Town of Burlington

Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of December 31, 2016 in Accordance with GASB Statements No. 45 and 74

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September 29, 2017

Mr. Brian P. Curtin
Treasurer/Collector
21 Center Street
Town Hall
Burlington, MA 01803

Dear Mr. Curtin:

We are pleased to submit this report on our actuarial valuation of postemployment welfare benefits as of December 31, 2016 under Governmental Accounting Standards Board (GASB) Statements Number 45 and 74. It establishes the liabilities and disclosure information of the postemployment welfare benefit plan in accordance with GASB Statements Number 45 and 74 for the fiscal year beginning July 1, 2016 and summarizes the actuarial data.

This report is based on information received from the Town of Burlington. The actuarial projections were based on the assumptions and methods described in Exhibit II and on the plan of benefits as summarized in Exhibit III.

We look forward to discussing this with you at your convenience.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By: ______________________________ ______________________________

Kathleen A. Riley, FSA, MAAA, EA — *Senior Vice President and Actuary*

Daniel J. Rhodes, FSA, MAAA — *Vice President and Consulting Actuary*

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IMPORTANT INFORMATION ABOUT ACTUARIAL VALUATIONS

An actuarial valuation is an estimate of future uncertain obligations of a postretirement health plan. As such, it will never forecast the precise future stream of benefit payments. It is an estimated forecast – the actual cost of the plan will be determined by the benefits and expenses paid, not by the actuarial valuation.

In order to prepare a valuation, Segal Consulting ("Segal") relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. For example, a plan may provide health benefits to post-65 retirees that coordinate with Medicare. If so, changes in the Medicare law or administration may change the plan's costs without any change in the terms of the plan itself. It is important for the Town of Burlington to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the plan. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is not necessary to have perfect data for an actuarial valuation: the valuation is an estimated forecast, not a prediction. The uncertainties in other factors are such that even perfect data does not produce a "perfect" result. Notwithstanding the above, it is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** Part of the cost of a plan will be paid from existing assets – the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, provided by the Town of Burlington. Some plans include assets, such as private equity holdings, real estate, or hedge funds, that are not subject to valuation by reference to transactions in the marketplace. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. To determine the future costs of benefits, Segal collects claims, premiums, and enrollment data in order to establish a baseline cost for the valuation measurement, and then develops short- and long-term health care cost rates to project increases in costs in future years. This forecast also requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year, as well as forecasts of the plan's benefits for each of those events. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved the plan's assets, or if there are no assets, a rate of return on the assets of the employer. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which

assumptions the actuary selects within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model necessarily uses approximations and estimates that may lead to significant changes in our results but will have no impact on the actual cost of the plan. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Given the above, the user of Segal's actuarial valuation (or other actuarial calculations) needs to keep the following in mind:

- The actuarial valuation is prepared for use by the Town of Burlington. It includes information for compliance with accounting standards. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
- Sections of this report may include actuarial results that are not rounded, but that does not imply precision.
- Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience and health care cost trend, not just the current valuation results.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Town of Burlington should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the Town of Burlington upon delivery and review. The Town of Burlington should notify Segal immediately of any questions or concerns about the final content.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

PURPOSE

This report presents the results of our actuarial valuation of the Town of Burlington (the "Employer") postemployment welfare benefit plan as of December 31, 2016. The results are in accordance with the Governmental Accounting Standards, which prescribe an accrual methodology for accumulating the value of other postemployment benefits (OPEB) over participants' active working lifetimes. The accounting standard supplements cash accounting, under which the expense for postemployment benefits is equal to benefit and administrative costs paid on behalf of retirees and their dependents (*i.e.*, a pay-as-you-go basis).

HIGHLIGHTS OF THE VALUATION

During the fiscal year ending June 30, 2017, we project the Town of Burlington will pay benefits (net of retiree contributions) on behalf of retired employees of about $4,509,000. This amount is less than the annual "cost" (the "Annual Required Contribution," or ARC) of approximately $7,182,000.

Based on the asset allocation of the OPEB Trust assets, We recommend an expected rate of return on the OPEB Trust assets of 7.50%. Because current and future assets are projected to be sufficient to pay all benefits, we have used a discount rate of 7.50%. The discount rate used in the prior valuation was 7.75%.

We have changed the funding method to the Entry Age Normal funding method which will be required for the year-end GASB Statement Number 74 disclosures. The funding method used in the prior valuation was the Projected Unit Credit funding method.

To determine the amortization payment on the unfunded actuarial accrued liability (UAAL), an amortization period and amortization method must be selected. We have reset the amortization period to 29 years, with payments increasing 3.5% per year, which reflects the projected number of years to fully fund the obligations based on the current funding policy (funding contribution increases 9.3% per year).

We have included a funding schedule on page 8 of this report.

As of December 31, 2016, the Town of Burlington has $5,054,699 in assets which are in the State Retiree Benefits Trust Fund. The table below shows the increase in assets since the prior valuation.

Reconciliation of OPEB Trust Fund

	Total
Balance as of December 31, 2014	$2,024,351
Calendar year 2015 OPEB contributions	1,900,000
Net investment income	-19,978
Balance as of December 31, 2015	$3,904,373
Calendar year 2016 OPEB contributions	846,500
Net investment income	303,826
Balance as of December 31, 2016	$5,054,699

The employer contributions shown in Charts 1 and 3 on pages 12 and 14 reflect projected benefit payments and OPEB Trust contributions. The table below shows the breakdown of projected benefit payments and OPEB trust contributions for fiscal years 2015 through 2017. Please note that these charts will need to be revised if actual OPEB contributions differ from the amounts shown in the table below.

OPEB Contributions

Fiscal Year Ending	Projected Benefit Payments	OPEB Contributions	Total
2015	$3,846,803	$1,000,000	$4,846,803
2016	4,169,522	900,000	5,069,522
2017	4,508,617	846,500	5,355,117

Section 3 shows the disclosure information required by GASB Statement Number 45 and Section 4 shows the disclosure information required by GASB Statement Number 74.

This valuation does not include the potential impact of any future changes due to the Patient Protection and Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act (HCERA) of 2010 other than the excise tax on high cost health plans beginning in 2020 (reflected in this valuation) and those previously adopted as of the valuation date.

Employer decisions regarding plan design, cost sharing between the Employer and its retirees, actuarial cost method, amortization techniques, and integration with Medicare are just some of the decisions that affect the magnitude of OPEB obligations. We are available to assist you with any investigation of such options you may wish to undertake.

