902-420-9287
450 Cowie Hill Road
P.O. Box 8388 RPO CSC
Halifax, Nova Scotia
Canada B3K 5M1

April 5, 2023

VIA EMAIL (crystal.henwood@novascotia.ca)
Ms. Crystal Henwood, Regulatory Affairs Officer/Clerk of the Board
N.S. Utility and Review Board
3rd Floor, Summit Place, 1601 Lower Water Street
P. O. Box 1692, Postal Unit M
Halifax, NS B3J 3S3

Re: Bedford West 10 & 11 CCC NSUARB Report

Dear Ms. Henwood:

Please accept this application from Halifax Water for approval of the following proposed Capital Cost Contribution Charges for installation of the base infrastructure in areas 10 and 11 (Attachment A) in Bedford West (Attachment B):

- Area 10 water charge of $9,500.31 / acre,
- Area 10 wastewater charge of $5,580.62 / acre,
- Area 11 water charge of $3,987.41 / acre, and
- Area 11 wastewater charge of $1,030.57 / acre.

BACKGROUND

Halifax Water is a body corporate, incorporated under the provisions of the *Halifax Regional Water Commission Act*, and a public utility regulated under the *Public Utilities Act*. Halifax Water is responsible for the supply of municipal water, fire protection, wastewater and stormwater services throughout Halifax Regional Municipality (HALIFAX).

Section 28 of the Halifax Water Regulations provides Halifax Water authority to establish a Capital Cost Contribution (CCC) charge applicable to developers and/or future users requiring extension or improvement of the water, wastewater and/or stormwater system:

- Subsection 28(3) provides that the CCC charge shall be determined as set out in Attachment 2 of the Regulations.
- Subsection 28(7) authorizes Halifax Water to allocate capital costs in accordance with approved rates and charges.

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- Attachment 2 establishes the water, wastewater and stormwater CCC policy and policy templates.

EXISTING BEDFORD WEST CCCS

The Kearney Lake Trunk Sewer (KLTS) is a major component of the Bedford West infrastructure master plan. Halifax Water carried out the pre-design of the KLTS in 2014, construction began in 2015, and commissioning took place in 2016. Major components included a 600 litre/second wastewater pumping station, dual 600 mm wastewater force mains, gravity wastewater mains, and a second wastewater pumping station with dual 400 mm wastewater force mains. To minimize construction disruption, as part of KLTS project, water distribution mains and gravity wastewater mains were installed in Kearney Lake Road.

In 2019, the Nova Scotia Utility and Review Board approved an update to the Bedford West water and wastewater CCC charges based on actual incurred costs of the area master infrastructure. These existing CCC charges are applicable to all lands contained within the Bedford West master plan area (Attachment B – Bedford West Subareas), approximately 1600 acres.

The costs associated with the installation of the base water and wastewater (300 mm water main and 250 mm wastewater main) infrastructure were funded by the Halifax Water capital budget and should be recovered from Areas 10 and 11.

BENEFIT-TO-EXISTING

As part of the project, Halifax Water decommissioned an existing wastewater pumping station located near the Petro-Canada gas station on Kearney Lake Road. This wastewater pumping station served an area of approximately 67 acres and a population of approximately 1200. The wastewater infrastructure considered within this area has a benefit-to-existing (customers), which is determined by the theoretical flow from areas 10 and 11 and the former Petro-Canada wastewater pumping station sewershed. This benefit proportioning is summarized in Table 1.

Table 1 – Bedford West Area 10 & Area 11 – Benefit Allocation

Benefactor	Wastewater Benefit East of KLPS	Wastewater Benefit West of KLPS	Water Benefit
Area 10	41.53 %	100 %	54.10 %
Area 11	35.23 %	0 %	45.90 %
Existing Customer	23.24 %	0 %	0 %

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The percentages in Table 1 were used in the allocation of the costs to Areas 10 and 11 as indicated in the financial model (Attachment C – Bedford West Flows)

PROPOSED BEDFORD WEST AREAS 10 AND 11 CCCS

Halifax Water is proposing to establish the following individual water and wastewater CCCs for both Areas 10 and 11 (Attachment A – Bedford West Areas 10 and 11), for the purpose of recovering costs associated with the KTLS base size, which as noted above were funded by the Halifax Water capital budget and should be recovered from Areas 10 and 11:

- Area 10 water charge of $9,500.31 / acre,
- Area 10 wastewater charge of $5,580.62 / acre,
- Area 11 water charge of $3,987.41 / acre, and
- Area 11 wastewater charge of $1,030.57 / acre.

