

Municipality of Brighton Water and Wastewater Rate Study

Public Meeting

March 7, 2011

Study Purpose

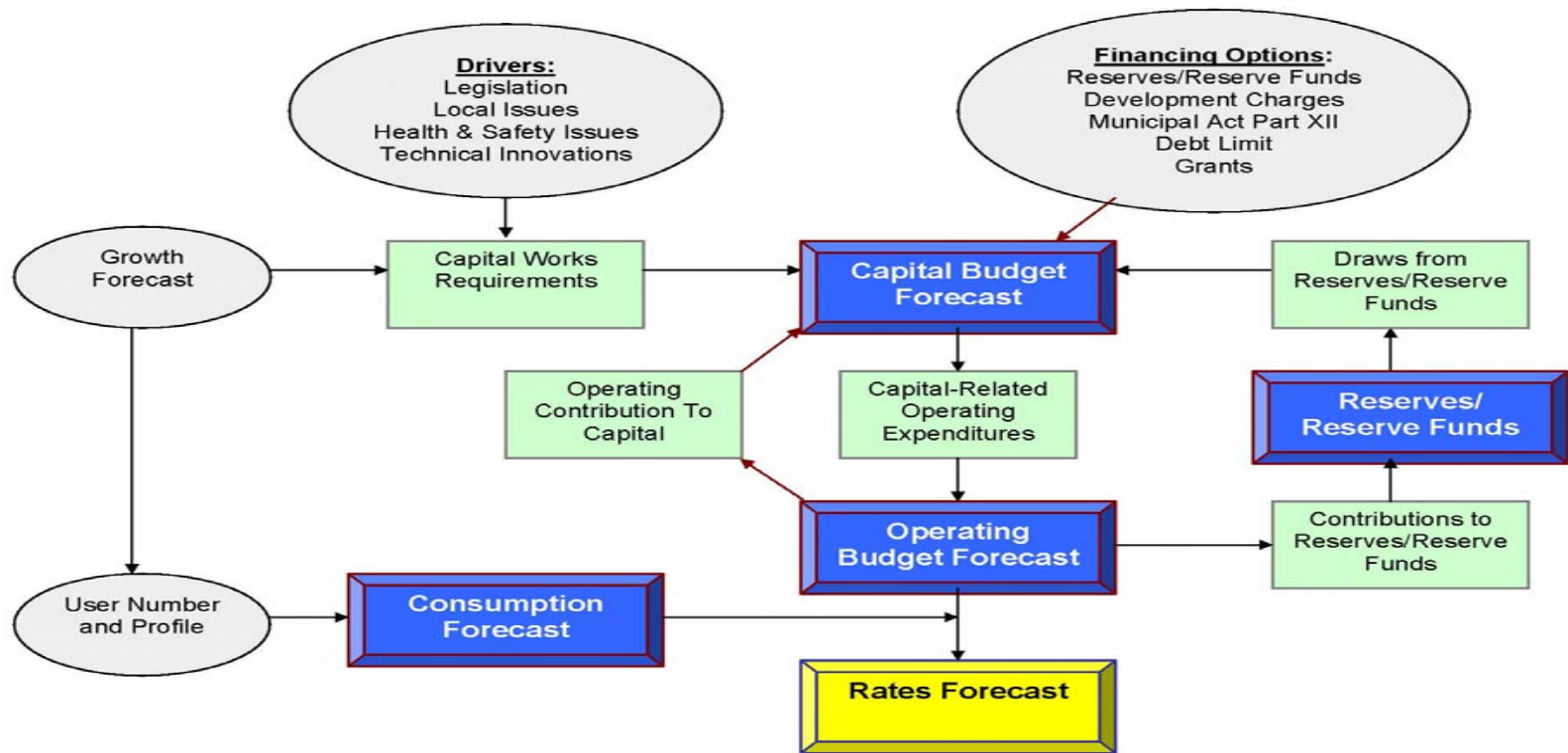
- Watson & Associates Economists Ltd. was retained by the Municipality to:
 - Prepare a 10-year financial plan, indentifying capital needs, operating costs and funding options
 - Analyze lifecycle reserve fund requirements to provide financial sustainability
 - Recommend new fee policies and rates to recover the cost of water and wastewater services
 - Prepare O.Reg. 453/07 Financial Plan
- Presentation presents the findings of the Study for public input

Legislative Context for Undertaking

- ❑ *Sustainable Water and Sewage Systems Act* (SWSSA) received third reading and passed on Dec. 13, 2002
- ❑ Expert Panel Report (Watertight) recommendations issued July 2005
- ❑ Regulation required to put SWSSA into force
- ❑ Safe Drinking Water Act Regulation (O.Reg. 453/07)
 - Municipal Drinking Water Licensing Program requirements for a financial plan six-months after the first license is issued by the Province

Water and Wastewater Rate Calculation Methodology

THE WATER AND WASTEWATER RATE CALCULATION PROCESS



Watson & Associates Economists Ltd.

