square Metre (Unadjusted)	63%	\$10.60
Non-Industrial Charge Per Square Metre After Cash Flow		\$11.50



APPENDIX D.4

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 WATER
 CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

WATER - RESIDENTIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	\$449.6	\$923.9	\$1,424.0	\$1,951.0	\$2,505.9	\$391.9	\$911.9	\$1,460.3	\$2,038.1	\$2,646.8	(\$4,935.5)
2020 - 2041 RESIDENTIAL FUNDING REQUIREMENTS												
Water - Residential: Non Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2,382.7	\$0.0	\$0.0	\$0.0	\$0.0	\$6,700.8	\$0.0
Water - Residential: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2,630.7	\$0.0	\$0.0	\$0.0	\$0.0	\$8,008.1	\$0.0
NEW RESIDENTIAL DEVELOPMENT												
- Population Growth in New Units	646	646	646	646	646	646	646	646	646	646	646	646
REVENUE												
- DC Receipts: Inflated	\$441.9	\$450.7	\$459.7	\$468.9	\$478.3	\$487.9	\$497.6	\$507.6	\$517.7	\$528.1	\$538.6	\$549.4
INTEREST												
- Interest on Opening Balance	\$0.0	\$15.7	\$32.3	\$49.8	\$68.3	\$87.7	\$13.7	\$31.9	\$51.1	\$71.3	\$92.6	(\$271.5)
- Interest on In-year Transactions	\$7.7	\$7.9	\$8.0	\$8.2	\$8.4	(\$58.9)	\$8.7	\$8.9	\$9.1	\$9.2	(\$205.4)	\$9.6
TOTAL REVENUE	\$449.6	\$474.3	\$500.1	\$527.0	\$554.9	\$516.6	\$520.0	\$548.4	\$577.9	\$608.6	\$425.9	\$287.6
CLOSING CASH BALANCE	\$449.6	\$923.9	\$1,424.0	\$1,951.0	\$2,505.9	\$391.9	\$911.9	\$1,460.3	\$2,038.1	\$2,646.8	(\$4,935.5)	(\$4,647.9)

APPENDIX D.4

TABLE 3

CITY OF WINDSOR
 SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)
 WATER
 CASHFLOW AND DETERMINATION OF RESIDENTIAL DEVELOPMENT CHARGE

WATER - RESIDENTIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	(\$4,647.9)	(\$4,333.3)	(\$3,990.1)	(\$3,616.3)	(\$3,210.1)	(\$2,769.5)	(\$2,292.2)	(\$1,776.2)	(\$1,218.9)	(\$617.8)	
2020 - 2041 RESIDENTIAL FUNDING REQUIREMENTS											
Water - Residential: Non: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$9,083.5
Water - Residential: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$10,638.8
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	646	646	646	646	646	646	646	646	646	646	14,212
REVENUE											
- DC Receipts: Inflated	\$560.4	\$571.6	\$583.0	\$594.7	\$606.6	\$618.7	\$631.1	\$643.7	\$656.6	\$669.7	\$12,062.4
INTEREST											
- Interest on Opening Balance	(\$255.6)	(\$238.3)	(\$219.5)	(\$198.9)	(\$176.6)	(\$152.3)	(\$126.1)	(\$97.7)	(\$67.0)	(\$34.0)	(\$1,322.8)
- Interest on In-year Transactions	\$9.8	\$10.0	\$10.2	\$10.4	\$10.6	\$10.8	\$11.0	\$11.3	\$11.5	\$11.7	(\$71.2)
TOTAL REVENUE	\$314.6	\$343.3	\$373.8	\$406.2	\$440.6	\$477.2	\$516.1	\$557.3	\$601.0	\$647.5	\$10,668.4
CLOSING CASH BALANCE	(\$4,333.3)	(\$3,990.1)	(\$3,616.3)	(\$3,210.1)	(\$2,769.5)	(\$2,292.2)	(\$1,776.2)	(\$1,218.9)	(\$617.8)	\$29.6	

2020 Adjusted Charge Per Capita	\$684
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Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.4

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)

WATER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

WATER: NON-RESIDENTIAL - INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	\$112.3	\$230.9	\$355.8	\$487.5	\$626.2	\$106.6	\$236.8	\$374.2	\$518.9	\$671.3	(\$1,237.2)
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS												
Water: Non-Residential - Industrial: Non: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$587.7	\$0.0	\$0.0	\$0.0	\$0.0	\$1,652.9	\$0.0
Water: Non-Residential - Industrial: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$648.9	\$0.0	\$0.0	\$0.0	\$0.0	\$2,014.8	\$0.0
NEW NON-RESIDENTIAL DEVELOPMENT												
- New Industrial Building GFA - square metres	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773
REVENUE												
- DC Receipts: Inflated	\$110.4	\$112.6	\$114.9	\$117.2	\$119.5	\$121.9	\$124.3	\$126.8	\$129.4	\$131.9	\$134.6	\$137.3
INTEREST												
- Interest on Opening Balance	\$0.0	\$3.9	\$8.1	\$12.5	\$17.1	\$21.9	\$3.7	\$8.3	\$13.1	\$18.2	\$23.5	(\$68.0)
- Interest on In-year Transactions	\$1.9	\$2.0	\$2.0	\$2.1	\$2.1	(\$14.5)	\$2.2	\$2.2	\$2.3	\$2.3	(\$51.7)	\$2.4
TOTAL REVENUE	\$112.3	\$118.5	\$125.0	\$131.7	\$138.7	\$129.3	\$130.2	\$137.3	\$144.7	\$152.4	\$106.4	\$71.6
CLOSING CASH BALANCE	\$112.3	\$230.9	\$355.8	\$487.5	\$626.2	\$106.6	\$236.8	\$374.2	\$518.9	\$671.3	(\$1,237.2)	(\$1,165.5)

APPENDIX D.4

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)

WATER
CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: INDUSTRIAL DEVELOPMENT CHARGE