Halifax Water delayed application for approval of these CCC charges to allow HALIFAX's secondary planning process to be completed. To date, no redevelopment within areas 10 and 11 has occurred.

Population densities, set by HALIFAX, have been considered in the allocation of costs between those that will benefit from the base sizing of the infrastructure and those that benefit from the oversizing of the infrastructure. Charges established with set population densities eliminates the need to adjust the charges as population densities change.

A financial model (Attachment D – Financial Model) was developed to analyze the cash flow resulting in the proposed CCC charges to be collected from areas 10 and 11. Of note:

- Infrastructure to the benefit of Bedford West Areas 10 and 11 has been installed and commissioned.
- Capital expenditures for the KLTS were closed in 2017/18 and there are no future capital costs to be incurred by Halifax Water.
- The charges comply with s. 17 of Halifax Water's CCC Policy, which provides the criteria for developing the cost of oversized infrastructure within a charge area.
- The engineering costs incurred by the KLTS project were broken down and assigned as a cost to be recovered through the water and wastewater CCC charges.

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- Evaluation of the infrastructure costing is in keeping with CCC policies in Attachment 2 of the Halifax Water Regulations.
- Development build-out assumptions are the same as those used in the existing Bedford West CCCs approved by the Board in December 2019.
- Financing assumptions are contained within Attachment E – Financial Assumptions.
- Area 10 and 11 lands will be subject to both the existing Bedford West CCC charges and the proposed Area 10 and 11 CCC charges.

The charges, summarized in Table 2, will be escalated annually by the Halifax Consumer Price Index as published by Statistics Canada on April 1 (see also Attachment F – Areas 10 and 11 Water CCC Charges Summary and Attachment G – Areas 10 and 11 Wastewater CCC Charges Summary).

Table 2 – Capital Cost Contribution Charges (2022 base year)

	Water CCC Charge	Wastewater CCC Charge
Area 10	$9,500.31 / acre	$5,580.62 / acre
Area 11	$3,987.41 / acre	$1,030.57 / acre

STAKEHOLDER CONSULTATION

In January 2018, Halifax Water participated in a stakeholder and public information meeting led by HALIFAX as part of their Bedford West Transportation CCC process. Discussions of the base information and how the CCC charges were determined took place at the meeting.

In December 2018, Halifax Water led a separate stakeholder consultation for the proposed Bedford West water and wastewater CCC charges, which involved meetings with individual and multiple stakeholders to discuss establishing the Bedford West CCC base charge and confirm developable acreages in each sub-area. With the completion of the initial stakeholder meetings, a CCC base charge and proposed density factors were developed. The Board approved the existing Bedford West CCC charges in 2019.

During the 2018 stakeholder engagement, Halifax Water identified and discussed the creation of future specific CCC charges for areas 10 and 11, which discussions form the basis for this application. Halifax Water has continued to engage and advise stakeholders and impacted landowners in these areas, keeping them apprised of the status of these proposed CCCs

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ORDER SOUGHT

For the reasons set out herein, Halifax Water requests approval of the following proposed CCC charges for Bedford West Areas 10 and 11:

- Area 10 water charge of $9,500.31 / acre,
- Area 10 wastewater charge of $5,580.62 / acre,
- Area 11 water charge of $3,987.41 / acre, and
- Area 11 wastewater charge of $1,030.57 / acre.

Respectfully,

Louis de Montbrun (Apr 5, 2023 10:31 ADT)

Louis de Montbrun, CPA, CA
Acting General Manager and CEO, Halifax Water

Attachments

Attachment A	Bedford West Areas 10 and 11
Attachment B	Bedford West Subareas
Attachment C	Bedford West Flows
Attachment D	Financial Model (Excel)
Attachment E	Financial Assumptions
Attachment F	Areas 10 and 11 Water CCC Charges Summary
Attachment G	Areas 10 and 11 Wastewater CCC Charges Summary

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Section 17: Oversized Infrastructure Criteria

a) Oversizing Criteria

The cost of providing Oversized water, Wastewater and Stormwater Infrastructure will be funded through the WWS CCCs levied in a charge area.

The cost of providing Oversized water, Wastewater and Stormwater Infrastructure may also include discrete upgrades of, or new connections to, existing systems outside of the charge area.