KEY VALUATION RESULTS

- The **unfunded actuarial accrued liability (UAAL)** as of December 31, 2016 is $91,724,000 based on an actuarial accrued liability of $96,779,000 and an actuarial value of assets of $5,055,000. Going forward, net unfunded plan obligations will be expected to change due to normal plan operations, which consist of continuing accruals for active members, plus interest on the total actuarial accrued liability, less expected benefit payments made by the Employer and contributions to the Trust. Future valuations will analyze the difference between actual and expected unfunded actuarial accrued liabilities.

  - As of December 31, 2016 the ratio of assets to the AAL (the funded ratio) is 5.22%.

    The funded percentage is not necessarily appropriate for assessing the sufficiency of OPEB assets to cover the estimated cost of settling the benefit obligations or the need for or the amount of future contributions.

- The **Annual Required Contribution (ARC)** for fiscal year 2017 is $7,182,000. The ARC is expected to remain relatively level as a percentage of payroll, as long as the ARC is fully funded each year. If the ARC is not fully funded, it may be expected to increase as a percentage of payroll over time.

The unfunded liability of $91,724,000 as of December 31, 2016 represents an increase of $18,220,000 from $73,504,000 as shown in the December 31, 2014 valuation.

The unfunded liability had been expected to increase $4,822,000 due to normal plan operations. The increase was the net effect of the following:

- An **actuarial experience loss** increased obligations by $1,316,000. This was the net result of gains and losses due to demographic changes and an investment loss, partially offset by the recognition of the fiscal 2017 contribution to the Trust.

- **Valuation assumption changes** increased obligations by $12,082,000. This was the net result of an *increase* in obligations due to 1) changing the actuarial cost method from projected unit credit to entry age normal, 2) updating the mortality assumption, 3) lowering the discount rate from 7.75% to 7.5% and 4) revising the trend on medical costs, partially offset by a *decrease* in obligations due to 5) revising the excise tax on high cost health plans beginning in 2020 and 6) adjusting the valuation year per capita health costs and contributions. The complete set of assumptions is shown in Exhibit II.

Actuarial computations under GASB statements are for purposes of fulfilling certain welfare plan accounting requirements. The calculations shown in this report have been made on a basis consistent with our understanding of GASB. Determinations for purposes other than meeting the financial accounting requirements of GASB may differ significantly from the results reported here.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of the valuation and on the pattern of sharing costs between the employer and plan members. The projection of benefits does not incorporate the potential effect of legal or contractual funding limitations on the pattern of cost sharing between the employer and plan members in the future.

Actuarial calculations reflect a long-term perspective, and the methods and assumptions use techniques designed to reduce short term volatility in accrued liabilities and the actuarial value of assets, if any.

The calculation of an accounting obligation does not, in and of itself, imply that there is any legal liability to provide the benefits valued, nor is there any implication that the Employer is required to implement a funding policy to satisfy the projected expense.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and the actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The key results for the current and prior years are shown on a funded basis.

SUMMARY OF VALUATION RESULTS
ALL DEPARTMENTS

	7.5% discount rate December 31, 2016	7.75% discount rate December 31, 2014
Actuarial Accrued Liability by Participant Category		
1. Current retirees, beneficiaries and dependents	$58,352,776	$47,611,651
2. Current active employees	38,426,041	27,916,699
3. Total as of December 31, 2016 and December 31, 2014: (1) + (2)	$96,778,817	$75,528,350
4. Actuarial value of assets as of December 31, 2016 and December 31, 2014	5,054,699	2,024,351
5. Unfunded actuarial accrued liability (UAAL) as of December 31, 2016 and December 31, 2014	$91,724,118	$73,503,999
Annual Required Contribution for Fiscal Year Ending June 30, 2017 and June 30, 2015		
6. Normal cost as of December 31, 2016 and December 31, 2014	$2,065,183	$1,778,621
7. 29- and 30-year amortization (3.50%) of the (UAAL) as of December 31, 2016 and December 31, 2014	5,116,812	3,908,707
8. Total Annual Required Contribution (ARC): (6) + (7)	$7,181,995	$5,687,328
9. Projected benefit payments	4,508,617	3,846,803

Note: Assumes payment in the middle of the fiscal year.

FUNDING SCHEDULE

29 Years Closed (7.5% discount rate)

Fiscal Year Ended June 30	(1) Payments Projected Benefit	(2) Normal Cost	(3) Amortization of UAAL	(4) Total Funding Requirement	(5) Funding Policy Contribution	(6) Additional Funding	As of December 31 after Fiscal Year End (7) Assets	(8) AAL	(9) UAAL
2017	$4,508,617	$2,065,183	$5,116,812	$7,181,995	$546,500	$300,000	$5,433,802	$101,410,537	$95,976,735
2018	4,869,350	2,140,671	5,459,373	7,600,044	597,325	0	6,483,461	106,082,997	99,599,536
2019	5,316,110	2,218,918	5,783,625	8,002,543	652,876	0	7,671,562	110,709,740	103,038,178
2020	5,794,009	2,300,025	6,115,806	8,415,831	713,593	0	9,014,042	115,256,938	106,242,896
2021	6,301,596	2,384,097	6,454,482	8,838,579	779,957	0	10,528,549	119,689,897	109,161,348
2022	6,805,164	2,471,242	6,798,014	9,269,256	852,493	0	12,234,620	124,007,673	111,773,053
2023	7,252,374	2,561,572	7,146,718	9,708,290	931,775	0	14,153,875	128,265,636	114,111,761
2024	7,690,090	2,655,204	7,504,607	10,159,811	1,018,430	0	16,310,228	132,473,056	116,162,828
2025	8,135,085	2,752,258	7,873,007	10,625,265	1,113,144	0	18,730,125	136,621,996	117,891,871
2026	8,548,831	2,852,860	8,252,181	11,105,041	1,216,667	0	21,442,801	140,745,477	119,302,676
2027	8,940,206	2,957,139	8,645,359	11,602,498	1,329,817	0	24,480,564	144,869,591	120,389,027
2028	9,342,515	3,065,230	9,055,693	12,120,923	1,453,490	0	27,879,108	148,986,729	121,107,621
2029	9,762,928	3,177,272	9,484,181	12,661,453	1,588,664	0	31,677,855	153,081,153	121,403,298
2030	10,202,260	3,293,409	9,931,316	13,224,725	1,736,410	0	35,920,335	157,135,225	121,214,890
2031	10,661,361	3,413,791	10,397,500	13,811,291	1,897,896	0	40,654,598	161,129,229	120,474,631
2032	11,141,123	3,538,574	10,882,997	14,421,571	2,074,400	0	45,933,673	165,041,181	119,107,508
2033	11,642,473	3,667,918	11,387,860	15,055,778	2,267,320	0	51,816,067	168,846,623	117,030,556
2034	12,166,385	3,801,990	11,911,827	15,713,817	2,478,180	0	58,366,316	172,518,395	114,152,079
2035	12,713,872	3,940,962	12,454,147	16,395,109	2,708,651	0	65,655,590	176,026,396	110,370,806
2036	13,285,996	4,085,014	13,013,315	17,098,329	2,960,556	0	73,762,357	179,337,320	105,574,963
2037	13,883,866	4,234,331	13,586,619	17,820,950	3,235,887	0	82,773,113	182,414,369	99,641,256
2038	14,508,640	4,389,106	14,169,342	18,558,448	3,536,825	0	92,783,183	185,216,948	92,433,765
2039	15,161,529	4,549,539	14,753,287	19,302,826	3,865,750	0	103,897,603	187,700,330	83,802,727
2040	15,843,797	4,715,836	15,323,816	20,039,652	4,225,264	0	116,232,082	189,815,297	73,583,215
2041	16,556,768	4,888,212	15,853,338	20,741,550	4,618,214	0	129,914,068	191,507,747	61,593,679
2042	17,301,823	5,066,888	16,285,013	21,351,901	5,047,708	0	145,083,909	192,718,273	47,634,364
2043	18,080,405	5,252,095	16,483,867	21,735,962	5,517,145	0	161,896,133	193,381,710	31,485,577
2044	18,894,023	5,444,072	16,041,230	21,485,302	4,918,242	0	179,325,453	193,426,641	14,101,188
2045	19,744,254	5,643,066	14,101,188	19,744,254	0	0	192,774,862	192,774,862	0

