

**Town of Essex Other  
Postemployment Benefits Plan**

**GASB 45 Actuarial Valuation**

*as of*

July 1, 2010

For the fiscal year ending

June 30, 2011

Delivered October 2010

## TABLE OF CONTENTS

### LETTER

<u>SECTION</u>		<u>PAGE</u>
I	PRINCIPAL RESULTS OF THE VALUATION	1
II	SUMMARY OF PLAN PROVISIONS	10
III	ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS	11

### EXHIBITS

A	FINANCIAL STATEMENT DISCLOSURES	19
B	RECONCILIATION OF PLAN PARTICIPANTS	25
C	PROJECTED CASH FLOWS (CLOSED GROUP)	26
D	GLOSSARY OF TERMS	30

October 14, 2010

*Personal and Confidential*

Ms. Roxanne Tieri  
Town Accountant  
Town of Essex  
30 Martin Street  
Essex, MA 01929

Dear Ms. Tieri:

We have performed an actuarial valuation of the Town of Essex Other Postemployment Benefits Plan for the fiscal year ending June 30, 2011. The figures presented in this report reflect the adoption, by the Town of Essex, of Statement No. 45 of the Governmental Accounting Standards Board ("GASB 45") effective July 1, 2007.

The financial results of the actuarial valuation are summarized in the report. The Executive Summaries highlight the results of the valuation. Additional information summarizing census data, actuarial assumptions, claim rates and the methodology for developing them, as well as a glossary of selected terms used in this study, is also included in the report.

All costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures. In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and reasonable expectations and, in combination, represent our best estimate of the anticipated experience under the plan.

We refer you to Section I of this report for a detailed summary and commentary on the results of the valuation and a comparison with the prior valuation. Section II is a summary of the plan provisions, and Section III describes the actuarial cost method and assumptions. Details for cost calculations, supporting data, and disclosures are provided in Exhibits A through C.

We will be pleased to answer any questions that you may have regarding this actuarial valuation report.

Very truly yours,

Parker E. Elmore, A.S.A., E.A., M.A.A.A.  
President & CEO

Enclosure

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION

**Town of Essex**  
**Comparison of Plan Liabilities to Prior Valuation**

	<u>July 1, 2010</u>	<u>July 1, 2009</u>
I. Actuarial Accrued Liability (Projected Unit Credit)		
A. Actives	1,708,407	1,913,696
B. Retirees/Disabled	<u>1,805,252</u>	<u>2,062,536</u>
C. Total	3,513,659	3,976,232
II. Plan Assets	0	0
III. Unfunded Actuarial Accrued Liability ("UAAL")	3,513,659	3,976,232
IV. Funded Ratio	0.00%	0.00%
V. Unrecognized Transition Obligation	3,402,074	3,471,549
VI. Annual Covered Payroll	N/A	N/A
VII. UAAL as % of Covered Payroll	N/A	N/A
VIII. Net OPEB Obligation	769,308	500,896
IX. Number of Covered Participants		
A. Actives	28	29
B. Retirees/Disabled	<u>25</u>	<u>27</u>
C. Total	53	56
	<u>June 30, 2011</u>	<u>June 30, 2010</u>
X. Normal Cost	126,083	191,838
XI. Amortization of UAAL - 30 year flat dollar	200,325	200,325
XII. Annual Required Contribution ("ARC") [ IX. + X.]	326,408	392,163
XIII. Interest on Net OPEB Obligation	30,771	20,036
XIV. Adjustment to Annual Required Contribution	(45,300)	(4,348)
XV. Annual OPEB Cost [XI. + XII. + XIII.]	311,879	407,851
XVI. Expected Employer Contribution	130,902	139,439
XVII. Percentage of Annual OPEB Cost Contributed	42.0%	34.2%
XVIII. Net OPEB Obligation at Beginning of Year (VII.)	769,308	500,896
XIX. Increase in Net OPEB Obligations (XIV. - XV.)	180,977	268,412
XX. Net OPEB Obligation at End of Year (XVII. + XVIII.)	950,285	769,308
XXI. Discount Rate	4.00%	4.00%

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**Town of Essex**  
**Plan Liabilities as of July 1, 2010**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	1,705,784	0	2,623	1,708,407
B. Retirees/Disabled	<u>1,793,234</u>	<u>0</u>	<u>12,018</u>	<u>1,805,252</u>
C. Total	3,499,018	0	14,641	3,513,659
II. Plan Assets	0	0	0	0
III. Unfunded Actuarial Accrued Liability ("UAAL")	3,499,018	0	14,641	3,513,659
IV. Unrecognized Transition Obligation	3,375,054	0	27,020	3,402,074
V. Annual Covered Payroll	N/A	N/A	N/A	N/A
VI. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A
VII. Net OPEB Obligation	768,008	0	1,300	769,308
VIII. Number of Covered Participants				
A. Actives	28	0	28	
B. Retirees/Disabled	<u>25</u>	<u>0</u>	<u>18</u>	
C. Total	53	0	46	
<b>For Fiscal Year Ending June 30, 2011</b>				
IX. Normal Cost	125,884	0	199	126,083
X. Amortization of UAAL - 30 year flat dollar	198,734	0	1,591	200,325
XI. Annual Required Contribution ("ARC") [ IX. + X.]	324,618	0	1,790	326,408
XII. Interest on Net OPEB Obligation	30,719	0	52	30,771
XIII. Adjustment to Annual Required Contribution	(45,222)	0	(78)	(45,300)
XIV. Annual OPEB Cost [XI. + XII. + XIII.]	310,115	0	1,764	311,879
XV. Expected Employer Contribution	129,949	0	953	130,902
XVI. Percentage of Annual OPEB Cost Contributed	41.9%	0.0%	54.0%	42.0%
XVII. Net OPEB Obligation at Beginning of Year (VII.)	768,008	0	1,300	769,308
XVIII. Increase in Net OPEB Obligations (XIV. - XV.)	180,166	0	811	180,977
XIX. Net OPEB Obligation at End of Year (XVII. + XVIII.)	948,174	0	2,111	950,285