Growth and Consumption Forecast

- Water and wastewater rate calculations require a forecast of customers and consumption
 - Customers forecast to determine monthly base charge revenue component
 - Consumption forecast to determine consumptive charge revenue component
- Customer forecast based on Municipalities Development Charges Background Study growth forecast
- Consumption estimates based on annualized water metering results

Water and Wastewater Growth Forecast – 2010-2020

Water	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Residential Customers											
Sub-total Residential	2,730	2,782	2,847	2,921	3,004	3,087	3,170	3,253	3,339	3,429	3,519
Non-Residential Customers											
Sub-total Non-Residential	177	179	181	184	189	194	199	204	208	212	217
Existing Bulk Water Users	10	10	10	10	10	10	10	10	10	10	10
Presqu'ile Provincial Park Customers	3	3	3	3	3	3	3	3	3	3	3
Total Water Customers	2,920	2,974	3,041	3,118	3,206	3,294	3,382	3,470	3,560	3,654	3,749
Residential Equivalent	2,944	2,998	3,065	3,142	3,230	3,318	3,406	3,494	3,584	3,678	3,773
Wastewater	2,010	2,011	2,012	2,013	2,014	2,015	2,016	2,017	2,018	2,019	2,020
Residential Customers											
Sub-total Residential	2,697	2,749	2,814	2,888	2,971	3,054	3,137	3,220	3,306	3,396	3,486
Non-Residential Customers											
Sub-total Non-Residential	177	179	181	184	189	194	199	204	208	212	217
Presqu'ile Provincial Park Customers	3	3	3	3	3	3	3	3	3	3	3
Total Wastewater Customers	2,877	2,931	2,998	3,075	3,163	3,251	3,339	3,427	3,517	3,611	3,706
Residential Equivalent	2,911	2,965	3,032	3,109	3,197	3,285	3,373	3,461	3,551	3,645	3,740

Water and Wastewater Consumption Forecast – 2010-2020

Water	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Annual Residential Customer Water Consumption	469,560	478,504	489,684	502,412	516,688	530,964	545,240	559,516	574,308	589,788	605,268
Annual Non-Residential Customer Water Consumption	120,381	121,079	121,777	122,824	124,569	126,314	128,059	129,804	131,200	132,596	134,341
Annual Presqu'île Provincial Park Water Consumption	22,014	22,014	22,014	22,014	22,014	22,014	22,014	22,014	22,014	22,014	22,014
Annual Bulk Water Customer Water Consumption	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,318
Total Annual Water Consumption	616,273	625,915	637,793	651,568	667,589	683,610	699,631	715,652	731,840	748,716	765,941
Wastewater	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Annual Residential Customer Wastewater Flows	463,798	472,828	484,008	496,736	511,012	525,288	539,564	553,840	568,632	584,112	599,592
Annual Non-Residential Customer Wastewater Flows	120,381	121,079	121,777	122,824	124,569	126,314	128,059	129,804	131,200	132,596	134,341
Annual Presqu'île Provincial Park Wastewater Flows	22,014	22,014	22,014	22,014	22,014	22,014	22,014	22,014	22,014	22,014	22,014
Total Annual Wastewater Flows	606,193	615,921	627,799	641,574	657,595	673,616	689,637	705,658	721,846	738,722	755,947

Capital Infrastructure Needs

- 10-year Capital Needs Forecast prepared incorporating:
 - Municipality's draft 2011 Capital Budget and Forecast estimates
 - Municipality's DC Background Study assumptions for growth-related capital needs
 - Lifecycle analysis based on benchmark capital costs from Township's PSAB 3150 tangible capital asset inventory
 - Capital cost inflation
- 10-year capital needs forecast:
 - \$3.9 million for water services
 - \$7.7 million for wastewater services