WATER: NON-RESIDENTIAL - INDUSTRIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	(\$1,165.5)	(\$1,087.2)	(\$1,001.6)	(\$908.5)	(\$807.3)	(\$697.4)	(\$578.5)	(\$449.9)	(\$310.9)	(\$161.1)	
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Water: Non-Residential - Industrial: Non: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2,240.6
Water: Non-Residential - Industrial: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2,663.7
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Industrial Building GFA - square metres	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	15,773	347,000
REVENUE											
- DC Receipts: Inflated	\$140.0	\$142.8	\$145.7	\$148.6	\$151.6	\$154.6	\$157.7	\$160.8	\$164.1	\$167.3	\$3,014.1
INTEREST											
- Interest on Opening Balance	(\$64.1)	(\$59.8)	(\$55.1)	(\$50.0)	(\$44.4)	(\$38.4)	(\$31.8)	(\$24.7)	(\$17.1)	(\$8.9)	(\$332.1)
- Interest on In-year Transactions	\$2.5	\$2.5	\$2.5	\$2.6	\$2.7	\$2.7	\$2.8	\$2.8	\$2.9	\$2.9	(\$17.9)
TOTAL REVENUE	\$78.4	\$85.5	\$93.1	\$101.2	\$109.8	\$118.9	\$128.6	\$138.9	\$149.8	\$161.4	\$2,664.0
CLOSING CASH BALANCE	(\$1,087.2)	(\$1,001.6)	(\$908.5)	(\$807.3)	(\$697.4)	(\$578.5)	(\$449.9)	(\$310.9)	(\$161.1)	\$0.3	

2020 Adjusted Charge Per Square Metre

\$7.00

Allocation of Capital Program

Residential Sector	60%
Non-Residential Sector	40%

Non-Residential Allocation

Industrial	37%
Non-Industrial	63%

Rates for 2020

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



APPENDIX D.4

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)

WATER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

WATER: NON-RESIDENTIAL - NON-INDUSTRIAL	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING CASH BALANCE (\$000)	\$0.0	\$191.4	\$393.3	\$606.3	\$830.6	\$1,066.9	\$182.3	\$404.3	\$638.3	\$884.9	\$1,144.6	(\$2,104.7)
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS												
Water: Non-Residential - Non-Industrial: Non: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,000.7	\$0.0	\$0.0	\$0.0	\$0.0	\$2,814.3	\$0.0
Water: Non-Residential - Non-Industrial: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,104.9	\$0.0	\$0.0	\$0.0	\$0.0	\$3,430.7	\$0.0
NEW NON-RESIDENTIAL DEVELOPMENT												
- New Non-Industrial Building GFA - square metres	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358
REVENUE												
- DC Receipts: Inflated	\$188.1	\$191.9	\$195.7	\$199.6	\$203.6	\$207.7	\$211.9	\$216.1	\$220.4	\$224.8	\$229.3	\$233.9
INTEREST												
- Interest on Opening Balance	\$0.0	\$6.7	\$13.8	\$21.2	\$29.1	\$37.3	\$6.4	\$14.1	\$22.3	\$31.0	\$40.1	(\$115.8)
- Interest on In-year Transactions	\$3.3	\$3.4	\$3.4	\$3.5	\$3.6	(\$24.7)	\$3.7	\$3.8	\$3.9	\$3.9	(\$88.0)	\$4.1
TOTAL REVENUE	\$191.4	\$201.9	\$212.9	\$224.3	\$236.3	\$220.4	\$221.9	\$234.0	\$246.6	\$259.7	\$181.3	\$122.2
CLOSING CASH BALANCE	\$191.4	\$393.3	\$606.3	\$830.6	\$1,066.9	\$182.3	\$404.3	\$638.3	\$884.9	\$1,144.6	(\$2,104.7)	(\$1,982.5)

APPENDIX D.4

TABLE 3

CITY OF WINDSOR
SANDWICH SOUTH PLANNING DISTRICT (2020 - 2041)

WATER

CASHFLOW AND DETERMINATION OF NON-RESIDENTIAL: NON-INDUSTRIAL DEVELOPMENT CHARGE

WATER: NON-RESIDENTIAL - NON-INDUSTRIAL	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE (\$000)	(\$1,982.5)	(\$1,848.7)	(\$1,702.8)	(\$1,543.9)	(\$1,371.2)	(\$1,183.8)	(\$980.9)	(\$761.5)	(\$524.5)	(\$269.0)	
2020 - 2041 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Water: Non-Residential - Non-Industrial: Non: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$3,815.1
Water: Non-Residential - Non-Industrial: Inflated	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4,535.6
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Non-Industrial Building GFA - square metres	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	16,358	359,879
REVENUE											
- DC Receipts: Inflated	\$238.6	\$243.4	\$248.2	\$253.2	\$258.2	\$263.4	\$268.7	\$274.1	\$279.5	\$285.1	\$5,135.5
INTEREST											
- Interest on Opening Balance	(\$109.0)	(\$101.7)	(\$93.7)	(\$84.9)	(\$75.4)	(\$65.1)	(\$54.0)	(\$41.9)	(\$28.8)	(\$14.8)	(\$563.0)
- Interest on In-year Transactions	\$4.2	\$4.3	\$4.3	\$4.4	\$4.5	\$4.6	\$4.7	\$4.8	\$4.9	\$5.0	(\$30.5)
TOTAL REVENUE	\$133.7	\$145.9	\$158.9	\$172.7	\$187.4	\$202.9	\$219.4	\$237.0	\$255.6	\$275.3	\$4,541.9
CLOSING CASH BALANCE	(\$1,848.7)	(\$1,702.8)	(\$1,543.9)	(\$1,371.2)	(\$1,183.8)	(\$980.9)	(\$761.5)	(\$524.5)	(\$269.0)	\$6.4	

2020 Adjusted Charge Per Square Metre \$11.50

Allocation of Capital Program	
Residential Sector	60%
Non-Residential Sector	40%
Non-Residential Allocation	
Industrial	37%
Non-Industrial	63%
Rates for 2020	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX E

RESERVE FUNDS

RESERVE FUNDS

The Development Charges Act requires that a reserve fund be established for each service for which development charges are collected. Table 1 presents the uncommitted reserve fund balances, as at September 30, 2020, that are available to help fund the development-related net capital costs identified in this study. All of the available reserve funds are accounted for in this study.