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**Town of Essex**  
**Education Employees**  
**Plan Liabilities as of July 1, 2010**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	0	0	0	0
B. Retirees/Disabled	<u>561,169</u>	<u>0</u>	<u>7,647</u>	<u>568,816</u>
C. Total	561,169	0	7,647	568,816
II. Plan Assets	0	0	0	0
III. Unfunded Actuarial Accrued Liability ("UAAL")	561,169	0	7,647	568,816
IV. Unrecognized Transition Obligation	677,035	0	14,486	691,521
V. Annual Covered Payroll	N/A	N/A	N/A	N/A
VI. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A
VII. Net OPEB Obligation	(45,728)	0	(623)	-46,351
VIII. Number of Covered Participants				
A. Actives	0	0	0	
B. Retirees/Disabled	<u>12</u>	<u>0</u>	<u>11</u>	
C. Total	12	0	11	
<b>For Fiscal Year Ending June 30, 2011</b>				
IX. Normal Cost	0	0	0	0
X. Amortization of UAAL - 30 year flat dollar	39,866	0	853	40,719
XI. Annual Required Contribution ("ARC") [ IX. + X.]	39,866	0	853	40,719
XII. Interest on OPEB Obligation	(1,829)	0	(25)	(1,854)
XIII. Adjustment to Annual Required Contribution	2,693	0	37	2,730
XIII. Annual OPEB Cost [XI. + XII. + XIII.]	40,730	0	865	41,595
XIV. Expected Employer Contribution	46,980	0	673	47,653
XVI. Percentage of Annual OPEB Cost Contributed	115.3%	0.0%	77.8%	114.6%
XVII. Net OPEB Obligation at Beginning of Year (VII.)	(45,728)	0	(623)	(46,351)
XVIII. Increase in Net OPEB Obligations (XIV. - XV.)	(6,250)	0	192	(6,058)
XIX. Net OPEB Obligation at End of Year (XVII. + XVIII.)	(51,978)	0	(431)	(52,409)

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**Town of Essex**  
**General Govt Employees**  
**Plan Liabilities as of July 1, 2010**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	293,842	0	715	294,557
B. Retirees/Disabled	55,239	0	759	55,998
C. Total	349,081	0	1,474	350,555
II. Plan Assets	0	0	0	0
III. Unfunded Actuarial Accrued Liability ("UAAL")	349,081	0	1,474	350,555
IV. Unrecognized Transition Obligation	327,937	0	4,263	332,200
V. Annual Covered Payroll	N/A	N/A	N/A	N/A
VI. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A
VII. Net OPEB Obligation	136,006	0	574	136,580
VIII. Number of Covered Participants				
A. Actives	5	0	5	
B. Retirees/Disabled	2	0	1	
C. Total	7	0	6	
<b>For Fiscal Year Ending June 30, 2011</b>				
IX. Normal Cost	21,752	0	49	21,801
X. Amortization of UAAL - 30 year flat dollar	19,310	0	251	19,561
XI. Annual Required Contribution ("ARC") [ IX. + X.]	41,062	0	300	41,362
XII. Interest on OPEB Obligation	5,440	0	23	5,463
XIII. Adjustment to Annual Required Contribution	(8,008)	0	(34)	(8,042)
XIII. Annual OPEB Cost [XI. + XII. + XIII.]	38,494	0	289	38,783
XIV. Expected Employer Contribution	8,594	0	64	8,658
XVI. Percentage of Annual OPEB Cost Contributed	22.3%	0.0%	22.1%	22.3%
XVII. Net OPEB Obligation at Beginning of Year (VII.)	136,006	0	574	136,580
XVIII. Increase in Net OPEB Obligations (XIV. - XV.)	29,900	0	225	30,125
XIX. Net OPEB Obligation at End of Year (XVII. + XVIII.)	165,906	0	799	166,705

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**Town of Essex**  
**Health & Human Services Employees**  
**Plan Liabilities as of July 1, 2010**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	160,378	0	284	160,662
B. Retirees/Disabled	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
C. Total	160,378	0	284	160,662
II. Plan Assets	0	0	0	0
III. Unfunded Actuarial Accrued Liability ("UAAL")	160,378	0	284	160,662
IV. Unrecognized Transition Obligation	65,231	0	187	65,418
V. Annual Covered Payroll	N/A	N/A	N/A	N/A
VI. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A
VII. Net OPEB Obligation	72,711	0	129	72,840
VIII. Number of Covered Participants				
A. Actives	2	0	2	
B. Retirees/Disabled	<u>0</u>	<u>0</u>	<u>0</u>	
C. Total	2	0	2	

**For Fiscal Year Ending June 30, 2011**

IX. Normal Cost	13,463	0	25	13,488
X. Amortization of UAAL - 30 year flat dollar	3,841	0	11	3,852
XI. Annual Required Contribution ("ARC") [ IX. + X.]	17,304	0	36	17,340
XII. Interest on OPEB Obligation	2,908	0	5	2,913
XIII. Adjustment to Annual Required Contribution	(4,281)	0	(8)	(4,289)
XIII. Annual OPEB Cost [XI. + XII. + XIII.]	15,931	0	33	15,964
XIV. Expected Employer Contribution	657	0	0	657
XVI. Percentage of Annual OPEB Cost Contributed	4.1%	0.0%	0.0%	4.1%
XVII. Net OPEB Obligation at Beginning of Year (VII.)	72,711	0	129	72,840
XVIII. Increase in Net OPEB Obligations (XIV. - XV.)	15,274	0	33	15,307
XIX. Net OPEB Obligation at End of Year (XVII. + XVIII.)	87,985	0	162	88,147

