2019 Stormwater Management Area-Specific Development Charges Background Study

HEMSON Consulting Ltd.

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Executive Summary

A. 2019 Stormwater Management (SWM) Development Charges Study is Intended to be an Interim Update

The SWM area-specific development charges (ASDC) included in this report are intended to be an interim update to the *2014 Area-Specific Development Charge Background Study for Individual Storm Water Management Ponds and Drainage Systems* and *2018 Area-Specific Development Charge Background Study for Letrim Stormwater Facilities* reports. As such, the underlying calculation assumption and methodologies used to calculate the 2019 SWM ASDCs are generally consistent with the approach presented in these reports.

As part of the 2019 SWM ASDC update, the development forecasts for each area has been updated to reflect development that has occurred since the last SWM ASDC studies. In particular, capital cost estimates have also been adjusted to account for recent budgeted expenditures.

B. Calculated SWM Rates

A summary of the calculated residential and non-residential SWM rates by benefitting area is shown below.

Area	Residential Charge by Unit Type			Non-Residential Charge per Square Foot
	Single & Semi-Detached	Row/Town	Apartment	
RIVERSIDE - SOUTH URBAN CENTRE (AREA S-1)	$4,745	$3,782	$1,873	$4.93
LEITRIM - SOUTH URBAN CENTRE (AREA S-2)	$7,612	$5,068	$2,650	$5.37
NEPEAN SOUTH URBAN CENTRE (AREA S-3)	$1,930	$1,234	$495	$3.09
NEPEAN PONDS IN PARKS, LONGFIELDS & DAVIDSON HEIGHTS (AREA S-4)	$785	$596	$238	$0.72
INNER GREENBELT PONDS (AREA C-1)	$38	$25	$10	$6.67
MONAHAN DRAIN (AREA W-1)				
MONAHAN DRAIN (AREA W-1) - AREA A (EAST OF EAGLESON)	*$0*	*$0*	*$0*	*$0.00*
MONAHAN DRAIN (AREA W-1) - AREA B (WEST + NORTH OF HOPE)	*$6,488*	*$5,182*	*$3,550*	*$5.29*
SHIRLEY'S BROOK (AREA W-2)	$4,399	$4,103	$2,632	$4.43
CARDINAL CREEK EROSION WORKS (AREA E-2)	$1,806	$1,135	$465	$3.43
GLOUCESTER EAST URBAN CENTRE (AREA E-3)	$4,928	$3,456	$1,383	$6.88
N5 AND CHANNELIZATION (AREA E-6)	$6,019	$2,105	$1,964	$8.31

C. Policy Considerations

1. Consideration of Area Rating

As required by the *Development Charges Act* (DCA), consideration was given to the use of area rating. Consistent with the City's historical practice, the infrastructure identified for the various SWM areas is deemed to provide a localized benefit and is therefore recovered for on an area-specific basis.

2. Local Service Guidelines

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

3. SWM ASDC By-laws

The SWM ASDC by-laws will be made available under separate cover at least two weeks in advance of the statutory public meeting in accordance with the requirements of the DCA.

D. Cost of Growth Analysis

Long-term operating impacts and asset management requirements have been examined as part of the 2019 SWM ASDC Study. It is expected that the City will incur increased operating costs as SWM infrastructure is constructed. However, it is recognized that the increase in rate funding associated with new development is anticipated to partially or fully offset the increased costs identified, depending on the nature of the new development.

The City will need to fund an additional $3.73 million per annum in order to properly fund the full life cycle costs of new assets related to the area-specific SWM infrastructure supported under the development charges by-law.

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

Importantly, the City's ongoing review of asset management policies and long range financial plan analysis will allow staff to continue to monitor and implement mitigating measures should the program become less sustainable.

E. Consultation on 2019 SWM ASDC Background Study

Following the release of the SWM ASDC Background Study, consultation will continue with the public and development industry stakeholders prior to the passage of the new 2019 ASDC by-laws.

I Introduction

A. Background

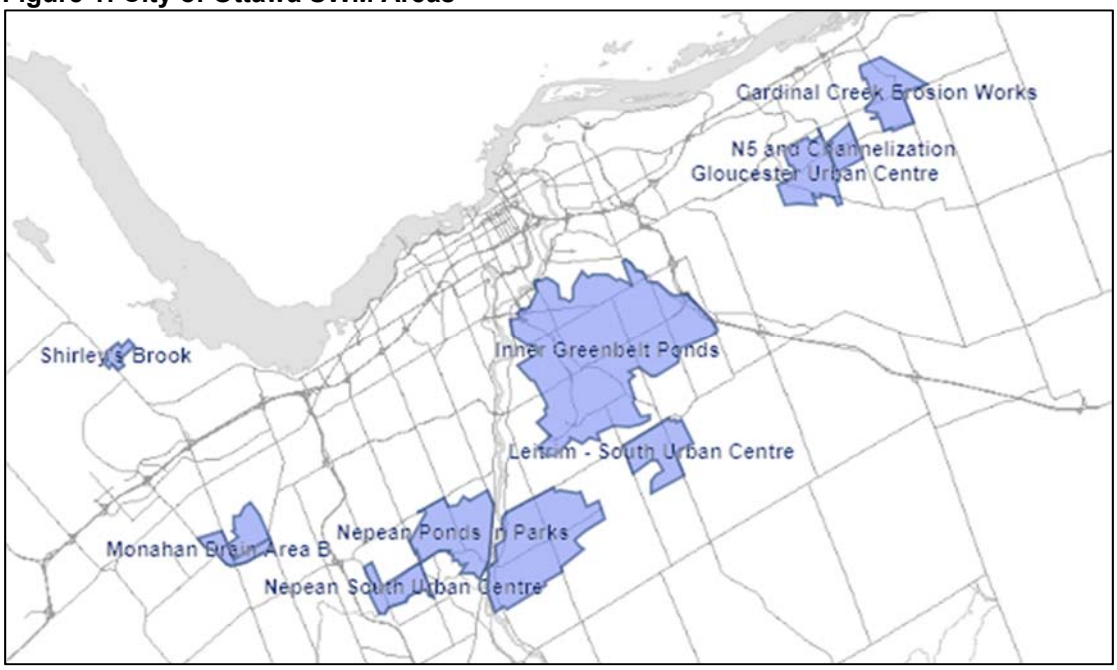
The City of Ottawa has historically established area-specific development charges (ASDCs) for stormwater management pond and drainage infrastructure that provide a localized benefit. For storm-water management infrastructure that is intended to meet the increase in need for service arising from development on a broader basis (e.g. City-wide or large area), a City-wide development charge is calculated. The City-wide storm water management development charge calculation is presented in the 2019 City-wide Development Charges Background Study.

Currently, the City imposes Storm Water Management (SWM) ASDCs for the following areas:

- Riverside South Urban Centre (Area S-1)
- Leitrim South Urban Area (Area S-2)
- Nepean South Urban Area (Area S-3)
- Nepean Ponds in Parks (Area S-4)
- Inner Greenbelt Ponds (Area C-1)
- Monahan Drain (Area W-1)
- Shirley's Brook (Area W-2)
- Cardinal Creek Erosion Works (Area E-2)
- Gloucester Urban Centre (Area E-3)
- N5 and Channelization (Area E-6)

A map of these areas is shown in Figure 1 below.

Figure 1: City of Ottawa SWM Areas



The SWM ASDCs included in this report are intended to be an interim update to the *2014 Area-Specific Development Charge Background Study for Individual Storm Water Management Ponds and Drainage Systems* and *2018 Area-Specific Development Charge Background Study for Letrim Stormwater Facilities* reports. As such, the underlying calculation assumption and methodologies used to calculate the 2019 SWM ASDCs are generally consistent with the approach presented in these reports.

However, as part of the 2019 SWM ASDC update, the development forecasts for each area has been updated to reflect development that has occurred since the last SWM ASDC studies. In particular, capital cost estimates have also been adjusted to account for recent budgeted expenditures.

B. Report Structure

The main body of the report provides a description of the approach used to calculate the SWM ASDC and summarizes the calculated rates. Recognizing that the City's 2019 DC Study update for both the City-wide and SWM ASDC rates are intended to be an interim update, reference is made to the 2014 SWM ASDC Background Study.

The appendices include a summary of the detailed calculation inputs used to arrive at the SWM development charge rate for each area. An overview of the tables included in the appendices is provided below:

Table 1: Development Forecast

Table 1 provides a summary of the residential and non-residential development forecast in each SWM area. The forecast identifies the total net developable land area as well as the anticipated residential dwelling unit mix and non-residential gross floor area (GFA) by sector (e.g. industrial, commercial and institutional).

Table 2: SWM Area-Specific Capital Program

Table 2 identifies the capital costs required to service development occurring within the identified SWM area over the planning period. The table provides a brief description of the program, the identified DC recoverable costs, ineligible costs not included in the ASDC calculation and any benefit to “prior growth” or post-period.

Table 3: Summary of Residential and Non-Residential Development Charges

Table 3 summarizes the residential and non-residential DC calculations by area. The approach used to calculate SWM ASDCs is consistent with the 2014 SWM ASDC Background Study whereby the residential and non-residential cost allocations are based on the remaining net developable land. Furthermore, allocation of costs between the various residential unit types (e.g. single-detached, semi-detached, rows and apartments) are based on the total amount of unbuilt hectares and the related run-off coefficient.

Consistent with the approach employed in the 2014 SWM ASDC Background Study, the non-residential charge is calculated on a uniform basis per square foot of gross floor area.

Map of Benefitting Area

The technical appendices provide an overview of the servicing area boundaries. It is proposed that these maps form the basis of the boundary schedules to be included in the 2019 SWM ASDC by-laws.

II SWM ASDC Calculation Methodology

The calculation methodology utilized in the 2019 SWM ASDC update has remained relatively unchanged from the City's current SWM development charges. The methodology presented in this ASDC Background Study is consistent with the requirements of the *Development Charges Act* (DCA).

A discussion of the individual infrastructure needs for each of the servicing areas, including the identification of relevant reports, by-laws and other analyses can be found in the *2014 Area-Specific Development Charge Background Study for Individual Storm Water Management Ponds and Drainage Systems* and *2018 Area-Specific Development Charge Background Study for Leitrim Stormwater Facilities.*

A. Development Forecast

The *Development Charges Act* requires that a development forecast be prepared which identifies the anticipated amount, type and location of development. Consistent with historical practice, the development forecast for each SWM ASDC area is based on the potential development of the area from current (2019) to build-out. The development forecast identifies the amount of net developable land area and related residential (number of dwelling units) and non-residential (gross floor area) development potential over the planning period.

A development forecast has been prepared for each SWM ASDC area and is shown as Table 1 in the technical appendices.

B. Development-Related Capital Program

The SWM development-related capital program includes pond and drainage infrastructure for each defined servicing area.

1. Identification of Capital Costs

The capital costs identified for each area are generally consistent with the infrastructure identified in the 2014 DC Background Study and adjusted to reflect expenditures incurred to date and any additional capital works deemed to be eligible for funding. A description of the relevant documents and studies

used to identify the SWM capital infrastructure can be found in the following reports:

- 2014 Area-Specific Development Charge Background Study for Individual Storm Water Management Ponds and Drainage Systems (completed by Watson & Associates); and

- 2018 Area-Specific Development Charge Background Study for Leitrim Stormwater Facilities (completed by Watson & Associates).

Table 2, as shown in the technical appendices of this report, provides a brief description of the identified infrastructure and gross capital project costs. Consistent with the City's current SWM ASDC calculations, the infrastructure is anticipated to provide services to development occurring over the planning period to build-out. As such, timing for individual projects is not identified.

2. Deductions for Ineligible Costs

In accordance with the requirements of the DCA, deductions have been made to the identified gross capital project costs. This includes adjustments for capital grants, subsidies or other contributions as required by the DCA (s. 5. (2)) and the portion of projects that confer benefits to existing residents (s. 5. (1) 6). These portions of projects and their associated net costs are the funding responsibility of the City. The City's required contribution for non-growth shares of projects is identified as part of the preparation of the development-related capital forecast. These adjustments are shown in Table 2 of the technical appendices.

3. Adjustments for Uncommitted Excess Capacity

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. The individual projects identified in the capital program are related to the increase in need for servicing arising from development occurring within the benefitting area. As such, no uncommitted excess capacity has been identified for any of the SWM benefitting areas.

4. Adjustments for Prior Growth

Consistent with the City's historical practice, reserve fund balances relating to each area have been incorporated into the rate calculation. For example, positive DC reserve fund balances are netted off to reduce total DC eligible capital costs. In contrast, if there is a negative reserve fund balance for a particular area, it is deemed to be committed excess capacity and has been included in the ASDC calculation.

5. Legislated Discount

In accordance with the DCA, SWM infrastructure is not subject to the statutory ten per cent adjustment. Therefore no such deduction has been made to the infrastructure identified in the SWM ASDC capital programs.

C. Attribution to Types of Development

The next step in the determination of ASDCs is the allocation of development-related net capital costs between the residential and non-residential sectors. Where reasonable data exist, the apportionment is based on the expected demand for, and use of, the service by each sector.

Consistent with the City's historical approach and for the purposes of the 2019 SWM area-specific development charges calculations, total residential and non-residential land area is used to determine the apportionment of costs between residential and non-residential development. For the purposes of SWM infrastructure, this is a reasonable and defensible approach to allocation costs between benefitting sectors.

D. Calculation of Development Chagres

1. Residential

Consistent with approach used in past SWM ASDCs, the residential development charges are calculated based on the run-off co-efficient specific to each type of unit (e.g. single detached, semi-detached, row/town and apartments). The co-efficient is consistent with the City of Ottawa Sewer Design Guidelines.