As shown in Table 1, the September 30, 2020 total reserve fund balance was in a positive position of \$24.18 million. These funds are assigned to projects in the initial years of the capital program for each service. This has the effect of reducing and deferring capital costs brought forward to the development charge calculation and the cash flow analysis.

It is noted that as there is currently no DC reserve balance for the Sandwich South area-specific services. As such, all DC reserve funds have been applied to the City-wide capital programs.

APPENDIX E

TABLE 1

CITY OF WINDSOR
DEVELOPMENT CHARGE RESERVE FUND BALANCE BY ACCOUNT
YEAR ENDING SEPTEMBER 30, 2020

Service	2020 September Reserve Fund Balance	Commitments	Reserve Fund Balance as at Sept. 30, 2020
General Services			
Library Services	\$122,202	\$0	\$122,202
Fire Services	\$94,998	\$0	\$94,998
Police Services	\$57,022	\$0	\$57,022
Indoor Recreation	\$2,777,818	\$0	\$2,777,818
Park Development	\$1,058,315	\$381,978	\$676,337
Transit	\$79,406	\$20,000	\$59,406
Waste Diversion	\$0	\$0	\$0
City-Wide Engineered Services			
<i>Services Related to a Highway</i>			
<i>Roads & Related</i>	\$7,235,591	\$50,000	\$7,185,591
<i>Buildings & Fleet</i>	\$225,164	\$0	\$225,164
<i>City-Wide Studies</i>	\$0	\$0	\$0
Sewage Treatment	\$3,279,779	\$3,279,779	\$0
Sanitary Sewer	\$2,344,173	\$0	\$2,344,173
Storm Sewer & Municipal Drains	\$9,257,978	\$364,800	\$8,893,178
Water	\$1,615,332	\$0	\$1,615,332
Total Development Charge Reserves	\$28,272,662	\$4,096,557	\$24,176,104

APPENDIX F

ASSET MANAGEMENT PLAN

ASSET MANAGEMENT PLAN

The *Development Charges Act (DCA)* requires that municipalities complete an Asset Management Plan before passing a development charges by-law. The general purpose of the Asset Management Plan is to demonstrate that all assets proposed to be funded under the by-law are financially sustainable over their full life cycle.

A. ASSET TYPES

A summary of the future municipal-owned assets and estimated useful life assumptions for eligible DC services considered as part of the study are set out in Tables 1 through 3. Although all capital assets considered in the study have been identified, not all assets necessitate future replacement or ongoing maintenance activities. Some projects do not relate to the replacement of a tangible capital asset—examples include the acquisition of land or the undertaking of development-related studies. These projects/costs do not necessarily require future replacement or ongoing maintenance. They have been excluded from the asset management provision calculations.

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

Table 1 Summary of Municipal Assets Considered City-wide General Services	
Service and Amenities	Estimated Useful Life
Library Services <ul style="list-style-type: none"> ▪ Buildings ▪ Collections Materials 	<ul style="list-style-type: none"> ▪ 40 years ▪ 10 years
Fire Services <ul style="list-style-type: none"> ▪ Buildings, Land & Furnishings ▪ Vehicles & Equipment ▪ Studies 	<ul style="list-style-type: none"> ▪ 40 years ▪ 10 years ▪ Not infrastructure
Police <ul style="list-style-type: none"> ▪ Buildings, Land & Furnishings ▪ Equipment 	<ul style="list-style-type: none"> ▪ 40 years ▪ 10 years

Table 1 Summary of Municipal Assets Considered City-wide General Services	
Service and Amenities	Estimated Useful Life
<ul style="list-style-type: none"> ▪ Recovery of Negative Reserve Fund Balance 	<ul style="list-style-type: none"> ▪ Not infrastructure
Indoor Recreation <ul style="list-style-type: none"> ▪ Recreation Facilities 	<ul style="list-style-type: none"> ▪ 40 years
Park Development <ul style="list-style-type: none"> ▪ Park Development ▪ Studies 	<ul style="list-style-type: none"> ▪ 30 years ▪ Not infrastructure
Transit <ul style="list-style-type: none"> ▪ Transit Facilities ▪ Fleet Equipment ▪ Studies 	<ul style="list-style-type: none"> ▪ 40 years ▪ 12 years ▪ Not infrastructure
Waste Diversion <ul style="list-style-type: none"> ▪ Organic Waste Processing Facility ▪ Additional Organic Waste Collection Vehicles 	<ul style="list-style-type: none"> ▪ 40 years ▪ 12 years

Table 2 Summary of Municipal Assets Considered City-wide Engineered	
Service and Amenities	Estimated Useful Life
Services Related to A Highway <i>Roads & Related</i> <ul style="list-style-type: none"> ▪ Roads & Related Infrastructure ▪ Roads & Related Studies <i>Buildings & Fleet</i> <ul style="list-style-type: none"> ▪ Buildings, Vehicles & Equipment <i>City-wide Engineering Studies</i> <ul style="list-style-type: none"> ▪ Development-Related Studies 	<ul style="list-style-type: none"> ▪ 30 years ▪ Not infrastructure ▪ 10 years ▪ Not infrastructure
Sewage Treatment <ul style="list-style-type: none"> ▪ Lou Romano Water Reclamation Plant ▪ Little River Pollution Control Plant – Plant Expansion ▪ Little River Pollution Control Plant – Debenture Financing 	<ul style="list-style-type: none"> ▪ 60 years ▪ 60 years ▪ Not infrastructure
Sanitary Sewer <ul style="list-style-type: none"> ▪ Sanitary Sewer Infrastructure ▪ Functional Servicing Reports 	<ul style="list-style-type: none"> ▪ 75 years ▪ Not infrastructure