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**Town of Essex**  
**Public Safety Employees**  
**Plan Liabilities as of July 1, 2010**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	600,925	0	809	601,734
B. Retirees/Disabled	<u>538,268</u>	<u>0</u>	<u>2,067</u>	<u>540,335</u>
C. Total	1,139,193	0	2,876	1,142,069
II. Plan Assets	0	0	0	0
III. Unfunded Actuarial Accrued Liability ("UAAL")	1,139,193	0	2,876	1,142,069
IV. Unrecognized Transition Obligation	1,088,307	0	3,685	1,091,992
V. Annual Covered Payroll	N/A	N/A	N/A	N/A
VI. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A
VII. Net OPEB Obligation	219,087	0	553	219,640
VIII. Number of Covered Participants				
A. Actives	10	0	10	
B. Retirees/Disabled	<u>6</u>	<u>0</u>	<u>3</u>	
C. Total	16	0	13	
<b>For Fiscal Year Ending June 30, 2011</b>				
IX. Normal Cost	38,544	0	51	38,595
X. Amortization of UAAL - 30 year flat dollar	64,083	0	217	64,300
XI. Annual Required Contribution ("ARC") [ IX. + X.]	102,627	0	268	102,895
XII. Interest on OPEB Obligation	8,763	0	22	8,785
XIII. Adjustment to Annual Required Contribution	(12,901)	0	(33)	(12,934)
XIII. Annual OPEB Cost [XI. + XII. + XIII.]	98,489	0	257	98,746
XIV. Expected Employer Contribution	41,909	0	181	42,090
XVI. Percentage of Annual OPEB Cost Contributed	42.6%	0.0%	70.4%	42.6%
XVII. Net OPEB Obligation at Beginning of Year (VII.)	219,087	0	553	219,640
XVIII. Increase in Net OPEB Obligations (XIV. - XV.)	56,580	0	76	56,656
XIX. Net OPEB Obligation at End of Year (XVII. + XVIII.)	275,667	0	629	276,296

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**Town of Essex**  
**Public Works Employees**  
**Plan Liabilities as of July 1, 2010**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	598,466	0	725	599,191
B. Retirees/Disabled	<u>547,398</u>	<u>0</u>	<u>1,545</u>	<u>548,943</u>
C. Total	1,145,864	0	2,270	1,148,134
II. Plan Assets	0	0	0	0
III. Unfunded Actuarial Accrued Liability ("UAAL")	1,145,864	0	2,270	1,148,134
IV. Unrecognized Transition Obligation	990,707	0	4,025	994,732
V. Annual Covered Payroll	N/A	N/A	N/A	N/A
VI. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A
VII. Net OPEB Obligation	313,721	0	621	314,342
VIII. Number of Covered Participants				
A. Actives	10	0	10	
B. Retirees/Disabled	<u>4</u>	<u>0</u>	<u>3</u>	
C. Total	14	0	13	
<b>For Fiscal Year Ending June 30, 2011</b>				
IX. Normal Cost	45,321	0	62	45,383
X. Amortization of UAAL - 30 year flat dollar	58,336	0	237	58,573
XI. Annual Required Contribution ("ARC") [ IX. + X.]	103,657	0	299	103,956
XII. Interest on OPEB Obligation	12,549	0	25	12,574
XIII. Adjustment to Annual Required Contribution	(18,473)	0	(37)	(18,510)
XIII. Annual OPEB Cost [XI. + XII. + XIII.]	97,733	0	287	98,020
XIV. Expected Employer Contribution	27,723	0	35	27,758
XVI. Percentage of Annual OPEB Cost Contributed	28.4%	0.0%	12.2%	28.3%
XVII. Net OPEB Obligation at Beginning of Year (VII.)	313,721	0	621	314,342
XVIII. Increase in Net OPEB Obligations (XIV. - XV.)	70,010	0	252	70,262
XIX. Net OPEB Obligation at End of Year (XVII. + XVIII.)	383,731	0	873	384,604

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**Town of Essex**  
**Culture & Recreation Employees**  
**Plan Liabilities as of July 1, 2010**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	52,173	0	90	52,263
B. Retirees/Disabled	<u>91,160</u>	<u>0</u>	<u>0</u>	<u>91,160</u>
C. Total	143,333	0	90	143,423
II. Plan Assets	0	0	0	0
III. Unfunded Actuarial Accrued Liability ("UAAL")	143,333	0	90	143,423
IV. Unrecognized Transition Obligation	225,837	0	374	226,211
V. Annual Covered Payroll	N/A	N/A	N/A	N/A
VI. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A
VII. Net OPEB Obligation	72,212	0	45	72,257
VIII. Number of Covered Participants				
A. Actives	1	0	1	
B. Retirees/Disabled	<u>1</u>	<u>0</u>	<u>0</u>	
C. Total	2	0	1	
<b>For Fiscal Year Ending June 30, 2011</b>				
IX. Normal Cost	6,804	0	12	6,816
X. Amortization of UAAL - 30 year flat dollar	13,298	0	22	13,320
XI. Annual Required Contribution ("ARC") [ IX. + X.]	20,102	0	34	20,136
XII. Interest on OPEB Obligation	2,888	0	2	2,890
XIII. Adjustment to Annual Required Contribution	(4,252)	0	(3)	(4,255)
XIII. Annual OPEB Cost [XI. + XII. + XIII.]	18,738	0	33	18,771
XIV. Expected Employer Contribution	4,086	0	0	4,086
XVI. Percentage of Annual OPEB Cost Contributed	21.8%	0.0%	0.0%	21.8%
XVII. Net OPEB Obligation at Beginning of Year (VII.)	72,212	0	45	72,257
XVIII. Increase in Net OPEB Obligations (XIV. - XV.)	14,652	0	33	14,685
XIX. Net OPEB Obligation at End of Year (XVII. + XVIII.)	86,864	0	78	86,942