The residential development charges are calculated by multiplying the unbuilt land area associated with residential development by the run-off co-efficient. The costs attributed to each type of development is then divided by the remaining units to be constructed over the identified planning period (2019 to build-out). Residential development charges are calculated based on the following units:

- Single and Semi-detached;
- Row/Towns; and
- Apartments (includes stacked rows).

2. Non-Residential

Consistent with historical practices, the non-residential development charge is calculated on a uniform basis. The non-residential charge is established by dividing the applicable non-residential costs by the total amount of gross floor area identified over the planning period (2019 to build-out).

III Summary of Capital Costs and Calculated Development Charge Rates

A. Summary of DC Eligible and Ineligible Costs

Table 1 below provide a summary of the DC eligible and ineligible costs for each of the defined benefitting areas and the residential and non-residential cost allocations.

Of the total $206.90 million in net development-related costs, $196.86 million is considered eligible for recovery and is included in the various SWM ASDCs. As shown in the table, the shares of residential and non-residential costs vary by SWM area.

B. 2019 Calculated Area-Specific SWM Rates

Table 2 provides a summary of the calculated residential and non-residential SWM ASDCs, by benefiting area.

As shown, the calculated residential development charges per single and semi-detached dwellings ranges from $7,612 per unit in Leitrim – South Urban Centre (Area S-2) to $38 per unit in Inner Greenbelt Ponds (Area C-1).

The non-residential charges range from $8.31 per square foot in N5 and Channelization (Area E-6) to $0.72 per square foot in Nepean Ponds in Parks, Longfields and Davidson Heights (Area S-4).

No charge as been calculated for Monahan Drain (Area W-1) – Area A (East of Eagleson) as no eligible capital costs have been established. At this time, a charge has been calculated for single and semi-detached as well as row/town units in Nepean Ponds in Parks, Longfields and Davidson Heights (Area S-4) and row/town units in the N5 and Channelization (Area E-6) by maintaining the relationship between unit types under the current rate structure.

TABLE 2

CITY OF OTTAWA
SUMMARY OF CALCULATED RESIDENTIAL& NON-RESIDENTIAL RATES

Area	Residential Charge by Unit Type			Non-Residential Charge per Square Foot
	Single & Semi-Detached	Row/Town	Apartment	
RIVERSIDE - SOUTH URBAN CENTRE (AREA S-1)	$4,745	$3,782	$1,873	$4.93
LEITRIM - SOUTH URBAN CENTRE (AREA S-2)	$7,612	$5,068	$2,650	$5.37
NEPEAN SOUTH URBAN CENTRE (AREA S-3)	$1,930	$1,234	$495	$3.09
NEPEAN PONDS IN PARKS, LONGFIELDS & DAVIDSON HEIGHTS (AREA S-4)	$785	$596	$238	$0.72
INNER GREENBELT PONDS (AREA C-1)	$38	$25	$10	$6.67
MONAHAN DRAIN (AREA W-1)				
MONAHAN DRAIN (AREA W-1) - AREA A (EAST OF EAGLESON)	*$0*	*$0*	*$0*	*$0.00*
MONAHAN DRAIN (AREA W-1) - AREA B (WEST + NORTH OF HOPE)	*$6,488*	*$5,182*	*$3,550*	*$5.29*
SHIRLEY'S BROOK (AREA W-2)	$4,399	$4,103	$2,632	$4.43
CARDINAL CREEK EROSION WORKS (AREA E-2)	$1,806	$1,135	$465	$3.43
GLOUCESTER EAST URBAN CENTRE (AREA E-3)	$4,928	$3,456	$1,383	$6.88
N5 AND CHANNELIZATION (AREA E-6)	$6,019	$2,105	$1,964	$8.31

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
CAPITAL PROGRAM

Area	Development-Related Capital Program				Residential Share		Non-Residential Share	
	Net Municipal Cost	Replacement & Benefit to Existing	Post-Period Benefit	Total DC Eligible Costs for Recovery	%	$	%	$
Riverside - South Urban Centre (Area S-1)	$ 92,458,483	$ -	$ -	$ 92,458,483	57%	$ 52,482,589	43%	$ 39,975,894
Leitrim - South Urban Centre (Area S-2)	$ 37,213,601	$ -	$ -	$ 37,213,601	71%	$ 26,295,879	29%	$ 10,917,722
Nepean South Urban Centre (Area S-3)	$ 15,269,672	$ 10,040,000	$ -	$ 5,229,672	55%	$ 2,885,807	45%	$ 2,343,865
Nepean Ponds In Parks, Longfields & Davidson Heights (Area S-4)	$ 3,317,128	$ -	$ -	$ 3,317,128	6%	$ 209,060	94%	$ 3,108,067
Inner Greenbelt Ponds (Area C-1)	$ 461,480	$ -	$ -	$ 461,480	6%	$ 29,085	94%	$ 432,395
Monahan Drain (Area W-1) - Area A (East Of Eagleson)	$ -	$ -	$ -	$ -	12%	$ -	88%	$ -
Monahan Drain (Area W-1) - Area B (West + North Of Hope)	$ 2,827,716	$ -	$ -	$ 2,827,716	68%	$ 1,910,724	32%	$ 916,992
Shirley's Brook (Area W-2)	$ 2,385,531	$ -	$ -	$ 2,385,531	48%	$ 1,136,855	52%	$ 1,248,677
Cardinal Creek Erosion Works (Area E-2)	$ 1,740,426	$ -	$ -	$ 1,740,426	71%	$ 1,234,136	29%	$ 506,290
Gloucester East Urban Centre (Area E-3)	$ 46,052,638	$ -	$ -	$ 46,052,638	66%	$ 30,401,438	34%	$ 15,651,200
N5 And Channelization (Area E-6)	$ 5,178,121	$ -	$ -	$ 5,178,121	58%	$ 2,994,224	42%	$ 2,183,897
Total	**$ 206,904,796**	**$ 10,040,000**	**$ -**	**$ 196,864,796**		**$ 119,579,797**		**$ 77,284,999**

C. Comparison of Current vs. Calculated Area-Specific SWM Rates

Table 3 provides a comparison of the current verses calculated residential single and semi-detached SWM ASDCs by benefitting area. The differences in the rate calculations are related to changes in development potential and capital costs since the last SWM ASDC studies.

Table 4 provides a comparison of the current verses calculated non-residential SWM ASDCs by benefitting area. Similar to the comparison shown in Table 3, the rate calculations are related to the changes in development potential and capital costs since the last SWM ASDC studies.

TABLE 3

CITY OF OTTAWA
COMPARISON OF CURRENT VS. CALCULATED RESIDENTIAL RATES
SINGLE & SEMI-DETACHED UNITS

Area	Single Detached & Semi-Detached			
	Current	Calculated	Difference ($)	Difference (%)
RIVERSIDE - SOUTH URBAN CENTRE (AREA S-1)	$5,653	$4,745	($908)	-16%
LEITRIM - SOUTH URBAN CENTRE (AREA S-2)	$9,169	$7,612	($1,557)	-17%
NEPEAN SOUTH URBAN CENTRE (AREA S-3)	$4,989	$1,930	($3,059)	-61%
NEPEAN PONDS IN PARKS, LONGFIELDS & DAVIDSON HEIGHTS (AREA S-4)	$830	$785	($45)	-5%
INNER GREENBELT PONDS (AREA C-1)	$1,202	$38	($1,164)	-97%
MONAHAN DRAIN (AREA W-1)				
MONAHAN DRAIN (AREA W-1) - AREA A (EAST OF EAGLESON)	*$1,595*	*$0*	*($1,595)*	*-100%*
MONAHAN DRAIN (AREA W-1) - AREA B (WEST + NORTH OF HOPE)	*$4,861*	*$6,488*	*$1,627*	*33%*
SHIRLEY'S BROOK (AREA W-2)	$4,522	$4,399	($123)	-3%
CARDINAL CREEK EROSION WORKS (AREA E-2)	$1,917	$1,806	($111)	-6%
GLOUCESTER EAST URBAN CENTRE (AREA E-3)	$4,741	$4,928	$187	4%
N5 AND CHANNELIZATION (AREA E-6)	$7,012	$6,019	($993)	-14%

TABLE 4

CITY OF OTTAWA
COMPARISON OF CURRENT VS. CALCULATED NON-RESIDENTIAL RATES
PER SQUARE METRE OF NON-RESIDENTIAL GROSS FLOOR AREA

Area	Per Square Metre			
	Current	Calculated	Difference ($)	Difference (%)
RIVERSIDE - SOUTH URBAN CENTRE (AREA S-1)	$3.93	$4.93	$1.00	25%
LEITRIM - SOUTH URBAN CENTRE (AREA S-2)	$6.99	$5.37	($1.62)	-23%
NEPEAN SOUTH URBAN CENTRE (AREA S-3)	$8.15	$3.09	($5.06)	-62%
NEPEAN PONDS IN PARKS, LONGFIELDS & DAVIDSON HEIGHTS (AREA S-4)	$0.70	$0.72	$0.02	3%
INNER GREENBELT PONDS (AREA C-1)	$1.38	$6.67	$5.29	383%
MONAHAN DRAIN (AREA W-1)				
MONAHAN DRAIN (AREA W-1) - AREA A (EAST OF EAGLESON)	*$2.76*	*$0.00*	*($2.76)*	*-100%*
MONAHAN DRAIN (AREA W-1) - AREA B (WEST + NORTH OF HOPE)	*$2.76*	*$5.29*	*$2.53*	*92%*
SHIRLEY'S BROOK (AREA W-2)	$3.41	$4.43	$1.02	30%
CARDINAL CREEK EROSION WORKS (AREA E-2)	$4.02	$3.43	($0.59)	-15%
GLOUCESTER EAST URBAN CENTRE (AREA E-3)	$3.72	$6.88	$3.16	85%
N5 AND CHANNELIZATION (AREA E-6)	$7.74	$8.31	$0.57	7%

IV Development Charge Policy Considerations

A. Consideration of Area Rating

As required by the *Development Charges Act*, consideration was given to the use of area rating. Consistent with the City's historical practice, the infrastructure identified for various SWM areas is deemed to provide a localized benefit and is therefore recovered for on an area-specific basis.

For storm-water management infrastructure that is intended to meet the increase in need for service arising from development on a broader basis (e.g. City-wide or large area), a City-wide development charge is calculated. The City-wide storm-water management development charge calculation is presented in the 2019 City-wide Development Charges Background Study.

B. Local Service Guidelines

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

C. SWM ASDC By-laws

The SWM ASDC by-laws will be made available under separate cover at least two weeks in advance of the statutory public meeting in accordance with the requirements of the DCA.

V Cost of Growth Analysis

This section provides an 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 SWM ASDC by-law. This examination is required as one of the provisions of the *Development Charges Act.*

A. Asset Management Plan Requirements

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

1. Calculated Annual Provision

When assets require rehabilitation or are due for replacement, the source of funds is limited to reserves or contributions from operating. Capital expenditures to carry out the rehabilitation and replacement of aging infrastructure are not growth-related and are therefore not eligible for funding through development charge revenues or other developer contributions.

Based on the information obtained from City staff regarding useful life assumptions and the capital cost of acquiring and/or emplacing each asset, a provision for infrastructure replacement has been calculated. 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 Charge 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.

Table 5 provides the calculated annual asset management contribution for both the gross capital expenditures and the share related to the DC recoverable portion. As shown in Table 5, the City will need to fund an additional $3.73 million per annum in order to properly fund the full life cycle costs of the new assets related to the area-specific SWM infrastructure supported under the development charges by-law.

2. Assets are deemed to be Financially Sustainable

The City has internal asset management policies and practices which are supported through the City's Comprehensive AMP, long range financial planning and annual budgeting exercises. Example of relevant studies and reports include:

- 2017 Strategic Asset Management Plan
- 2017 State of the Asset Report
- Comprehensive Asset Management Policy
- Long Range Financial Plan V - Water, Wastewater and Stormwater Supported Programs

In particular, the City's *Long Range Financial Plan V - Water, Wastewater and Stormwater Supported Programs* identified required stormwater rate increases to support the proposed SWM capital program.

The calculated provisions identified in Table 5 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 rate base over the long-term. Importantly, the City's ongoing review of asset management policies will allow staff to continue to monitor and implement mitigating measures should the program become less financially sustainable.

B. Long-Term Capital and Operating Impacts

It is expected that the City will incur increased operating costs as SWM infrastructure is constructed. However, it is recognized that the increase in user rate revenues associated with new development are anticipated to partially or fully offset the increased costs identified, depending on the nature of the new development. For example, the City has a dedicated Stormwater rate fee which is used to pay for the non-DC eligible and operating costs associated with this infrastructure. Importantly, the City's *Long Range Financial Plan V - Water, Wastewater and Stormwater Supported Programs*

examines the anticipated operating impact of new SWM infrastructure. The financial plan analysis indicates that the City's SWM rates have been structured to align with anticipated operating expenditures. Importantly, Council is required to review and adopt operating budgets on an annual basis.