Notes: Assumes payment in the middle of the fiscal year.
Normal cost is projected to increase 3.5% per year for inflation and 0.15% for future mortality improvement and does not reflect the future impact of pension reform for new hires.
Amortization payments calculated to increase 3.5% per year.
Funding policy contribution increases 9.3% per year.
Assets are assumed to return 7.5% per year.
The fiscal year 2017 contribution of $846,500 is already reflected in the market value of assets as of December 31, 2016.

DEPARTMENT RESULTS

Actuarial Accrued Liability (AAL) and Annual Required Contribution – Funded (7.5% discount rate)

	All Other	School	Total
Actuarial Accrued Liability by Participant Category			
1. Current retirees, beneficiaries and dependents	$27,882,677	$30,470,099	$58,352,776
2. Current active employees	18,320,570	20,105,471	38,426,041
3. Total as of December 31, 2016: (1) + (2)	$46,203,247	$50,575,570	$96,778,817
4. Actuarial value of assets as of December 31, 2016	2,413,168	2,641,531	5,054,699
5. Unfunded actuarial accrued liability (UAAL) as of December 31, 2016	$43,790,079	$47,934,039	$91,724,118
Annual Required Contribution for Fiscal Year Ending June 30, 2017			
6. Normal cost as of December 31, 2016	$922,897	$1,142,286	$2,065,183
7. 29-year amortization (3.50%) of the (UAAL) as of December 31, 2016	2,442,821	2,673,991	5,116,812
8. Total Annual Required Contribution (ARC): (6) + (7)	$3,365,718	$3,816,277	$7,181,995
9. Projected benefit payments	2,294,122	2,214,495	4,508,617

Notes: The actuarial value of assets is allocated in proportion to the accrued liability.
Assumes payment in the middle of the fiscal year.

September 29, 2017

ACTUARIAL CERTIFICATION

This is to certify that Segal Consulting, a Member of The Segal Group, Inc. has conducted an actuarial valuation of certain benefit obligations of the Town of Burlington other postemployment benefit programs as of December 31, 2016, in accordance with generally accepted actuarial principles and practices. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements Number 45 and 74 for the determination of the liability for postemployment benefits other than pensions.

The actuarial valuation is based on the plan of benefits verified by the Town of Burlington and on asset, participant, premium data and claims experience provided by the Town of Burlington or from vendors employed by the Town of Burlington. Segal Consulting does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. Segal, however, does review the data for reasonableness and consistency.

The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may be significantly different from the results reported here. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security at termination or adequacy of funding an ongoing plan.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience differing from that anticipated by the assumptions; changes in assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. The scope of the assignment did not include performing an analysis of the potential range of such future measurements.

The signing actuaries are members of the American Academy of Actuaries and collectively meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, this report is complete and accurate and in our opinion presents the information necessary to comply with GASB Statements Number 45 and 74 with respect to the benefit obligations addressed. Further, in our opinion, the assumptions are reasonably related to the experience and expectations of the postemployment benefit programs.

Kathleen A. Riley, FSA, MAAA, EA
Senior Vice President and Actuary

Daniel J. Rhodes, FSA, MAAA
Vice President and Consulting Actuary

CHART 1
Required Supplementary Information – Schedule of Employer Contributions

Fiscal Year Ended June 30,	Annual OPEB Cost	Actual Contributions	Percentage Contributed
2009	$8,301,770	$4,798,467	57.80%
2010	8,702,660	5,368,137	61.68%
2011	8,220,821	4,313,542	52.47%
2012	8,403,521	5,259,794	62.59%
2013	7,401,289	4,789,300	64.71%
2014	7,756,159	5,064,824	65.30%
2015	6,147,451	4,846,803	78.84%
2016	6,452,597	5,069,522	78.57%
2017	7,597,057	5,355,117	70.49%

This schedule of funding progress presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

CHART 2
Required Supplementary Information – Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll
12/31/2007	$0	$137,797,088	$137,797,088	0.00%	$54,104,138	254.7%
12/31/2010	0	128,054,188	128,054,188	0.00%	58,507,552	218.9%
12/31/2012	755,021	102,278,451	101,523,430	0.74%	60,761,981	167.1%
12/31/2014	2,024,351	75,528,350	73,503,999	2.68%	67,300,000	109.2%
12/31/2016	5,054,699	96,778,817	91,724,118	5.22%	N/A	N/A

Note: Enter covered payroll for fiscal 2017.