## Commentary on Plan Experience and Contribution Amounts

### 1. Transition to GASB 45:

The Plan adopted and implemented GASB 45 ("Accounting and Financial Reporting by Employers for Postemployment Benefits other than Pensions") effective for the fiscal year ending June 30, 2008. As part of this implementation, the Employer must recognize the Actuarial Accrued Liability for past service. Under GASB 45, this amount may be amortized over a period not to exceed thirty (30) years. We utilized a 30 year period and a flat dollar amortization of the Unfunded Actuarial Accrued Liability ("UAAL") at transition. This approach yielded an amortization charge of \$200,325. Additionally the Employer must recognize a "normal cost" which represents the annual accrual of benefits for current active employees toward their ultimate postemployment benefits. The normal cost for the 2011 fiscal year is \$126,083. The combined amortization charge and normal cost represent the Annual Required Contribution ("ARC") for the plan for the 2011 fiscal year. As the Employer has chosen to continue their "pay-as-you-go" funding policy, this valuation must utilize a discount rate which represents earnings on short term investments. For this discount rate, we have used 4.00% per annum. The incremental cost of GASB 45 for the 2011 fiscal year beyond the "pay-as-you-go" costs is \$180,977.

### 2. Plan Experience

Plan experience has been much more favorable than expected. This was due to significantly lower than expected increases in medical costs as well as modest gains from demographic experience.

SECTION II  
SUMMARY OF PLAN PROVISIONS

<u>Effective Date</u>	July 1, 2007; GASB 45 is adopted.
<u>Plan Year</u>	July 1 through June 30.
<u>Eligibility</u>	An employee shall become eligible to retire under this plan upon attainment of age 55 as an active member and completion of 10 years of service.
<u>Credited Service</u>	Elapsed time from date of hire to termination of service date.
<u>Participant Contributions</u>	25% of premiums for HMO Plans for Medical and 40% of premiums for Indemnity/PPO Plan for Medical & 50% of premiums for life insurance. Dental insurance will be offered to those retiring after July 1, 2008 assuming they pay 100% of the premiums.
<u>Benefits Offered</u>	Comprehensive Medical Insurance offered through Blue Cross Blue Shield of Massachusetts Comprehensive Dental through Altus Dental and Group Term Life Insurance.
<u>Normal Retirement Date</u>	The normal retirement date is the first day of the month following a participant's 65th birthday.
<u>Early Retirement</u>	Early retirement is available for any participant who has attained benefit eligibility.

### SECTION III

#### ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

##### A. ACTUARIAL COST METHOD

The actuarial cost method used to calculate the costs and liabilities of the plan is the Projected Unit Credit Actuarial Cost Method. Under this method, the normal cost and actuarial accrued liability are both based on an accrual of projected benefits over the period for which benefits are accrued. The normal cost is the actuarial present value of one year's benefit accrual on this basis. The actuarial accrued liability is the actuarial present value of the projected benefit times the ratio of past service to total service.

Actuarial gains and losses are calculated each year and amortized over the minimum and maximum periods allowed by law from the year of such gain or loss.

All employees who are plan participants on a valuation date are included in the actuarial valuation.

##### B. ASSET VALUATION METHOD

The actuarial value of assets is equal to the Market Value of the Plan's assets.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS

We used the following assumptions in this year's actuarial valuation:

Pre- and Post-Retirement Mortality

It is assumed that both pre-retirement and post-retirement mortality are represented by the RP-2000 Mortality Table for males and females.

Discount Rate

4.00% per annum (previously 4.00%)

Employee Termination

It was assumed that employees would terminate employment in accordance with the sample rates shown in the following table:

<u>Service</u>	<u>Male</u>	<u>Female</u>
0	15.0%	15.0%
10	5.4%	5.4%
20	2.0%	2.0%
30	0.0%	0.0%

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

Retirement Rates

It was assumed that the following percentage of eligible employees would retire each year:

<u>Age</u>	<u>Male</u>	<u>Female</u>
50	1.0%	1.5%
51	1.0%	1.5%
52	1.0%	2.0%
53	1.0%	2.5%
54	2.0%	2.5%
55	2.0%	5.5%
56	2.5%	6.5%
57	2.5%	6.5%
58	5.0%	6.5%
59	6.5%	6.5%
60	12.0%	5.0%
61	20.0%	13.0%
62	30.0%	15.0%
63	25.0%	12.5%
64	22.0%	18.0%
65	40.0%	15.0%
66	25.0%	20.0%
67	25.0%	20.0%
68	30.0%	25.0%
69	30.0%	20.0%
70	100.0%	100.0%

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Healthcare Trend

It was assumed that healthcare costs would increase in accordance with the trend rates in the following table:

<u>Year</u>	<u>Medical</u>	<u>Dental</u>
FY 2008	0.0%	8.5%
FY 2009	7.55%	8.0%
FY 2010	9.0%	7.5%
FY 2011	8.0%	7.0%
FY 2012	7.0%	6.5%
FY 2013	6.0%	6.0%
FY 2014	5.0%	5.5%
FY 2015	5.0%	5.0%

Participation Rate

It was assumed that 80% of the employees covered under the active plan on the day before retirement would enroll in the retiree medical plans upon retirement. All eligible employees were assumed to be covered under the retiree life insurance program.