TABLE 5

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
AMP ANALYSIS

Area	2019 - Build-out Capital Program		Calculated AMP Annual Provision at Build-out	
	DC Recoverable	Non-DC Funded	DC Recoverable	Non-DC Related
Riverside - South Urban Centre (Area S-1)	$ 199,489,000	$ -	$ 2,164,000	$ -
Leitrim - South Urban Centre (Area S-2)	$ 47,930,000	$ -	$ 217,000	$ -
Nepean South Urban Centre (Area S-3)	$ 5,230,000	$ 34,509,000	$ -	$ 495,000
Nepean Ponds In Parks, Longfields & Davidson Heights (Area S-4)	$ 3,317,000	$ -	$ -	$ -
Inner Greenbelt Ponds (Area C-1)	$ 461,000	$ -	$ -	$ -
Monahan Drain (Area W-1)	$ 2,828,000	$ -	$ -	$ -
Shirley's Brook (Area W-2)	$ 4,586,000	$ -	$ 45,000	$ -
Cardinal Creek Erosion Works (Area E-2)	$ 1,740,000	$ -	$ -	$ -
Gloucester East Urban Centre (Area E-3)	$ 110,368,000	$ -	$ 1,301,000	$ -
N5 And Channelization (Area E-6)	$ 5,178,000	$ -	$ -	$ -
Total Provision at Build-out	**$ 381,127,000**	**$ 34,509,000**	**$ 3,727,000**	**$ 495,000**

Appendix A

Riverside South (S-1)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
RIVERSIDE - SOUTH URBAN CENTRE (AREA S-1)
PROJECTED GROWTH

Development Type	Existing	Projected Growth	Total Build-out
Residential Units			
Single Detached	2,766	4,500	7,266
Semi-Detached	415	1,000	1,415
Row/Town	2,570	4,500	7,070
Stacked Row	300	1,500	1,800
Apartment	136	3,500	3,636
Total	**6,187**	**15,000**	**21,187**
Developed Residential Land Area (Net HA)			
Single Detached	115.3	187.5	302.8
Semi-Detached	12.2	29.4	41.6
Row/Town	64.3	112.5	176.8
Stacked Row	5.0	25.0	30.0
Apartment	1.1	29.2	30.3
Total	**197.8**	**383.6**	**581.4**
Developed Non-Residential Land Area (Net HA)			
Industrial	2.5	134.4	136.9
Commercial	8.8	54.1	62.9
Institutional	43.5	103.7	147.2
Total	**54.8**	**292.2**	**347.0**
Non-Residential GFA (sq.ft.)			
Industrial	42,013	6,378,137	6,420,150
Commercial	191,258	1,323,908	1,515,166
Institutional	282,193	410,537	692,730
Total	**515,464**	**8,112,582**	**8,628,046**

Residential	Non-Residential
57%	43%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
RIVERSIDE - SOUTH URBAN CENTRE (AREA S-1)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description	2019 DC Recoverable Costs[1]	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
			%	$			
S1-1	Pond 1 Storm Sewers - Oversizing	$ 4,032,000	0%	$ -	$ -	$ 4,032,000	$ -
S1-2	Stormwater Pond 2	$ 228,000	0%	$ -	$ -	$ 228,000	$ -
S1-3	Pond 2 Storm Sewers - Oversizing - 907563	$ 2,356,600	0%	$ -	$ -	$ 2,356,600	$ -
S1-4	Stormwater Pond 3 - 907536	$ -	0%	$ -	$ -	$ -	$ -
S1-5	Pond 3 Storm Sewers - Oversizing - 907537	$ -	0%	$ -	$ -	$ -	$ -
S1-6	Stormwater Pond 4	$ 16,225,000	0%	$ -	$ -	$ 16,225,000	$ -
S1-7	Pond 4 Storm Sewers - Oversizing	$ 10,185,000	0%	$ -	$ -	$ 10,185,000	$ -
S1-8	Stormwater Pond 5	$ 4,903,000	0%	$ -	$ -	$ 4,903,000	$ -
S1-9	Pond 5 Storm Sewers - Oversizing - 909540	$ -	0%	$ -	$ -	$ -	$ -
S1-10	Stormwater Pond 6A	$ 4,348,000	0%	$ -	$ -	$ 4,348,000	$ -
S1-11	Pond 6A Storm Sewers - Oversizing	$ 49,000	0%	$ -	$ -	$ 49,000	$ -
S1-12	Site Specific Treatment Units 2, 3, 8	$ -	0%	$ -	$ -	$ -	$ -
S1-13	Tributary 2, 3, 4, 7A, 7B, 8, 10 On-Site and Off-Site Fish - 907538 - 907539 - 907540 - 905741 - 907542	$ 1,590,470	0%	$ -	$ -	$ 1,590,470	$ -
S1-14	On-Site and Off-Site Fish Compensation - 907543	$ -	0%	$ -	$ -	$ -	$ -
246	Reserve Fund Balance - Committed[1]	$ 48,541,413	0%	$ -	$ -	$ 48,541,413	$ -
TOTAL RIVERSIDE - SOUTH URBAN CENTRE (AREA S-1)		**$ 92,458,483**		**$ -**	**$ -**	**$ 92,458,483**	**$ -**

[1] Committed Active Capital Projects - Outstanding Balance: $57,538,572

Residential Share of DC Eligible Cost	57%	$	52,482,589
Non-Residential Share of DC Eligible Cost	43%	$	39,975,894

Outstanding Balance		$	57,538,572
Reserve Fund Balance	Uncommitted[1]	$	(8,997,159)
Total Balance (Negative)		**$**	**48,541,413**

TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
RIVERSIDE - SOUTH URBAN CENTRE (AREA S-1)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

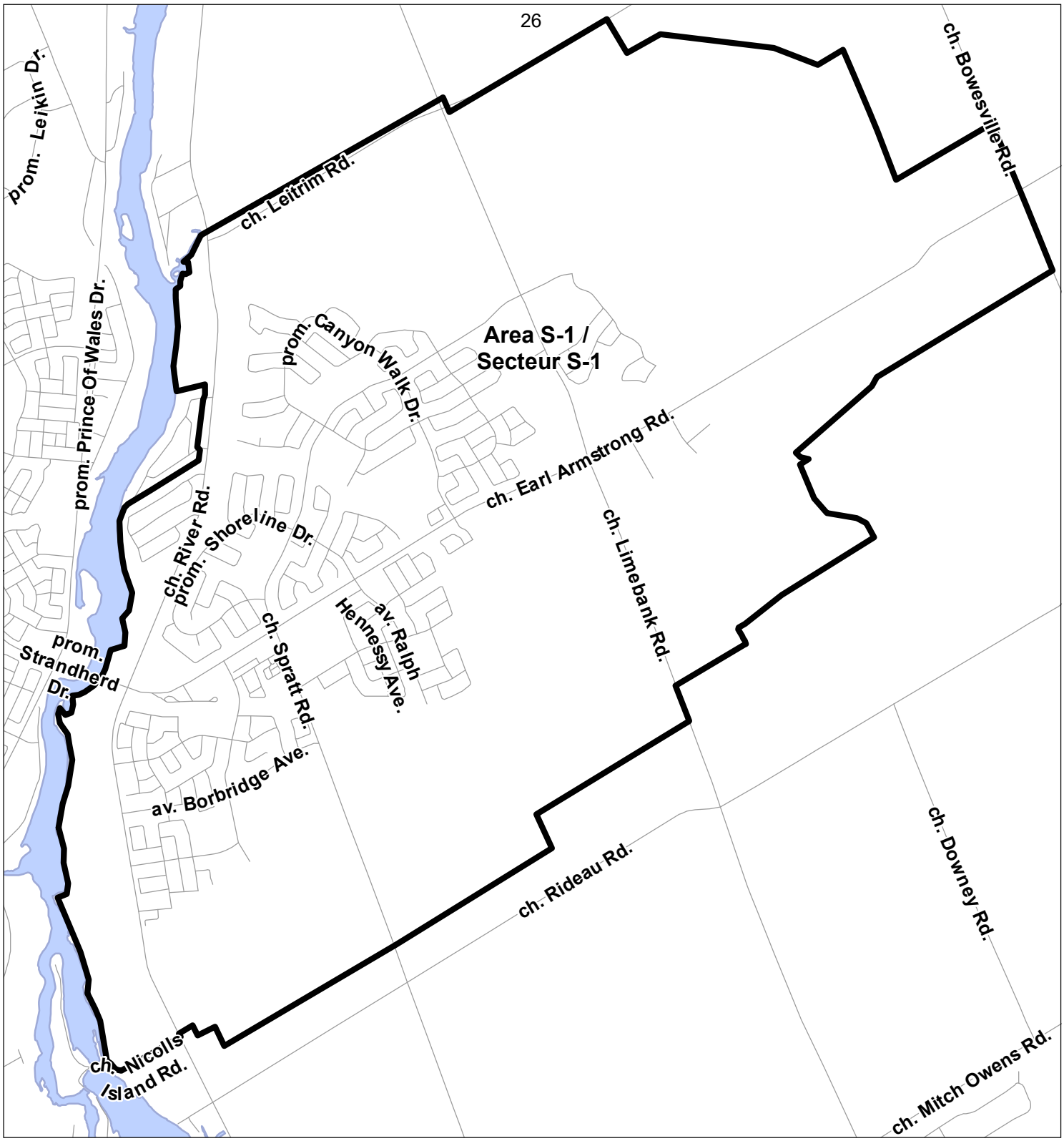
Net Residential Cost	$	52,482,589
Net Non-Residential Cost	$	39,975,894

RESIDENTIAL SHARE

Development Type	Unbuilt Hectares	Run-off Coefficient	Hectares x Coefficient	% of Total	Net Cost	Remaining Units	Calculated Rates per Unit	Current Rates per Unit
Single Detached	187.5	0.6	103.1	42%	$ 22,285,966	4,500	**$ 4,745**	$ 5,653
Semi-Detached	29.4	0.6	17.6	7%	$ 3,813,641	1,000		
Row/Town	112.5	0.7	78.8	32%	$ 17,018,374	4,500	**$ 3,782**	$ 4,021
Stacked Row	25.0	0.8	20.0	8%	$ 4,322,127	1,500		
Apartment	29.2	0.8	23.3	10%	$ 5,042,481	3,500	**$ 1,873**	$ 836
TOTAL	**383.6**		**242.9**	**100%**	**$ 52,482,589**	**15,000**		

NON-RESIDENTIAL SHARE

Development Type	Net Cost	Remaining GFA (sq. ft.)	Calculated Rates per Sq. Ft.	Current Rates per Sq. Ft.
Non-Residential	$ 39,975,894	8,112,582	**$ 4.93**	$ 3.93



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LOCATION MAP / PLAN DE LOCALISATION
ZONING KEY PLAN / SCHÉMA DE ZONAGE

Area S-1/
Secteur S-1

NOT TO SCALE

Appendix B

Leitrim (S-2)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
LEITRIM - SOUTH URBAN CENTRE (AREA S-2)
PROJECTED GROWTH

Development Type	Existing	Projected Growth	Total Build-out
Residential Units			
Single Detached	1,481	1,675	3,156
Semi-Detached	560	302	862
Row/Town	1,259	2,033	3,292
Stacked Row	84	168	252
Apartment	218	188	406
Total	**3,602**	**4,366**	**7,968**
Developed Residential Land Area (Net HA)			
Single Detached	67.3	75.1	142.4
Semi-Detached	17.6	9.4	26.9
Row/Town	28.7	45.9	74.6
Stacked Row	1.1	2.3	3.4
Apartment	1.8	1.4	3.2
Total	**116.5**	**134.0**	**250.5**
Developed Non-Residential Land Area (Net HA)			
Industrial	20.0	31.8	51.8
Commercial	4.6	13.1	17.7
Institutional	19.2	10.8	30.0
Total	**43.8**	**55.7**	**99.5**
Non-Residential GFA (sq.ft.)			
Industrial	936,378	1,000,760	1,937,138
Commercial	255,129	738,385	993,514
Institutional	169,666	293,315	462,981
Total	**1,361,173**	**2,032,460**	**3,393,633**

Residential	Non-Residential
71%	29%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
LEITRIM - SOUTH URBAN CENTRE (AREA S-2)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description	2019 DC Recoverable Costs	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
			%	$			
S2-2	Stormwater Pond 1 Indexing Costs - 903226	$ -	0%	$ -	$ -	$ -	$ -
S2-3	Stormwater Pond 1 Expansion - 909283	$ -	0%	$ -	$ -	$ -	$ -
S2-4	Stormwater Pond 2 - 907529	$ 952,200	0%	$ -	$ -	$ 952,200	$ -
S2-12	North/South Swale - 909285	$ 360,000	0%	$ -	$ -	$ 360,000	$ -
S2-5	Leitrim Road Drainage System - 909284	$ -	0%	$ -	$ -	$ -	$ -
S2-6	Trunk Storm Sewer Indexing - 907562	$ -	0%	$ -	$ -	$ -	$ -
S2-7	Leitrim Storm Sewer on Tartan Lands - Oversizing - 907562	$ -	0%	$ -	$ -	$ -	$ -
S2-8	Findlay Creek Drive Storm Sewer- Oversizing - 907562	$ -	0%	$ -	$ -	$ -	$ -
S2-9	Tartan/Reimer Lands Storm Sewer - Oversizing - 907562	$ -	0%	$ -	$ -	$ -	$ -
S2-10	Bank Street to Pond 1 - Storm Sewer - Oversizing	$ 3,085,000	0%	$ -	$ -	$ 3,085,000	$ -
S2-11	Pond 2 Storm Sewers - Oversizing - 907535	$ -	0%	$ -	$ -	$ -	$ -
247	Reserve Fund Balance - Committed[1]	$ 32,816,401	0%	$ -	$ -	$ 32,816,401	$ -
TOTAL LEITRIM - SOUTH URBAN CENTRE (AREA S-2)		**$ 37,213,601**		**$ -**	**$ -**	**$ 37,213,601**	**$ -**

[1] Committed Active Capital Projects Outstanding Balance - $33,999,271

Residential Share of DC Eligible Cost	71%	$	26,295,879
Non-Residential Share of DC Eligible Cost	29%	$	10,917,722

Outstanding Balance		$	33,999,271
Reserve Fund Balance	Uncommitted[1]	$	(1,182,870)
Total (Balance Negative)		**$**	**32,816,401**

TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
LEITRIM - SOUTH URBAN CENTRE (AREA S-2)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

