
MEMORANDUM

To: Town of Cobourg and Lakefront Utility Services Inc. Fax
From: Andrew Grunda Courier
Date: January 20, 2014 Mail
Re: Water and Wastewater Rate Study Update e-mail

The Town of Cobourg and Lakefront Utility Services Inc. (LUSI) retained the Watson & Associates Economists Ltd. (Watson) to undertake an update to the water and wastewater rate study prepared for the Town of Cobourg in 2008. Initial water rate updates were prepared in January and November 2013. Since that time the Town and LUSI, have undertaken an Asset Management Plan review under the Municipal Infrastructure Investment Initiative (MIII). Results of the asset management plan were provided for review by the Town and LUSI staff in December 2013. This letter report summarizes the rate updates prepared based on this asset management plan.

The process undertaken for the update study included:

- The review of water demand assumptions, whereby the historic customer and consumption records were reviewed to assist in the forecast for water and wastewater service demands over the 2013-2023 forecast period;
- Updating the capital needs forecast for water and wastewater services, which was undertaken by reviewing LUSI's 2013-2019 Capital Plan for water services, the Town's 2014-2020 Capital Plan for wastewater services and the lifecycle needs of the existing assets resulting from the MIII asset management plan;
- Developing a capital funding plan for the 2013-2023 capital needs forecast;
- Review and update of the net operating expenditures for the water system to reflect 2013 actual and 2014 budget estimates and forecast operating costs over the 2015-2023 forecast period, incorporating associated capital plan requirements;
- Providing recommend water and wastewater rate adjustments to address the needs of the long-term financial plan; and
- Providing an impact assessment of the recommended rates.

The following sections of this memo summarize the findings for each of the above reference process steps.

SERVICES

- | | | | |
|--|--|---|---|
| ▪ Demographics, Pupil Forecasting, Industrial/Commercial Forecasts | ▪ Development/Education Development Charge Policy | ▪ Financial Analysis of Municipal Restructuring Options | ▪ Fiscal Impact of Development |
| ▪ Land Needs and Market Studies | ▪ Long Range Financial Planning for Municipalities | ▪ Municipal Management Improvement | ▪ OMB Hearings – Financial, Market, Demographic |
| ▪ School Board Planning and Financing | ▪ Servicing Cost Sharing | ▪ Tax Policy Analysis | ▪ Waste Management Rate Setting, Valuation and Planning |

To undertake the capital needs review, the first step was to determine the capital needs for the forecast period. Based on the anticipated replacement timing and costs derived from the MIII Asset Management Plan, approximately \$27.7 million in capital needs for water services would need to be undertaken during the 2013-2023 forecast period. This assessment suggests that LUSI's forecast of \$2.1 million annually in capital spending is lower than the average 10-year lifecycle needs (i.e. \$2.8 million). Moreover, the annual lifecycle replacement column in the asset management plan indicates an equivalent long-term need of approximately \$5.2 million annually. This would suggest that the water rates need to be increased to generate capital funding capacity equivalent to roughly \$5.2 million (in 2014\$) to adequately sustain future lifecycle demands. As noted above, by comparison, the current rates are providing for approximately \$0.9 million in funding annually.

For wastewater services the MIII Asset Management Plan identifies approximately \$23.0 million in capital needs during the 2013-2023 forecast period. This would suggest that the Town's capital plan is consisted with long-term average spending levels. However the Town's plan anticipates capital expenditures greater than the average in the early part of the forecast period. The annual lifecycle replacement column in the asset management plan indicates an equivalent long-term need of approximately \$6.0 million annually. This would suggest that the wastewater rates need to be increased \$2.4 million currently to generate capital funding capacity equivalent to roughly \$6.0 million (in 2014\$).

For rate determination purposes, the capital needs forecasts have been adjusted for capital cost inflation of 3% annually, reflecting the historic Statscan Construction Price Statistics Index.

As provided in detail in Appendix A, if the water rates forecast in the 2008 Study were to remain unchanged (i.e. constant monthly base charge rates and roughly 9% annual consumptive rate increases), the reserve fund would reach a deficit of approximately \$4.0 million by a2019, subsequently decreasing to a deficit of \$3.0 million by 2023. The projected 2019 reserve fund deficit is due principally to the \$5.0 million clarifier replacement project in that year. As this trend does not reflect sustainable funding for water services two water rate scenarios were considered. The first scenario utilizes debt to phase in rate increases over the forecast period (i.e. \$2.5 million in 2019 for the clarifier project). Reflecting the competing demands for municipal debt capacity and other municipal service priorities, the second scenario increases rates more dramatically in the early part of the forecast period to increase contributions to capital reserves to provided sustainable capital financing over the period. The results of these scenarios are provided in detail below.

As provided in detail in Appendix B, if the wastewater rates forecast in the 2008 Study were to remain unchanged (i.e. constant monthly base charge rates and roughly 14% annual consumptive rate increases to 2018), the reserve fund would reach positive balance of \$12.0 by 2023. As this trend does provide for sustainable funding over the forecast period, a more gradual rate phase-in has been developed.