Table 2 Summary of Municipal Assets Considered City-wide Engineered	
Service and Amenities	Estimated Useful Life
Storm Sewer & Municipal Drains <ul style="list-style-type: none"> ▪ Storm Sewer & Municipal Drains Infrastructure ▪ Studies 	<ul style="list-style-type: none"> ▪ 60 years ▪ Not infrastructure
Water <ul style="list-style-type: none"> ▪ Water Infrastructure ▪ Studies 	<ul style="list-style-type: none"> ▪ 75 years ▪ Not infrastructure

Table 3 Summary of Municipal Assets Considered Sandwich South Planning District	
Service and Amenities	Estimated Useful Life
Roads & Related <ul style="list-style-type: none"> ▪ Road Improvements ▪ Road Construction ▪ Studies & Other 	<ul style="list-style-type: none"> ▪ 30 years ▪ 30 years ▪ Not infrastructure
Sanitary Sewer <ul style="list-style-type: none"> ▪ Sewer Infrastructure ▪ Studies & Other 	<ul style="list-style-type: none"> ▪ 75 years ▪ Not infrastructure
Storm Sewer & Municipal Drains <ul style="list-style-type: none"> ▪ Upper Little River Stormwater Management: <ul style="list-style-type: none"> ▪ Engineering ▪ Phased Engineering, Land Acquisition and Construction ▪ Drains ▪ Studies & Other 	<ul style="list-style-type: none"> ▪ Not infrastructure ▪ 60 years ▪ 60 years ▪ Not infrastructure
Waste Diversion <ul style="list-style-type: none"> ▪ Sandwich South Planning District Water Infrastructure 	<ul style="list-style-type: none"> ▪ 75 years

B. ANNUAL PROVISION

When assets require rehabilitation or are due for replacement, the source of funds is limited to reserves or contributions from operating. Capital expenditures to carry out the rehabilitation and replacement of aging infrastructure are not development-related and are therefore not eligible for funding through development charge revenues or other developer contributions.

Based on the information obtained from City staff regarding useful life assumptions and the capital cost of acquiring and/or replacing each asset, a provision for infrastructure replacement has been calculated for both the general and engineered services on a City-wide and area-specific basis. Provisions for infrastructure replacement are initially calculated for each asset based on their useful life and the anticipated cost of replacement. The aggregate of all individual provisions form the required annual capital provision. In calculating the annual provisions, a number of assumptions are made to account for inflation (2.0 per cent) and interest (3.5 per cent).

Consistent with the requirements of the *Development Charges Act*, assets that are proposed to be funded under the development charges by-law have been included in the analysis. As a result, the total calculated annual provision for development charge related infrastructure has been netted down to consider the replacement of existing infrastructure or benefit-to-existing development. However, for reference, the annual replacement provisions associated with the non-development charge funded costs, benefit-to-existing and post-period benefit have also been calculated.

Tables 4 through 6 provide the calculated annual asset management contribution for both the DC and non-DC recoverable shares related to the 2020-2029 City-wide General Services, 2020-2029 City-wide Engineered Services and the 2020-2041 Sandwich South Planning District Engineered Services. The years 2030 and 2042 have been included to calculate the annual contribution for the 2020-2029 and 2020-2041 periods as the expenditures in 2029 and 2041 will not trigger asset management contributions until 2030 and 2042, respectively.

It is noted that projects that have been included in the capital programs but are not anticipated to occur during the DC planning period are excluded from this analysis. These projects have been identified for illustrative purposes only and are excluded from the DC calculations.

As shown in Table 4, by 2030, the City will need to fund an additional \$645,416 per year in order to properly fund the full life cycle costs of the new assets related to all general services under the development charges by-law. Table 5 shows that by 2030 the City will need to fund an additional \$3.70 million per year to properly fund all life-cycle costs of the new engineered assets under the DC by-law. Lastly, Table 6 shows that, by 2042, the City will need to fund an additional \$8.66 million per annum in order to properly fund the full life cycle costs of the new assets related to the Sandwich South Planning District engineered services.

TABLE 4
CITY OF WINDSOR
SUMMARY OF ASSET MANAGEMENT PROVISIONS FOR CITY-WIDE GENERAL SERVICES

City-wide General Services	2020 - 2029 Capital Program		Calculated AMP Annual Provision by 2030	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Library Services	\$ 1,537,578	\$ 4,915,683	\$ 115,650	\$ 124,032
Fire Services	\$ 3,688,720	\$ 29,927,871	\$ 124,965	\$ 958,920
Police Services	\$ 1,927,039	\$ 6,093,349	\$ 65,789	\$ 307,102
Indoor Recreation	\$ 4,120,838	\$ 51,327,815	\$ 103,977	\$ 1,295,103
Park Development	\$ 1,206,467	\$ 2,529,303	\$ 31,839	\$ 85,262
Transit	\$ 3,071,656	\$ 78,873,113	\$ 156,172	\$ 3,644,697
Waste Diversion	\$ 1,197,291	\$ 44,053,936	\$ 47,024	\$ 1,227,261
Total	\$ 16,749,590	\$ 217,721,070	\$ 645,416	\$ 7,642,377

TABLE 5
CITY OF WINDSOR
SUMMARY OF ASSET MANAGEMENT PROVISIONS FOR CITY-WIDE ENGINEERED SERVICES

City-wide General Services	2020 - 2029 Capital Program		Calculated AMP Annual Provision by 2030	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Roads & Related	\$ 81,262,094	\$ 722,144,585	\$ 2,820,917	\$ 26,341,300
Buildings & Fleet	\$ 1,701,169	\$ 40,262	\$ 167,440	\$ 3,963
City-Wide Studies	\$ 200,000	\$ -	\$ -	\$ -
Sewage Treatment	\$ 5,626,621	\$ 104,673,379	\$ 88,103	\$ 1,686,343
Sanitary Sewer	\$ 4,247,957	\$ 37,039,001	\$ 248,053	\$ 2,169,114
Storm Sewer & Municipal Drains	\$ 12,823,511	\$ 72,222,733	\$ 206,751	\$ 1,279,337
Water	\$ 14,399,299	\$ 64,570,701	\$ 172,796	\$ 782,158
Total	\$ 120,260,652	\$ 1,000,690,660	\$ 3,704,060	\$ 32,262,215

