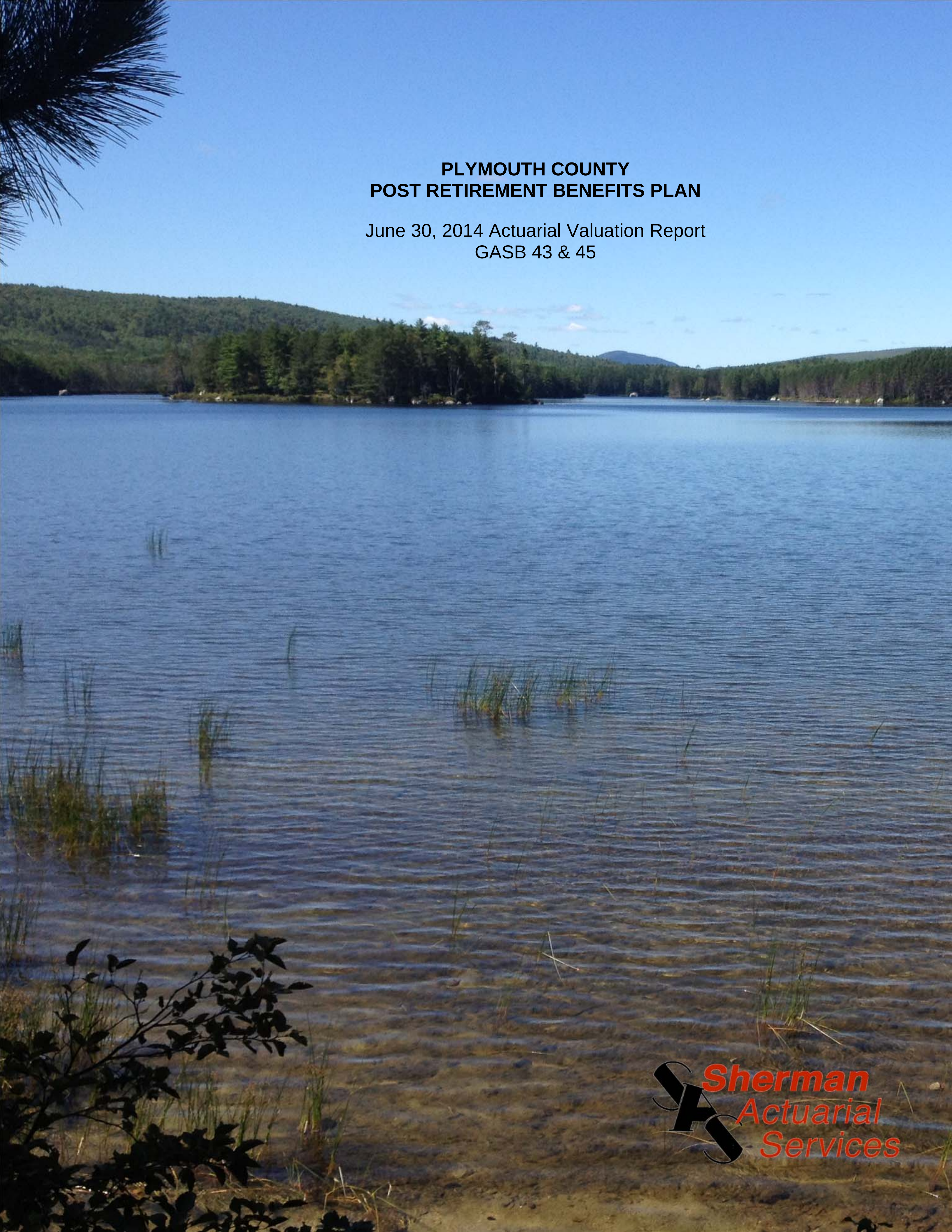
PLYMOUTH COUNTY
POST RETIREMENT BENEFITS PLAN

June 30, 2014 Actuarial Valuation Report
GASB 43 & 45



Sherman Actuarial Services

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SECTION I - OVERVIEW

Plymouth County has engaged Sherman Actuarial Services, LLC to prepare an actuarial valuation of their post-retirement benefits program as of June 30, 2014. These valuations were performed using employee census data, enrollment data, claims, premiums, participant contributions and plan provision information provided by personnel of Plymouth County. Sherman Actuarial Services did not audit these data, although they were reviewed for reasonability. The results of the valuation are dependent on the accuracy of the data.