CHART 3

Required Supplementary Information – Net OPEB Obligation/(Asset) (NOO/NOA)

Fiscal Year Ended June 30,	Annual Required Contribution (a)	Interest on Existing NOO/(NOA) (b)	ARC Adjustment (c)	Annual OPEB Cost (a) + (b) + (c) (d)	Actual Contribution Amount (e)	Net Increase in NOO/(NOA) (d) - (e) (f)	NOO/(NOA) as of Following Date (g)
2009	$8,301,770	$0	$0	$8,301,770	$4,798,467	$3,503,303	$3,503,303
2010	8,655,622	175,165	(128,127)	8,702,660	5,368,137	3,334,523	6,837,826
2011	8,131,431	358,986	(269,596)	8,220,821	4,313,542	3,907,279	10,745,105
2012	8,263,053	564,118	(423,650)	8,403,521	5,259,794	3,143,727	13,888,832
2013	7,077,925	763,886	(565,446)	7,276,365	4,789,300	2,487,065	16,375,897
2014	7,371,981	900,674	(666,700)	7,605,955	5,064,824	2,541,131	18,917,028
2015	5,687,328	1,466,070	(1,005,947)	6,147,451	4,846,803	1,300,648	20,217,676
2016	5,981,702	1,566,870	(1,095,975)	6,452,597	5,069,522	1,383,075	21,600,751
2017	7,181,995	1,620,056	(1,204,994)	7,597,057	5,355,117	2,241,940	23,842,691

CHART 4
Summary of Required Supplementary Information

Valuation date	December 31, 2016
Actuarial cost method	Entry Age Normal – Level percentage of payroll
Amortization method	Payments increasing at 4.0%
Remaining amortization period	29 years closed
Asset valuation method	Market value
Actuarial assumptions:	
Investment rate of return	7.5%
Discount rate	7.5%
Inflation rate	3.5%
Projected salary increases	6.0% decreasing to 4.25% based on service for Group 1 and Group 2, 7.5% decreasing to 4.0% based on service for Teachers, 7.0% decreasing to 4.75% based on service for Group 4.
Under 65 cost trend rate	7.0% decreasing by 0.5% for 5 years to an ultimate level of 4.5% per year
Over 65 cost trend rate	9.0% decreasing by 0.5% for 9 years to an ultimate level of 4.5% per year
Administrative expense trend rate	3.0%
Part B premium	4.5%
Plan membership:	
Current retirees, beneficiaries, and dependents	821
Current active participants	619
Total	1,440

EXHIBIT 1
Plan Membership

Plan membership: At December 31, 2016, The Town of Burlington plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	821
Active members	619
Total	1,440

Note: We have assumed other general information about the Plan will be provided by the Town's auditors.

EXHIBIT 2
Net OPEB Liability

The components of the Net OPEB Liability of the Town of Burlington are as follows:

	June 30, 2017
Total OPEB liability	$99,101,701
Plan fiduciary net position	5,490,956
Net OPEB Liability	93,610,746
Plan fiduciary net position as a percentage of the total OPEB liability*	5.54%

* *These funded percentages are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions*.

Actuarial assumptions. The total OPEB liability was measured by an actuarial valuation as of December 31, 2016 using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Inflation	3.50%
Salary increases	6.0% decreasing to 4.25% based on service for Group 1 and Group 2 7.5% decreasing to 4.0% based on service for Teachers 7.0% decreasing to 4.75% based on service for Group 4
Discount rate	7.50%
Investment rate of return	7.50%
Health care trend rates	
Under 65	7.0% decreasing by 0.5% for 5 years to an ultimate level of 4.5% per year
Over 65	9.0% decreasing by 0.5% for 9 years to an ultimate level of 4.5% per year
Administrative expense	3.0%
Part B premium	4.5%

Mortality tables

Pre-Retirement (Non-Teachers)	RP-2000 Employee Mortality Table projected generationally from 2009 with Scale BB2D
Healthy (Non-Teachers)	RP-2000 Healthy Annuitant Mortality Table projected generationally from 2009 with Scale BB2D
Disabled (Non-Teachers)	RP-2000 Healthy Annuitant Mortality Table projected generationally from 2015 with Scale BB2D
Pre-Retirement (Teachers)	RP-2014 Employee Mortality Table projected generationally with Scale BB2D from 2014
Healthy (Teachers)	RP-2014 Healthy Annuitant Mortality Table projected generationally with Scale BB2D from 2014
Disabled (Teachers)	RP-2014 Healthy Annuitant Mortality Table set forward 4 years projected generationally with Scale BB2D from 2014

Detailed information regarding all actuarial assumptions can be found in Section 5, Exhibit II.

EXHIBIT 3

Determination of Discount Rate and Investment Rates of Return

DEVELOPMENT OF LONG-TERM RATE

The long-term expected rate of return on OPEB plan investments was determined using a building block method in which best estimate ranges of expected future rates of return (expected returns, net of investment expense and inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized below:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity	18.00%	6.44%
International developed markets equity	16.00%	7.40%
International emerging markets equity	6.00%	9.42%
Core fixed income	13.00%	2.02%
High-yield fixed income	10.00%	4.43%
Real estate	10.00%	5.00%
Commodities	4.00%	4.43%
Hedge fund, GTAA, Risk parity	13.00%	3.75%
Private equity	10.00%	10.47%
Total	100.00%	

Note: Some asset classes in the target allocation have been combined.

Nature of Assets: The assets are in an irrevocable OPEB Trust and are part of the State Retiree Benefits Trust Fund.

EXHIBIT 4
Sensitivity

Sensitivity of the net OPEB liability to changes in the discount rate. The following presents the NOL of the Town of Burlington as well as what the Town of Burlington's NOL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate.

	1% Decrease in Discount Rate (6.50%)	Current Discount Rate (7.50%)	1% Increase in Discount Rate (8.50%)
Town of Burlington's net OPEB liability as of June 30, 2017	$104,438,706	$93,610,746	$82,158,257

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates. The following presents the net OPEB liability of the Town of Burlington, as well as what the Town of Burlington's net OPEB liability would be if it were calculated using a healthcare cost trend rate that is 1-percentage-point lower (6.0% decreasing to 3.5% for under 65, 8.0% decreasing to 3.5% for over 65, 2.0% for administration, 3.5% for Part B premium) or 1-percentage-point higher (8.0% decreasing to 5.5% for over 65, 10% decreasing to 5.5% for over 65, 4.0% for administration, 5.5% for Part B premium) than the current rate:

	1% Decrease	Current Trend Rate	1% Increase
Town of Burlington's net OPEB liability as of June 30, 2017	$80,941,786	$93,610,746	$106,147,126

EXHIBIT 5

Schedule of Changes in Net OPEB Liability – Last Ten Fiscal Years

	Year End June 30,									
	2017	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**
Total OPEB liability										
Service cost	$2,029,964									
Interest	7,074,193									
Differences between expected and actual experience	0									
Changes of assumptions	0									
Benefit payments, including refunds of member contributions	-4,508,617			(Historical information prior to implementation of GASB 74/75 is not required)						
Net change in Total OPEB Liability	$4,595,540									
Total OPEB Liability - beginning	94,506,162									
Total OPEB Liability - ending (a)	$99,101,702									
Plan Fiduciary Net Position										
Contributions - employer	$5,355,117									
Contributions - employee	0									
Net investment income	599,190									
Benefit payments, including refunds of member contributions	-4,508,617			(Historical information prior to implementation of GASB 74/75 is not required)						
Administrative expenses	0									
Net change in Fiduciary Net Position	$1,445,690									
Plan Fiduciary Net Position - beginning	4,045,266									
Plan Fiduciary Net Position - ending (b)	$5,490,956									
Net OPEB liability – ending: (a)-(b)	$93,610,746									
Plan's fiduciary net position as a percentage of the total OPEB liability	5.54%			(Historical information prior to implementation of GASB 74/75 is not required)						
Covered-employee payroll	N/A									
Net OPEB liability as a percentage of covered-employee payroll	N/A									

Notes: Please enter covered payroll for fiscal 2017.
2017 employer contributions include projected benefit payments of $4,508,617 and $846,500 in employer contributions to the trust.