Capital Infrastructure Needs

- Capital needs principally driven by growth-related capital
 - Water System – watermain extensions and upgrades (\$1.9 million)
 - Wastewater System – WWTP ammonia removal upgrades (\$5.4 million)
 - Works are only partially recovered from Development Charges
- Lifecycle needs are relatively minor, given current condition and age of infrastructure

Capital Funding Plan

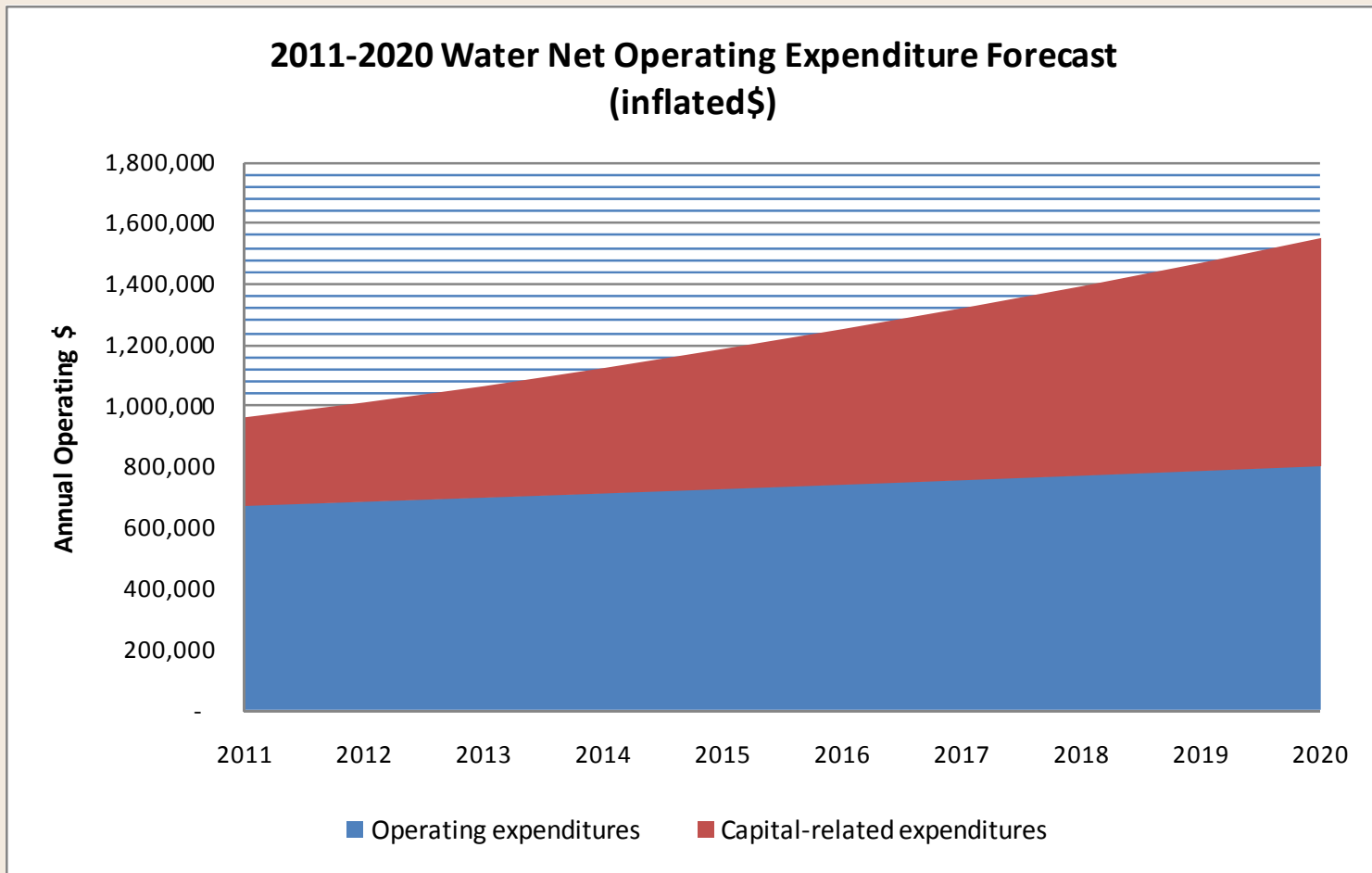
Assumptions

- Grant funding
 - 2/3 grant funding for WWTP upgrades (\$3.6 million)
- Internal Sources (i.e. Reserve Funds)
 - \$2.6 million in water reserve funding
 - \$3.0 million in wastewater reserve funding
- Development Charges
 - \$0.8 million for water
 - \$0.7 million for wastewater
- Debt Financing
 - Forecast based on 5.00% for 10-year term
 - \$1.0 million in debt financing for water (DC/rate based)
 - \$0.5 million in rate based debt financing for wastewater