TABLE 6
CITY OF WINDSOR
SUMMARY OF ASSET MANAGEMENT PROVISIONS FOR SANDWICH SOUTH ENGINEERED SERVICES

City-wide General Services	2020 - 2029 Capital Program		Calculated AMP Annual Provision by 2042	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Roads & Related	\$ 192,455,531	\$ 302,904,469	\$ 7,068,338	\$ 11,422,598
Sanitary Sewer	\$ 15,066,670	\$ 49,586,974	\$ 203,076	\$ 633,575
Storm Sewer & Municipal Drains	\$ 65,658,857	\$ 158,399,143	\$ 1,164,773	\$ 2,798,475
Water	\$ 15,139,210	\$ 19,325,790	\$ 220,325	\$ 272,622
Total	\$ 288,320,268	\$ 530,216,376	\$ 8,656,512	\$ 15,127,270

C. FINANCIAL SUSTAINABILITY OF THE PROGRAM

A key purpose of the Asset Management Plan is to demonstrate that all assets proposed to be funded under the development charges by-law are financially sustainable over their full life cycle.

Future Revenue Growth

The calculated annual funding provision should be considered within the context of the City's projected growth. Over the next ten years, the City is projected to increase by 10,430 people. In addition, the City will also add 2,370 new employees that will result in 188,330 square metres of additional non-residential building space. Between 2020 and 2041, the Sandwich South Planning District is anticipated to add approximately 14,210 people and 9,470 new employees, which translates into 706,880 square metres of additional non-residential building space in this area.

This growth will have the effect of increasing the overall assessment base. This leads to additional user fee and charge revenues to offset the capital asset provisions required to replace the infrastructure proposed to be funded under the development charges by-law. The collection of these funds is intended to be allocated to the City's reserves for future replacement of these assets.

Asset Management Plan

In order to maintain, protect and manage the City's infrastructure and assets, staff should continue to monitor current levels of service and life cycle trends. These assessments are used to schedule appropriate activities, such as road reconstruction, bridge replacement, and equipment and vehicle replacement. Ongoing maintenance and repairs to community facilities will ensure that they continue to meet the needs of a growing population into the future.

Overall, the City will continue to invest, renew, and manage infrastructure and assets through its Asset Management Plan. This plan is crucial for forecasting capital budgetary needs both in the short and long terms. The AMP process helps to improve financial sustainability to maximize benefits, reduce risk and provide satisfactory levels of service to the community in an environmentally and financially responsible manner.

Program is Deemed Financially Sustainable

The calculated annual provisions identified in Tables 4 through 6 are considered to be financially sustainable as it is expected that the increased capital asset management requirements can be absorbed by the tax and user base over the long-term. The City's annual operating budget review will allow staff to continue to monitor and implement mitigating measures should the program become less sustainable.

APPENDIX F.1

TRANSIT ASSET MANAGEMENT PLAN

TRANSIT ASSET MANAGEMENT PLAN

The *DCA* requires that a more comprehensive Asset Management Plan be undertaken for Transit than for other services. The general purpose of the plan remains the same: to demonstrate that all Transit assets proposed to be funded under the development-charges by-law are financially sustainable over their full life cycle.

A. ASSET CHARACTERISTICS

O.Reg. 82/98 requires that the Transit Asset Management Plan set out the state of the local infrastructure with reference to asset type, quantity (or extent), value, age, useful life and condition based on standard engineering practices. A full inventory of assets by type, including the quantity of assets over the last ten years and current replacement cost valuation is set out in Table 8. Information on asset age, useful life and condition is provided in Table 7 below.

Transit Asset Type	Expected Useful Life (Years)	Average Age (Years)	Remaining Useful Life (Years)	Remaining Useful Life (Percentage)	Condition Score	Condition Rating
Facilities						
Buildings	20	2.5	17.5	87.5%	4.4	Good
Machinery & Equipment						
Building Maintenance Equipment	20	12.7	7.3	36.7%	1.8	Poor
Computers	10	5.0	5.0	50.0%	2.5	Poor
Lawn, Garden & Outdoor Equipment	10	5.0	5.0	50.0%	2.5	Poor
Mobile Equipment	15	12.0	3.0	20.0%	1.0	Very Poor
Office Equipment	15	9.5	5.5	36.7%	1.8	Poor
Other	20	3.0	17.0	85.0%	4.3	Good
Vehicle Maintenance Equipment	20	22.0	-2.0	-10.0%	-0.5	Very Poor
Vehicles & Boats						
Full Size Bus	12	15.3	-3.3	-27.5%	-1.4	Very Poor
Light Truck	8	30.0	-22.0	-275.0%	-13.8	Very Poor
Medium Truck	6	18.0	-12.0	-200.0%	-10.0	Very Poor
Mid-Sized Cars	12	10.0	2.0	16.7%	0.8	Very Poor
Mini Van	8	9.0	-1.0	-12.5%	-0.6	Very Poor
Pickups	10	5.0	5.0	50.0%	2.5	Poor
Shuttle	6	15.0	-9.0	-150.0%	-7.5	Very Poor
Sport Utility	3	6.0	-3.0	-100.0%	-5.0	Very Poor

Source: City of Windsor

More detailed information on the City's Transit inventory, valuation, age profile and condition can be found in Section 3.3 of the City's [Asset Management Plan, 2018-2019](#).

B. PROPOSED LEVEL OF SERVICE

The *DCA* s.5.2 (3) requires that the increased need for Transit services “shall not exceed the planned level of service over the ten-year period immediately following the preparation of the background study”. For the purposes of the DC calculations, the “planned level of service” is considered to be equivalent to the ten year capital program (2020-2029) set out in the Transit section of Appendix B.

The City has recently completed a Transit Master Plan in 2019. This report analyzes the current state of public Transit in the City and determines that strategic changes are required in order to better serve the needs of its users.

Using this study, the ten-year growth-related capital set out in the Transit section of Appendix B is based on the City's capital budget, forecast documents and discussions with staff.