There are several methods of calculating the oversize cost, which generally fall into one of the following categories:

i. Incremental basis:

Where the oversize cost would be calculated by determining the incremental or marginal cost of up-sizing to the required Oversized water, Wastewater and Stormwater Infrastructure defined in the Master Plan. This method is most fairly applied if there is a base value or benefit associated with providing the minimum service requirements without considering oversizing. For the purpose of oversizing, minimum service requirements would be those necessary to provide service to an area being developed and may be based on minimum pipe sizes and local road standards.

ii. Flow Proportioning:

The incremental costs of the oversized component(s) in a Master Plan Area may be distributed amongst the land owners on a flow proportionate basis as determined by their allowable densities noted in the Municipal Planning Strategies or land use in the Land Use Bylaws.

iii. Capacity basis:

Where the oversize cost is determined on the basis of capacity allocated to the charge area. The cost to be recovered through a WWS CCC would be calculated by pro-rating total cost on the basis of capacity. This method is most fairly applied for a discrete upgrade of an existing system outside of the charge area.

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b) *Water, Wastewater and Stormwater Systems within a Charge Area*

The oversized costs to provide Water, Wastewater and Stormwater Systems within a charge area will be determined on an incremental basis. There are various methods for calculating incremental costs of piped systems:

i. *Dual Design Method:*

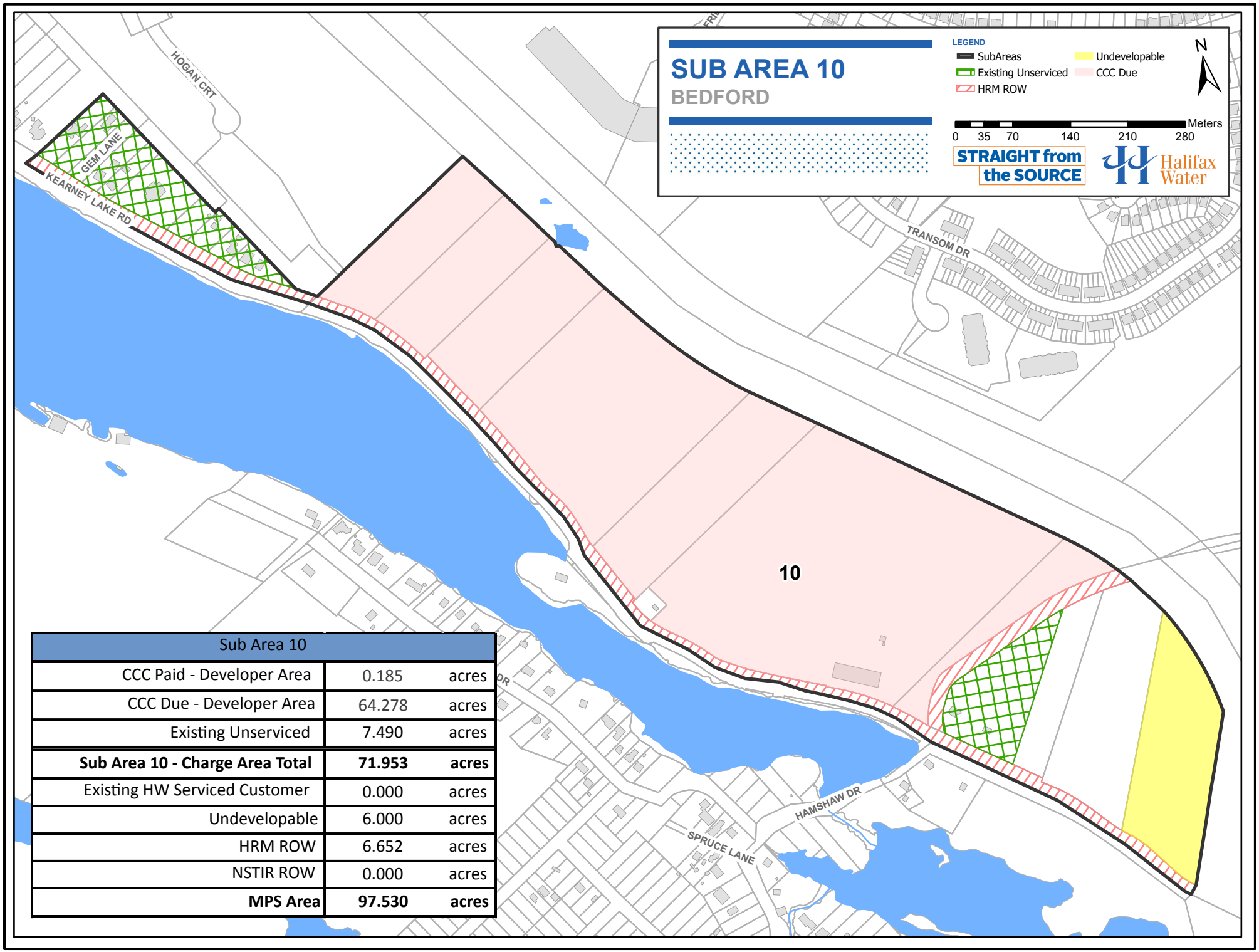
Where the oversize cost is determined by deducting the total cost of the minimum required pipe size from the total cost of the oversized pipe.