Net Operating Expenditure Forecast

LUSI and the Town provided the 2014 Operating Budget which formed the basis for the net operating expenditure forecast. The 2014 operating expenditure estimates were inflated at 2.0% annually, reflecting historic CPI rates over the prior 10 year period. Moreover, wastewater non-rate revenues are forecast to increase more significantly than projected in the 2008 Study based on additional septage receiving revenues from the County.

Annual operating expenditures for water services are expected to increase from 2013 levels of \$2.1 million to \$2.7 million by 2023. In addition, with increases in transfers to capital reserves and debt financing under Scenario 1 annual capital-related spending would increase from \$1.8 million in 2013 to \$4.7 million by 2023. By comparison, forecast transfers to capital reserves under Scenario 2 would increase to \$5.1 million by 2023.

Table 1
Lakefront Utility Services Inc.
2013-2023 Water Rate Forecast – Scenario 1 (Debt)

Description	Current	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Monthly Base Charge											
3/4", 5/8"	\$ 10.45	\$ 10.87	\$ 11.30	\$ 11.75	\$ 12.23	\$ 12.71	\$ 13.22	\$ 13.75	\$ 14.30	\$ 14.87	\$ 15.47
1"	\$ 40.06	\$ 41.66	\$ 43.33	\$ 45.06	\$ 46.86	\$ 48.74	\$ 50.69	\$ 52.72	\$ 54.82	\$ 57.02	\$ 59.30
1 1/2"	\$ 57.47	\$ 59.77	\$ 62.16	\$ 64.65	\$ 67.23	\$ 69.92	\$ 72.72	\$ 75.63	\$ 78.65	\$ 81.80	\$ 85.07
2"	\$ 74.89	\$ 77.89	\$ 81.00	\$ 84.24	\$ 87.61	\$ 91.12	\$ 94.76	\$ 98.55	\$ 102.49	\$ 106.59	\$ 110.86
3"	\$ 115.69	\$ 120.32	\$ 125.13	\$ 130.14	\$ 135.34	\$ 140.75	\$ 146.38	\$ 152.24	\$ 158.33	\$ 164.66	\$ 171.25
4"	\$ 161.35	\$ 167.80	\$ 174.52	\$ 181.50	\$ 188.76	\$ 196.31	\$ 204.16	\$ 212.33	\$ 220.82	\$ 229.65	\$ 238.84
6"	\$ 251.95	\$ 262.03	\$ 272.51	\$ 283.41	\$ 294.75	\$ 306.54	\$ 318.80	\$ 331.55	\$ 344.81	\$ 358.60	\$ 372.95
8"	\$ 343.19	\$ 356.92	\$ 371.19	\$ 386.04	\$ 401.48	\$ 417.54	\$ 434.24	\$ 451.61	\$ 469.68	\$ 488.47	\$ 508.01
Consumptive Rate (\$/m³)											
Block 1 Rate	\$ 0.75	\$ 0.81	\$ 0.88	\$ 0.97	\$ 1.05	\$ 1.15	\$ 1.25	\$ 1.36	\$ 1.49	\$ 1.62	\$ 1.77
Block 2 Rate	\$ 0.93	\$ 1.00	\$ 1.10	\$ 1.20	\$ 1.31	\$ 1.42	\$ 1.55	\$ 1.69	\$ 1.84	\$ 2.01	\$ 2.19
Block 3 Consumption	\$ 1.17	\$ 1.26	\$ 1.38	\$ 1.51	\$ 1.64	\$ 1.79	\$ 1.95	\$ 2.13	\$ 2.32	\$ 2.53	\$ 2.76

Table 2
Lakefront Utility Services Inc.
2013-2023 Water Rate Forecast – Scenario 2 (No Debt)