The Transit capital program addresses additional facilities, fleet, equipment and studies required to meet existing and future demands. It includes substantial reorganization and expansion of transit facilities and bus fleet planned for in the City's long-term capital forecast, including:

- A Garage Expansion Feasibility Study in 2021 (\$250,000) and the subsequent Garage Expansion in 2022 (\$13.65 million);
- A Bus Stop Investment Program valued at \$13.40 million that will take place throughout the ten-year planning period;
- The Phase 2 Expansion of the West End Terminal for \$1.60 million in 2023;
- Various service improvements as dictated in the Transit Master Plan for \$15.00 million over the planning period;
- 35 additional buses throughout the period for \$28.21 million;
- Phase 2 of the Smart Bus Technology equipment occurring in 2022 for \$4.31 million;
- An updated to the Bus Stop P&D Guidelines for \$25,000; and

- A Transit Priority Measures study for \$5.50 million to be completed over the ten-year planning period to 2029.

Altogether, the gross cost Transit capital program is \$81.94 million, of which \$56.43 million is to be funded by grants and the remaining \$25.52 million is to be funded by the City.

More detailed information about the City's Transit level of service performance measures can be found in Section 4.2.2 of the City's [*Asset Management Plan, 2018-2019*](#).

C. ASSET MANAGEMENT STRATEGY

In addition to the ten-year Transit growth-related capital program set out in Appendix B, the City has identified the following actions, through its 2020 capital budget, to enable existing and future assets to provide the planned level of service in a sustainable way, while managing risk, at the lowest life cycle cost:

- Implementation of Phase I of the Transit Windsor Master Plan from 2020 to 2022, which includes service improvements, changes to Transit's fixed assets and the purchase of end-to-end scheduling software solution. Federal and provincial grants have been allocated to this project, with the City funding approximately \$1.08 million of the total \$3.88 million project cost.
- The replacement of 8 buses in 2020 and 8 buses in 2021 (to be ordered once ICIP project grant funding has been approved). The City will fund \$3.93 million between 2020 and 2021 for this project. The total cost of these replacement buses is \$14.17 million, with the remainder to be funded by ICIP project grant funding.
- Transit Windsor Fleet Replacement Program has funding from the federal government to support the replacement of existing rolling stock that has exceeded its expected useful life. The City purchased 24 clean diesel buses from 2017 to 2019. The next stage in the process is to introduce modern vehicles to continue the replacement schedule to allow Transit Windsor to dispose of any bus older than the 12 year expected useful life. This project has been allocated a total of \$57.55 million over the eight-year period.
- Funding has been allocated in anticipation of replacement and maintenance of the City's Smart Bus Technology/Intelligent Transportation System (ITS). A total of \$1.34 million has been allocated to this project between 2022 and 2023.
- Over the eight-year capital budget, the City has annual provisions for Transit Windsor fleet refurbishment/repair costs. This will extend the useful life of buses or provide

additional enhancements to existing vehicles. There has been \$4.90 million allocated to this project in the City's 2020 capital budget.

- The City will continue to allocate funds for the structural repairs to the existing Transit fleet. This will assist in replacing major components on hybrid buses (such as high voltage batteries, DPIM's and the DPF emission system) when replacement is required. These components start to fail between 6 to 8 years, according to industry experience. A provision for \$1.95 million to fund this project has been made in the 2020 capital budget and forecast.
- The acquisition of Fleet Inspection Equipment that will support Transit Windsor with their current bus rehabilitation program is scheduled in 2020. This includes replacing nine of the 11 hoists that have exceeded their useful life. This will allow the City to continue the rehabilitation and replacement of these assets and minimize future breakdowns. There has been \$387,500 allocated to the project.
- The restoration of multiple pedestrian shelters is planned in 2020 and 2021. This initiative will refurbish up to 57 existing bus shelters to assist in providing enhanced customer amenities. This will also provide increased coverage to riders. \$340,000 has been allocated for this project, with \$40,000 being funded through development charges. The remaining \$300,000 for repair and replacement will be funded from the City's capital reserve.

More detailed information on the City's Transit asset management strategy can be found in section 5.6.2 of the City's [*Asset Management Plan, 2018-2019*](#).

D. FINANCIAL STRATEGY

Non-infrastructure solutions for funding and financing future yearly expenditures for Transit include the forthcoming comprehensive study of Transit Services.

Transit capital expenditures, including maintenance, renewal and rehabilitation, disposal, and expansion are mainly funded from a combination of development charges, grants and subsidies, and the capital levy. Transit operating costs are mainly funded from a combination of farebox revenue and the tax levy. The City will continue to rely extensively on Federal and Provincial grants to fund its Transit program, including:

- Provincial Gas Tax, which is dedicated Transit funding and is utilized primarily to fund operations. Capital funding is also permitted under the terms of the funds.

- Federal Gas Tax, which is used to fund Transit capital;
- Public Transit Infrastructure Fund (PTIF) grants, which are dedicated grants for Transit capital.
- Investing in Canada Infrastructure Plan (ICIP) – Transit Stream, which are dedicated grants for Transit capital.

Yearly expenditure forecasts that are proposed to provide for the eventual replacement of new assets (both DC eligible and non-DC eligible components) are set out in Table 9.

Operating cost impacts associated with new Transit infrastructure are set out in Appendix F.2.

The total annual funding requirement for transit should be considered within the context of the City's projected growth. Over the next ten years, the City is projected to increase by 10,430 people. In addition, the City will also add 2,370 new employees that will result in 188,330 square metres of additional non-residential building space. This growth will have the effect of increasing the overall assessment base. This leads to additional fare revenues to offset the capital asset provisions required to replace the infrastructure proposed to be funded under the development charges by-law. The collection of these funds is intended to be allocated to the City's reserves for future replacement of these assets.

As such, the calculated annual provisions identified above are considered to be financially sustainable as it is expected that the increased capital asset management requirements can be absorbed by the tax and Transit fare box payer base over the long-term.