Percent Married

It was assumed that 80% of the participants who elect retiree healthcare coverage for themselves would also elect coverage for a spouse upon retirement. It was further assumed that husbands are three years older than their wives. For current retirees, the actual census information was used.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Compensation Increases

4.50% per year.

Additional Comments

The values in this report reflect a closed group and do not reflect any new entrants after the valuation date.

For purposes of this valuation, retiree contributions were assumed to increase with the same trend rate as health care claims.

### SECTION III

#### ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

#### D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

Initial premiums were developed for the two classes of retirees (pre-65 and post-65). These premiums were developed using fully insured premium rates in conjunction with census data for the retired participants of the Town of Essex's medical benefit program.

The pre-65 fully insured premiums are blended rates based on the combined experience of active and pre-65 retired members. Therefore, there is an implicit employer subsidy for the non-Medicare eligible retirees as the average costs of providing healthcare benefits to retirees under age 65 is higher than the average cost of providing healthcare benefits to active employees. The true per-capita cost for the non-Medicare retirees is developed by adjusting the demographic differences between the actives and retirees to reflect this implicit rate subsidy for the retirees. For the Medicare eligible retirees, the premium rate will be used as the basis of the initial pre-capita cost without adjustment as the rate reflects the actual claim experience of the post-65 retiree group.

Age graded and sex distinct premiums are utilized in this valuation. The premiums developed by the preceding process are appropriate for the existing unique age and sex distribution. Over the future years covered by this valuation, the age and sex distribution will likely change. Therefore, the process "distributes" the average premium over all age/sex combinations and assigns a unique premium for each specific age/sex combination. The age/sex specific premiums more accurately reflect the healthcare utilization and cost at that age.

Based on guidance provided by GASB on issues related to Medicare Part D payments to State and Local Governments effective as of June 30, 2006, an employer should apply the measurement requirements of GASB Statement No. 45 to determine the actuarial accrued liabilities, the annual required contribution of the employer, and the annual OPEB cost without reduction for Retiree Drug Subsidy (RDS) payments. Therefore, the impact of the RDS that is part of Medicare Prescription Drug Improvement and Modernization Act of 2003 is not reflected in this report.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

**I. CLAIMS COSTS DEVELOPMENT - Based on Active & Retiree Incurred Claims & Premiums**

	Number of Participants			
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
HMO Blue	14		18	32
Blue Care Elect				0
<b>Total</b>	14	0	18	32

	Per Contract Costs (monthly) - FY 2011		
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
HMO Blue	664.90		1,795.24
Blue Care Elect	822.54		2,220.91
Managed Blue	454.35	908.70	
Medex	520.84	1,041.68	

Gross Expected FY 2011 Non Medicare Incurred Premiums	499,475
Adjustment to reflect children's claims	<u>(100,535)</u>
Total Expected FY 2011 Non Medicare Incurred Premiums (adults only)	398,940

**II. PRE-65 AND POST-65 PER CAPITA RETIREE CLAIM COSTS**

	<b>Employer <u>Primary</u></b>	<b>Medicare <u>Primary</u></b>
Age 65	11,599	N/A
Average Age	11,146	N/A



EXHIBIT A

Financial Statement Disclosure

(As of July 1, 2010)

The GASB Standards for accounting and financial reporting for postemployment benefits other than pensions requires the following disclosures in the financial statements with regard to the retiree medical and life insurance benefits;

**1. A DESCRIPTION OF THE RETIREE MEDICAL INSURANCE PROGRAM:**

- a. Plan Type: Blue Cross HMO Blue, Blue Cross Blue Care Elect PPO, Blue Cross Managed Blue & Blue Cross – Medex 3.
- b. Administrator: MIIA Health Benefits Trust
- c. Eligibility: An employee shall become eligible to retire under this plan upon meeting attainment of age 55 as an active member and completion of 10 years of service.
- d. Cost Sharing: Employees will pay 25% of premiums in retirement for HMO coverage and 40% for PPO/Indemnity Coverage.

**2. A DESCRIPTION OF THE DENTAL LIFE INSURANCE PROGRAM:**

- a. Plan Type: Comprehensive Dental
- b. Administrator: Altus Dental
- c. Eligibility: Same as above except must retire on or after July 1, 2008
- d. Cost sharing: 100% of premiums

**3. A DESCRIPTION OF THE RETIREE LIFE INSURANCE PROGRAM:**

- a. Plan Type: Group Term Life Insurance - \$2,000
- b. Administrator: MIIA Health Benefits Trust
- c. Eligibility: Same as above
- d. Cost sharing: 50% of premiums

EXHIBIT A

Financial Statement Disclosure

(As of July 1, 2010)

(continued)

**4. RETIREE MEDICAL, DENTAL AND LIFE INSURANCE CONTRIBUTIONS:**

Group	Individual	Family
Medical	25% for HMO Plans 40% for Indemnity Plans	25% for HMO Plans 40% for Indemnity Plans
Dental	100%	100%
Life	50%	N/A

**5. FUNDING POLICY**

The contribution requirements of plan members and the District are established and may be amended through District ordinances. The required contribution is based on the projected pay-as-you-go financing requirements. For the 2011 fiscal year, total District premiums plus implicit costs for the retiree medical program are \$130,902.