Net Residential Cost	$ 26,295,879
Net Non-Residential Cost	$ 10,917,722

RESIDENTIAL SHARE

Development Type	Unbuilt Hectares	Run-off Coefficient	Hectares x Coefficient	% of Total	Net Cost	Remaining Units	Calculated Rates per Unit	Current Rates per Unit
Single Detached	75.1	0.6	41.3	50%	$ 13,245,670	1,675	**$ 7,612**	$ 9,169
Semi-Detached	9.4	0.6	5.6	7%	$ 1,803,912	302		
Row/Town	45.9	0.7	32.1	39%	$ 10,302,885	2,033	**$ 5,068**	$ 6,102
Stacked Row	2.3	0.8	1.8	2%	$ 579,852	168	**$ 2,650**	$ 2,600
Apartment	1.4	0.8	1.1	1%	$ 363,560	188		
TOTAL	**134.0**		**82.0**	**100%**	**$ 26,295,879**	**4,366**		

NON-RESIDENTIAL SHARE

Development Type	Net Cost	Remaining GFA (sq. ft.)	Calculated Rates per Sq. Ft.	Current Rates per Sq. Ft.
Non-Residential	$ 10,917,722	2,032,460	**$ 5.37**	$ 6.99

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LOCATION MAP / PLAN DE LOCALISATION
ZONING KEY PLAN / SCHÉMA DE ZONAGE

**Area S-2 /
Secteur S-2**

NOT TO SCALE

Appendix C

Nepean (S-3)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
NEPEAN SOUTH URBAN CENTRE (AREA S-3)
PROJECTED GROWTH

Development Type	Existing	Projected Growth	Total Build-out
Residential Units			
Single Detached	454	703	1,157
Semi-Detached	88	22	110
Row/Town	650	904	1,554
Stacked Row	-	-	-
Apartment	219	749	968
Total	**1,411**	**2,378**	**3,789**
Developed Residential Land Area (Net HA)			
Single Detached	20.6	32.0	52.6
Semi-Detached	2.8	0.7	3.5
Row/Town	14.7	20.6	35.3
Stacked Row	-	-	-
Apartment	1.8	6.0	7.8
Total	**39.9**	**59.3**	**99.2**
Developed Non-Residential Land Area (Net HA)			
Industrial	0.9	2.7	3.6
Commercial	8.4	7.2	15.6
Institutional	12.4	38.2	50.6
Total	**21.6**	**48.2**	**69.8**
Non-Residential GFA (sq.ft.)			
Industrial	42,120	128,232	170,352
Commercial	466,096	400,189	866,285
Institutional	74,130	229,470	303,600
Total	**582,346**	**757,891**	**1,340,237**

Residential	Non-Residential
55%	45%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
NEPEAN SOUTH URBAN CENTRE (AREA S-3)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description	2019 DC Recoverable Costs[1] [2]	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
			%	$			
S3-3	Foster Stormwater Pond - 900820	$ 760,000	100%	$ 760,000	$ -	$ -	$ -
S3-4	Foster Pond Storm Sewer - Oversizing	$ 5,939,000	100%	$ 5,939,000	$ -	$ -	$ -
S3-5	Kennedy Burnett Stormwater Pond - 903324	$ -	0%	$ -	$ -	$ -	$ -
S3-6	Kennedy Burnett Pond Storm Sewer - Oversizing	$ 3,341,000	100%	$ 3,341,000	$ -	$ -	$ -
S3-7	Chapman Mills Stormwater Pond - SNDC - 909152	$ -	0%	$ -	$ -	$ -	$ -
248	Reserve Fund Balance - Committed[1]	$ 3,652,672	0%	$ -	$ -	$ 3,652,672	$ -
248	Reserve Fund Balance - Adjustment[2]	$ 1,577,000	0%	$ -	$ -	$ 1,577,000	$ -
TOTAL NEPEAN SOUTH URBAN CENTRE (AREA S-3)		**$ 15,269,672**		**$ 10,040,000**	**$ -**	**$ 5,229,672**	**$ -**

[1] Committed Active Capital Projects Outstanding Balance - $6,004,488
[2] Adjustments for Pending Refunds - $1,577,000

Residential Share of DC Eligible Cost	55%	$ 2,885,807
Non-Residential Share of DC Eligible Cost	45%	$ 2,343,865

Outstanding Balance		$ 6,004,488
Reserve Fund Balance	Uncommitted[1]	$ (2,351,816)
Adjustments for Pending Refunds		$ 1,577,000
Total Balance (Negative)		**$ 5,229,672**

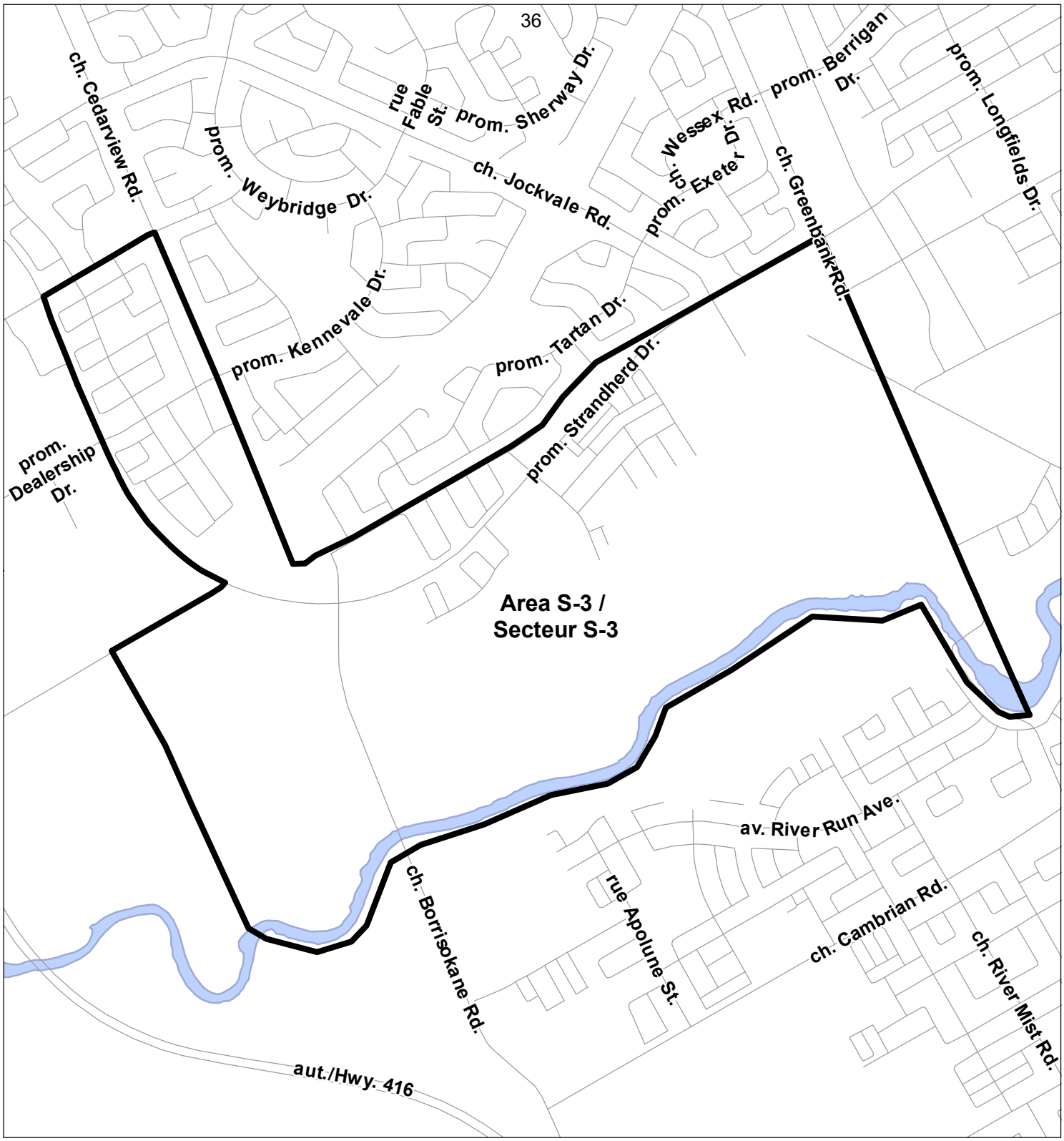
TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
NEPEAN SOUTH URBAN CENTRE (AREA S-3)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

Net Residential Cost	$	2,885,807
Net Non-Residential Cost	$	2,343,865

RESIDENTIAL SHARE								
Development Type	**Unbuilt Hectares**	**Run-off Coefficient**	**Hectares x Coefficient**	**% of Total**	**Net Cost**	**Remaining Units**	**Calculated Rates per Unit**	**Current Rates per Unit**
Single Detached	32.0	0.6	17.6	47%	$ 1,365,212	703	**$ 1,930**	$ 4,989
Semi-Detached	0.7	0.6	0.4	1%	$ 34,294	22		
Row/Town	20.6	0.7	14.4	39%	$ 1,115,703	904	**$ 1,234**	$ 3,190
Stacked Row	-	0.8	-	0%	$ -	-		
Apartment	6.0	0.8	4.8	13%	$ 370,598	749	**$ 495**	$ 1,288
TOTAL	**59.3**		**37.2**	**100%**	**$ 2,885,807**	**2,378**		

NON-RESIDENTIAL SHARE				
Development Type	**Net Cost**	**Remaining GFA (sq. ft.)**	**Calculated Rates per Sq. Ft.**	**Current Rates per Sq. Ft.**
Non-Residential	$ 2,343,865	757,891	**$ 3.09**	$ 8.15



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LOCATION MAP / PLAN DE LOCALISATION
ZONING KEY PLAN / SCHÉMA DE ZONAGE

Area S-3
Secteur S-3

NOT TO SCALE

Appendix D

Nepean Ponds in Parks (Area S-4)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
NEPEAN PONDS IN PARKS, LONGFIELDS & DAVIDSON HEIGHTS (AREA S-4)
PROJECTED GROWTH

Development Type	Existing	Projected Growth	Total Build-out
Residential Units			
Single Detached	5,565	-	5,565
Semi-Detached	890	-	890
Row/Town	4,928	-	4,928
Stacked Row	152	-	152
Apartment	1,399	877	2,276
Total	**12,934**	**877**	**13,811**
Developed Residential Land Area (Net HA)			
Single Detached	252.9	-	252.9
Semi-Detached	27.8	-	27.8
Row/Town	111.9	-	111.9
Stacked Row	2.0	-	2.0
Apartment	11.3	7.0	18.3
Total	**406.0**	**7.0**	**413.1**
Developed Non-Residential Land Area (Net HA)			
Industrial	0.4	8.0	8.4
Commercial	33.6	67.7	101.3
Institutional	66.9	29.1	96.0
Total	**100.9**	**104.8**	**205.7**
Non-Residential GFA (sq.ft.)			
Industrial	13,792	381,200	394,992
Commercial	1,872,302	3,766,527	5,638,829
Institutional	401,584	174,416	576,000
Total	**2,287,678**	**4,322,143**	**6,609,821**

Residential	Non-Residential
6%	94%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
NEPEAN PONDS IN PARKS, LONGFIELDS & DAVIDSON HEIGHTS (AREA S-4)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description	2019 DC Recoverable Costs[1]	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
			%	$			
S4-1	Stormwater - Park Facilities - 908385	$ -	0%	$ -	$ -	$ -	$ -
249	Reserve Fund Balance - Committed[1]	$ 3,317,128	0%	$ -	$ -	$ 3,317,128	$ -
TOTAL NEPEAN PONDS IN PARKS, LONGFIELDS & DAVIDSON HEIGHTS (AREA S-4)		**$ 3,317,128**		**$ -**	**$ -**	**$ 3,317,128**	**$ -**

[1] Committed Active Capital Project Outstanding Balance - $462,800

Residential Share of DC Eligible Cost	6%	$	209,060
Non-Residential Share of DC Eligible Cost	94%	$	3,108,067

Outstanding Balance		$	462,800
Reserve Fund Balance	Uncommitted[1]	$	2,854,328
Total Balance (Negative)		**$**	**3,317,128**

TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
NEPEAN PONDS IN PARKS, LONGFIELDS & DAVIDSON HEIGHTS (AREA S-4)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