Description	Current	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Monthly Base Charge											
3/4", 5/8"	\$ 10.45	\$ 11.29	\$ 12.19	\$ 13.16	\$ 14.22	\$ 15.35	\$ 16.58	\$ 17.91	\$ 19.34	\$ 20.89	\$ 22.56
1"	\$ 40.06	\$ 43.26	\$ 46.73	\$ 50.46	\$ 54.50	\$ 58.86	\$ 63.57	\$ 68.66	\$ 74.15	\$ 80.08	\$ 86.49
1 1/2"	\$ 57.47	\$ 62.07	\$ 67.03	\$ 72.40	\$ 78.19	\$ 84.44	\$ 91.20	\$ 98.49	\$ 106.37	\$ 114.88	\$ 124.07
2"	\$ 74.89	\$ 80.88	\$ 87.35	\$ 94.34	\$ 101.89	\$ 110.04	\$ 118.84	\$ 128.35	\$ 138.62	\$ 149.71	\$ 161.68
3"	\$ 115.69	\$ 124.95	\$ 134.94	\$ 145.74	\$ 157.39	\$ 169.99	\$ 183.59	\$ 198.27	\$ 214.13	\$ 231.26	\$ 249.77
4"	\$ 161.35	\$ 174.26	\$ 188.20	\$ 203.25	\$ 219.51	\$ 237.08	\$ 256.04	\$ 276.53	\$ 298.65	\$ 322.54	\$ 348.34
6"	\$ 251.95	\$ 272.11	\$ 293.87	\$ 317.38	\$ 342.78	\$ 370.20	\$ 399.81	\$ 431.80	\$ 466.34	\$ 503.65	\$ 543.94
8"	\$ 343.19	\$ 370.65	\$ 400.30	\$ 432.32	\$ 466.91	\$ 504.26	\$ 544.60	\$ 588.17	\$ 635.22	\$ 686.04	\$ 740.92
Consumptive Rate (\$/m³)											
Block 1 Rate	\$ 0.75	\$ 0.81	\$ 0.89	\$ 0.98	\$ 1.08	\$ 1.19	\$ 1.30	\$ 1.30	\$ 1.30	\$ 1.30	\$ 1.30
Block 2 Rate	\$ 0.93	\$ 1.00	\$ 1.10	\$ 1.21	\$ 1.34	\$ 1.47	\$ 1.62	\$ 1.62	\$ 1.62	\$ 1.62	\$ 1.62
Block 3 Consumption	\$ 1.17	\$ 1.26	\$ 1.39	\$ 1.53	\$ 1.68	\$ 1.85	\$ 2.03	\$ 2.03	\$ 2.03	\$ 2.03	\$ 2.03

**Table 4
Town of Cobourg and Lakefront Utility Services Inc.
2013-2023 Annual Water and Wastewater Bill Impact – Scenario 1 (Debt)**

Description	Current	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
WATER SERVICES											
Annual Base Rate Bill	\$ 125.40	\$ 130.42	\$ 135.63	\$ 141.06	\$ 146.70	\$ 152.57	\$ 158.67	\$ 165.02	\$ 171.62	\$ 178.48	\$ 185.62
Block 1 Consumption	160	160	160	160	160	160	160	160	160	160	160
Block 2 Consumption											
Block 3 Consumption											
Consumption	161	161	161	161	161	161	161	161	161	161	161
Annual Consumption Bill	\$ 120.00	\$ 128.94	\$ 141.37	\$ 154.61	\$ 168.61	\$ 183.78	\$ 200.32	\$ 218.35	\$ 238.00	\$ 259.42	\$ 282.77
Total Annual Bill	\$ 245.40	\$ 259.36	\$ 277.01	\$ 295.67	\$ 315.31	\$ 336.35	\$ 358.99	\$ 383.37	\$ 409.62	\$ 437.91	\$ 468.39
%Increase - Base Rate		4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
%Increase - Consumption Rate		7.4%	9.6%	9.4%	9.1%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
%Increase - Total Annual Bill		5.7%	6.8%	6.7%	6.6%	6.7%	6.7%	6.8%	6.8%	6.9%	7.0%
WASTEWATER SERVICES											
Annual Base Rate Bill - WW	\$ 136.92	\$ 142.40	\$ 148.09	\$ 154.02	\$ 160.18	\$ 166.58	\$ 173.25	\$ 180.18	\$ 187.38	\$ 194.88	\$ 202.68
Block 1 Consumption	161	161	161	161	161	161	161	161	161	161	161
Block 2 Consumption											
Block 3 Consumption											
Consumption	161	161	161	161	161	161	161	161	161	161	161
Annual Consumption Bill - WW	\$ 183.54	\$ 191.65	\$ 200.12	\$ 208.96	\$ 218.19	\$ 227.83	\$ 237.90	\$ 248.41	\$ 259.38	\$ 270.84	\$ 282.81
Total Annual Bill - WW	\$ 320.46	\$ 334.05	\$ 348.21	\$ 362.97	\$ 378.37	\$ 394.41	\$ 411.14	\$ 428.58	\$ 446.77	\$ 465.72	\$ 485.48
%Increase - Base Rate		4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
%Increase - Consumption Rate		4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%
%Increase - Total Annual Bill		4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
Annual Water Bill	\$ 245.40	\$ 259.36	\$ 277.01	\$ 295.67	\$ 315.31	\$ 336.35	\$ 358.99	\$ 383.37	\$ 409.62	\$ 437.91	\$ 468.39
Annual Wastewater Bill	\$ 320.46	\$ 334.05	\$ 348.21	\$ 362.97	\$ 378.37	\$ 394.41	\$ 411.14	\$ 428.58	\$ 446.77	\$ 465.72	\$ 485.48
Total Annual Bill	\$ 565.86	\$ 593.40	\$ 625.22	\$ 658.64	\$ 693.68	\$ 730.77	\$ 770.14	\$ 811.95	\$ 856.39	\$ 903.63	\$ 953.88
Annual Bill Increase - \$		27.54	31.82	33.42	35.03	37.09	39.37	41.82	44.43	47.24	50.25
Annual Bill Increase - %		4.9%	5.4%	5.3%	5.3%	5.3%	5.4%	5.4%	5.5%	5.5%	5.6%