Notes to Schedule:
Changes in Assumptions: None.
Changes in Plan Provisions: None.

EXHIBIT 6
Schedule of Contributions – Last Ten Fiscal Years

	Year End June 30,									
	2017	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**
Actuarially determined contribution	$6,294,020									
Contributions in relation to the actuarially determined contribution	5,355,117									
Contribution deficiency (excess)	$938,903									
Covered-employee payroll	N/A									
Contributions as a percentage of covered-employee payroll	N/A			(Historical information prior to implementation of GASB 74/75 is not required)						

Notes to Schedule:

Methods and assumptions used to establish actuarially determined contribution rates for fiscal 2017:

Valuation date:	Actuarially determined contribution for fiscal year ending June 30, 2017 was determined with the December 31, 2014 actuarial valuation.
Actuarial cost method:	Projected Unit Credit Method
Amortization method:	Level percent of payroll
Remaining amortization period:	28 years from July 1, 2016
Asset valuation method:	Market value
Investment rate of return:	7.75%
Inflation:	4.0%
Health Care Cost Trend Rates:	
Non-Medicare	8.0% decreasing by 0.5% for 6 years to an ultimate level of 5.0% per year
Medicare	9.0% decreasing by 0.5% for 8 years to an ultimate level of 5.0% per year
Administrative expense	3.0%
Part B premium	5.0%

Mortality Rates:

Pre-Retirement (Non-Teachers)	RP-2000 Healthy Employee Mortality Table projected 22 years with Scale AA
Healthy (Non-Teachers)	RP-2000 Healthy Annuitant Mortality Table projected 17 years with Scale AA
Disabled (Non-Teachers)	RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected 17 years with Scale AA
Pre-Retirement (Teachers)	RP-2000 Combined Healthy White Collar Mortality Table projected 22 years with Scale AA
Healthy (Teachers)	RP-2000 Healthy Annuitant with Large Benefit Amount Adjustment Mortality Table projected 17 years with Scale AA
Disabled (Teachers)	RP-2000 Healthy Annuitant with Large Benefit Amount Adjustment Mortality Table projected 7 years with Scale AA (gender distinct) set forward 3 years for males

This exhibit summarizes the participant data used for the current and prior valuations.

EXHIBIT I

Summary of Participant Data

	December 31, 2016	December 31, 2014
Active employees covered for medical benefits		
Number of employees		
Male	249	239
Female	370	352
Total	619	591
Average age	46.0	45.7
Average service	12.5	12.4
Retired employees, spouses, and beneficiaries covered for medical benefits		
Number of individuals	821	806
Average age	73.1	72.0
Retired employees with life insurance coverage		
Number of individuals	399	400
Average age	74.3	73.1

EXHIBIT II
Actuarial Assumptions and Actuarial Cost Method

Data:	Detailed census data, claim experience, premium rates, and summary plan descriptions for postemployment welfare benefits were provided by the Town of Burlington.
Actuarial Cost Method:	Entry Age Normal – Level Percentage of Payroll (previously, Projected Unit Credit).

Per Capita Cost Development:

Fully Insured Plans (Medicare Plans)

Per capita costs were based on the fully insured premium rates effective January 1, 2017. Premiums were combined by taking a weighted average based on the number of participants in each plan, and were then trended to the midpoint of the valuation year at assumed trend rates. Actuarial factors were then applied to the weighted average cost to estimate individual retiree and spouse costs by age and by gender.

Self-Funded Plans (Non-Medicare Plans)

Per capita claims costs were based on the monthly paid claims experience by participant group and by coverage (medical and prescription drug) for the period January 1, 2014 through December 31, 2016. Claims were separated by plan year and by coverage and then adjusted as follows:

- paid claims were multiplied by a factor to yield an estimate of incurred claims,
- total claims were divided by the number of adult members to yield a per capita claim cost, and
- the per capita claim cost was trended to the midpoint of the valuation year at assumed trend rates.

	Taking a weighted average, the per capita medical and prescription drug claims were combined with a manual rate based on national data. The weights used in this average account for a number of factors including each plan year's volatility of claims experience and distance to the valuation year. Actuarial factors were then applied to the weighted average cost to estimate individual retiree and spouse costs by age and by gender.
Measurement Date:	December 31, 2016 The results of the December 31, 2016 actuarial valuation were used to determine the Annual Required Contribution for the fiscal year ending June 30, 2017.
Discount Rate:	7.5% (Previously, 7.75%)
Expected Return on Assets:	7.5% (Previously, 7.75%) Long-term rate of return on a diversified portfolio invested primarily in the PRIT Fund. The expected return of the PRIT Fund was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce a long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.
Salary Increase:	6.0% decreasing to 4.25% based on service for Group 1 and Group 2, 7.5% decreasing to 4.0% based on service for Teachers, 7.0% decreasing to 4.75% based on service for Group 4.
Asset Valuation Method:	Market value

Mortality Rates:	
Pre-Retirement (Non-Teachers)	RP-2000 Employee Mortality Table projected generationally from 2009 with Scale BB2D (Previously, RP-2000 Employee Mortality Table projected 22 years with Scale AA)
Healthy (Non-Teachers)	RP-2000 Healthy Annuitant Mortality Table projected generationally from 2009 with Scale BB2D (Previously, RP-2000 Healthy Annuitant Mortality Table projected 17 years with Scale AA)
Disabled (Non-Teachers)	RP-2000 Healthy Annuitant Mortality Table projected generationally from 2015 with Scale BB2D (Previously, RP-2000 Healthy Annuitant Mortality Table set forward 3 years projected 17 years with Scale AA)
Pre-Retirement (Teachers)	RP-2014 Employee Mortality Table projected generationally with Scale BB2D from 2014 (previously, RP-2000 Combined Healthy White Collar Mortality Table projected 22 years with Scale AA)
Healthy (Teachers)	RP-2014 Healthy Annuitant Mortality Table projected generationally with Scale BB2D from 2014 (previously, RP-2000 Healthy Annuitant with Large Benefit Amount Adjustment Mortality Table projected 17 years with Scale AA)
Disabled (Teachers)	RP-2014 Healthy Annuitant Mortality Table set forward 4 years projected generationally with Scale BB2D from 2014 (previously, RP-2000 Healthy Annuitant with Large Benefit Amount Adjustment Mortality Table projected 7 years with Scale AA (gender distinct) set forward 3 years for males)
	The underlying tables with generational projection to the ages of participants as of the measurement date reasonably reflect the mortality experience of the plan as of the measurement date. The mortality tables were then adjusted to future years using generational projection to reflect future mortality improvement between the measurement date and those years.