Net Residential Cost	$	209,060
Net Non-Residential Cost	$	3,108,067

RESIDENTIAL SHARE

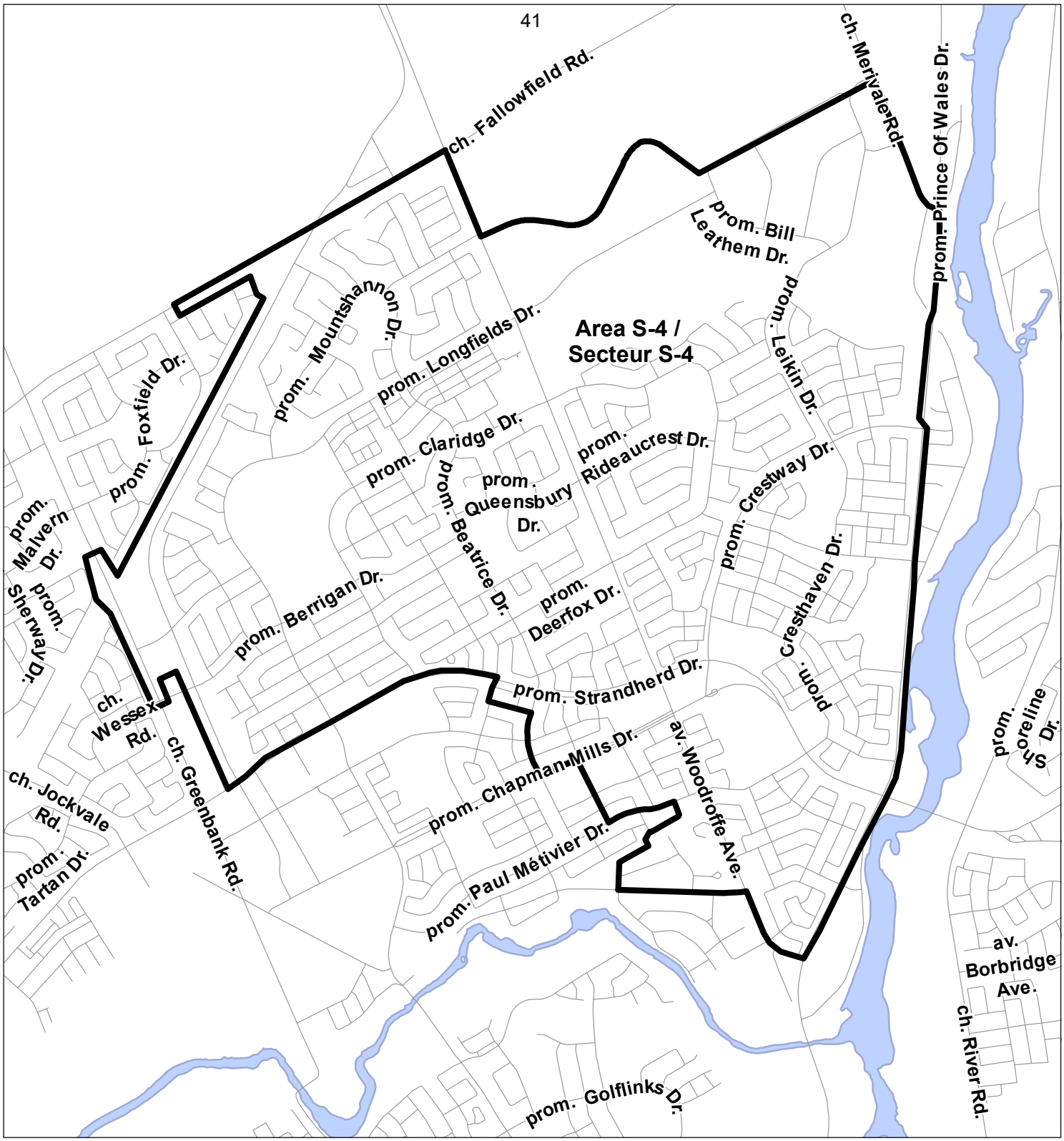
Development Type	Unbuilt Hectares	Run-off Coefficient	Hectares x Coefficient	% of Total	Net Cost	Remaining Units	Calculated Rates per Unit	Adjusted Rates per Unit[1]	Current Rates per Unit
Single Detached	-	0.6	-	0%	$ -	-	**$ -**	$ 785	$ 830
Semi-Detached	-	0.6	-	0%	$ -	-			
Row/Town	-	0.7	-	0%	$ -	-	**$ -**	$ 596	$ 630
Stacked Row	-	0.8	-	0%	$ -	-	$ 238	$ 238	$ 252
Apartment	7.0	0.8	5.6	100%	$ 209,060	877			
TOTAL	**7.0**		**5.6**	**100%**	**$ 209,060**	**877**			

1 The rates for single and semi-detached and row units are calculated based on maintaining the relationship of the different unit types

0.95 weighting factor

NON-RESIDENTIAL SHARE

Development Type	Net Cost	Remaining GFA (sq. ft.)	Calculated Rates per Sq. Ft.	Current Rates per Sq. Ft.
Non-Residential	$ 3,108,067	4,322,143	**$ 0.72**	$ 0.70



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LOCATION MAP / PLAN DE LOCALISATION
ZONING KEY PLAN / SCHÉMA DE ZONAGE

**Area S-4 /
Secteur S-4**

NOT TO SCALE

Appendix E

Inner Greenbelt Ponds (Area C-1)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
INNER GREENBELT PONDS (AREA C-1)
PROJECTED GROWTH

Development Type	Existing	Projected Growth	Total Build-out
Residential Units			
Single Detached	12,624	100	12,724
Semi-Detached	1,954	20	1,974
Row/Town	11,730	300	12,030
Stacked Row	-	-	-
Apartment	12,527	1,656	14,183
Total	**38,835**	**2,076**	**40,911**
Developed Residential Land Area (Net HA)			
Single Detached	573.8	4.6	578.4
Semi-Detached	61.1	0.6	61.7
Row/Town	266.6	6.8	273.4
Stacked Row	-	-	-
Apartment	100.2	13.3	113.5
Total	**1,001.7**	**25.3**	**1,027.0**
Developed Non-Residential Land Area (Net HA)			
Industrial	105.3	-	105.3
Commercial	176.7	-	176.7
Institutional	598.1	10.8	608.9
Total	**880.2**	**10.8**	**891.0**
Non-Residential GFA (sq.ft.)			
Industrial	4,928,159	-	4,928,159
Commercial	9,835,695	-	9,835,695
Institutional	3,588,677	64,835	3,653,512
Total	**18,352,531**	**64,835**	**18,417,366**

Residential	Non-Residential
70%	30%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
INNER GREENBELT PONDS (AREA C-1)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description	2019 DC Recoverable Costs[1]	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
			%	$			
C1-1	McEwan Creek Water Quality and Erosion Control - 901240	$ -	0%	$ -	$ -	$ -	$ -
250	Reserve Fund Balance - Committed[1]	$ 461,480	0%	$ -	$ -	$ 461,480	$ -
TOTAL INNER GREENBELT PONDS (AREA C-1)		**$ 461,480**		**$ -**	**$ -**	**$ 461,480**	**$ -**

[1] Committed Active Capital Project Outstanding Balance - $0

Residential Share of DC Eligible Cost	6%	$	29,085
Non-Residential Share of DC Eligible Cost	94%	$	432,395

Outstanding Balance		$	-
Reserve Fund Balance	Uncommitted[1]	$	461,480
Total Balance (Negative)		$	461,480

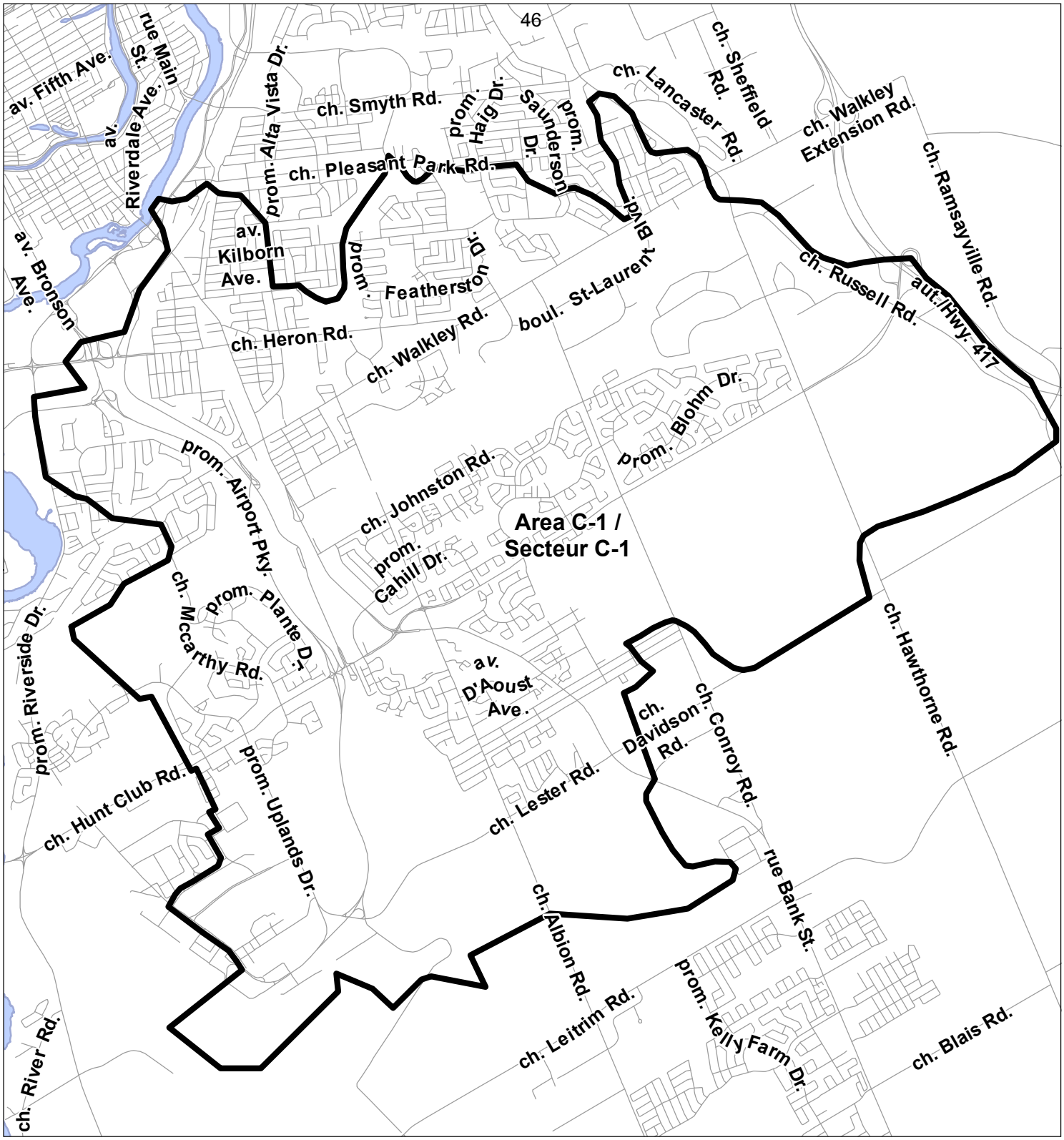
TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
INNER GREENBELT PONDS (AREA C-1)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

Net Residential Cost	$	29,085
Net Non-Residential Cost	$	432,395

RESIDENTIAL SHARE								
Development Type	**Unbuilt Hectares**	**Run-off Coefficient**	**Hectares x Coefficient**	**% of Total**	**Net Cost**	**Remaining Units**	**Calculated Rates per Unit**	**Current Rates per Unit**
Single Detached	4.6	0.6	2.5	14%	$ 4,023	100	**$ 38**	$ 1,202
Semi-Detached	0.6	0.6	0.4	2%	$ 572	20		
Row/Town	6.8	0.7	4.8	26%	$ 7,569	300	**$ 25**	$ 791
Stacked Row	-	0.8	-	0%	$ -	-	**$ 10**	$ 320
Apartment	13.3	0.8	10.6	58%	$ 16,920	1,656		
TOTAL	**25.3**		**18.3**	**100%**	**$ 29,085**	**2,076**		

NON-RESIDENTIAL SHARE				
Development Type	**Net Cost**	**Remaining GFA (sq. ft.)**	**Calculated Rates per Sq. Ft.**	**Current Rates per Sq. Ft.**
Non-Residential	$ 432,395	64,835	**$ 6.67**	$ 1.38



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LOCATION MAP / PLAN DE LOCALISATION
ZONING KEY PLAN / SCHÉMA DE ZONAGE

Area C-1
Secteur C-1

NOT TO SCALE

Appendix F

Monahan Drain (Area W-1)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
MONAHAN DRAIN (AREA W-1)
PROJECTED GROWTH

Development Type	Area A (East Of Eagleson)			Area B (West + North Of Hope)			Total Area (A + B)		
	Existing	Projected Growth	Total Build-out	Existing	Projected Growth	Total Build-out	Existing	Projected Growth	Total Build-out
Residential Units									
Single Detached	2,383	-	2,383	851	-	851	3,234	-	3,234
Semi-Detached	161	4	165	172	20	192	333	24	357
Row/Town	1,944	3	1,947	2,011	195	2,206	3,955	198	4,153
Stacked Row	64	-	64	180	217	397	244	217	461
Apartment	-	-	-	-	-	-	-	-	-
Total	**4,552**	**7**	**4,559**	**3,214**	**432**	**3,646**	**7,766**	**439**	**8,205**
Developed Residential Land Area (Net HA)									
Single Detached	108.2	-	108.2	38.6	-	38.6	146.7	-	146.7
Semi-Detached	5.0	0.1	5.1	5.3	0.7	6.0	10.3	0.8	11.1
Row/Town	44.2	0.1	44.3	45.8	4.3	50.1	90.0	4.4	94.4
Stacked Row	0.9	-	0.9	2.4	2.9	5.3	3.3	2.9	6.2
Apartment	-	-	-	1.1	-	1.1	1.1	-	1.1
Total	**158.3**	**0.2**	**158.5**	**93.2**	**7.9**	**101.1**	**251.5**	**8.1**	**259.5**
Developed Non-Residential Land Area (Net HA)									
Industrial	0.9	-	0.9	0.4	0.1	0.5	1.3	0.1	1.4
Commercial	0.6	1.1	1.7	3.6	0.4	4.0	4.2	1.5	5.7
Institutional	13.1	0.2	13.3	6.7	3.3	10.0	19.8	3.5	23.3
Total	**14.6**	**1.3**	**15.9**	**10.7**	**3.8**	**14.5**	**25.3**	**5.1**	**30.4**
Non-Residential GFA (sq.ft.)									
Industrial	37,440	-	37,440	18,304	2,496	20,800	55,744	2,496	58,240
Commercial	27,666	49,184	76,850	168,017	153,224	186,284	195,683	202,408	263,134
Institutional	68,950	1,050	70,000	35,000	17,500	52,500	103,950	18,550	122,500
Total	**134,056**	**50,234**	**184,290**	**221,321**	**173,220**	**259,584**	**355,377**	**223,454**	**443,874**