**APPENDIX A
CURRENT WATER RATE FORECAST**

Table 2
Town of Cobourg
Water Service
Schedule of Non-Growth Related Debenture Repayments
Inflated \$

Debtenture Year	Principal (Inflated)	Forecast												
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
2013	200,000		16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049
2014	-		-	-	-	-	-	-	-	-	-	-	-	-
2015	-		-	-	-	-	-	-	-	-	-	-	-	-
2016	-		-	-	-	-	-	-	-	-	-	-	-	-
2017	-		-	-	-	-	-	-	-	-	-	-	-	-
2018	-		-	-	-	-	-	-	-	-	-	-	-	-
2019	-		-	-	-	-	-	-	-	-	-	-	-	-
2020	-		-	-	-	-	-	-	-	-	-	-	-	-
2021	253,354												20,330	20,330
2022	-													
2023	-													
Total Annual Debt Charges	453,354		16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	36,378

Table 3
Town of Cobourg
Water Service
Schedule of Growth Related Debenture Repayments
Inflated \$

Debtenture Year	Principal (Inflated)	Forecast												
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
2013	-		-	-	-	-	-	-	-	-	-	-	-	-
2014	-		-	-	-	-	-	-	-	-	-	-	-	-
2015	-		-	-	-	-	-	-	-	-	-	-	-	-
2016	-		-	-	-	-	-	-	-	-	-	-	-	-
2017	-		-	-	-	-	-	-	-	-	-	-	-	-
2018	-		-	-	-	-	-	-	-	-	-	-	-	-
2019	-		-	-	-	-	-	-	-	-	-	-	-	-
2020	-		-	-	-	-	-	-	-	-	-	-	-	-
2021	-		-	-	-	-	-	-	-	-	-	-	-	-
2022	-		-	-	-	-	-	-	-	-	-	-	-	-
2023	-		-	-	-	-	-	-	-	-	-	-	-	-
Total Annual Debt Charges	-		-	-	-	-	-	-	-	-	-	-	-	-

Table 4
Town of Cobourg
Water Service
Water Reserves/ Reserve Funds Continuity
Inflated \$

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Opening Balance	3,717,257	3,572,889	3,981,418	1,884,061	2,473,326	3,025,890	2,286,145	1,869,419	(4,002,312)	(3,928,303)	(3,977,847)	(3,406,847)
Transfer from Operating	1,017,616	1,787,129	1,654,819	1,633,637	1,667,236	1,863,541	2,239,996	2,471,934	2,723,050	3,013,908	3,308,991	3,658,050
Transfer to Capital	1,208,728	1,418,000	3,770,830	1,068,860	1,144,632	2,625,920	2,675,231	8,304,038	2,617,138	2,726,038	3,004,280	3,221,861
Closing Balance	3,526,145	3,841,998	1,865,407	2,448,838	2,995,930	2,263,510	1,850,910	(3,982,885)	(3,890,399)	(3,841,433)	(3,373,116)	(2,970,458)
Interest	48,724	39,420	18,654	24,488	29,959	22,835	18,509	(39,627)	(38,904)	(38,414)	(38,731)	(29,705)

Table 5
Town of Cobourg
Water Service
Water Development Charges Reserve Fund Continuity
Inflated \$

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Opening Balance	(212,430)	(119,018)	(35,757)	50,878	141,022	234,778	332,271	433,560	538,774	648,053	781,509	814,652
Development Charge Proceeds	93,412	83,615	88,132	88,747	91,430	94,205	86,986	99,880	102,863	105,918	45,077	46,444
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	(119,018)	(35,403)	50,375	139,625	232,452	328,981	429,257	533,439	641,637	753,969	806,587	861,096
Interest	-	(354)	504	1,398	2,325	3,290	4,293	5,334	6,416	7,540	8,066	8,611