The purposes of the valuation are to analyze the current funded position of the County's post-retirement benefits program, determine the level of contributions necessary to assure sound funding and provide reporting and disclosure information for financial statements, governmental agencies and other interested parties. This valuation report contains information required by the Governmental Accounting Standards Board's Statements Nos. 43 and 45, respectively entitled "Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans" and "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions."

According to GASB principles, if the benefits are not prefunded, the rate earned by the General Asset Account must be used to select the discount rate used to measure the plan. To measure on that basis we have used a discount rate of 4%. During FYE15, the County established an OPEB trust and contributed $50,000. The plan is to continue to pay the current costs of retirees and contribute at least $50,000 each year. Based on this and the asset allocation policy, we have selected a discount rate of 7.0% for this valuation. The 7.0% scenario figures should be reflected in the County's financial statements.

Section II provides a summary of the principal valuation results. Section VII provides a projection of funding amounts.

While the actuary believes that the assumptions are reasonable for financial reporting purposes, it should be understood that there is a range of assumptions that could be deemed reasonable that would yield different results. Moreover, while the actuary considers the assumption set to be reasonable based on prior plan experience, it should be understood that future plan experience may differ considerably from what has been assumed.

The report was prepared under the supervision of Daniel Sherman, an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries, who takes responsibility for the overall appropriateness of the analysis, assumptions and results. Daniel Sherman is deemed to meet the General Qualification Standard and the basic education and experience requirement in the pension area. Based on over twenty years of performing FAS 106 valuations of similar complexity, Mr. Sherman is qualified by experience in retiree medical valuation. Daniel Sherman has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The costs and actuarial exhibits presented in this report have been prepared in accordance with Generally Accepted Accounting Practices and the requirements of GASB 45. I am available to answer questions about this report.

Respectfully Submitted,

SHERMAN ACTUARIAL SERVICES, LLC

Daniel W. Sherman

September 25, 2015

Daniel Sherman, ASA, MAAA, EA — Date

CEO

SECTION II - REQUIRED INFORMATION

		Pay-as-You-Go 4.00%		Full Prefunding 7.00%
a) Actuarial valuation date		June 30, 2014		June 30, 2014
b) Actuarial Value of Assets	$	0	$	0
c) Actuarial Accrued Liability				
Active participants	$	10,401,294	$	6,337,805
Retired participants		21,787,775		16,406,707
Total AAL	$	32,189,069	$	22,744,512
d) Unfunded Actuarial Liability "UAL" [c - b]	$	32,189,069	$	22,744,512
e) Funded ratio [b / c]		0.0%		0.0%
f) Annual covered payroll	$	3,966,968		3,966,968
g) UAL as percentage of covered payroll		811.4%		573.3%
h) Normal Cost for fiscal year	$	426,656	$	232,729
i) Amortization of UAL for fiscal year		1,072,969		1,220,254
j) Interest to the end of the fiscal year		0		0
k) Annual Required Contribution "ARC" for fiscal year [h + i + j]	$	1,499,625	$	1,452,983
l) Premium payments	$	1,419,674	$	1,419,674
m) Increase in annual cost to fund the Plan [k - l]		N/A	$	33,309

30-year amortization, increasing 4.0% per year for Pay-Go
26-year amortization, increasing 4.0% per year for Full Prefunding

SECTION III - MEDICAL PREMIUMS

Monthly Premiums

Health and dental benefits are available to employees and retirees through a number of plans. The County obtains health insurance coverage through the Mayflower Municipal Health Group, which purchases a variety of fully insured plans, with the rates provided to each participating municipality apparently based in part on the municipality's demographic characteristics. The following are gross monthly rates per subscriber for plans in which current County employees and/or retirees are enrolled:

	2014	2012
Harvard Pilgrim (individual)	$672	$672
Harvard Pilgrim (family)	1,790	1,790
MEDEX	410	439
PPO Blue (individual)	901	901
PPO Blue (Family)	2,136	2,136
HMO Network Blue (Individual)	635	635
HMO Network Blue (Family)	1,693	1,693

Retirees contributed 20% as June 30, 2012.

