THE ANNE ARUNDEL COUNTY REVISED EMPLOYEES' RETIREMENT PLAN

ACTUARIAL VALUATION AS OF JANUARY 1, 2014

Bolton Partners, Inc.
100 Light Street, 9th Floor
Baltimore, MD 21202

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April 24, 2014

PERSONAL & CONFIDENTIAL
John Peterson
Acting Personnel Officer
Anne Arundel County Government
P.O. Box 6675
Annapolis, MD 21401

Re: REVISED Employees' Retirement Plan Valuation

Dear John:

The following report sets forth the REVISED actuarial valuation as of January 1, 2014 of the Anne Arundel County Employees' Retirement Plan, for the plan year beginning on that date. The revision was due to a change in the accrued contribution amount. The valuation is based on participant data submitted by the personnel department of Anne Arundel County, Aetna and Prudential and unaudited asset data submitted by the County.

INVESTMENT PERFORMANCE

The market value of plan assets as of December 31, 2013 was $566,519,209. The average investment return for the fund for the year ended December 31, 2013 was 10.0% on a market basis and 9.4% on an actuarial basis.

The plan utilizes an actuarial averaging method to smooth out swings in investment performance and thus in asset values from year to year. Under the method, investment gains or losses above or below the 8% actuarial assumption are phased in over a five year period. As of December 31, 2013, the actuarial value of assets was $545,175,930. Details of the development of the actuarial value of assets are set forth later in this report.

ASSUMPTION AND METHOD CHANGES

We have lowered the inflation assumption from 3.5% to 3.0%. This changed the following economic assumptions: investment return assumption (discount rate), salary growth assumption, total payroll growth assumption, retiree COLA increase assumptions. Most of these changes were offsetting but there is a net increase in the liabilities and the County's contribution since the drop in the investment assumption from 8.0% to 7.5% was more significant that the other changes.

We also have prospectively changed the amortization period for gains and losses and assumption changes from 30 to 20 years.

Finally we made a small change in the treatment of the accrued contribution in the calculation of the investment gains used in the asset smoothing method. This change was not material but was felt to be a better method.

The net effect of these changes was an increase of about $20.4 million to the unfunded liability and an increase of about $1.6 million to the County's contribution.

PRINCIPAL RESULTS

The principal purpose of the valuation is to set forth the County's contributions for the fiscal year ending June 30, 2015. In addition, the report sets forth the information on the plan for the County's financial statements and for the plan's own financial statements.

The total recommended employer contribution for the plan year and fiscal year ending June 30, 2015 increased from $23,958,375 to $24,893,955. This is in addition to employee contributions of 4% of pay from the employees in Tier 1. The increase can be broken down to the following factors:

January 1, 2013 valuation	20.6%
Investment Gain	(0.4%)
Pay Increases	(1.7%)
New Entrants/Change in Normal Cost	0.0%
COLA	(0.3%)
Expenses	0.1%
Assumption Changes	1.3%
Amortization Change	0.0%
Demographics and Other Changes	1.9%
January 1, 2014 valuation	21.5%

The overall funded ratio for the plan based on the actuarial value of assets increased from 73.3% to 74.2%. Currently the market value of assets of $567 million is $21 million more than the actuarial value of the assets ($546 million). This difference of $21 million represents deferred investment gains that will be recognized in future valuations.

There have been changes in pension accounting rules. These changes do not impact funding or this valuation report. The new GASB 67 rules will impact the plan accounting in 2014 and the new GASB 68 rules will impact the employer's accounting in FY15. We have discussed with the Board and the County how these new rules are to be implemented.

The assumptions have been changed in this valuation based on last year's experience study which was adopted by the Board. There have been no changes in the plan provisions since the last valuation.

The balance of this report sets forth details of changes in participation in the plan and the results of the valuation. A statement of funding progress under GASB 25 is also included. The Actuarial Certification at the end of this report contains other important information to understand about this valuation.

Sincerely,

BOLTON PARTNERS, INC.

Thomas B. Lowman, FSA

David W. Ballard, CEBS

Kristopher E. Seets, ASA, EA

TBL/DWB/KS

Trust Fund Asset Statement

TRUST FUND ASSET STATEMENT FOR YEAR ENDED DECEMBER 31, 2013

Original Market Value 1/1/2013	$523,070,191
Audit Adjustment	$ 0
Market Value 1/1/2013	$523,070,191
Receipts:	
Employer Contributions	$ 22,095,539
Employee Contributions	4,449,380
Interest and Dividends	13,520,014
Realized and Unrealized Gain/(Loss)	39,673,726
Stock Loan Income	54,838
Other	1,984,530
Total Receipts:	$ 81,778,027
Disbursements:	
Benefit Payments	$ 36,729,818
Administrative Expenses	716,755
Investment Expenses	3,248,010
Total Disbursements	$ 40,694,583
Net Increase/(Decrease)	$ 41,083,444
Preliminary Ending Value 12/31/2013	$564,153,635
Contribution Receivable	$ 2,365,574
Ending Value 12/31/2013	$566,519,209

(Note: There may be dollar rounding differences)