Non-Teacher Annuitant Mortality Rates:

	Rate per year (%)			
	Current		Previous	
Age	Male	Female	Male	Female
60	0.82	0.62	0.62	0.57
70	2.22	1.67	1.72	1.54
80	6.44	4.59	5.43	4.07
90	18.34	13.17	17.13	12.51

Note: Rates shown are before generational projection (previously, no generational projection.).

Teacher Annuitant Mortality Rates:

	Rate per year (%)			
	Current		Previously	
Age	Male	Female	Male	Female
60	0.78	0.52	0.50	0.48
70	1.68	1.29	1.29	1.30
80	4.47	3.48	4.30	3.80
90	13.59	10.17	14.25	10.75

Note: Rates shown are before generational projection (previously, no generational projection.).

Termination Rates before Retirement:

	Groups 1 and 2 - Rate (%)				
	Mortality				
	Current		Previous		
Age	**Male**	**Female**	**Male**	**Female**	**Disability**
20	0.03	0.02	0.02	0.01	0.02
25	0.04	0.02	0.03	0.02	0.02
30	0.04	0.03	0.04	0.02	0.03
35	0.08	0.05	0.07	0.04	0.06
40	0.11	0.07	0.09	0.05	0.10
45	0.15	0.11	0.11	0.08	0.15
50	0.21	0.17	0.14	0.11	0.19
55	0.30	0.25	0.20	0.21	0.24
60	0.49	0.39	0.34	0.35	0.28

Notes: 55% of the rates shown represent accidental disability and death.
Rates shown are before generational projection (previously, no generational projection).

	Group 4 – Rate (%)				
	Mortality				
	Current		Previous		
Age	Male	Female	Male	Female	Disability
20	0.03	0.02	0.02	0.01	0.20
25	0.04	0.02	0.03	0.02	0.20
30	0.04	0.03	0.04	0.02	0.30
35	0.08	0.05	0.07	0.04	0.30
40	0.11	0.07	0.09	0.05	0.30
45	0.15	0.11	0.11	0.08	1.00
50	0.21	0.17	0.14	0.11	1.25
55	0.30	0.25	0.20	0.21	1.20
60	0.49	0.39	0.34	0.35	0.85

Notes: 90% of the rates shown represent accidental disability and death.
Rates shown are before generational projection (previously, no generational projection).

Teachers - Rate per year (%)

	Mortality				
	Current		Previously		
Age	**Male**	**Female**	**Male**	**Female**	**Disability**
20	0.04	0.02	0.02	0.01	0.00
25	0.05	0.02	0.03	0.02	0.01
30	0.05	0.02	0.03	0.02	0.01
35	0.05	0.03	0.05	0.04	0.01
40	0.06	0.04	0.07	0.05	0.01
45	0.10	0.07	0.10	0.07	0.03
50	0.17	0.11	0.13	0.10	0.05
55	0.28	0.17	0.22	0.22	0.07
60	0.47	0.24	0.39	0.42	0.07

Notes: 35% of the rates shown represent accidental disability.
75% of the death rates shown represent accidental death.
Mortality rates shown are before generational projection (previously, no generational projection).

Withdrawal Rates:

	Rate per year (%)		
Years of Service	Groups 1 and 2	Years of Service	Group 4
0	15.0	0 – 10	1.5
1	12.0	11+	0.0
2	10.0		
3	9.0		
4	8.0		
5	7.6		
6	7.5		
7	6.7		
8	6.3		
9	5.9		
10	5.4		
11	5.0		
12	4.6		
13	4.1		
14	3.7		
15	3.3		
16 – 20	2.0		
21 – 29	1.0		
30+	0.0		

	Teachers - Rate per year (%)					
	0 Years of Service		5 Years of Service		10+ Years of Service	
Age	Male	Female	Male	Female	Male	Female
20	13.0	10.0	5.5	7.0	1.5	5.0
30	15.0	15.0	5.4	8.8	1.5	4.5
40	13.3	10.5	5.2	5.0	1.7	2.2
50	16.2	9.8	7.0	5.0	2.3	2.0

Retirement Rates:

	Rate per year (%)		
	Groups 1 and 2 (excluding Teachers)		
Age	**Male**	**Female**	**Group 4**
45 – 49	- -	- -	1.0
50 – 54	- -	- -	2.0
55 – 59	2.0	5.5	15.0
60 – 61	12.0	5.0	20.0
62 – 64	30.0	15.0	25.0
65 – 68	40.0	15.0	100.0
69	50.0	20.0	- -
70	100.0	100.0	- -

Teachers - Rate per year (%)

	Years of Service					
	Less than 20		20 – 29		30 or more	
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
50 - 52	- -	- -	1.0	1.0	2.0	1.5
53	- -	- -	1.5	1.0	2.0	1.5
54	- -	- -	2.5	1.0	2.0	2.0
55	5.0	3.0	3.0	3.0	6.0	5.0
56	5.0	3.0	6.0	5.0	20.0	15.0
57	5.0	4.0	10.0	8.0	40.0	35.0
58	5.0	8.0	15.0	10.0	50.0	35.0
59	10.0	8.0	20.0	15.0	50.0	35.0
60	10.0	10.0	25.0	20.0	40.0	35.0
61	20.0	12.0	30.0	25.0	40.0	35.0
62	20.0	12.0	35.0	30.0	35.0	35.0
63	25.0	15.0	40.0	30.0	35.0	35.0
64	25.0	20.0	40.0	30.0	35.0	35.0
65	25.0	25.0	40.0	40.0	35.0	35.0
66	30.0	25.0	30.0	30.0	40.0	35.0
67	30.0	30.0	30.0	30.0	40.0	30.0
68	30.0	30.0	30.0	30.0	40.0	30.0
69	30.0	30.0	30.0	30.0	40.0	30.0
70	100.0	100.0	100.0	100.0	100.0	100.0

Dependents: Demographic data was available for spouses of current retirees. For future retirees, husbands were assumed to be three years older than their wives and 65% were assumed to have an eligible spouse who also opts for health coverage at that time.