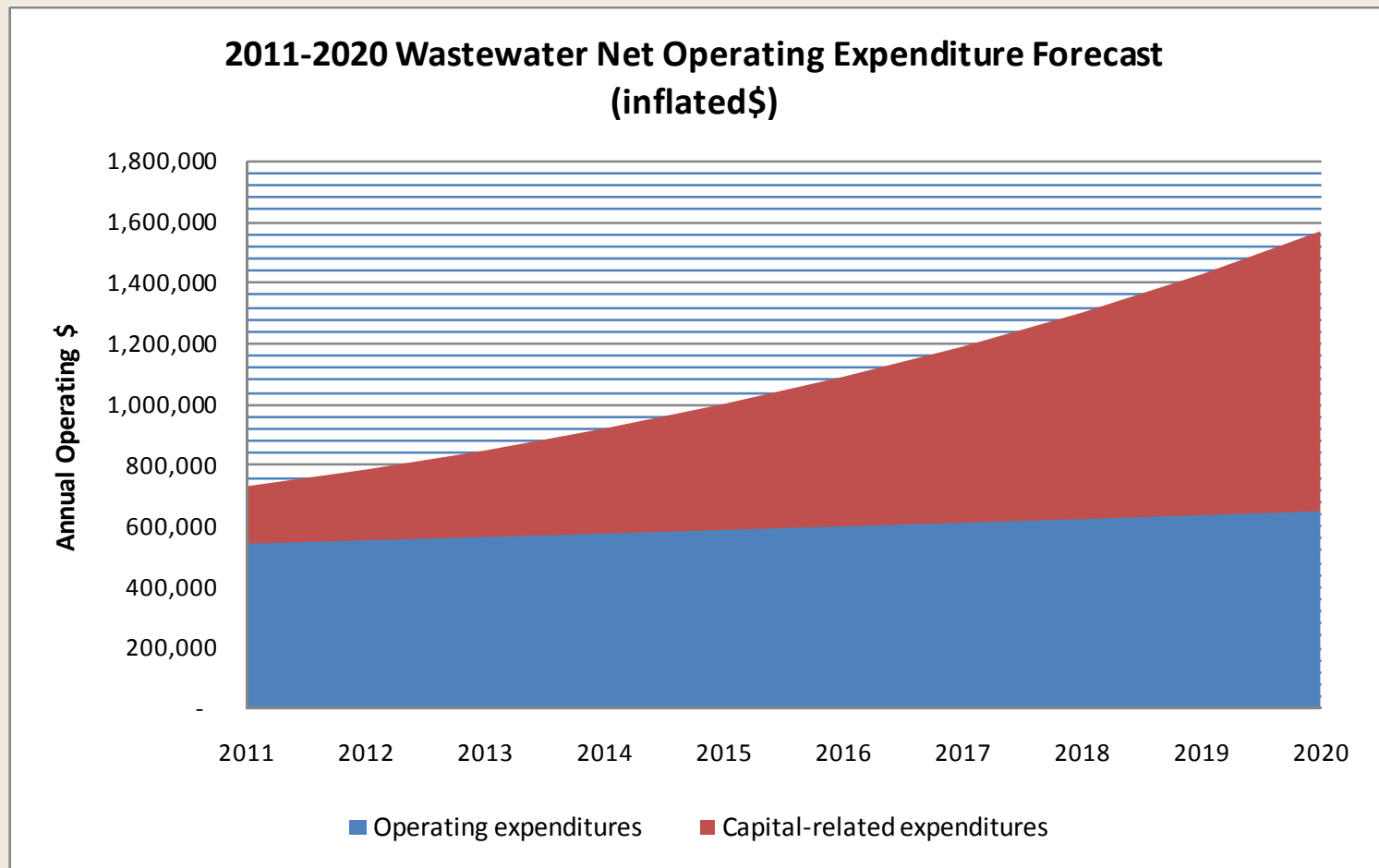
Operating Expenditure Forecast

- 10-year Operating Budget Forecast incorporates:
 - Draft 2011 Operating Budget estimates
 - Capital-related funding assumptions (i.e. debt charges, capital fund contributions, reserve fund contributions)
 - Lifecycle reserve contributions to be phased-in over the forecast period
 - Adjustments for inflation and system growth
- Operating expenditures forecast increase:
 - Water services – 5.7% annually
 - Wastewater services – 8.6% annually