ii. *Cost Ratio Method:*

This method assumes a direct relationship between the cost of providing a service and the size of the pipe. A cost factor can be determined and applied similar to the Cost Sharing Policy of the former City of Halifax, or a simple percentage based on nominal dimensions may be applied.

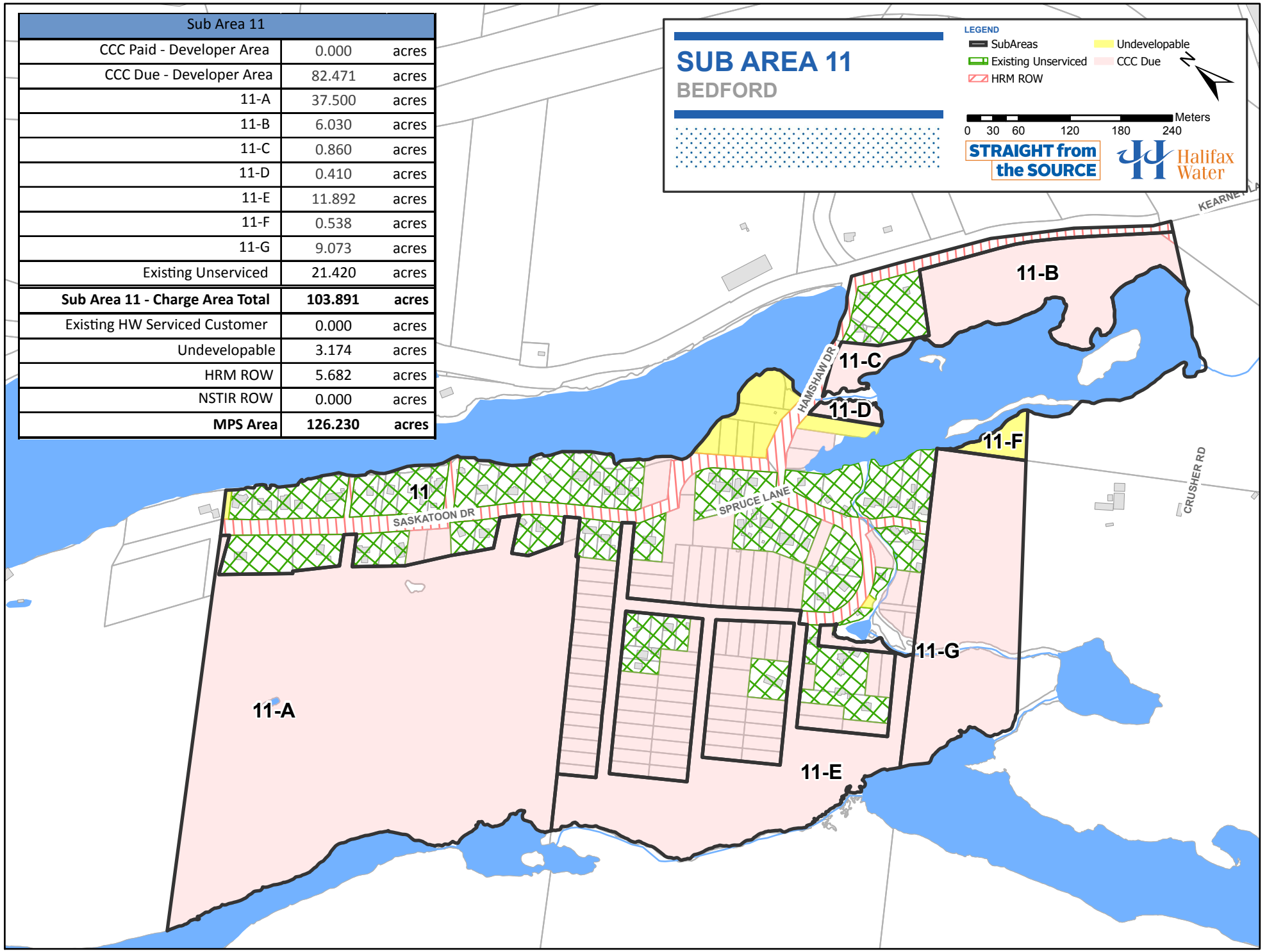
c) *Infrastructure Exterior to a Charge Area*