Residential	Non-Residential
12%	88%

Residential	Non-Residential
68%	32%

Residential	Non-Residential
61%	39%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
MONAHAN DRAIN (AREA W-1)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description	2019 DC Recoverable Costs[1]	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
			%	$			
MONAHAN DRAIN (AREA W-1) - AREA A (EAST OF EAGLESON)							
251	Reserve Fund Balance - Committed	$ -	0%	$ -	$ -	$ -	$ -
MONAHAN DRAIN (AREA W-1) - AREA A (EAST OF EAGLESON) SUBTOTAL		**$ -**		**$ -**	**$ -**	**$ -**	**$ -**
MONAHAN DRAIN (AREA W-1) - AREA B (WEST + NORTH OF HOPE)							
W1-B2	Monahan Drain Stormwater Pond - 903250	$ -	0%	$ -	$ -	$ -	$ -
W1-B4	Facility Retrofit - 907952	$ -	0%	$ -	$ -	$ -	$ -
W1-B4	Property Acquisition - 903250	$ -	0%	$ -	$ -	$ -	$ -
251	Reserve Fund Balance - Committed[1]	$ 3,348,736	0%	$ -	$ -	$ 3,348,736	$ -
251	Reserve Fund Balance - Adjustment[2]	$ (521,020)	0%	$ -	$ -	$ (521,020)	$ -
MONAHAN DRAIN (AREA W-1) - AREA B (WEST + NORTH OF HOPE) SUBTOTAL		**$ 2,827,716**		**$ -**	**$ -**	**$ 2,827,716**	**$ -**
TOTAL MONAHAN DRAIN (AREA W-1)		**$ 2,827,716**		**$ -**	**$ -**	**$ 2,827,716**	**$ -**

[1] Committed Active Capital Projects Outstanding Balance - $2,565,356
[2] Adjustment to Collection Amount - $521,020

MONAHAN DRAIN (AREA W-1) - AREA A (EAST OF EAGLESON)			
Residential Share of DC Eligible Cost	12%	$	-
Non-Residential Share of DC Eligible Cost	88%	$	-
MONAHAN DRAIN (AREA W-1) - AREA B (WEST + NORTH OF HOPE)			
Residential Share of DC Eligible Cost	68%	$	1,910,724
Non-Residential Share of DC Eligible Cost	32%	$	916,992

MONAHAN DRAIN (AREA W-1) - AREA A (EAST OF EAGLESON)			
Reserve Fund Balance	Uncommitted[1]	$	-
Total Balance		$	-
MONAHAN DRAIN (AREA W-1) - AREA B (WEST + NORTH OF HOPE)			
Outstanding Balance		$	2,565,356
Reserve Fund Balance	Uncommitted[1]	$	783,380
Adjustment to Collection Amount		$	(521,020)
Total Balance (Positive)		**$**	**2,827,716**

TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
MONAHAN DRAIN (AREA W-1)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

AREA A (EAST OF EAGLESON)	
Net Residential Cost	$ -
Net Non-Residential Cost	$ -

AREA A (EAST OF EAGLESON) RESIDENTIAL SHARE								
Development Type	**Unbuilt Hectares**	**Run-off Coefficient**	**Hectares x Coefficient**	**% of Total**	**Net Cost**	**Remaining Units**	**Calculated Rates per Unit**	**Current Rates per Unit**
Single Detached	-	0.6	-	0%	$ -	-	$ -	$ 1,595
Semi-Detached	0.1	0.6	0.1	51%	$ -	4		
Row/Town	0.1	0.7	0.1	49%	$ -	3	$ -	$ 1,757
Stacked Row	-	0.8	-	0%	$ -	-	$ -	$ 1,757
Apartment	-	0.8	-	0%	$ -	-		
TOTAL	**0.2**		**0.1**	**100%**	**$ -**	**7**		

AREA A (EAST OF EAGLESON) NON-RESIDENTIAL SHARE				
Development Type	**Net Cost**	**Remaining GFA (sq. ft.)**	**Calculated Rates per Sq. Ft.**	**Current Rates per Sq. Ft.**
Non-Residential	$ -	50,234	$ -	$ 2.76

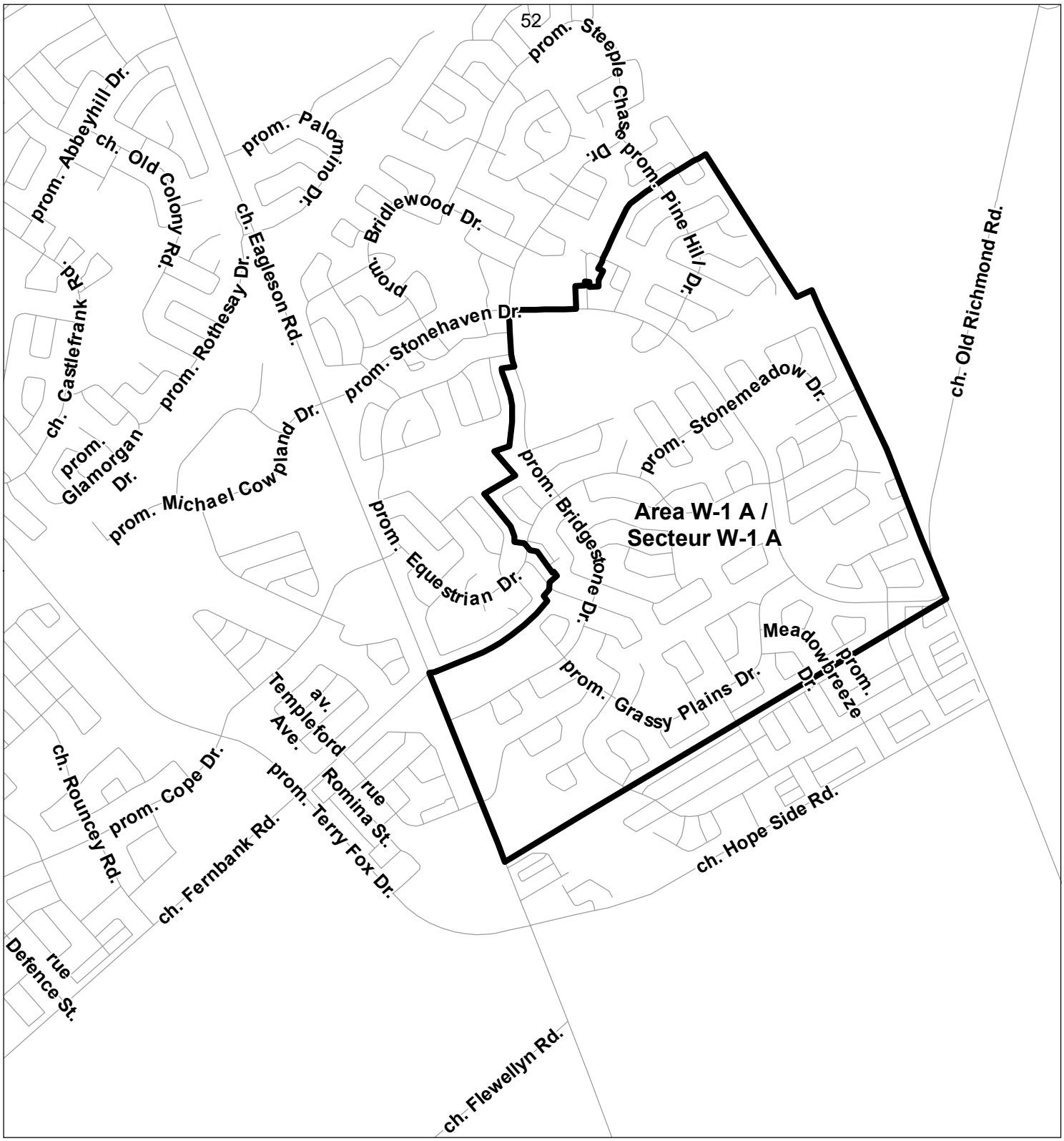
TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
MONAHAN DRAIN (AREA W-1)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

AREA B (WEST + NORTH OF HOPE)	
Net Residential Cost	$ 1,910,724
Net Non-Residential Cost	$ 916,992

AREA B (WEST + NORTH OF HOPE) RESIDENTIAL SHARE								
Development Type	**Unbuilt Hectares**	**Run-off Coefficient**	**Hectares x Coefficient**	**% of Total**	**Net Cost**	**Remaining Units**	**Calculated Rates per Unit**	**Current Rates per Unit**
Single Detached	-	0.6	-	0%	$ -	-	**$ 6,488**	$ 4,861
Semi-Detached	0.7	0.6	0.4	7%	$ 129,757	20		
Row/Town	4.3	0.7	3.0	53%	$ 1,010,527	195	**$ 5,182**	$ 3,080
Stacked Row	2.9	0.8	2.3	40%	$ 770,441	217	**$ 3,550**	$ 2,071
Apartment	-	0.8	-	0%	$ -	-		
TOTAL	**7.9**		**5.8**	**100%**	**$ 1,910,724**	**432**		

AREA B (WEST + NORTH OF HOPE) NON-RESIDENTIAL SHARE				
Development Type	**Net Cost**	**Remaining GFA (sq. ft.)**	**Calculated Rates per Sq. Ft.**	**Current Rates per Sq. Ft.**
Non-Residential	$ 916,992	173,220	**$ 5.29**	$ 2.76



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LOCATION MAP / PLAN DE LOCALISATION
ZONING KEY PLAN / SCHÉMA DE ZONAGE

Area W-1 A
Secteur W-1 A

NOT TO SCALE

Appendix G

Shirley's Brook (Area W-2)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
SHIRLEY'S BROOK (AREA W-2)
PROJECTED GROWTH

Development Type	Existing	Projected Growth	Total Build-out
Residential Units			
Single Detached	235	-	235
Semi-Detached	58	14	72
Row/Town	636	162	798
Stacked Row	-	156	156
Apartment	58	-	58
Total	**987**	**332**	**1,319**
Developed Residential Land Area (Net HA)			
Single Detached	10.7	-	10.7
Semi-Detached	1.8	0.4	2.2
Row/Town	14.5	3.7	18.2
Stacked Row	-	2.0	2.0
Apartment	0.5	-	0.5
Total	**27.5**	**6.1**	**33.6**
Developed Non-Residential Land Area (Net HA)			
Industrial	-	5.7	5.7
Commercial	2.6	1.0	3.6
Institutional	0.7	-	0.7
Total	**3.3**	**6.7**	**10.0**
Non-Residential GFA (sq.ft.)			
Industrial	-	237,120	237,120
Commercial	118,349	44,573	162,922
Institutional	3,500	-	3,500
Total	**121,849**	**281,693**	**403,542**

Residential	Non-Residential
48%	52%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
SHIRLEY'S BROOK (AREA W-2)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description		2019 DC Recoverable Costs[1]	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
				%	$			
W2-1	Stormwater Pond 1 West - 903328		$ -	0%	$ -	$ -	$ -	$ -
W2-1	Stormwater Pond 1 West FEA - March Road - 903328		$ -	0%	$ -	$ -	$ -	$ -
W2-3 & 4	Stormwater Pond 2 East FEA Repayments - 903230		$ -	0%	$ -	$ -	$ -	$ -
W2-5	Reinstatement and Relocation - End of March Valley Road		$ 903,000	0%	$ -	$ -	$ 903,000	$ -
252	Reserve Fund Balance - Committed[1]		$ 1,482,531	0%	$ -	$ -	$ 1,482,531	$ -
TOTAL SHIRLEY'S BROOK (AREA W-2)			**$ 2,385,531**		**$ -**	**$ -**	**$ 2,385,531**	**$ -**

[1] Committed Active Capital Projects Outstanding Balance - $1,271,600

Residential Share of DC Eligible Cost	48%	$	1,136,855
Non-Residential Share of DC Eligible Cost	52%	$	1,248,677

Outstanding Balance		$	1,271,600
Reserve Fund Balance	Uncommitted[1]	$	210,931
Total Balance (Negative)		**$**	**1,482,531**

TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
SHIRLEY'S BROOK (AREA W-2)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

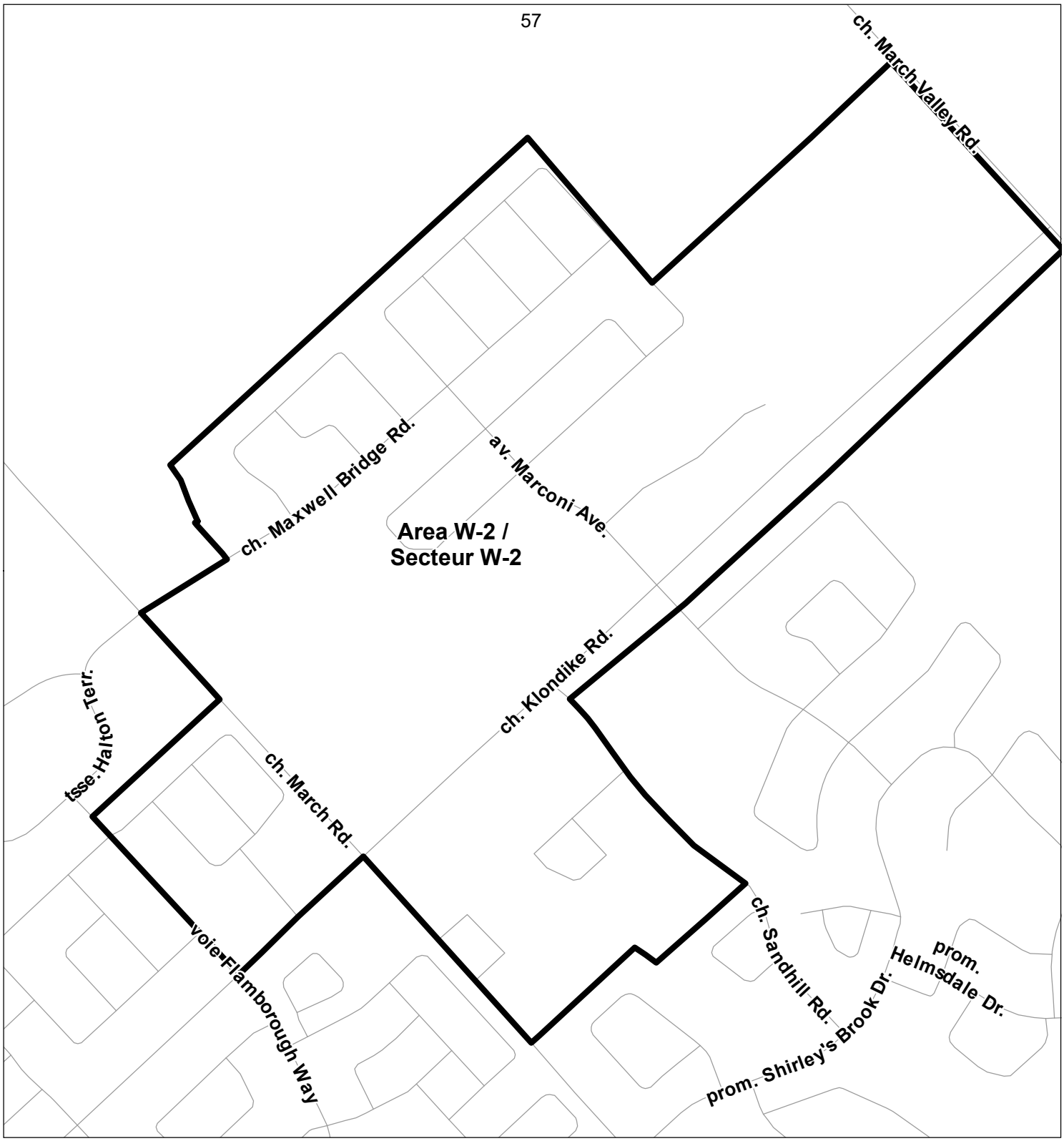
Net Residential Cost	$	1,136,855
Net Non-Residential Cost	$	1,248,677