Table 7
Town of Cobourg
Water Services
Water Rate Forecast
Initiated \$

Description	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Water Billing Recovery	1,861,080	2,020,510	2,066,347	2,143,742	2,381,048	2,599,433	2,861,602	3,149,908	3,466,927	3,815,496	4,198,727
Total Consumption (m ³)	2,256,135	2,279,841	2,152,944	2,071,019	2,093,559	2,116,099	2,138,639	2,161,179	2,183,719	2,208,259	2,228,799
Constant Rate	0.82	0.89	0.96	1.03	1.13	1.23	1.34	1.46	1.59	1.73	1.88
Annual Percentage Change		7.0%	8.0%	8.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Increasing Block Structure											
Consumption Forecast By Block (m ³)											
Block 1	1,359,630	1,383,336	1,405,740	1,428,184	1,450,724	1,473,264	1,495,804	1,518,344	1,540,884	1,563,424	1,585,964
Block 2	856,925	856,925	727,515	636,927	636,927	636,927	636,927	636,927	636,927	636,927	636,927
Block 3	39,380	39,380	19,690	-	-	-	-	-	-	-	-
Check Total Consumption	2,256,135	2,279,841	2,152,944	2,110,192	2,087,652	2,110,192	2,132,732	2,155,272	2,177,812	2,200,352	2,222,892
Increasing Block Rates (\$/m ³)											
Block 1	\$ 0.75	\$ 0.81	\$ 0.88	\$ 0.97	\$ 1.05	\$ 1.15	\$ 1.25	\$ 1.36	\$ 1.49	\$ 1.62	\$ 1.77
Block 2	\$ 0.93	\$ 1.00	\$ 1.10	\$ 1.20	\$ 1.31	\$ 1.42	\$ 1.55	\$ 1.69	\$ 1.84	\$ 2.01	\$ 2.19
Block 3	\$ 1.17	\$ 1.17	\$ 1.26	\$ 1.51	\$ 1.64	\$ 1.79	\$ 1.95	\$ 2.13	\$ 2.32	\$ 2.53	\$ 2.76

Table 3
Town of Cobourg
Wastewater Service
Schedule of Growth Related Debt Repayments
Inflated \$

Debt Year	Forecast										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Principal (Inflated)	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-	-	-	-
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-

Table 4
Town of Cobourg
Wastewater Service
Wastewater Reserves/ Reserve Funds Continuity
Inflated \$

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Opening Balance		2,700,913	3,229,607	2,824,519	1,488,509	2,045,734	3,568,806	4,892,715	6,756,589	8,391,197	9,707,372	10,982,378
Transfer from Operating		1,883,218	2,187,677	2,149,299	2,311,208	2,747,134	3,289,607	3,275,838	3,280,655	3,284,837	3,287,764	3,289,514
Transfer to Capital		827,500	1,887,551	2,891,904	1,299,800	792,922	1,523,866	1,151,863	1,555,173	1,890,640	1,947,359	2,005,781
Transfer to Operating		559,000	733,179	548,143	470,475	470,475	470,475	327,218	174,135	174,135	174,135	174,135
Closing Balance		3,197,631	2,786,554	1,473,771	2,029,439	3,533,472	4,844,273	6,089,672	8,306,116	9,811,259	10,873,642	12,092,077
Interest		31,976	27,986	14,738	20,294	35,335	48,443	66,897	83,081	96,113	108,736	120,921

Table 5
Town of Cobourg
Wastewater Service
Wastewater Development Charges Reserve Fund Continuity
Inflated \$

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Opening Balance		2,204,897	2,469,893	2,762,238	3,082,859	3,371,947	3,689,694	4,016,300	4,351,966	4,698,998	4,880,094	5,087,846
Development Charge Proceeds		259,600	284,998	270,298	275,702	281,216	288,840	292,577	296,429	134,878	137,578	140,327
Transfer to Capital		-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating		-	-	-	-	-	-	-	-	-	-	-
Closing Balance		2,464,497	2,734,889	3,032,534	3,338,561	3,653,163	3,976,534	4,308,877	4,650,394	4,831,776	5,017,670	5,208,173
Interest		5,196	27,349	30,325	33,386	36,532	39,785	43,089	46,504	48,518	50,177	52,082
Required from Development Charges		-	-	-	-	-	-	-	-	-	-	-

APPENDIX C
SCENARIO 1 – WATER RATE FORECAST WITH DEBT

Table 9
Town of Cobourg
Water Service
Schedule of Non-Growth Related Debenture Repayments
Inflated \$

Debenture Year	Principal (Inflated)	Forecast												
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
2013	200,000	-	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049
2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	2,500,000	-	-	-	-	-	-	-	-	-	200,606	200,606	200,606	200,606
2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Annual Debt Charges	2,700,000	-	16,049	216,655	216,655	216,655								

Table 10
Town of Cobourg
Water Service
Schedule of Growth Related Debenture Repayments
Inflated \$

Debenture Year	Principal (Inflated)	Forecast												
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 11
Town of Cobourg
Water Service
Water Reserves/ Reserve Funds Continuity
Inflated \$

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Opening Balance	3,717,257	3,572,869	3,963,243	1,965,726	2,720,091	3,526,721	3,142,000	3,181,539	400,906	979,400	1,802,685	2,649,194
Transfer from Operating	1,017,616	1,788,938	1,733,850	1,796,293	1,918,325	2,208,030	2,663,269	3,019,436	3,185,935	3,566,808	4,024,540	4,502,512
Transfer to Capital	1,208,728	1,418,000	3,770,830	1,066,860	1,144,832	2,925,920	2,975,231	5,804,038	2,617,138	2,979,392	3,004,260	3,221,661
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	3,526,145	3,943,805	1,946,263	2,693,159	3,493,763	3,110,661	3,150,038	396,937	969,703	1,566,617	2,622,665	3,930,045
Interest	46,724	39,438	19,463	26,932	34,938	31,109	31,500	3,969	9,697	15,668	29,230	39,300