The portion of the cost of an upgrade, expansion, or provision of a discrete component of water, Wastewater and Stormwater infrastructure to be recovered through a WWS CCC will be determined on the basis of capacity allocated to the charge area.



Sub Area 10		
CCC Paid - Developer Area	0.185	acres
CCC Due - Developer Area	64.278	acres
Existing Unserviced	7.490	acres
Sub Area 10 - Charge Area Total	**71.953**	**acres**
Existing HW Serviced Customer	0.000	acres
Undevelopable	6.000	acres
HRM ROW	6.652	acres
NSTIR ROW	0.000	acres
MPS Area	**97.530**	**acres**

Sub Area 11		
CCC Paid - Developer Area	0.000	acres
CCC Due - Developer Area	82.471	acres
11-A	37.500	acres
11-B	6.030	acres
11-C	0.860	acres
11-D	0.410	acres
11-E	11.892	acres
11-F	0.538	acres
11-G	9.073	acres
Existing Unserviced	21.420	acres
Sub Area 11 - Charge Area Total	**103.891**	**acres**
Existing HW Serviced Customer	0.000	acres
Undevelopable	3.174	acres
HRM ROW	5.682	acres
NSTIR ROW	0.000	acres
MPS Area	**126.230**	**acres**



Attachment A

Map 3 - Bedford West Sub Areas

HALIFAX

Bedford West Development Sub-Areas

0 200 400 600 800 m

The accuracy of any representation on this plan is not guaranteed.

17 November 2016 | Case 19625 | T:\work\planning\Casemaps\BED\19625\ (AKT)

Attachment C

Tuesday, April 23, 2019 updated by Kevin Gray

Friday, October 7, 2022 updated by Kevin Gray (see coloumn z)

Constants:

Q = 1.25 * (a x M) + b

Residential Flow 0.300 m3/person/day

Safety Factor 1 for pumping stations

Infiltration Allowance 24 m3/ha/day

	Sub - Area	Developable Acreage West Bedford (Acres)	Existing Unserviced Acreage West Bedford (Acres)	Existing HW Customers Acreage West Bedford (Acres)	Existing HW Customers Acreage Outside (Acres)	Developer Acreage Sandy Lake (Acres)	Existing Unserviced Acreage Sandy Lake (Acres)	Zero Infiltration Acreage (Acres)	Hectares less Zero I& Area (ha)	Developable West Bedford Population (people)	Sandy Lake Population (people)	Existing Serviced Population (people)	Existing Unserviced Population (people)	Total Population P (people)	a ADWF (m3/day)	M Harmon	b Infiltration (m3/day)	Q (m3/day)	Peak Design Flow (L/s)	Flow To Sandy Lake PS (L/s)	Flow To PS #1 (L/s)	Flow To PS #2 (L/s)	Flow To Mill Cove (L/s)
	Sandy Lake SL3				49.150	22.640	2.350		30		500	1,283	27	1,810	543	3.62	720	2,685	31				31
	Area 3BC	122.359		14.829					56	4,531		60		4,591	1,377	3.28	1,332	5,849	68				68
	Area 3	130.194							53	2,746				2,746	824	3.47	1,264	4,127	48				48
	Mill Cove	**252.553**	**0.000**	**14.829**	**49.150**	**22.640**	**2.350**	**0.000**	**138**	**7,276**	**500**	**1,343**	**27**	**9,146**	**2,744**	**2.99**	**3,317**	**11,529**	**133**				**133**
*	Sandy Lake SL1				0.000	646.130	8.428	93.0	227		13,091		17	13,108	3,932	2.84	5,454	16,611	192	192	192		
	Sandy Lake SL2				62.179	38.953	53.928		63		1,858	1,438	111	3,406	1,022	3.40	1,506	4,975	58	58	58		
	Area 3BC	40.608							16	1,605				1,605	482	3.66	394	2,156	25	25	25		
	Area 3	1.688							1	34				34	10	4.35	16	60	1	1	1		
	Area 1	41.170	2.730						18	812			23	835	251	3.85	426	1,391	16	16	16		
	Peerless PL1				33.295				13			278		278	83	4.09	323	665	8	8	8		
	Bluewater Road B1				63.801				26			1,665		1,665	500	3.65	620	2,441	28	28	28		
	Uplands Park U1				24.551				10			302		302	90	4.08	238	607	7	7	7		
*	Area 12	188.728	31.670	2.540					90	5,198		7	633	5,838	1,751	3.18	2,165	7,738	90	90	90		
	Area 12 / Sandy Lake PS	**272.194**	**34.400**	**2.540**	**183.826**	**685.083**	**62.356**	**93.000**	**464**	**7,648**	**14,949**	**3,689**	**784**	**27,070**	**8,121**	**2.52**	**11,144**	**31,619**	**366**	**366**	**366**		
	Bluewater Road B2				69.655				28			1,818		1,818	545	3.62	677	2,650	31		31		
	Area 2	150.029						36.1	46	4,275				4,275	1,282	3.31	1,107	5,348	62		62		
*	Area 4	97.817						20.9	31	2,722				2,722	817	3.48	747	3,587	42		42		
	Area 5	114.517						40.2	30	2,483				2,483	745	3.51	722	3,337	39		39		
*	Area 6	40.594						0.0	16	2,030				2,030	609	3.58	394	2,574	30		30		
	Area 7	195.311						78.8	47	3,991				3,991	1,197	3.33	1,132	5,123	59		59		
	Area 8	190.641						56.3	54	3,287				3,287	986	3.41	1,305	4,666	54		54		
	Weybridge Lane PS #1 (incl A12/SL PS)	**1,061.103**	**34.400**	**2.540**	**253.481**	**685.083**	**62.356**	**325.300**	**718**	**26,436**	**14,949**	**5,508**	**784**	**47,677**	**14,303**	**2.28**	**17,226**	**49,892**	**577**		**577**		
*	Area 9	37.722	17.445						22	1,477			50	1,527	458	3.67	536	2,219	26			26	
	Area 10	64.463	8.594						30	2,752			40	2,792	838	3.47	710	3,615	42			42	
*	Area 11	82.471	21.420						42	1,670			235	1,904	571	3.60	1,009	3,067	35			35	
	Bedford South				224.400			32.5	78			5,994		5,994	1,798	3.17	1,864	7,566	88			88	
	Existing Pumping Station (Petro Canada)				67.600				27			1,217		1,217	365	3.74	657	2,023	23			23	
	Kearney Lake Road PS #2	**184.656**	**47.459**	**0.000**	**292.000**	**0.000**	**0.000**	**32.500**	**199**	**5,899**	**0**	**7,211**	**325**	**13,434**	**4,030**	**2.83**	**4,775**	**16,166**	**187**			**187**	
	Totals	**1,498.312**	**81.859**	**17.369**	**594.631**	**707.723**	**64.706**	**357.800**		**39,611**	**15,449**	**14,061**	**1,136**	**70,257**						**366**	**577**	**187**	**133**

	Total Hectares less Zero I&(Area (ha)	Total Population P (people)	a ADWF (m3/day)	M Harmon	b Infiltration (m3/day)	Q (m3/day)	Peak Design Flow (L/s)
Weybridge Lane PS #1	**718**	**47,677**	**14,303**	**2.28**	**17,226**	**49,892**	**577**
Kearney Lake Road PS #2	**199**	**13,434**	**4,030**	**2.83**	**4,775**	**19,014**	**220**

PS# 2 - Firm Capactiy 218 L/s

Sub Area 10 & 11 Benefit Calculations	Wastewater East of KLPS	Water
Area 10	**41.53%**	**54.10%**
Area 11	**35.23%**	**45.90%**
Existing Pumping Station (Petro Canada)	**23.24%**	**0.00%**
Kearney Lake Road PS #2		

	Acres
Bluewater Road	36.266
Peerless Subdivision	24.833
Area 12	2.540
Hammonds Plains Road	24.964
Giles Road	11.037
Total Benefitting Existing Customers	99.640
Total West Bedford Developer Area	1,498.312
Total Existing Unserviced Area	81.859
Total Benefitting Existing Customers	99.640
Total Serviced Acreage	1,679.811
Benefit to Existing Water	**5.93%**