SECTION IV - REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Funding Progress on a Pay-as-You-Go Basis – 7.0%

Actuarial Valuation Date	(a) Actuarial Value of Assets	(b) Actuarial Accrued Liability (AAL)	(b) - (a) Unfunded AAL (UAL)	(a) / (b) Funded Ratio	(c) Payroll	(d) Unfunded AAL as % of Payroll
June 30, 2010	0	34,345,099	34,345,099	0.00%	3,622,204	948.2%
June 30, 2012	0	38,976,763	38,976,763	0.00%	3,318,597	1174.5%
June 30, 2014	0	22,744,512	22,744,512	0.00%	3,966,968	573.3%

Prior to 2014, the discount rate was 4%. With the commencement of full funding, the rate was changed to 7.0%.

SECTION V - NET OPEB OBLIGATION

GASB Statement No. 45 requires the development of Annual OPEB Cost and Net OPEB Obligation (NOO). This development is shown in the following table.

Development of OPEB Cost and Net OPEB Obligation (NOO)

Year Ending June 30	Annual Required Contribution	Interest on NOO	Amortization of NOO	Annual OPEB Cost (1) + (2) - (3)	Contribution	Change in NOO (4) - (5)	NOO Balance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
2010	1,608,306			1,608,306	1,379,989	228,317	228,317
2011	1,641,868	9,133	7,611	1,643,390	1,445,976	197,414	425,731
2012	1,755,262	17,029	14,191	1,758,100	1,617,661	140,439	566,170
2013	1,785,870	22,647	18,872	1,789,644	1,697,181	92,463	658,633
2014	1,452,983	46,104	34,454	1,464,633	1,452,983	11,650	670,283
2015	1,512,266	46,920	35,961	1,523,225	1,562,266	(39,041)	631,242
2016	1,573,973	44,187	34,783	1,583,377	1,623,973	(40,596)	590,646

SECTION VI - SCHEDULE OF EMPLOYER CONTRIBUTIONS

The Governmental Accounting Standards Board's Statement No. 45 "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions" outlines various requirements of a funding schedule that will amortize the unfunded actuarial liability and cover normal costs. Amortization of the unfunded actuarial liability is to be based on a schedule that extends no longer than 30 years. The contribution towards the amortization of the unfunded actuarial liability may be made in level payments or in payments increasing at the same rate as salary increases. There is no requirement to actually fund the Annual Required Contribution, however.

In the amortization schedules shown on the following pages, the amortization of the unfunded accrued liability is increasing at 4.0% for 27 years. The normal cost is expected to increase at the same rate as the assumed ultimate health care trend rate. The contributions were computed assuming that the contribution is paid at the end of the fiscal year. Projected benefit payments/employer contributions reflect only the benefit for those individuals now employed or retired, not any future entrants.

Paragraph 12 of GASB 45 stipulates that valuations must be performed at least biennially.