Table 12
Town of Cobourg
Water Service
Water Development Charges Reserve Fund Continuity
Inflated \$

Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Opening Balance	(212,430)	(119,018)	(35,757)	50,878	141,022	234,776	332,271	435,580	598,774	646,053	761,509	814,652
Development Charge Proceeds	93,412	83,615	86,132	86,747	91,430	94,205	96,996	99,860	102,663	105,916	45,077	46,444
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	(119,018)	(35,403)	50,375	139,625	232,452	328,981	429,267	533,439	641,637	753,969	806,567	861,066
Interest	-	(354)	504	1,398	2,325	3,290	4,293	5,334	6,416	7,540	8,066	8,611

Table 14
Town of Cobourg
Water Services
Water Rate Forecast
Inflated \$

Description	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Water Billing Recovery	1,862,887	2,020,610	2,066,347	2,143,242	2,361,048	2,599,433	2,861,602	3,149,908	3,466,927	3,815,498	4,198,727
Total Consumption (m ³)	2,256,135	2,279,641	2,152,944	2,071,019	2,093,559	2,116,099	2,138,639	2,161,179	2,183,719	2,206,259	2,228,799
Constant Rate	0.83	0.89	0.96	1.03	1.13	1.23	1.34	1.46	1.59	1.73	1.88
Annual Percentage Change		7.3%	8.3%	7.8%	9.0%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%
<i>Increasing Block Structure</i>											
<i>Consumption Forecast By Block (m3)</i>											
Block 1	1,359,630	1,383,339	1,405,740	1,428,184	1,450,724	1,473,264	1,495,804	1,518,344	1,540,884	1,563,424	1,585,964
Block 2	856,925	856,925	727,515	636,927	636,927	636,927	636,927	636,927	636,927	636,927	636,927
Block 3	39,380	39,380	19,690	-	-	-	-	-	-	-	-
Check Total Consumption	2,256,135	2,279,641	2,152,944	2,065,112	2,087,652	2,110,192	2,132,732	2,155,272	2,177,812	2,200,352	2,222,892
<i>Increasing Block Rates (\$/m³)</i>											
Block 1	\$ 0.75	\$ 0.81	\$ 0.88	\$ 0.97	\$ 1.05	\$ 1.15	\$ 1.25	\$ 1.36	\$ 1.49	\$ 1.62	\$ 1.77
Block 2	\$ 0.93	\$ 1.00	\$ 1.10	\$ 1.20	\$ 1.31	\$ 1.42	\$ 1.55	\$ 1.69	\$ 1.84	\$ 2.01	\$ 2.19
Block 3	\$ 1.17	\$ 1.17	\$ 1.38	\$ 1.51	\$ 1.64	\$ 1.79	\$ 1.95	\$ 2.13	\$ 2.32	\$ 2.53	\$ 2.76