	People
Bluewater Road B1	1,665
Bluewater Road B2	1,818
Peerless Subdivision	278
Uplands Park U1	302
Area 3BC	60
Area 12	7
Retired Pumping Station (Petro Canada)	1,217
Sandy Lake - Exist HW WW Ind. Customer	1,440
Sandy Lake - Exist HW WW Res. Customer	50
Total Benefitting Population	6,838
Total West Bedford Developer Population	39,611
Total West Existing Unserviced	982
Total Benefitting Population	6,838
Total Serviced Population	47,431
Benefit to Existing Wastewater	**14.42%**

Attachment E

Financial Assumptions

Balance Financing	1.62%
Data Source: Bank of Canada V122543: Government of Canada benchmark bond yields,10 year + 0.75% risk premium, - 10 year average, updated Deecember 31, 2021, BofCBonds Tab	
Inflation on CCC per acre charge *actually adjusted annually by Halifax CPI*	1.874%
Halifax Water - NET HST	4.286%

Attachment F

Bedford West Area 10 - Water CCC Charge Summary

Cost of Oversized Water Infrastructure	**(A)**	$	700,132		
Inflation Adjustment	**(B) = Inflation Adjustment**	$	(7,826)		**Note 1**
Total Capital Cost Contribution (Water)	**(C) = (A) + (B)**	$	692,306		
Area of land that can be developed	**(D)**		72.872	acres	
Capital Cost Contribution (Water) charge	**(E) = (C) / (D)**	**$**	**9,500.31**	**per acre**	

Note 1: Inflation Adjustment, in the absence of inflation factors applied to the CCC charge, equals the amount of financing charges.
The presence of an inflationary adjustment for the charge changes this amount so that the per person charge in year 1 can be calculated.
Inflation factors are applied annually to the base charge.

Bedford West Area 11 - Water CCC Charge Summary

Cost of Oversized Water Infrastructure	**(A)**	$	424,720		
Inflation Adjustment	**(B) = Inflation Adjustment**	$	(10,465)		**Note 1**
Total Capital Cost Contribution (Water)	**(C) = (A) + (B)**	$	414,256		
Area of land that can be developed	**(D)**		103.891	acres	
Capital Cost Contribution (Water) charge	**(E) = (C) / (D)**	**$**	**3,987.41**	**per acre**	

Note 1: Inflation Adjustment, in the absence of inflation factors applied to the CCC charge, equals the amount of financing charges.
The presence of an inflationary adjustment for the charge changes this amount so that the per person charge in year 1 can be calculated.
Inflation factors are applied annually to the base charge.

Attachment G

Bedford West Area 10 - Wastewater CCC Charge Summary

Cost of Oversized Wastewater Infrastructure	**(A)**	$	411,268	
Inflation Adjustment	**(B) = Inflation Adjustment**	$	(4,597)	**Note 1**
Total Capital Cost Contribution (Wastewater)	**(C) = (A) + (B)**	$	406,671	
Area of land that can be developed	**(D)**		72.872	acres
Capital Cost Contribution (Wastewater) charge	**(F) = (C) / (D)**	**$**	**5,580.62**	**per acre**

Note 1: Inflation Adjustment, in the absence of inflation factors applied to the CCC charge, equals the amount of financing charges. The presence of an inflationary adjustment for the charge changes this amount so that the per person charge in year 1 can be calculated. Inflation factors are applied annually to the base charge.

Bedford West Area 11 - Wastewater CCC Charge Summary

Cost of Oversized Wastewater Infrastructure	**(A)**	$	109,772	
Inflation Adjustment	**(B) = Inflation Adjustment**	$	(2,705)	**Note 1**
Total Capital Cost Contribution (Wastewater)	**(C) = (A) + (B)**	$	107,067	
Area of land that can be developed	**(D)**		103.891	acres
Capital Cost Contribution (Wastewater) charge	**(F) = (C) / (D)**	**$**	**1,030.57**	**per acre**

Note 1: Inflation Adjustment, in the absence of inflation factors applied to the CCC charge, equals the amount of financing charges. The presence of an inflationary adjustment for the charge changes this amount so that the per person charge in year 1 can be calculated. Inflation factors are applied annually to the base charge.