More detailed information on the City's Transit financial strategy, including external trends, risk management, and the impact of funding shortfalls can be found in Section 6 and other sections of the City's [*Asset Management Plan, 2018-2019*](#).

APPENDIX F.1
TABLE 8

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
TRANSIT

TERMINALS - BUILDINGS Description	# of Square Feet										UNIT COST (\$/sq.ft)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Transit Centre	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	\$230
New Downtown Terminal	9,250	9,250	9,250	9,250	9,250	9,250	9,250	9,250	9,250	9,250	9,250	\$1,000
Pole Barn	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	\$19
Pole Barn	528	528	528	528	528	528	528	528	528	528	528	\$19
West End Terminal											\$1,628,000	
Total (sq.ft)	136,058	136,058	136,058	136,058	136,058	136,058	136,058	136,058	136,058	136,058	136,058	
Total (\$000)	\$38,034.4	\$38,034.4	\$38,034.4	\$38,034.4	\$38,034.4	\$38,034.4	\$38,034.4	\$38,034.4	\$38,034.4	\$38,034.4	\$39,662.4	

TERMINALS - LAND Description	# of Hectares										UNIT COST (\$/ha)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Transit Centre	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	\$500,000
New Downtown Terminal	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	\$500,000
West End Terminal											0.28	\$500,000
Total (ha)	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.66	
Total (\$000)	\$1,193.7	\$1,193.7	\$1,193.7	\$1,193.7	\$1,193.7	\$1,193.7	\$1,193.7	\$1,193.7	\$1,193.7	\$1,193.7	\$1,331.7	

VEHICLES Description	# of Vehicles										UNIT COST (\$/vehicle)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Pick ups	3	3	3	3	3	3	3	3	3	3	3	\$42,000
Service Truck	1	1	1	1	1	1	1	1	1	1	1	\$96,000
25 Foot	15	12	10	-	-	-	-	-	-	-	-	\$95,568
35 Foot Low Floor	2	2	2	2	2	2	2	2	-	-	-	\$483,000
40 Foot Low Floor	68	79	79	79	95	95	108	108	119	114	-	\$806,000
40 Foot Standard	34	23	23	23	15	15	2	2	-	-	-	\$618,000
Total (#)	123	120	118	108	116	116	116	116	123	118		
Total (\$000)	\$78,441.5	\$80,222.8	\$80,031.7	\$79,076.0	\$87,028.0	\$87,028.0	\$89,472.0	\$89,472.0	\$96,136.0	\$92,106.0		



APPENDIX F.1
TABLE 8

CITY OF WINDSOR
INVENTORY OF CAPITAL ASSETS
TRANSIT

BUS STOPS Description	# of Stops										UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Bus Stops with Shelters	121	126	130	141	141	155	155	153	191	214	\$11,900
Bus Stops	1,158	1,158	1,158	1,158	1,137	984	962	961	926	910	\$1,430
Total (#)	1,279	1,284	1,288	1,299	1,278	1,139	1,117	1,114	1,117	1,124	
Total (\$000)	\$3,095.8	\$3,155.3	\$3,202.9	\$3,333.8	\$3,303.8	\$3,251.6	\$3,220.2	\$3,194.9	\$3,597.1	\$3,847.9	

MACHINERY & EQUIPMENT Description	# of Pieces of Equipment										UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Mobile Equipment											
Compressor 15hp	1	1	1	1	1	1	1	1	1	1	\$26,300
Compressor 30hp	-	-	-	-	-	-	1	1	1	1	\$26,300
Compressor 50hp	1	1	1	1	1	1	1	1	1	1	\$26,300
Lift Truck	1	1	1	1	1	-	-	-	-	-	\$39,000
Vehicle Maintenance Equipment											
Fork Lift	1	1	1	1	1	1	1	1	1	1	\$39,400
Skyjack Scissor Lift	1	1	1	1	1	1	1	1	1	1	\$17,900
Spray Booth	1	1	1	1	1	1	1	1	1	1	\$35,000
Hoist - Car	1	1	1	1	1	1	1	1	1	1	\$82,000
Bus Wash	1	1	1	1	1	1	1	1	1	1	\$191,000
Office Equipment											
Coin Wrapper	1	1	2	2	2	2	2	2	2	2	\$20,000
Coin Sorter	1	1	2	2	2	2	2	2	2	2	\$19,000
Fare Boxes	118	118	118	118	126	126	126	124	124	124	\$1,625,000
Sweeper/Scrubber	1	1	1	1	1	1	1	1	1	1	\$108,000
Inground Hoists	11	11	11	11	11	11	11	11	13	13	\$1,577,000
90,000 L inground diesel fuel tank	2	2	2	2	2	2	2	2	2	2	\$133,000
45,000 L inground diesel fuel tank	1	1	1	1	1	1	1	1	1	1	\$133,000
9,000 L inground gasoline fuel tank	1	1	1	1	1	1	1	1	1	1	\$61,000
4,500 L waste oil tank above ground	1	1	1	1	1	1	1	1	1	1	\$18,000
Veeder Root Environmental Monitoring System	1	1	1	1	1	1	1	1	1	1	\$14,000
Power Washer	-	-	-	-	-	1	1	1	1	1	\$14,000
Parts Washer	-	-	-	-	-	-	-	1	1	1	\$90,000
Total (#)	146	146	148	148	156	156	157	156	158	158	
Total (\$000)	\$210,192.9	\$210,192.9	\$210,231.9	\$210,231.9	\$223,231.9	\$223,206.9	\$223,233.2	\$220,073.2	\$223,227.2	\$223,227.2	



APPENDIX F
TABLE 9

CITY OF WINDSOR
COST PROVISION FOR NEW ASSET REPLACEMENT

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Non-DC Eligible	\$ 2,925,154	\$ 2,925,154	\$ 2,925,154	\$ 3,603,248	\$ 3,644,697	\$ 3,644,697	\$ 3,644,697	\$ 3,644,697	\$ 3,644,697	\$ 3,644,697	\$ 3,644,697	\$ 37,891,591
DC Eligible	\$ 98,268	\$ 98,268	\$ 98,268	\$ 154,780	\$ 156,172	\$ 156,172	\$ 156,172	\$ 156,172	\$ 156,172	\$ 156,172	\$ 156,172	\$ 1,542,787