EXHIBIT A

Financial Statement Disclosure

(As of July 1, 2010)

(continued)

**6. ANNUAL OPEB COST AND NET OPEB OBLIGATION**

The District's annual other postemployment benefit ("OPEB") cost (expense) is calculated based on the annual required contribution of the employer ("ARC"), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty (30) years. The following table shows the components of the District's annual OPEB costs for the fiscal year, the amount actually contributed to the plan and changes in the District's net OPEB obligation to the plan:

Annual Required Contribution	\$326,408
Interest on net OPEB obligation	\$30,771
Adjustment to annual required contribution	\$(45,300)
Annual OPEB cost (expense)	\$311,879
Contributions made	<u>\$130,902</u>
Increase in net OPEB obligation	\$180,977
Net OPEB Obligation – beginning of year	\$769,308
Net OPEB Obligation – end of year	\$950,285

EXHIBIT A

Financial Statement Disclosure

(As of July 1, 2010)

(continued)

The District's annual OPEB cost, the percentage of the annual OPEB cost contributed to the plan, and the net OPEB obligation for the 2011 fiscal year and the two preceding years were as follows:

<b>Fiscal Year Ended</b>	<b>Annual OPEB Cost</b>	<b>Expected Employer Payments</b>	<b>Increase in OPEB Obligation</b>
06/30/2009	\$400,175	\$143,447	\$256,728
06/30/2010	\$407,851	\$139,439	\$268,412
06/30/2011	\$311,879	\$130,902	\$180,977
06/30/2012 (est.)	\$304,525	\$137,082	\$167,443
06/30/2013 (est.)	\$300,581	\$146,095	\$154,486

**Schedule of Funding Progress:**

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Accrued Liability</b>	<b>Unfunded Actuarial Accrued Liability</b>	<b>Funded Ratio</b>	<b>Covered Payroll</b>	<b>UAAL as a % of Covered Payroll</b>
07/01/2008	\$0	\$3,779,529	\$3,779,529	0.0%	\$N/A	N/A
07/01/2009	\$0	\$3,976,232	\$3,976,232	0.0%	\$N/A	N/A
07/01/2010	\$0	\$3,513,659	\$3,513,659	0.0%	\$N/A	N/A
07/01/2011 (est.)	\$0	\$3,649,192	\$3,649,192	0.0%	\$N/A	N/A
07/01/2012 (est.)	\$0	\$3,779,624	\$3,779,624	0.0%	\$N/A	N/A

## EXHIBIT A

### Financial Statement Disclosure

(As of July 1, 2010)

(continued)

#### **7. FUNDED STATUS AND FUNDING PROGRESS**

As of July 1, 2010, the most recent valuation date, the plan was 0.0% funded. The actuarial liability for benefits was \$3,513,659, and the actuarial value of assets was \$0.0 million, resulting in an unfunded actuarial accrued liability (UAAL) of \$3,513,659. The covered payroll (annual payroll of active employees covered by the plan) was \$ N/A and the ratio of the UAAL to the covered payroll was N/A.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contribution of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented in the required supplementary information following the financial statements, presents multiyear trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

#### **8. EFFECT OF 1% CHANGE IN HEALTHCARE TREND RATES**

In the event that healthcare trend rates were 1% higher than forecast and employee contributions were to increase at the forecast rates, the Actuarial Accrued Liability would increase to \$4,527,940 or by 28.9% and the corresponding Normal Cost would increase to \$179,609 or by 42.5%. If such healthcare trend rates were 1% less than forecast and employee contributions were to increase at the forecast rate, the Actuarial Accrued Liability would decrease to \$2,719,644 or by 22.6% and the corresponding Normal Cost would decrease to \$85,937 or by 31.8%.

EXHIBIT A

Financial Statement Disclosure

(As of July 1, 2010)

(continued)

**9. ACTUARIAL METHODS AND ASSUMPTIONS**

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

Actuarial Cost Method: Projected Unit Credit  
Investment Rate of Return: 4.00% per annum (previously 4.00%)  
Healthcare Trend Rates

<u>Year</u>	<u>Medical</u>	<u>Dental</u>
FY 2008	0.0%	8.5%
FY 2009	7.55%	8.0%
FY 2010	9.0%	7.5%
FY 2011	8.0%	7.0%
FY 2012	7.0%	6.5%
FY 2013	6.0%	6.0%
FY 2014	5.0%	5.5%
FY 2015	5.0%	5.0%

General Inflation Assumption: 3.5% per annum  
Annual Compensation Increases: 4.5% per annum  
Actuarial Value of Assets: Market Value  
Amortization of UAAL: Level dollar amortization over 30 years at transition  
Remaining Amortization Period: 27 years at July 1, 2010

EXHIBIT B

Reconciliation of Plan Participation  
(As of July 1, 2010)

**ACTIVE EMPLOYEES**

	<u>July 1, 2010</u>	<u>July 1, 2007</u>
<b>A. Average Age at Hire</b>	33.04	36.42
<b>B. Average Service</b>	13.00	9.24
<b>C. Average Current Age</b>	46.04	45.66

EXHIBIT C

Projected Cash Flows (Closed Group)