Table 20
Town of Cobourg
Water Services
Operating Budget Forecast
Inflated \$

Description	Forecast											
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Expenditures												
Wages	1,067,317	1,134,741	1,221,219	1,293,445	1,286,983	1,287,109	1,292,451	1,318,300	1,344,866	1,371,560	1,398,991	
Wages Car allowance	4,200	4,200	4,200	4,200	4,200	4,200	4,284	4,370	4,457	4,546	4,637	
Wages Board of Directors	2,300	2,320	2,320	2,320	2,320	2,320	2,368	2,414	2,462	2,511	2,561	
Management fees	41,000	98,198	103,419	106,044	108,068	102,477	104,527	108,617	108,749	110,924	113,143	
Training	18,000	24,650	25,134	25,629	26,135	26,653	27,186	27,730	28,284	28,850	29,427	
Training Board of Directors	1,200	3,750	3,750	3,750	3,750	3,750	3,825	3,902	3,980	4,059	4,140	
Billing and collecting	280,000	289,021	275,410	281,992	287,375	284,023	289,703	295,488	301,407	307,436	313,584	
Dues and memberships	2,065	3,263	3,389	3,517	3,649	3,783	3,959	3,958	4,015	4,095	4,177	
Water operations and maintenance	210,580	230,000	233,000	236,045	239,138	242,273	247,118	252,061	257,102	262,244	267,489	
Rent	48,000	48,000	48,000	48,000	48,000	48,000	48,960	49,939	50,938	51,957	52,996	
Chemicals purchased	39,000	42,000	42,830	43,269	43,918	44,577	45,469	46,378	47,305	48,252	49,217	
Water tower maintenance	20,047	24,000	24,360	24,725	25,096	25,473	25,982	26,502	27,032	27,573	28,124	
Hydrant maintenance	11,693	112,000	113,680	115,385	117,118	118,873	119,655	119,655	20,028	20,429	20,837	
Mains/service maintenance	48,111	42,000	42,630	43,269	43,918	44,577	45,469	46,378	47,305	48,252	49,217	
Vehicle gas	7,287	8,000	8,120	8,242	8,365	8,491	8,681	8,834	9,011	9,191	9,375	
Building maintenance	25,345	21,800	22,127	22,459	22,796	23,138	23,601	24,073	24,554	25,045	25,546	
Professional fees	23,692	22,500	22,838	23,180	23,526	23,881	24,359	24,848	25,343	25,850	26,367	
Property taxes	27,511	18,000	17,400	17,875	18,250	18,625	14,918	15,216	15,520	15,831	16,147	
Insurance	82,907	68,400	70,452	72,568	74,743	76,965	78,525	80,095	81,697	83,331	84,998	
Booster station maintenance	92,995	95,633	95,633	95,633	95,633	95,633	97,546	99,487	101,487	103,516	105,587	
IT maintenance	40,095	40,000	41,209	41,209	41,827	42,455	43,304	44,170	45,054	45,955	46,874	
Health and safety	37,132	75,651	71,190	71,331	71,474	71,619	73,051	74,512	76,003	77,523	79,073	
EOWWA conference	5,000	7,000	7,210	7,428	7,649	7,879	8,037	8,197	8,361	8,528	8,699	
Payband Adjustments	-	7,500	-	-	-	-	-	-	-	-	-	
Sub-Total Operating	2,117,477	2,413,525	2,499,320	2,561,511	2,601,929	2,482,794	2,532,450	2,583,099	2,634,761	2,687,458	2,741,205	
Capital-Related												
Existing Debt (Principal) - Growth Related												
Existing Debt (Interest) - Growth Related												
New Growth Related Debt (Principal)												
New Growth Related Debt (Interest)												
Existing Debt (Principal) - Non-Growth Related												
Existing Debt (Interest) - Non-Growth Related												
New Non-Growth Related Debt (Principal)												
New Non-Growth Related Debt (Interest)												
Transfer to Capital		6,049	6,351	6,668	7,002	7,352	7,720	8,106	8,511	8,938	9,375	
Transfer to Capital Reserve		10,000	9,698	9,380	9,047	8,697	8,329	7,943	7,538	7,160	6,800	
Transfer to Capital Reserve	1,788,938	1,821,901	1,981,288	2,218,663	2,647,868	3,282,860	3,801,021	4,073,719	4,371,214	4,675,410	5,029,398	
Sub-Total Capital Related	1,788,938	1,837,950	1,997,337	2,234,711	2,665,716	3,298,909	3,817,070	4,089,768	4,387,262	4,711,788	5,065,778	
Total Expenditures	3,906,415	4,251,475	4,496,657	4,796,222	5,265,645	5,781,703	6,349,520	6,672,868	7,022,023	7,399,244	7,806,981	
Revenues												
Base Charge	1,957,474	2,133,845	2,325,030	2,533,147	2,759,684	3,006,254	3,274,614	3,566,671	3,884,499	4,230,354	4,608,684	
Other Revenues	86,052	89,000	89,320	90,860	92,020	93,400	95,268	97,173	99,117	101,099	103,121	
Contributions from Development Charges Reserve Fund												
Contributions from Reserves / Reserve Funds												
Total Operating Revenue	2,043,526	2,222,845	2,414,350	2,623,907	2,851,704	3,099,654	3,369,882	3,663,844	3,983,616	4,331,453	4,709,805	
Water Billing Recovery - Operating	1,862,887	2,029,630	2,082,307	2,172,415	2,413,941	2,682,049	2,979,638	3,009,022	3,038,407	3,067,791	3,097,176	
Lifecycle Reserve Contribution (\$)												
Water Billing Recovery - Total	1,862,887	2,029,630	2,082,307	2,172,415	2,413,941	2,682,049	2,979,638	3,009,022	3,038,407	3,067,791	3,097,176	

**APPENDIX E
WASTEWATER RATE FORECAST**

Table 9
 Town of Cobourg
 Wastewater Service
 Schedule of Non-Growth Related Debt Repayments
 Initiated \$

Debt Year	Principal (Inflated)	Forecast											
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
2014	4,535,444			363,936	363,936	363,936	363,936	363,936	363,936	363,936	363,936	363,936	363,936
2015	2,845,384			228,321	228,321	228,321	228,321	228,321	228,321	228,321	228,321	228,321	228,321
2016	-			-	-	-	-	-	-	-	-	-	-
2017	-			-	-	-	-	-	-	-	-	-	-
2018	-			-	-	-	-	-	-	-	-	-	-
2019	-			-	-	-	-	-	-	-	-	-	-
2020	-			-	-	-	-	-	-	-	-	-	-
2021	-			-	-	-	-	-	-	-	-	-	-
2022	-			-	-	-	-	-	-	-	-	-	-
2023	-			-	-	-	-	-	-	-	-	-	-
Total Annual Debt Charges	7,380,828			363,936	592,257								

Table 13
Town of Cobourg
Wastewater Services
Operating Budget Forecast
Inflated \$