2011-2020 Water System Net Operating Expenditure Forecast (inflated\$)



2011-2020 Wastewater System Net Operating Expenditure Forecast (inflated\$)



Proposed Rates for Council Consideration

- Base charge established to recover annual fixed expenditures over the forecast period
 - Provides revenue certainty meet long-term debt/lifecycle obligations
 - Recognizes fixed costs of operation benefiting all service customers
- Consumptive rate forecast:
 - Constant rate proposed (i.e. same rate regardless of amount consumed)
 - Achieves full cost recovery over the forecast period
- Presqu'ile Park rates increased based on annual municipal rate increase
- Bulk water rates held constant over the forecast period

Calculated Water Rates

(2011-2020)

Description	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Water Billing Recovery	241,876	258,328	276,839	297,468	320,602	345,320	371,722	399,915	430,117	462,798	497,924
Total Consumption (m3)	589,941	599,583	611,461	625,236	641,257	657,278	673,299	689,320	705,508	722,384	739,609
Consumptive Rate / m3	0.41	0.43	0.45	0.48	0.50	0.53	0.55	0.58	0.61	0.64	0.67
Consumptive Rate / m3 (Presqu'ile Provincial Park)	0.83	0.87	0.92	0.96	1.01	1.06	1.12	1.17	1.23	1.30	1.36
Monthly Base Charge By Meter Size											
5/8" - 3/4"	18.40	18.77	19.14	19.53	19.92	20.32	20.72	21.14	21.56	21.99	22.43
1"	27.61	28.16	28.73	29.30	29.89	30.48	31.09	31.72	32.35	33.00	33.66
1 1/2"	36.83	37.57	38.32	39.08	39.87	40.66	41.48	42.31	43.15	44.02	44.90
2"	55.22	56.32	57.45	58.60	59.77	60.97	62.19	63.43	64.70	65.99	67.31
3"	73.60	75.07	76.57	78.10	79.67	81.26	82.89	84.54	86.23	87.96	89.72
Bulk Water Haulers											
Consumptive Rate / m3	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Monthly Base Charge By Meter Size											
5/8" - 3/4"	15.25	15.25	15.25	15.25	15.25	15.25	15.25	15.25	15.25	15.25	15.25
1"	22.88	22.88	22.88	22.88	22.88	22.88	22.88	22.88	22.88	22.88	22.88
1 1/2"	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52	30.52
2"	45.77	45.77	45.77	45.77	45.77	45.77	45.77	45.77	45.77	45.77	45.77
3"	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00

Calculated Wastewater Rates

(2011-2020)

Description	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Wastewater Billing Recovery	165,322	190,506	220,249	255,319	296,876	344,978	400,631	464,994	539,530	626,280	726,921
Total Consumption (m3)	584,179	593,907	605,785	619,560	635,581	651,602	667,623	683,644	699,832	716,708	733,933
Consumptive Rate / m3	0.28	0.32	0.36	0.41	0.47	0.53	0.60	0.68	0.77	0.87	0.99
Consumptive Rate / m3 (Presqu'ile Provincial Park)	0.63	0.71	0.81	0.92	1.04	1.18	1.34	1.51	1.72	1.95	2.20
Monthly Base Charge By Meter Size											
5/8" - 3/4"	14.51	14.80	15.10	15.40	15.71	16.02	16.34	16.67	17.00	17.34	17.69
1"	21.77	22.21	22.65	23.11	23.57	24.04	24.52	25.01	25.51	26.02	26.54
1 1/2"	29.04	29.62	30.22	30.82	31.44	32.07	32.71	33.36	34.03	34.71	35.40
2"	43.55	44.42	45.31	46.21	47.14	48.08	49.04	50.02	51.02	52.04	53.08
3"	58.04	59.20	60.38	61.59	62.82	64.08	65.36	66.67	68.00	69.36	70.75

Annual Water and Wastewater Bill Impacts (current vs. forecast)