<b>Total Medical, Dental &amp; Life Insurance</b>
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Fiscal Year	Total APBO	Normal Cost	Employer Payments	Active APBO	Expected Annual OPEB Cost	Expected OPEB Obligation
						769,308
2011	3,513,659	126,083	130,902	1,708,407	311,879	950,285
2012	3,649,192	122,145	137,082	1,850,073	304,525	1,117,728
2013	3,779,624	121,362	146,095	1,935,121	300,581	1,272,214
2014	3,905,087	117,165	155,174	2,054,221	293,467	1,410,507
2015	4,021,761	114,431	160,042	2,135,818	288,122	1,538,587
2016	4,135,197	110,727	154,877	2,214,171	281,999	1,665,709
2017	4,254,689	108,162	158,408	2,285,107	277,033	1,784,334
2018	4,372,622	103,927	166,996	2,372,659	270,558	1,887,896
2019	4,481,935	101,166	166,046	2,431,789	265,842	1,987,691
2020	4,593,739	98,229	166,753	2,506,836	261,020	2,081,959
2021	4,706,224	95,607	172,374	2,566,032	256,618	2,166,203
2022	4,814,636	91,646	184,497	2,611,064	251,066	2,232,772
2023	4,910,656	86,256	196,263	2,604,814	244,419	2,280,928
2024	4,992,675	79,519	215,005	2,545,272	236,773	2,302,696
2025	5,051,475	73,467	235,284	2,432,204	230,310	2,297,721
2026	5,085,244	68,064	245,075	2,321,305	225,001	2,277,647
2027	5,104,564	62,165	250,584	2,206,466	219,481	2,246,544
2028	5,112,791	57,049	269,943	2,045,578	214,952	2,191,553
2029	5,095,893	51,415	283,970	1,899,974	210,356	2,117,940
2030	5,057,872	45,282	286,825	1,729,791	205,613	2,036,728
2031	5,008,980	38,680	300,927	1,534,504	200,545	1,936,346
2032	4,936,602	34,389	309,731	1,313,723	198,150	1,824,765
2033	4,847,711	32,691	314,569	1,175,238	198,558	1,708,754
2034	4,748,467	30,081	293,164	1,133,579	198,139	1,613,729
2035	4,664,799	28,849	286,887	1,052,170	198,701	1,525,543
2036	4,583,031	28,329	290,000	1,023,512	199,847	1,435,390
2037	4,494,214	27,869	271,827	1,022,510	201,090	1,364,653
2038	4,420,266	27,599	268,217	1,024,815	1,830	1,098,266
2039	4,346,834	26,935	269,470	1,038,161	6,197	834,993
2040	4,268,471	25,719	271,131	1,033,583	9,951	573,813
2041	4,183,981	24,344	270,506	1,010,758	13,509	316,816

EXHIBIT C

Projected Cash Flows (Closed Group)  
(continued)

<b>Medical Insurance</b>
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Fiscal Year	Total APBO	Normal Cost	Employer Payments	Active APBO	Expected Annual OPEB Cost	Expected OPEB Obligation
						768,008
2011	3,499,018	125,884	129,949	1,705,784	310,115	948,174
2012	3,634,752	121,961	136,146	1,847,307	302,790	1,114,818
2013	3,765,389	121,185	145,172	1,932,346	298,868	1,268,514
2014	3,891,058	117,003	154,259	2,051,375	291,784	1,406,039
2015	4,007,954	114,282	159,131	2,132,999	286,466	1,533,374
2016	4,121,629	110,593	153,972	2,211,444	280,372	1,659,774
2017	4,241,380	108,035	157,515	2,282,465	275,427	1,777,686
2018	4,359,577	103,813	166,114	2,369,982	268,978	1,880,550
2019	4,469,166	101,059	165,181	2,429,179	264,282	1,979,651
2020	4,581,247	98,128	165,908	2,504,218	259,480	2,073,223
2021	4,694,006	95,511	171,552	2,563,405	255,096	2,156,767
2022	4,802,684	91,556	183,697	2,608,441	249,564	2,222,634
2023	4,898,964	86,174	195,484	2,602,251	242,937	2,270,087
2024	4,981,240	79,447	214,245	2,542,836	235,314	2,291,156
2025	5,040,299	73,404	234,540	2,429,960	228,873	2,285,489
2026	5,074,329	68,008	244,346	2,319,251	223,585	2,264,728
2027	5,093,912	62,116	249,867	2,204,576	218,085	2,232,946
2028	5,102,407	57,005	269,237	2,043,874	213,574	2,177,283
2029	5,085,782	51,377	283,274	1,898,430	208,997	2,103,006
2030	5,048,040	45,249	286,136	1,728,422	204,271	2,021,141
2031	4,999,438	38,654	300,244	1,533,334	199,223	1,920,120
2032	4,927,362	34,368	309,052	1,312,781	196,844	1,807,912
2033	4,838,785	32,672	313,897	1,174,465	197,266	1,691,281
2034	4,739,862	30,065	292,499	1,132,875	196,862	1,595,644
2035	4,656,525	28,834	286,230	1,051,572	197,437	1,506,851
2036	4,575,094	28,315	289,354	1,022,969	198,595	1,416,092
2037	4,486,617	27,856	271,195	1,021,996	199,850	1,344,747
2038	4,413,009	27,586	267,601	1,024,323	2,193	1,079,339
2039	4,339,914	26,923	268,871	1,037,673	6,542	817,010
2040	4,261,884	25,708	270,551	1,033,120	10,280	556,739
2041	4,177,722	24,333	269,946	1,010,306	13,820	300,613

EXHIBIT C

Projected Cash Flows (Closed Group)  
(continued)

<b>Dental Insurance</b>
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Fiscal Year	Total APBO	Service Cost	Employer		Expected Annual OPEB Cost	Expected OPEB Obligation
			Payments	Active APBO		
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
2023	0	0	0	0	0	0
2024	0	0	0	0	0	0
2025	0	0	0	0	0	0
2026	0	0	0	0	0	0
2027	0	0	0	0	0	0
2028	0	0	0	0	0	0
2029	0	0	0	0	0	0
2030	0	0	0	0	0	0
2031	0	0	0	0	0	0
2032	0	0	0	0	0	0
2033	0	0	0	0	0	0
2034	0	0	0	0	0	0
2035	0	0	0	0	0	0
2036	0	0	0	0	0	0
2037	0	0	0	0	0	0
2038	0	0	0	0	0	0
2039	0	0	0	0	0	0
2040	0	0	0	0	0	0
2041	0	0	0	0	0	0

EXHIBIT C

Projected Cash Flows (Closed Group)  
(continued)