SECTION VI - SCHEDULE OF EMPLOYER CONTRIBUTIONS

Pay-as-You-Go Basis – 7.0%

Fiscal Year Ending In	Normal Cost	Amortization of UAL	ARC*	Pay-as-You-Go
2014	232,729	1,220,254	1,452,983	1,419,674
2015	243,202	1,269,064	1,512,266	1,494,806
2016	254,146	1,319,827	1,573,973	1,578,605
2017	265,583	1,372,620	1,638,203	1,629,900
2018	277,534	1,427,525	1,705,059	1,717,205
2019	290,023	1,484,626	1,774,649	1,743,671
2020	303,074	1,544,011	1,847,085	1,762,858
2021	316,712	1,605,771	1,922,483	1,801,466
2022	330,964	1,670,002	2,000,966	1,839,342
2023	345,857	1,736,802	2,082,659	1,879,110
2024	361,421	1,806,274	2,167,695	1,910,171
2025	377,685	1,878,525	2,256,210	1,947,845
2026	394,681	1,953,666	2,348,347	1,986,262
2027	412,442	2,031,813	2,444,255	2,025,436
2028	431,002	2,113,086	2,544,088	2,065,383
2029	450,397	2,197,609	2,648,006	2,106,118
2030	470,665	2,285,513	2,756,178	2,147,657
2031	491,845	2,376,934	2,868,779	2,190,014
2032	513,978	2,472,011	2,985,989	2,233,207
2033	537,107	2,570,891	3,107,998	2,277,252
2034	561,277	2,673,727	3,235,004	2,322,166
2035	586,534	2,780,676	3,367,210	2,367,965
2036	612,928	2,891,903	3,504,831	2,414,668
2037	640,510	3,007,579	3,648,089	2,462,292
2038	669,333	3,127,882	3,797,215	2,510,855
2039	699,453	3,252,997	3,952,450	2,560,375
2040	730,928	-	730,928	2,610,873
2041	763,820	-	763,820	2,662,366
2042	798,192	-	798,192	2,714,875
2043	834,111	-	834,111	2,768,420
2044	871,646	-	871,646	2,823,021
2045	910,870	-	910,870	2,878,698

* Assumes payment is made at the end of the fiscal year.

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SCHEDULE A - ACTUARIAL ASSUMPTIONS AND METHODS

PLYMOUTH COUNTY, ALL GROUPS

***Interest*:** Full Prefunding: 7.00% per year, net of investment expenses. Previous financial disclosures were at 4%.

***Actuarial Cost Method*:** Projected Unit Credit. Benefits are attributed ratably to service from date of hire until full eligibility date. Full eligibility date is assumed to be first eligibility for retiree medical benefits.

Healthcare Cost Trend Rate:

Year	Inflation Rate
2014	7.0%
2015	6.5%
2016	6.0%
2017	5.5%
2018	5.0%
2019 & After	4.5%

***Amortization Period*:** 26-year level percent of pay assuming 4.0% aggregate annual payroll growth, closed basis.

***Participation*:** 95% of future retirees are assumed to participate in the retiree medical plan, 90% of future retirees elect dental coverage, and 95% of future retirees are expected to elect life insurance.

Marital Status: 80% of male employees and 60% of female employees are assumed to have a covered spouse at retirement. Wives are assumed to be three years younger than their husbands.

SCHEDULE A - ACTUARIAL ASSUMPTIONS AND METHODS

Pre-Age 65 Retirees:

Current retirees who are under age 65 are assumed to remain in their current medical plan until age 65.

Current active employees who are assumed to retire prior to age 65 are valued with a weighted-average premium. This weighted-average premium is based on the medical plan coverage of current retirees under age 65.

Post-Age 65 Retirees:

Current retirees over age 65 remain in their current medical plan until death for purposes of measuring their contributions. It is assumed that future retirees are Medicare eligible. It is furthermore assumed that all current retirees under 65 will participate in Medicare plans in the same proportion as current retirees over 65. Amounts to be received in the future for the Medicare Part D Retiree Drug Subsidy are not reflected in the valuation.

Termination Benefit:

80% of employees are expected to elect medical coverage starting at age 65.

Medical Plan Costs:

It is assumed that future retirees participate in the same manner as current retirees. The County is community rated through the Mayflower Municipal Health Group. The estimated gross premium costs for all retirees and beneficiaries for 2014-15 for pre-65 and post-65 are $11,452 and $5,451, respectively. Medicare eligible retirees' estimated premium costs for post-65 equal $4,962. Employee cost sharing is based on current rates. Future cost sharing is based on the weighted average of the current cost sharing of retirees and beneficiaries.

SCHEDULE A - ACTUARIAL ASSUMPTIONS AND METHODS

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal and vesting, disability, death and service retirement are as follows:

Age	Disability	Service Retirement Male	Service Retirement Female
25	0.0002		
30	0.0003		
35	0.0006		
40	0.0010		
45	0.0015		
50	0.0019	0.010	0.015
55	0.0024	0.020	0.055
60	0.0028	0.120	0.050
62	0.0030	0.300	0.150
65	0.0030	0.400	0.150
69		0.300	0.200

Years of Service	Rates of Withdrawal
0	0.150
1	0.120
2	0.100
3	0.090
4	0.080
5	0.076
10	0.054
15	0.033
20	0.020
25	0.010
30+	0.000

Mortality: The RP-2000 Mortality Tables for males and females with static projection to 2021 using Scale AA. For the period after disability retirement, the RP-2000 Combined Healthy Table set forward 2 years is used.