RESIDENTIAL SHARE

Development Type	Unbuilt Hectares	Run-off Coefficient	Hectares x Coefficient	% of Total	Net Cost	Remaining Units	Calculated Rates per Unit	Current Rates per Unit
Single Detached	-	0.6	-	0%	$ -	-	**$ 4,399**	$ 4,522
Semi-Detached	0.4	0.6	0.2	5%	$ 61,590	14		
Row/Town	3.7	0.7	2.6	58%	$ 664,662	162	**$ 4,103**	$ 4,117
Stacked Row	2.0	0.8	1.6	36%	$ 410,602	156	**$ 2,632**	$ 2,309
Apartment	-	0.8	-	0%	$ -	-		
TOTAL	**6.1**		**4.4**	**100%**	**$ 1,136,855**	**332**		

NON-RESIDENTIAL SHARE

Development Type	Net Cost	Remaining GFA (sq. ft.)	Calculated Rates per Sq. Ft.	Current Rates per Sq. Ft.
Non-Residential	$ 1,248,677	281,693	**$ 4.43**	$ 3.41



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ZONING KEY PLAN / SCHÉMA DE ZONAGE

**Area W-2 /
Secteur W-2**

NOT TO SCALE

Appendix H

Cardinal Creek Erosion Works (Area E-2)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
CARDINAL CREEK EROSION WORKS (AREA E-2)
PROJECTED GROWTH

Development Type	Existing	Projected Growth	Total Build-out
Residential Units			
Single Detached	3,901	389	4,290
Semi-Detached	188	-	188
Row/Town	2,544	423	2,967
Stacked Row	-	-	-
Apartment	308	111	419
Total	**6,941**	**923**	**7,864**
Developed Residential Land Area (Net HA)			
Single Detached	177.3	17.8	195.1
Semi-Detached	5.9	-	5.9
Row/Town	57.8	9.6	67.4
Stacked Row	-	-	-
Apartment	2.5	0.9	3.4
Total	**243.6**	**28.3**	**271.8**
Developed Non-Residential Land Area (Net HA)			
Industrial	3.1	0.3	3.4
Commercial	5.8	1.3	7.1
Institutional	61.7	10.0	71.7
Total	**70.6**	**11.6**	**82.2**
Non-Residential GFA (sq.ft.)			
Industrial	146,016	14,040	160,056
Commercial	324,018	73,694	397,712
Institutional	370,000	60,000	430,000
Total	**840,034**	**147,734**	**987,768**

Residential	Non-Residential
71%	29%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
CARDINAL CREEK EROSION WORKS (AREA E-2)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description	2019 DC Recoverable Costs[1]	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
			%	$			
254	Reserve Fund Balance - Committed[1]	$ 1,740,426	0%	$ -	$ -	$ 1,740,426	$ -
TOTAL CARDINAL CREEK EROSION WORKS (AREA E-2)		**$ 1,740,426**		**$ -**	**$ -**	**$ 1,740,426**	**$ -**

[1] Committed Active Capital Projects Outstanding Balance - $1,605,600

Residential Share of DC Eligible Cost	71%	$ 1,234,136
Non-Residential Share of DC Eligible Cost	29%	$ 506,290

Outstanding Balance		$ 1,605,600
Reserve Fund Balance	Uncommitted[1]	$ 134,826
Total Balance (Negative)		**$ 1,740,426**

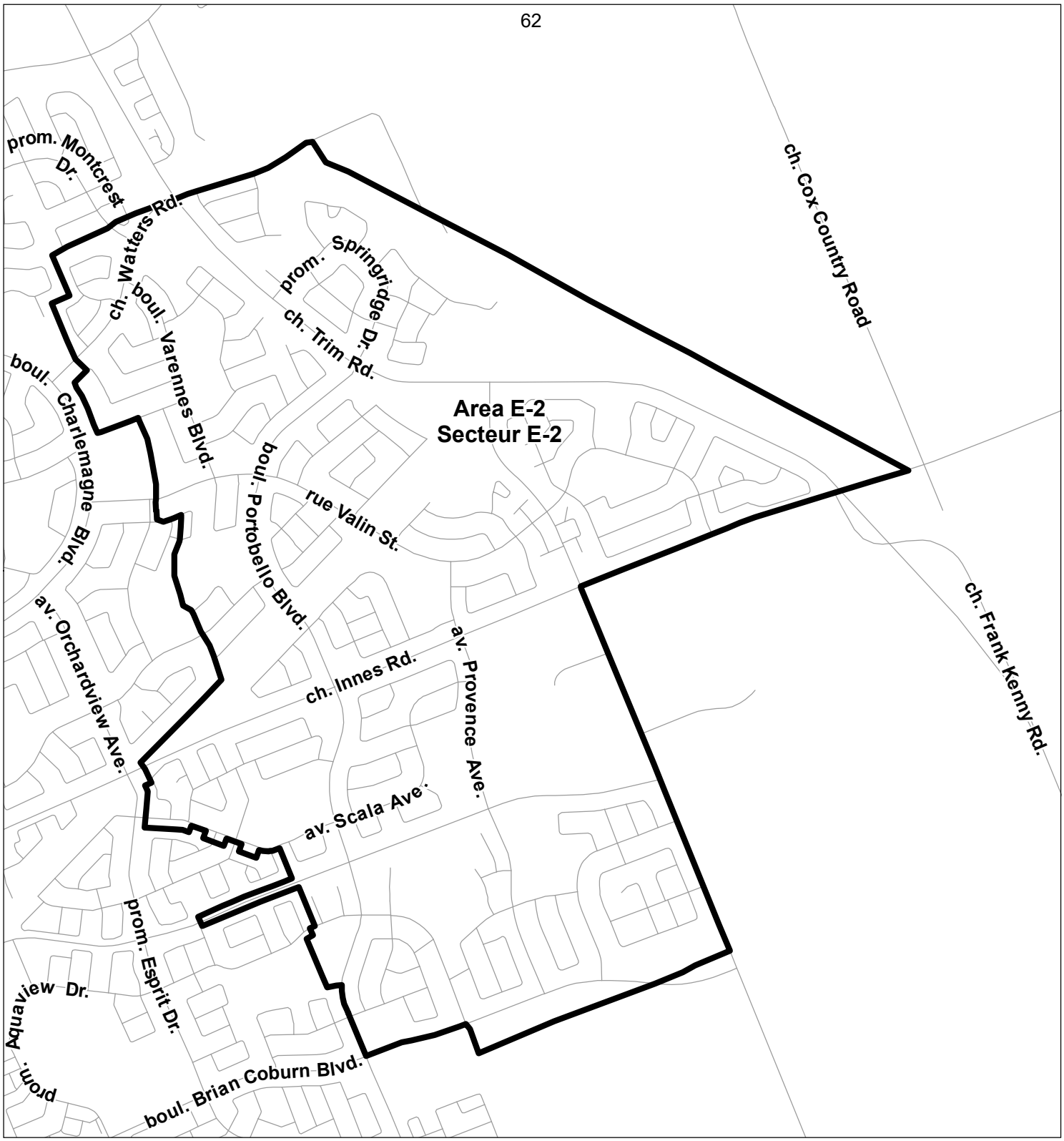
TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
CARDINAL CREEK EROSION WORKS (AREA E-2)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

Net Residential Cost	$	1,234,136
Net Non-Residential Cost	$	506,290

RESIDENTIAL SHARE								
Development Type	**Unbuilt Hectares**	**Run-off Coefficient**	**Hectares x Coefficient**	**% of Total**	**Net Cost**	**Remaining Units**	**Calculated Rates per Unit**	**Current Rates per Unit**
Single Detached	17.8	0.6	9.8	57%	$ 702,542	389	**$ 1,806**	$ 1,917
Semi-Detached	-	0.6	-	0%	$ -	-		
Row/Town	9.6	0.7	6.7	39%	$ 479,925	423	**$ 1,135**	$ 1,206
Stacked Row	-	0.8	-	0%	$ -	-		
Apartment	0.9	0.8	0.7	4%	$ 51,668	111	**$ 465**	$ 499
TOTAL	**28.3**		**17.2**	**100%**	**$ 1,234,136**	**923**		

NON-RESIDENTIAL SHARE				
Development Type	**Net Cost**	**Remaining GFA (sq. ft.)**	**Calculated Rates per Sq. Ft.**	**Current Rates per Sq. Ft.**
Non-Residential	$ 506,290	147,734	**$ 3.43**	$ 4.02



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LOCATION MAP / PLAN DE LOCALISATION
ZONING KEY PLAN / SCHÉMA DE ZONAGE

Cardinal Creek E-2

NOT TO SCALE

Appendix I

Gloucester Urban Centre (Area E-3)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
GLOUCESTER EAST URBAN CENTRE (AREA E-3)
PROJECTED GROWTH

Development Type	Existing	Projected Growth	Total Build-out
Residential Units			
Single Detached	1,099	1,816	2,915
Semi-Detached	42	1,072	1,114
Row/Town	1,187	3,955	5,142
Stacked Row	32	-	32
Apartment	231	1,809	2,040
Total	**2,591**	**8,652**	**11,243**
Developed Residential Land Area (Net HA)			
Single Detached	50.0	82.5	132.5
Semi-Detached	1.3	33.5	34.8
Row/Town	27.1	89.8	116.9
Stacked Row	0.4	-	0.4
Apartment	1.9	14.4	16.3
Total	**80.7**	**220.2**	**300.9**
3 Developed Non-Residential Land Area (Net HA)			
Industrial	5.3	22.1	27.4
Commercial	7.2	69.5	76.7
Institutional	21.5	21.8	43.3
Total	**34.0**	**113.4**	**147.4**
4 Non-Residential GFA (sq.ft.)			
Industrial	247,104	197,496	444,600
Commercial	399,970	2,067,180	2,467,150
Institutional	130,353	9,647	140,000
Total	**777,427**	**2,274,323**	**3,051,750**

Residential	Non-Residential
66%	34%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
GLOUCESTER EAST URBAN CENTRE (AREA E-3)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description	2019 DC Recoverable Costs[1]	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
			%	$			
E3-1A	Stormwater Pond 1 - 900814	$ -	0%	$ -	$ -	$ -	$ -
E3-1B	Stormwater Pond 1 Modifications - South of Hydro Corridor - 907602 - 907603	$ -	0%	$ -	$ -	$ -	$ -
E3-2A	Pond 1 Storm Sewers - South of Hydro Corridor - Oversizing - 907560	$ -	0%	$ -	$ -	$ -	$ -
E3-2B	Stormwater Pond 1 Modifications - North of Hydro Corridor	$ 2,500,000	0%	$ -	$ -	$ 2,500,000	$ -
E3-3	Pond 1 Storm Sewers - Orleans South Business Park - Oversizing - 907560	$ -	0%	$ -	$ -	$ -	$ -
E3-4	Stormwater Pond 2	$ 16,294,000	0%	$ -	$ -	$ 16,294,000	$ -
E3-5	Pond 2 Storm Sewers - Oversizing	$ 3,172,000	0%	$ -	$ -	$ 3,172,000	$ -
E3-5	Stormwater Pond 3 - 900815 - 903224	$ -	0%	$ -	$ -	$ -	$ -
E3-6	Pond 3 Storm Sewers - Oversizing - 907561	$ -	0%	$ -	$ -	$ -	$ -
E3-7	Erosion Monitoring Mud Creek - 907900	$ 924,000	0%	$ -	$ -	$ 924,000	$ -
	Subtotal	**$ 22,890,000**				**$ 22,890,000**	
E3-8	Stormwater Pond 1 - North Cell Expansion	$ 3,500,000	0%	$ -	$ -	$ 3,500,000	$ -
	Subtotal	**$ 3,500,000**	0%	$ -	$ -	**$ 3,500,000**	$ -
255	Reserve Fund Balance - Committed[1]	$ 19,662,638	0%	$ -	$ -	$ 19,662,638	$ -
TOTAL GLOUCESTER EAST URBAN CENTRE (AREA E-3)		**$ 46,052,638**		**$ -**	**$ -**	**$ 46,052,638**	**$ -**

[1] Committed Active Capital Projects Outstanding Balance - $20,818,803

Residential Share of DC Eligible Cost	66%	$	30,401,438
Non-Residential Share of DC Eligible Cost	34%	$	15,651,200