<b>Life Insurance</b>
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Fiscal Year	Total APBO	Normal Cost	Employer		Expected Annual OPEB Cost	Expected OPEB Obligation
			Payments	Active APBO		
						1,300
2011	14,641	199	953	2,623	1,764	2,111
2012	14,440	184	936	2,766	1,735	2,910
2013	14,235	177	923	2,775	1,713	3,700
2014	14,029	162	915	2,846	1,683	4,468
2015	13,807	149	911	2,819	1,656	5,213
2016	13,568	134	905	2,727	1,627	5,935
2017	13,309	127	893	2,642	1,606	6,648
2018	13,045	114	882	2,677	1,580	7,346
2019	12,769	107	865	2,610	1,559	8,040
2020	12,492	101	845	2,618	1,541	8,736
2021	12,218	96	822	2,627	1,522	9,436
2022	11,952	90	800	2,623	1,502	10,138
2023	11,692	82	779	2,563	1,482	10,841
2024	11,435	72	760	2,436	1,459	11,540
2025	11,176	63	744	2,244	1,436	12,232
2026	10,915	56	729	2,054	1,416	12,919
2027	10,652	49	717	1,890	1,396	13,598
2028	10,384	44	706	1,704	1,378	14,270
2029	10,111	38	696	1,544	1,360	14,934
2030	9,832	33	689	1,369	1,342	15,587
2031	9,542	26	683	1,170	1,322	16,226
2032	9,240	21	679	942	1,306	16,853
2033	8,926	19	672	773	1,292	17,473
2034	8,605	16	665	704	1,277	18,085
2035	8,274	15	657	598	1,264	18,692
2036	7,937	14	646	543	1,252	19,298
2037	7,597	13	632	514	1,240	19,906
2038	7,257	13	616	492	(363)	18,927
2039	6,920	12	599	488	(345)	17,983
2040	6,587	11	580	463	(329)	17,074
2041	6,259	11	560	452	(311)	16,203

## EXHIBIT D

### **GLOSSARY**

**Accrual Accounting** - A system of accounting in which revenues are recorded when earned and outlays are recorded when goods are received or services performed, even though the actual receipt of revenues and payment for goods or services may occur, in whole or in part, at a different time.

**Actuarial Value of Assets** – The value of cash, investments, other assets and property belonging to an OPEB trust, pension fund or similar entity, as used by the actuary for the purpose of actuarial valuation. Some funds may be restricted for other purposes, and “smoothing” of investment gains and losses often make the actuarial value of assets different from the market value of assets.

**Annual Required Contribution** – Normal Cost plus an amortization of the funding shortfall over a period of no more than 30 years.

**Cash Basis Accounting** - A system of accounting in which revenues are recorded when actually received and outlays are recorded when payment is made.

**Discount Rate** – The interest rate used to calculate present value of a series of future cash flows. Under GASB 45, the rate should be “long term expected yield on the investments that are expected to be used to pay benefits as they come due. These would be plan investments for a funded plan, the employer’s investments for a pay as you go plan [e.g. short term county investment pool], or a weighted average of expected plan and employer investments for a plan that is partially funded”.

**FASB – Financial Accounting Standards Board.** “Since 1973, the Financial Accounting Standards Board (FASB) has been the designated organization in the private sector for establishing standards of financial accounting and reporting”.

**GASB - Government Accounting Standards Board.** “The Governmental Accounting Standards Board (GASB) was organized in 1984 by the Financial Accounting Foundation (FAF) to establish standards of financial accounting and reporting for state and local governmental entities. Its standards guide the preparation of external financial reports of those entities.”

**GFOA – Government Finance Officers Association.** “GFOA is the professional association of state/provincial and local finance officers in the United States and Canada, and has served the public finance profession since 1906. Approximately 16,000 GFOA members are dedicated to the sound management of government financial resources.”

## EXHIBIT D

### **GLOSSARY**

*(continued)*

**Implicit Subsidy** – “The difference between a premium rate charged to retirees for a particular benefit and the estimated rate that would have been applicable to those retirees if that benefit was acquired for them as a separate group.”

**Irrevocable Contribution** – “Irrevocably transferred assets to a qualifying trust, or equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator. The preceding criteria preclude counting as [irrevocable] contributions (a) designations of net assets of a governmental or proprietary fund to be used for OPEB or (b) internal transfers of assets to a separate governmental or proprietary fund for the same purpose. Rather, such actions should be regarded as earmarking of employer assets.”

**Level Dollar Amortization** – Funding a shortfall in OPEB assets with equal dollar payments over a designated number of years (no more than 30 years). The present value of the level payments equals the present value of unfunded liabilities, the UAAL.

**Level Percent of Payroll Amortization** – Funding a shortfall in OPEB assets as a level percent of payroll over a designated number of years (no more than 30 years). The present value of the payments equals the present value of unfunded liabilities, the UAAL. Level percent of payroll typically has lower payments in the early years than level dollar amortization. When using level payroll amortization, employee count is assumed to be constant, and the payroll differences arise from overall wage trends.

**Normal Cost** - The actuarially determined present value contribution needed to fund benefits which are earned for employee service rendered during the current year. Normal cost depends on many factors, including the interest rate used to discount future cashflows, and expected inflation.

**OPEB** – Other Post Employment Benefits

**OPEB Trust** – An entity other than a pension or retirement system which manages OPEB assets. In many respects it is similar to a pension fund for OPEB. For reasons detailed in GASB 45, contributions to an OPEB trust should be irrevocable in order to obtain the most favorable accounting treatment.

## EXHIBIT D

### **GLOSSARY**

*(continued)*

**Pay-as-you-go funding** – Paying benefits (such as pensions or OPEB) on a cash basis, with no money set aside for future liabilities which are already incurred.

**POB** – Pension Obligation Bond. Generally yielding taxable interest, POBs are issued to help fund a previously unfunded or underfunded pension liability.

**UAAL** – Unfunded Accrued Actuarial Liability. Actuarial Accrued Liability minus the Actuarial Value of Assets.