SCHEDULE A - ACTUARIAL ASSUMPTIONS AND METHODS

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal and vesting, disability, death and service retirement are as follows:

Age	Disability
25	0.0002
30	0.0003
35	0.0006
40	0.0010
45	0.0015
50	0.0019
55	0.0024
60	0.0028
62	0.0030
65	0.0030
69	

Years of Service	Rates of Withdrawal
0	0.150
1	0.120
2	0.100
3	0.090
4	0.080
5	0.076
10	0.054
15	0.033
20	0.020
25	0.010
30+	0.000

	Male Service Retirement		Female Service Retirement	
Age	**<20**	**20+**	**<20**	**20+**
50	0.00	0.01	0.00	0.01
55	0.02	0.03	0.02	0.04
60	0.12	0.20	0.12	0.16
61	0.15	0.30	0.15	0.20
62	0.18	0.35	0.18	0.25
63	0.15	0.35	0.15	0.25
64	0.25	0.30	0.25	0.30
65	0.40	0.50	0.40	0.40
66	0.40	0.30	0.40	0.30
67	0.40	0.30	0.40	0.25
68	0.40	0.30	0.40	0.35
69	0.40	0.40	0.40	0.35
70	1.00	1.00	1.00	1.00

Mortality: The RP-2000 Mortality Tables for males and females with static projection to 2015 using Scale AA. For the period after disability retirement, the RP-2000 Combined Healthy Table set forward 2 years is used.

SCHEDULE B - SUMMARY OF PROGRAM PROVISIONS

Retirement Medical Insurance:	Retirees pay a variable share of their post-retirement medical costs, depending on the health plan.
Life Insurance:	Plymouth County contributes $2.40 per month for each retiree receiving $5,000 basic life insurance.
Spousal Coverage:	Current and future retirees may elect to include their spouses as part of their post-retirement benefits. There is lifetime spousal coverage for medical insurance.
Section 18 Coverage:	The County has elected to adopt Section 18 under Chapter 32B of the General Laws of Massachusetts, which requires that an employee or retiree must participate in the Medicare program as the primary payer once one reaches age 65 and is Medicare eligible.
Retirement Eligibility:	Age 55 with 10 years of service, or 20 years of service.
Ordinary Disability Eligibility:	10 years of service and under age 55.
Termination Eligibility:	10 years of service.

SCHEDULE C - CONSIDERATIONS OF HEALTH CARE REFORM

Early Retiree Reinsurance Program ("ERRP") - Effective June 1, 2010: Due to the short-term nature of the payments expected to be received under this program, we do not reflect this program in long-term GASB 45 liabilities.

Removal of Lifetime Maximum: The elimination of the lifetime maximums would have no impact on the retiree health plan obligations since, as far as we are aware, the plan has no lifetime maximums.

Medicare Advantage Plans - Effective January 1, 2011: The law provides for reductions to the amounts that would be provided to Medicare Advantage plans starting in 2011. Since the County offers these plans to some subscribers, we measured this impact. For people in Medicare Advantage Plans, we assume a higher healthcare trend rate for 2011, 12%, as opposed to the 8% rate that we assume for other plans.

Expansion of Child Coverage to Age 26: Since few retirees cover children on retiree health plans, this provision will likely have a relatively small effect on the gross benefit cost. We have reflected an estimate of the amount of additional cost by assuming a higher healthcare trend rate.

Medicare Part D Subsidy - Shrinking Medicare Prescription Drug "Donut Hole"- Starting January 1, 2011: RDS payments are not reflected as on ongoing offsetting item in GASB 45 valuations, and so no direct impact is reflected. RDS actuarial equivalence testing does not reflect the new donut hole shrinking Part D benefits. Thus, the changes to Medicare Part D have no impact on the calculations.