Outstanding Balance		$	20,818,803
Reserve Fund Balance	Uncommitted[1]	$	(1,156,165)
Total Balance (Negative)		**$**	**19,662,638**

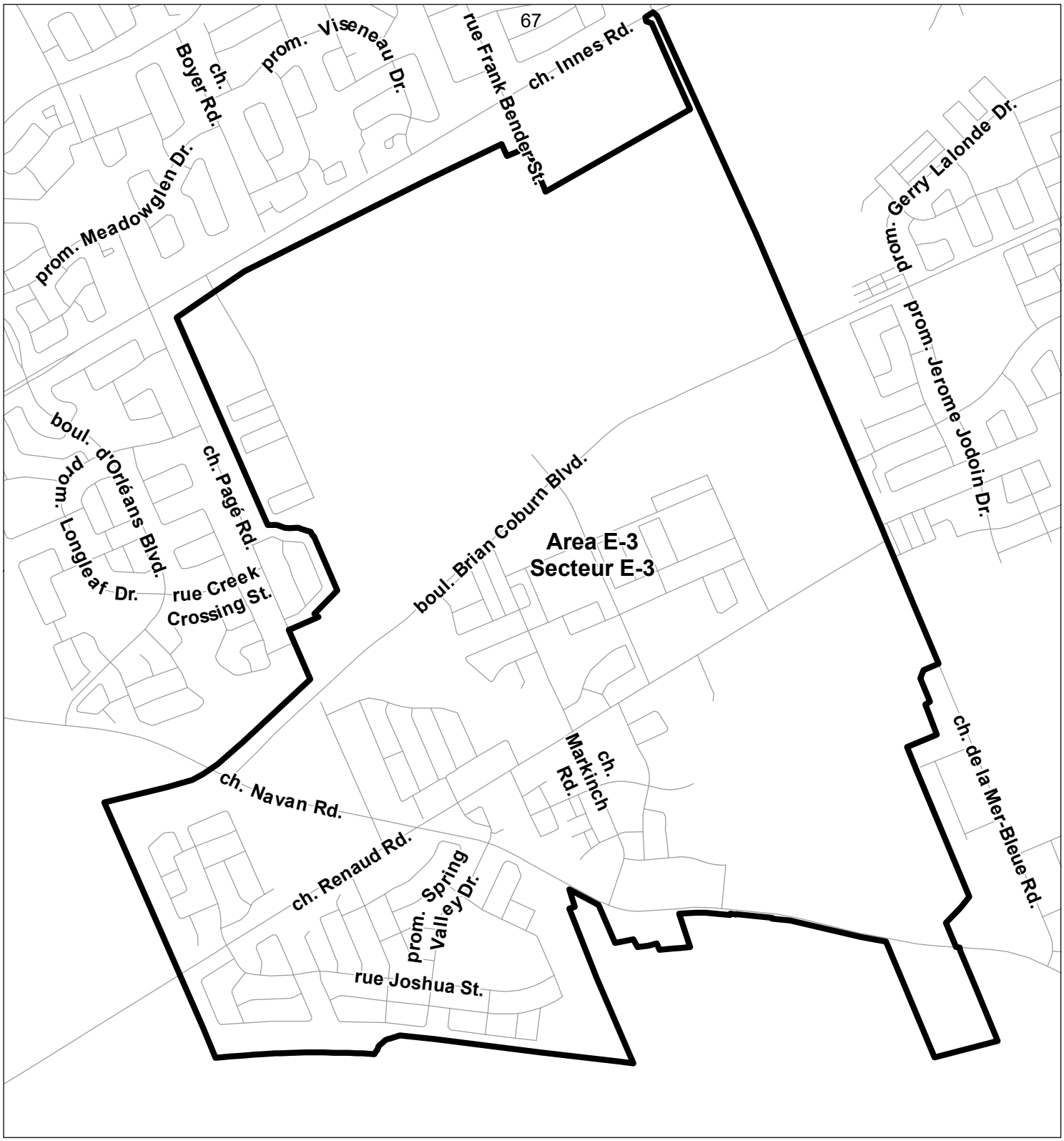
TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
GLOUCESTER EAST URBAN CENTRE (AREA E-3)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

Net Residential Cost	$ 30,401,438
Net Non-Residential Cost	$ 15,651,200

RESIDENTIAL SHARE								
Development Type	**Unbuilt Hectares**	**Run-off Coefficient**	**Hectares x Coefficient**	**% of Total**	**Net Cost**	**Remaining Units**	**Calculated Rates per Unit**	**Current Rates per Unit**
Single Detached	82.5	0.6	45.4	32%	$ 9,867,045	1,816	**$ 4,928**	$ 4,741
Semi-Detached	33.5	0.6	20.1	14%	$ 4,365,018	1,072		
Row/Town	89.8	0.7	62.9	45%	$ 13,666,943	3,955	**$ 3,456**	$ 3,291
Stacked Row	-	0.8	-	0%	$ -	-		
Apartment	14.4	0.8	11.5	8%	$ 2,502,432	1,809	**$ 1,383**	$ 1,315
TOTAL	**220.2**		**139.9**	**100%**	**$ 30,401,438**	**8,652**		

NON-RESIDENTIAL SHARE				
Development Type	**Net Cost**	**Remaining GFA (sq. ft.)**	**Calculated Rates per Sq. Ft.**	**Current Rates per Sq. Ft.**
Non-Residential	$ 15,651,200	2,274,323	**$ 6.88**	$ 3.72



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LOCATION MAP / PLAN DE LOCALISATION
ZONING KEY PLAN / SCHÉMA DE ZONAGE

Area E-3
Secteur E-3

NOT TO SCALE

Appendix J

N5 and Channelization (Area E-6)

TABLE 1

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
N5 AND CHANNELIZATION (AREA E-6)
PROJECTED GROWTH

Development Type	Existing	Projected Growth	Total Build-out
Residential Units			
Single Detached	831	487	1,318
Semi-Detached	46	-	46
Row/Town	1,395	-	1,395
Stacked Row	40	12	52
Apartment	144	20	164
Total	**2,456**	**519**	**2,975**
Developed Residential Land Area (Net HA)			
Single Detached	37.8	22.2	60.0
Semi-Detached	1.4	-	1.4
Row/Town	31.9	-	31.9
Stacked Row	0.5	0.2	0.7
Apartment	1.2	0.2	1.4
Total	**72.8**	**22.5**	**95.3**
Developed Non-Residential Land Area (Net HA)			
Industrial	-	-	-
Commercial	-	6.4	6.4
Institutional	-	10.0	10.0
Total	**-**	**16.4**	**16.4**
Non-Residential GFA (sq.ft.)			
Industrial	-	-	-
Commercial	102,936	253,224	356,160
Institutional	50,402	9,598	60,000
Total	**153,338**	**262,822**	**416,160**

** Note: The development forecast is still under review and will likely change following the release of the March 15, 2019 DC Background Study*

Residential	Non-Residential
58%	42%

TABLE 2

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
N5 AND CHANNELIZATION (AREA E-6)
DEVELOPMENT-RELATED CAPITAL PROGRAM

Item No.	Project Description	2019 DC Recoverable Costs[1]	Replacement & BTE Shares		Prior Growth	DC Eligible Costs	Post-Period Benefit
			%	$			
E6-1A	Stormwater Pond - 907558	$ -	0%	$ -	$ -	$ -	$ -
E6-2A	Channeilzation of McKinnon's Creek - 903341	$ -	0%	$ -	$ -	$ -	$ -
E6-3A	N4 and N5 Channelization Works - 903342	$ -	0%	$ -	$ -	$ -	$ -
256	Reserve Fund Balance - Committed[1]	$ 5,178,121	0%	$ -	$ -	$ 5,178,121	$ -
TOTAL N5 AND CHANNELIZATION (AREA E-6)		**$ 5,178,121**		**$ -**	**$ -**	**$ 5,178,121**	**$ -**

[1] Committed Active Capital Projects Outstanding Balance - $12,150,000

Residential Share of DC Eligible Cost	58%	$	2,994,224
Non-Residential Share of DC Eligible Cost	42%	$	2,183,897

Outstanding Balance		$	12,150,000
Reserve Fund Balance	Uncommitted[1]	$	(6,971,879)
Total Balance (Negative)		**$**	**5,178,121**

TABLE 3

CITY OF OTTAWA
STORMWATER MANAGEMENT POND/DRAINAGE SYSTEM
N5 AND CHANNELIZATION (AREA E-6)
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

Net Residential Cost	$ 2,994,224
Net Non-Residential Cost	$ 2,183,897

RESIDENTIAL SHARE

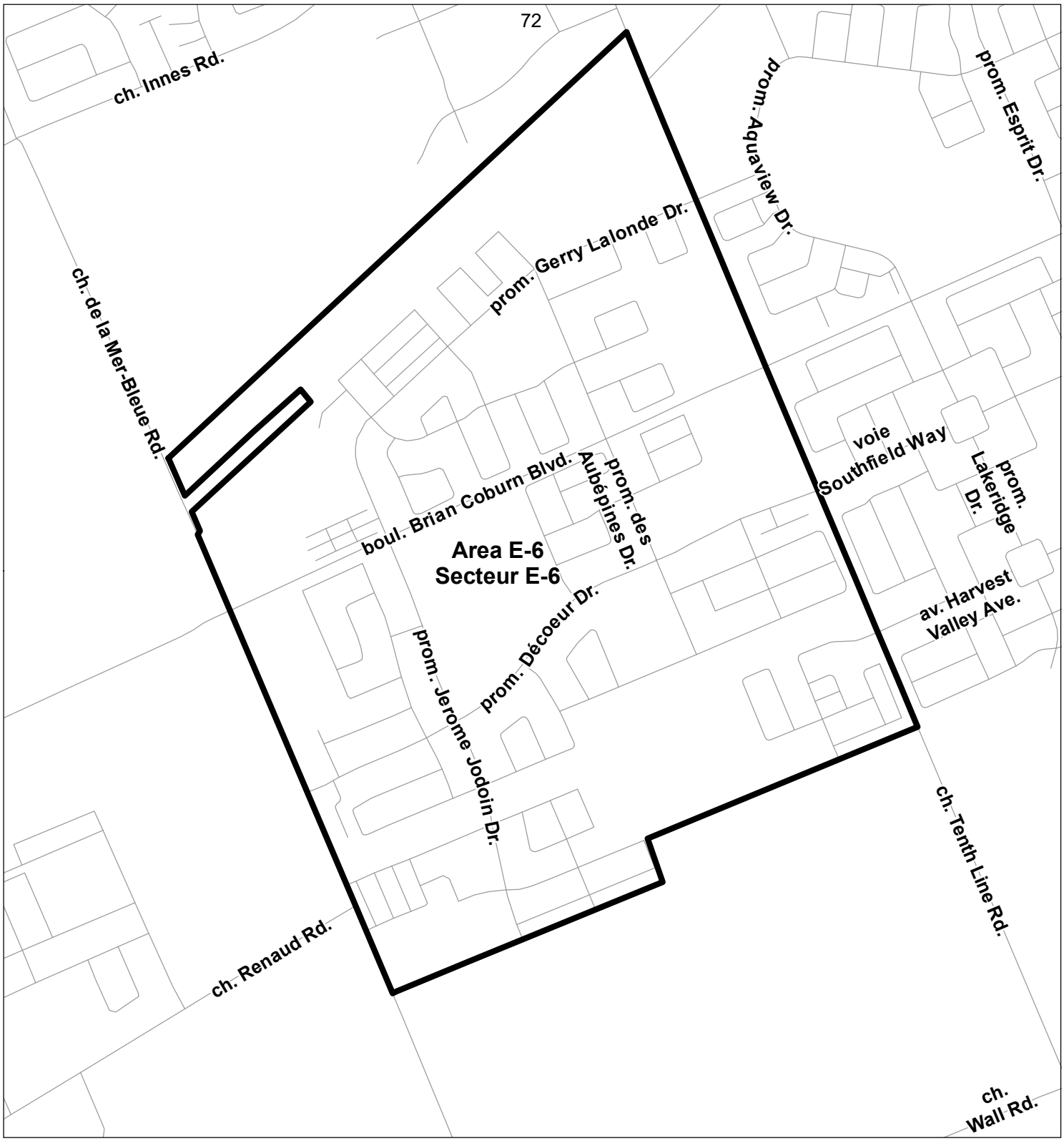
Development Type	Unbuilt Hectares	Run-off Coefficient	Hectares x Coefficient	% of Total	Net Cost	Remaining Units	Calculated Rates per Unit	Adjusted Rates per Unit[1]	Current Rates per Unit
Single Detached	22.2	0.6	12.2	98%	$ 2,931,366	487	**$ 6,019**	**$ 6,019**	$ 7,012
Semi-Detached	-	0.6	-	0%	$ -	-			
Row/Town	-	0.7	-	0%	$ -	-	**$ -**	**$ 2,105**	$ 4,577
Stacked Row	0.2	0.8	0.1	1%	$ 30,788	12	**$ 1,964**	**$ 1,964**	$ 1,833
Apartment	0.2	0.8	0.1	1%	$ 32,071	20			
TOTAL	**22.5**		**12.4**	**100%**	**$ 2,994,224**	**519**			

1 The rates for row units are calculated based on maintaining the relationship of the different unit types

1.07 weighting factor

NON-RESIDENTIAL SHARE

Development Type	Net Cost	Remaining GFA (sq. ft.)	Calculated Rates per Sq. Ft.	Current Rates per Sq. Ft.
Non-Residential	$ 2,183,897	262,822	**$ 8.31**	$ 7.74



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LOCATION MAP / PLAN DE LOCALISATION
ZONING KEY PLAN / SCHÉMA DE ZONAGE

Area E-6
Secteur E-6

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Appendix K

Draft SWM ASDC By-laws

(Available Under Separate Cover)