Description	Forecast											
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Expenditures												
University Avenue Plant	1,463,366	1,492,654	1,522,507	1,552,957	1,584,016	1,615,696	1,648,010	1,680,971	1,714,590	1,748,892	1,783,659	
Norman Road Plant	1,193,556	1,217,427	1,241,776	1,266,611	1,291,943	1,317,782	1,344,138	1,371,021	1,398,441	1,426,410	1,454,938	
Pumphouses	64,313	65,599	66,911	68,249	69,614	71,007	72,427	73,875	75,353	76,860	78,397	
Sanitary Sewers	409,426	417,615	425,967	434,466	443,176	452,039	461,060	470,302	479,708	489,302	499,088	
Sub Total Operating	3,130,661	3,193,295	3,257,161	3,322,304	3,388,750	3,456,525	3,525,655	3,596,168	3,668,092	3,741,454	3,816,283	
Capital-Related												
Existing Debt (Principal) - Growth Related												
Existing Debt (Interest) - Growth Related												
New Growth Related Debt (Principal)												
New Growth Related Debt (Interest)												
New Non-Growth Related Debt (Principal)	559,000	733,179	548,143	470,475	470,475	470,475	327,218	174,135	174,135	174,135	174,135	
New Non-Growth Related Debt (Interest)	-	-	137,164	230,074	241,577	253,656	266,339	279,656	293,639	308,321	323,737	
New Non-Growth Related Debt (Interest)	-	-	226,172	362,183	350,680	338,601	325,918	312,801	298,618	283,936	268,520	
Transfer to Capital												
Transfer to Capital Reserve	1,883,218	2,056,085	1,873,313	1,896,645	2,039,326	2,253,604	2,480,072	2,719,356	2,972,110	3,239,021	3,520,809	
Sub Total Capital Related	2,442,218	2,789,264	2,785,392	2,899,376	3,102,058	3,316,335	3,399,547	3,485,748	3,738,502	4,005,413	4,287,201	
Total Expenditures	5,572,899	5,982,559	6,042,553	6,221,680	6,490,808	6,772,860	6,925,203	7,081,916	7,406,593	7,746,866	8,103,484	
Revenues												
Base Charge	1,999,553	2,100,304	2,205,049	2,314,814	2,429,831	2,550,346	2,676,614	2,808,904	2,947,494	3,092,677	3,244,758	
Other Revenues	834,000	850,680	867,694	885,047	902,748	920,803	939,219	958,004	977,164	996,707	1,016,641	
Contributions from Development Charges Reserve Fund												
Contributions from Reserves / Reserve Funds	559,000	733,179	548,143	470,475	470,475	470,475	327,218	174,135	174,135	174,135	174,135	
Total Operating Revenue	3,392,553	3,684,163	3,620,886	3,670,336	3,803,054	3,941,624	3,943,052	3,941,043	4,098,793	4,263,519	4,435,535	
Wastewater Billing Recovery - Operating	2,180,366	2,298,395	2,421,667	2,551,344	2,687,753	2,831,236	2,982,150	3,140,874	3,307,801	3,483,347	3,667,949	
Lifecycle Reserve Contribution (\$)												
Wastewater Billing Recovery - Total	2,180,366	2,298,395	2,421,667	2,551,344	2,687,753	2,831,236	2,982,150	3,140,874	3,307,801	3,483,347	3,667,949	

Table 14
Town of Cobourg
Wastewater Services
Wastewater Rate Forecast
Inflated \$

Description	Forecast										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Wastewater Billing Recovery	2,180,366	2,298,395	2,421,667	2,551,344	2,687,753	2,831,236	2,982,150	3,140,874	3,307,801	3,483,347	3,667,949
Total Consumption (m ³)	1,749,402	1,767,628	1,785,106	1,802,583	1,820,061	1,837,538	1,855,016	1,872,493	1,889,971	1,907,448	1,924,925
Constant Rate	1.25	1.30	1.36	1.42	1.48	1.54	1.61	1.68	1.75	1.83	1.91
Annual Percentage Change		4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Increasing Block Structure											
Consumption Forecast By Block (m ³)											
Block 1	1,084,944	1,103,171	1,120,648	1,138,126	1,155,603	1,173,080	1,190,558	1,208,035	1,225,513	1,242,990	1,260,468
Block 2	664,458	664,458	664,458	664,458	664,458	664,458	664,458	664,458	664,458	664,458	664,458
Check Total Consumption	1,749,402	1,767,628	1,785,106	1,802,583	1,820,061	1,837,538	1,855,016	1,872,493	1,889,971	1,907,448	1,924,925
Increasing Block Rates (\$/m ³)											
Block 1	\$ 1.14	\$ 1.19	\$ 1.24	\$ 1.30	\$ 1.36	\$ 1.42	\$ 1.48	\$ 1.54	\$ 1.61	\$ 1.68	\$ 1.76
Block 2	\$ 1.42	\$ 1.48	\$ 1.55	\$ 1.62	\$ 1.69	\$ 1.76	\$ 1.84	\$ 1.92	\$ 2.01	\$ 2.10	\$ 2.19