Excise Tax on High-Cost Employer Health Plans (aka Cadillac Tax) - Effective January 1, 2018: There is considerable uncertainty about how the tax would be applied, and considerable latitude in grouping of participants for tax purposes. We have estimated the impact and included the cost in the costs and liabilities.

Other: We have not identified any other specific provision of health care reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will continue to monitor any potential impacts.

SCHEDULE D - GLOSSARY OF TERMS

Actuarial Accrued Liability
That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of OPEB benefits and expenses which is not provided for by future Normal Costs and therefore is the value of benefits already earned.

Actuarial assumptions
Assumptions as to the occurrence of future events affecting OPEB costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided OPEB benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

Actuarial cost method
A procedure for determining the Actuarial Present Value of OPEB benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

Actuarial experience gain or loss
A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

Amortization (of unfunded actuarial accrued liability)
That portion of the OPEB plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability or the Unfunded Frozen Actuarial Accrued Liability.

Annual OPEB cost
An accrual-basis measure of the periodic cost of an employer’s participation in a defined benefit OPEB plan.

Annual required contributions of the employer (ARC)
The employer’s periodic expense to a defined benefit OPEB plan, calculated in accordance with the parameters. It is the value of the cash contributions for a funded plan and the value of the expense entry in the profit and loss section of the financial statements.

Closed amortization period (closed basis)
A specific number of years that is counted from one date and, therefore, declines to zero with the passage of time. For example, if the amortization period initially is thirty years on a closed basis, twenty-nine years remain after the first year, twenty-eight years after the second year, and so forth. In contrast, an open amortization period (open basis) is one that begins again or is recalculated at each actuarial valuation date. Within a maximum number of years specified by law or policy (for example, thirty years), the period may increase, decrease, or remain stable.

Covered payroll
Annual compensation paid to active employees covered by an OPEB plan. If employees also are covered by a pension plan, the covered payroll should include all elements included in compensation on which contributions to the pension plan are based. For example, if pension contributions are calculated on base pay including overtime, covered payroll includes overtime compensation.

Defined benefit OPEB plan
An OPEB plan having terms that specify the benefits to be provided at or after separation from employment. The benefits may be specified in dollars (for example, a flat dollar payment or an amount based on one or more factors such as age, years of service, and compensation), or as a type or level of coverage (for example, prescription drugs or a percentage of healthcare insurance premiums).

Funded ratio
The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

SCHEDULE D - GLOSSARY OF TERMS

Funding policy
The program for the amounts and timing of contributions to be made by plan members, employer(s), and other contributing entities (for example, state government contributions to a local government plan) to provide the benefits specified by an OPEB plan.

Healthcare cost trend rate
The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

Investment return assumption (discount rate)
The rate used to adjust a series of future payments to reflect the time value of money.

Level dollar amortization method
The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment on a building). Because payroll can be expected to increase as a result of inflation, level dollar payments generally represent a decreasing percentage of payroll; in dollars adjusted for inflation, the payments can be expected to decrease over time.

Level percentage of projected payroll amortization method
Amortization payments are calculated so that they are a constant percentage of the projected payroll of active plan members over a given number of years. The dollar amount of the payments generally will increase over time as payroll increases due to inflation; in dollars adjusted for inflation, the payments can be expected to remain level.

Net OPEB Obligation
The cumulative difference since the effective date of this Statement between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt. It will be included as a balance sheet entry on the financial statements.

Normal cost
That portion of the Actuarial Present Value of OPEB benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. It is the value of benefits to be accrued in the valuation year by active employees.

OPEB-related debt
All long-term liabilities of an employer to an OPEB plan, the payment of which is not included in the annual required contributions of a sole or agent employer (ARC) or the actuarially determined required contributions of a cost-sharing employer. Payments generally are made in accordance with installment contracts that usually include interest. Examples include contractually deferred contributions and amounts assessed to an employer upon joining a multiple-employer plan.

Other postemployment benefits
Postemployment benefits other than pension benefits. Other postemployment benefits (OPEB) include postemployment healthcare benefits, regardless of the type of plan that provides them, and all postemployment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

Pay-as-You-Go
A method of financing an OPEB plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

Required supplementary information (RSI)
Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.