APPENDIX F.2

LONG-TERM CAPITAL AND OPERATING IMPACTS

APPENDIX F.2

TABLE 1

CITY OF WINDSOR
 ESTIMATED NET OPERATING COST OF THE PROPOSED
 DEVELOPMENT-RELATED CAPITAL PROGRAM
 (in constant 2020 dollars)

	Net Cost (in 2020\$)		Estimated Operating Costs (\$000) 2029
Library Services			
- No additional operating costs			
Fire Services			\$1,720.2
New Fire Facilities	\$55	per sq.ft. added	\$880.0
New Fire Equipment	\$0.50	per \$1 new inventory	\$840.2
Police Services			\$2,159.2
- Space Expansions	\$55	per sq.ft. added	\$297.0
- Equipment Acquisitions	\$0.90	per \$1.00 of new equipment value	\$1,862.2
Indoor Recreation			
- No additional operating costs			
Park Development			\$60.0
- Regional Park Development	\$0.20	per \$1.00 of new infrastructure	\$60.0
Buildings & Fleet			\$130.9
- Additional Fleet Acquisitions	\$0.08	per \$1.00 of new infrastructure	\$130.9
City-Wide Studies			\$0.0
- No additional operating costs			\$0.0
Waste Diversion			\$4,525.1
- New Organics Facility and Vehicles	\$0.10	per \$1.00 of new infrastructure	\$4,525.1
Transit			\$1,246.1
- Various equipment, vehicle and space	\$0.05	per \$1.00 of new infrastructure	\$1,246.1
Roads & Related			\$829.4
- Development-Related Roads Infrastructure	\$130	per household	\$829.4
Sewage Treatment			\$0.0
- Rate supported service - no additional op costs			\$0.0
Sanitary Sewer			\$0.0
- Rate supported service - no additional op costs			\$0.0
Storm Sewer & Municipal Drains			\$0.0
- Rate supported service - no additional op costs			\$0.0
Water			\$0.0
- Rate supported service - no additional op costs			\$0.0
TOTAL ESTIMATED OPERATING COSTS			\$10,670.9

APPENDIX F.2
TABLE 2

CITY OF WINDSOR
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM

City-wide Services	Development-Related Capital Program (2020-2029)					Total DC Eligible Costs for Recovery (\$000)
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Available DC Reserves (\$000)	Sandwich South Share (\$000)	Post-Period Benefit (\$000)	
1.0 LIBRARY SERVICES	\$5,925.8	\$4,388.2	\$122.2	\$0.0	\$0.0	\$1,415.4
2.0 FIRE SERVICES	\$33,439.3	\$20,966.1	\$95.0	\$0.0	\$8,784.5	\$3,593.7
3.0 POLICE SERVICES	\$8,020.4	\$6,093.3	\$57.0	\$0.0	\$0.0	\$1,870.0
4.0 INDOOR RECREATION	\$41,208.4	\$37,087.5	\$2,777.8	\$0.0	\$0.0	\$1,343.0
5.0 PARK DEVELOPMENT	\$3,326.8	\$2,120.3	\$676.3	\$0.0	\$0.0	\$530.1
6.0 TRANSIT	\$25,516.7	\$22,445.0	\$59.4	\$0.0	\$0.0	\$3,012.2
7.0 WASTE DIVERSION	\$45,251.2	\$42,750.0	\$0.0	\$0.0	\$1,303.9	\$1,197.3
8.0 SERVICES RELATED TO A HIGHWAY						
8.1 ROADS & RELATED	\$1,322,485.1	\$485,254.2	\$7,185.6	\$335,893.4	\$420,075.4	\$74,076.5
8.2 BUILDINGS & FLEET	\$1,701.2	\$0.0	\$225.2	\$0.0	\$0.0	\$1,476.0
8.3 CITY-WIDE STUDIES	\$200.0	\$0.0	\$0.0	\$0.0	\$0.0	\$200.0
9.0 SEWAGE TREATMENT	\$326,163.0	\$43,790.0	\$3,279.8	\$0.0	\$273,466.6	\$5,626.6
10.0 SANITARY SEWER	\$22,962.8	\$2,461.3	\$2,344.2	\$10,921.3	\$5,332.3	\$1,903.8
11.0 STORM SEWER & MUNICIPAL DRAINS	\$72,976.2	\$40,696.0	\$8,893.2	\$99.2	\$19,357.6	\$3,930.3
12.0 WATER	\$73,362.0	\$41,500.0	\$1,615.3	\$0.0	\$17,462.7	\$12,784.0
TOTAL TEN-YEAR CITY-WIDE SERVICES	\$1,976,613.1	\$745,163.7	\$27,208.8	\$346,913.8	\$745,783.1	\$111,543.6

Sandwich South Planning District Services	Development-Related Capital Program (2020-2041)					Total DC Eligible Costs for Recovery (\$000)
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Available DC Reserves (\$000)	City-wide Share (\$000)	Post-Period Benefit (\$000)	
1.0 ROADS & RELATED	\$495,360.0	\$95,556.0	\$0.0	\$59,335.6	\$148,012.8	\$192,455.5
2.0 SANITARY SEWER	\$41,197.6	\$0.0	\$0.0	\$3,451.8	\$22,679.2	\$15,066.7
3.0 STORM SEWER & MUNICIPAL DRAINS	\$187,536.6	\$754.0	\$0.0	\$17.5	\$121,106.2	\$65,658.9
4.0 WATER	\$34,465.0	\$9,781.3	\$0.0	\$0.0	\$9,544.5	\$15,139.2
TOTAL TEN-YEAR CITY-WIDE SERVICES	\$758,559.2	\$106,091.2	\$0.0	\$62,804.9	\$301,342.8	\$288,320.3

APPENDIX G
PROPOSED DRAFT DC BY-LAW
(UNDER SEPARATE COVER)