Per Capita Health Costs: Calendar year 2017 medical and prescription drug claims costs are shown in the table below for retirees and for spouses at selected ages. These costs are net of deductibles and other benefit plan cost sharing provisions.

	Non-Medicare Plans				Medicare Supplement Plans				Medicare Advantage Plans			
	Retiree		Spouse		Retiree		Spouse		Retiree		Spouse	
Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
45	$8,792	$11,029	$5,453	$8,233	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
50	10,435	11,886	7,289	9,544	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
55	12,393	12,795	9,753	11,047	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
60	14,717	13,791	13,057	12,812	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
65	17,479	14,857	17,479	14,857	$4,178	$3,551	$4,178	$3,551	$3,306	$2,810	$3,306	$2,810
70	20,258	16,011	20,258	16,011	4,842	3,827	4,842	3,827	3,832	3,028	3,832	3,028
75	21,831	17,234	21,831	17,234	5,218	4,120	5,218	4,120	4,129	3,260	4,129	3,260
80	23,509	18,580	23,509	18,580	5,619	4,441	5,619	4,441	5,619	3,514	4,447	3,514

Weighted Average Annual Retiree Contribution Amount:

	Retired before July 1, 2006	Retired after July 1, 2006
Non-Medicare Plans:	$3,561	$3,561
Medicare Supplement Plans:	564	1,110
Medicare Advantage Plans:	355	710

Health Care Cost Trend Rates: Health care trend measures the anticipated overall rate at which health plan costs are expected to increase in future years. The rates shown below are "net" and are applied to the net per capita costs shown above. The trend shown for a particular plan year is the rate that is applied to that year's cost to yield the next year's projected cost.

Year Ending December 31	Under 65	Over 65	Administration	Part B
2017	7.0%	9.0%	3.0%	4.5%
2018	6.5%	8.5%	3.0%	4.5%
2019	6.0%	8.0%	3.0%	4.5%
2020	5.5%	7.5%	3.0%	4.5%
2021	5.0%	7.0%	3.0%	4.5%
2022	4.5%	6.5%	3.0%	4.5%
2023	4.5%	6.0%	3.0%	4.5%
2024	4.5%	5.5%	3.0%	4.5%
2025	4.5%	5.0%	3.0%	4.5%
2026 & later	4.5%	4.5%	3.0%	4.5%

The trend rate assumptions were developed using Segal's internal guidelines, which are established each year using data sources such as the 2017 Segal Health Trend Survey, internal client results, trends from other published surveys prepared by the S&P Dow Jones Indices, consulting firms and brokers, and CPI statistics published by the Bureau of Labor Statistics.

Retiree Contribution Increase Rate: Retiree contributions for medical and prescription drug coverage are expected to increase with medical trend.

Participation and Coverage Election: 100% of active employees with coverage are assumed to elect retiree coverage.

100% of retirees over age 65 are assumed to remain with their current medical plan for life.

	For future retirees hired before 1986 and current retirees under age 65, 90% are assumed to be eligible for Medicare and are assumed to enroll in a Medicare Supplement plan upon reaching age 65 and 10% are assumed to be ineligible for Medicare and to remain enrolled in a non-Medicare plan. For future retirees hired after 1986, 100% are assumed to be eligible for Medicare and are assumed to enroll in a Medicare Supplement Plan upon reaching age 65. 90% of future retirees with medical coverage are assumed to have life insurance coverage. Current retirees with life insurance coverage are identified in the data received.
Plan Design:	Development of plan liabilities was based on the substantive plan of benefits in effect as described in Exhibit III.
Administrative Expenses:	Administrative expenses for self-insured plans were based on current vendor contractual rates and fees. An administrative expense load of $495 per participant for self-funded plans, increasing at 3.0% per year, was added for projected incurred self-funded claim costs in development the benefit obligations. Administrative expenses for fully-insured plans were assumed to be included in the fully-insured premium rates and are included in the per capita health costs.
Missing Participant Data:	A missing census item for a given participant was assumed to equal the average value of that item over all other participants of the same status for whom the item is known.
Health Care Reform Assumption:	This valuation does not include the potential impact of any future changes due to the Patient Protection and Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act (HCERA) of 2010 other than the excise tax on high cost health plans beginning in 2020 (reflected with this valuation) and those previously adopted as of the valuation date. The excise tax in this valuation increased the actuarial accrued liability by 1.3% and normal cost by 2.0%.

Demographic and Salary Scale Assumptions:

Many of the demographic assumptions used in this valuation for non-teachers (including mortality, disability, turnover, retirement, salary scale and relative ages of spouses,) are the same as used in the Middlesex County Retirement System Actuarial Valuation as Review as of January 1, 2016, dated December 14, 2016 completed by Segal Consulting. The assumptions used in this valuation for teachers are the same as used in the Massachusetts Teachers' Retirement System Actuarial Valuation Report as of January 1, 2016 dated October 13, 2016 completed by PERAC. A review of these demographic assumptions is beyond the scope of this assignment; however, we have no reason to doubt the reasonableness of these assumptions.

The remaining demographic assumptions, such as percent married and enrollment elections, were based on the experience of the Plan and the experience of similar plans.

Justification for Assumption Changes Since Prior Valuation:

Based on past experience and future expectations, the following actuarial assumptions were changed:

- The discount rate was decreased from 7.75% to 7.5%.
- The per capita health costs were updated to reflect current experience.
- The medical/prescription drug and Part B premium trend assumptions were revised to reflect current experience and future expectations.
- The mortality assumptions were changed to match the assumptions used in the Middlesex County Retirement System Actuarial Valuation and Review as of January 1, 2016, dated December 14, 2016 completed by Segal Consulting and the Massachusetts Teachers' Retirement System Actuarial Valuation Report as of January 1, 2016, dated October 13, 2016.
- The excise tax on high cost health plans beginning in 2020 was recalculated with this valuation.

The funding method was changed from Projected Unit Credit to Entry Age Normal to comply with GASB Statement No. 74.