Average Residential User

Water	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Annual Base Charge	220.80	225.22	229.72	234.31	239.00	243.78	248.66	253.63	258.70	263.88	269.15
Annual Consumptive Charge (172 m3/y)	70.52	74.11	77.87	81.83	85.99	90.37	94.96	99.79	104.86	110.19	115.79
Annual Residential Water Charge	291.32	299.32	307.59	316.15	324.99	334.15	343.62	353.42	363.56	374.07	384.95

Wastewater	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Annual Base Charge	174.12	177.60	181.15	184.78	188.47	192.24	196.09	200.01	204.01	208.09	212.25
Annual Consumptive Charge (172 m3/y)	48.68	55.17	62.54	70.88	80.34	91.06	103.21	116.99	132.60	150.30	170.36
Annual Residential Wastewater	222.80	232.77	243.69	255.66	268.81	283.30	299.30	317.00	336.61	358.39	382.61

Total Annual Residential Bill	514.12	532.10	551.28	571.81	593.81	617.45	642.92	670.42	700.17	732.46	767.56
Annual Bill Increase (\$)	-	17.98	19.19	20.52	22.00	23.64	25.47	27.50	29.76	32.28	35.10
Annual Bill Increase (%)	-	3.5%	3.6%	3.7%	3.8%	4.0%	4.1%	4.3%	4.4%	4.6%	4.8%

Average Non-Residential User

Water	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Annual Base Charge	220.80	225.22	229.72	234.31	239.00	243.78	248.66	253.63	258.70	263.88	269.15
Annual Consumptive Charge (349 m3/y)	143.09	150.37	158.01	166.04	174.49	183.36	192.68	202.48	212.77	223.59	234.96
Annual Non-Residential Water Charge	363.89	375.58	387.73	400.36	413.49	427.14	441.34	456.11	471.47	487.46	504.11

Wastewater	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Annual Base Charge	174.12	177.60	181.15	184.78	188.47	192.24	196.09	200.01	204.01	208.09	212.25
Annual Consumptive Charge (349 m3/y)	98.77	111.95	126.89	143.82	163.02	184.77	209.43	237.38	269.06	304.97	345.67
Annual Non-Residential Wastewater	272.89	289.55	308.04	328.60	351.49	377.01	405.52	437.39	473.07	513.06	557.92

Total Annual Non-Residential Bill	636.78	665.13	695.77	728.96	764.98	804.15	846.85	893.49	944.54	1,000.52	1,062.03
Annual Bill Increase (\$)	-	28.35	30.64	33.19	36.02	39.18	42.70	46.64	51.05	55.98	61.51
Annual Bill Increase (%)	-	4.5%	4.6%	4.8%	4.9%	5.1%	5.3%	5.5%	5.7%	5.9%	6.1%

Water and Wastewater Annual Residential Bill Comparison (172 m³/year)

Rank	Municipality	Water Charges	Wastewater Charges	Total Charges
1	Trent Hills (Hastings)	\$506	\$815	\$1,321
2	County of Prince Edward (Picton/Wellington)	\$538	\$617	\$1,155
3	Trent Hills (Warkworth)	\$528	\$555	\$1,083
4	Loyalist (Bath)	\$469	\$500	\$969
5	Smith-Ennismore-Lakefield	\$373	\$590	\$964
6	Trent Hills (Campbellford)	\$348	\$588	\$936
7	Kawartha Lakes	\$463	\$441	\$903
8	Peterborough	\$443	\$443	\$885
9	Cavan-Monaghan	\$301	\$536	\$837
10	Port Hope	\$388	\$439	\$827
11	North Grenville	\$413	\$413	\$827
12	Belleville	\$483	\$299	\$782
13	Loyalist	\$411	\$334	\$745
14	Greater Napanee	\$284	\$326	\$610
15	Quinte West	\$276	\$261	\$537
16	Brighton (proposed)	\$299	\$233	\$532
17	Cobourg (LUSI)	\$234	\$297	\$531
18	Clarington (Region of Durham)	\$268	\$256	\$524
18	Scugog (Region of Durham)	\$268	\$256	\$524
20	Brighton	\$291	\$222	\$514
21	Township of Hamilton - Creighton Heights (Water Only)	\$462	\$0	\$462
22	Township of Hamilton - Camborne (Water Only)	\$390	\$0	\$390

Next Steps

- Receive input from the public regarding proposed rate structure and calculated rates
- Municipal Council to:
 - Consider passage of 2011 water and wastewater rate bylaw
 - Approve Water Financial Plan for submission to the Province under O.Reg. 453/07