EXHIBIT III
Summary of Plan

This exhibit summarizes the major benefit provisions as included in the valuation. To the best of our knowledge, the summary represents the substantive plans as of the measurement date. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

Eligibility:	Retired and receiving a pension from the Middlesex County Retirement System or Massachusetts Teachers' Retirement System.
Members hired before April 2, 2012	**Group 1 and Group 2 (including Teachers):** ➤ Retirees with at least 10 years of creditable service are eligible at age 55; ➤ Retirees with at least 20 years of creditable service are eligible at any age. **Group 4** ➤ Retirees are eligible at age 55; ➤ Retirees with at least 20 years of creditable service are eligible at any age.
Members hired on or after April 2, 2012	**Group 1 (including Teachers):** ➤ Retirees with at least 10 years of creditable service are eligible at age 60. **Group 2** ➤ Retirees with at least 10 years of creditable service are eligible at age 55. **Group 4** ➤ Retirees are eligible at age 55; ➤ Retirees with at least 10 years of creditable service are eligible at age 50. **Disability:** Accidental (job-related) Disability has no age or service requirement. Ordinary (non-job related) Disability has no age requirement but requires 10 years of creditable service.

Pre-Retirement Death: Surviving spouses of members who die in active service on Accidental (job-related) Death are eligible at any age. Surviving spouses of members who die in active service on Ordinary (non-job related) Death are eligible after two years of service.

Post-Retirement Death: Surviving spouse is eligible.

Benefit Types:	Medical and prescription drug benefits are provided to all eligible retirees through plans offered by Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim Health Care and Tufts Health Plan. The Town of Burlington pays 50% of the retiree life insurance premium and reimburses the Medicare Part B penalty for retirees if applicable. (Dental coverage is offered but it is 100% retiree paid and therefore has no impact on this valuation.)
Duration of Coverage:	Lifetime.
Dependent Benefits:	Medical and Prescription Drugs.
Dependent Coverage:	Benefits are payable to a spouse for their lifetime, regardless of when the retirees dies.
MGL Chapter 32B, Section 18A:	Adopted.
Retiree Life:	$5,000
Retiree Contributions:	Premium rates and retiree contributions as of January 1, 2017 are summarized on the following page:

	Subscribers Active	Retiree	Total	*Retirees 65 and over**	Monthly Premium (eff. 1/1/2017)	Town cost	Retiree cost
Non-Medicare Plans							
HPHC Best Buy $1,000 Plan							
Individual	181	12	193	*5*	$751.80	$526.26	$225.54
Family	247	15	262	*1*	$1,906.82	$1,334.77	$572.05
HMO Blue $1,000 Deductible							
Individual	82	35	117	*25*	$867.86	$607.50	$260.36
Family	106	16	122	*5*	$2,325.93	$1,628.15	$697.78
Blue Care Elect Preferred PPO							
Individual	3	6	9	*4*	$1,041.44	$520.72	$520.72
Family	0	1	1	*0*	$2,791.05	$1,395.53	$1,395.53
Non-Medicare Total	619	85	704	*40*			

	Subscribers Active	Retiree	Total	Monthly Premium (eff. 1/1/2017)	Retiree Cost (before 7/1/2006)	Retiree Cost (after 7/1/2006)
Medicare Supplement Plans						
Medex	N/A	29	29	$397.11	$198.56	$198.56
Managed Blue For Seniors	N/A	260	260	$341.61	$34.16	$68.32
Harvard Pilgrim Medicare Enhanced	N/A	98	98	$515.41	$51.54	$103.08
Tufts Medicare Preferred Prime Supplement	N/A	38	38	$372.00	$37.20	$74.40
Medicare Advantage Plans						
Tufts Medicare Preferred HMO	N/A	4	4	$296.00	$29.60	$59.20
Medicare Total		429	429			
Retiree Total**		514				

* 40 of 469 over-65 retirees are in a non-Medicare plan

** In addition, there are 307 spouses of retirees covered under an individual or family policy.

Plan Changes Since the Prior Valuation: None

EXHIBIT IV
Definitions of Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Total OPEB Liability: Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.

Service Cost: The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarially Determined Contribution: A target or recommended contribution to an OPEB plan for the reporting period based on the most recent measurement available.

Valuation Date: The date at which the actuarial valuation is performed

Covered Employee Payroll: The payroll of the employees that are provided OPEB benefits

Discount Rate:	The single rate of return, that when applied to all projected benefit payments results in an actuarial present value that is the sum of the following: (1) the actuarial present value of projected benefit payments projected to be funded by plan assets using a long term rate of return, and (2) the actuarial present value of projected benefit payments that are non included in (1) using a yield or index rate for 20 year tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher
Entry Age Actuarial Cost Method:	An actuarial cost method where the present value of the projected benefits for an individual is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age
Healthcare Cost Trend Rates:	The rate of change in per capita health costs over time
Net OPEB Liability:	The Total OPEB Liability less the Plan Net Fiduciary Position
Plan Net Fiduciary Position:	Market Value of Assets
Real Rate of Return:	The rate of return on an investment after removing inflation

EXHIBIT V
Accounting Requirements

The Governmental Accounting Standards Board (GASB) issued Statement Number 74 – *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* and Statement Number 75 – *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. Under these statements, all state and local government entities that provide other post-employment benefits (OPEB) are required to report the cost of these benefits on their financial statements. The accounting standards supplement cash accounting, under which the expense for postemployment benefits is equal to benefit and administrative costs paid on behalf of retirees and their dependents (*i.e*., a pay-as-you-go basis).

The statements cover postemployment benefits of health, prescription drug, dental, vision and life insurance coverage for retirees; long-term care coverage, life insurance and death benefits that are *not* offered as part of a pension plan; and long-term disability insurance for employees. The benefits valued in this report are limited to those described in Exhibit III, which are based on those provided under the terms of the substantive plan in effect at the time of the valuation and on the pattern of sharing costs between the employer and plan members. The projection of benefits is not limited by legal or contractual limits on funding the plan unless those limits clearly translate into benefit limits on the substantive plan being valued.

The new standards introduce an accrual-basis accounting requirement, thereby recognizing the employer cost of postemployment benefits over an employee's career. The standards also introduce a consistent accounting requirement for both pension and non-pension benefits.

The total cost of providing postemployment benefits is projected, taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions. These assumptions are summarized in Exhibit II. This amount is then discounted to determine the Total OPEB Liability. The Net OPEB Liability (NOL) is the difference between the Total OPEB Liability and market value of assets in the Plan, called the Net Plan Fiduciary Position.

Once the NOL is determined, the Annual OPEB Expense is determined as the change in NOL from the prior year with deferred recognition of certain elements, In addition, Required Supplementary Information (RSI) must be reported, including historical information about the Net OPEB liability and the Contributions made to the Plan. Exhibit IV contains a definition of terms as well as more information about GASB 74/75 concepts.

The calculation of an accounting obligation does not, in and of itself, imply that there is any legal liability to provide the benefits valued, nor is there any implication that the Employer is required to implement a funding policy to satisfy the projected expense.

Actuarial calculations reflect a long-term perspective, and the methods and assumptions use techniques designed to reduce short-term volatility in accrued liabilities and the actuarial value of assets, if any.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and the actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

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