Development of Actuarial Value of Assets

ACTUARIAL VALUE OF ASSETS

	2012	2013
1. MVA Beginning of Year	**$470,499,595**	**$525,166,044**
2. Contributions	22,144,691	26,814,640
3. Benefit Payments	34,374,217	36,729,818
4. Administrative Expenses	556,188	716,755
5. Expected 8% Return	37,128,539	41,588,006
6. Expected Asset Value (1. + 2. – 3. – 4. + 5.)	**$494,842,420**	**$556,122,117**
7. Market Value End of Year	$523,070,191	$566,519,209
8. Asset Gain/(Loss) (7. – 6.)	**$28,227,771**	**$10,397,092**
9. 80% of 2012 Gain/(Loss) of $28,227,771	$22,582,217	
10. 60% of 2011 Gain/(Loss) of ($24,886,836)	($14,932,101)	
11. 40% of 2010 Gain/(Loss) of $27,036,112	$10,814,445	
12. 20% of 2009 Gain/(Loss) of ($7,654,192)	($1,530,838)	
13. Initial Actuarial Value of Assets 1/1/2013	**$506,136,468**	
14. Contribution Receivable	$2,095,853	
15. Final Actuarial Value of Assets 1/1/2013	**$508,232,321**	
16. 80% of 2013 Gain/(Loss) of $10,397,092		$8,317,674
17. 60% of 2012 Gain/(Loss) of $28,227,771		$16,936,663
18. 40% of 2011 Gain/(Loss) of ($24,886,836)		($9,954,734)
19. 20% of 2010 Gain/(Loss) of $27,036,112		$5,407,222
20. Initial Actuarial Value of Assets 1/1/2014		**$545,812,384**
21. Contribution Receivable		N/A
22. Final Actuarial Value of Assets 1/1/2014		**$545,812,384**
Rate of Return on Actuarial Value of Assets *(net of investment expenses)*	**0.6%**	**9.4%**

Participant Summary

PARTICIPANT SUMMARY

	Active Participants	Inactive Participants: With Deferred Benefits	Inactive Participants: Receiving Benefits	Total
Participants as of January 1, 2013	2,152	273	1,468	3,893
Retired	(87)	(19)	106	0
Terminated Vested	(34)	34	0	0
Terminated Non-Vested/Paid Lump Sum	(91)	(17)	0	(108)
Disabled	0	0	0	0
Deceased/Payments Expired	0	0	(54)	(54)
New Beneficiary	0	0	19	19
Rehires	0	0	0	0
New QDRO	0	0	2	2
Transfers In	3	0	0	3
Transfers Out	(4)	0	0	(4)
New Hires	165	0	0	165
Data Adjustment	21	0	3	24
Net Change	(27)	(2)	76	47
Participants as of January 1, 2014	2,125	271	1,544	3,940

Service - Age Distribution

AGE, SERVICE AND AVERAGE SALARY DISTRIBUTION

Age as of 1/1/2014	Under 1	01-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40 +	Total
Under 25	13	14	3	0	0	0	0	0	0	0	30
	29,668	31,601	33,481	0	0	0	0	0	0	0	30,951
25-29	34	43	40	0	0	0	0	0	0	0	117
	35,402	38,206	39,783	0	0	0	0	0	0	0	37,930
30-34	16	53	56	22	1	0	0	0	0	0	148
	38,576	42,979	43,392	45,821	45,885	0	0	0	0	0	43,101
35-39	14	34	76	33	13	3	0	0	0	0	173
	59,065	50,807	48,162	54,268	50,782	55,839	0	0	0	0	51,059
40-44	21	23	74	56	30	11	1	0	0	0	216
	46,494	47,931	49,856	53,122	62,406	56,619	64,230	0	0	0	52,325
45-49	23	38	88	64	43	46	41	1	0	0	344
	53,538	39,364	44,259	57,143	59,989	62,258	62,170	58,671	0	0	53,285
50-54	13	39	101	59	55	50	67	19	1	0	404
	48,993	55,106	53,931	56,882	59,352	68,822	66,740	56,883	63,452	0	59,184
55-59	19	23	71	47	39	44	59	27	23	6	358
	58,924	49,284	47,296	60,713	65,756	64,061	67,264	68,422	67,515	58,169	60,239
60-64	9	24	52	29	31	31	25	15	13	5	234
	45,785	39,017	56,690	63,286	62,751	68,272	70,224	69,628	83,534	79,317	61,863
65-69	4	4	14	19	13	9	7	2	2	1	75
	52,682	26,381	50,421	57,328	67,762	86,610	53,300	83,062	62,041	59,030	59,921
70 & Up	1	6	3	4	4	2	5	0	1	0	26
	5,987	35,502	47,862	52,808	44,503	75,846	39,594	0	50,898	0	44,323
Total	167	301	578	333	229	196	205	64	40	12	2,125
	45,667	43,942	48,389	56,385	61,095	66,131	65,268	65,584	71,930	67,052	54,499

Average Age: 48.95

Average Service: 12.81

Average Salary: $54,499

Actuarial Costs

ACTUARIAL COSTS

	As of 01/01/2013	As of 01/01/2014
Participants		
Active	2,152	2,125
Terminated Vested	273	271
Disabled	80	78
Retirees	1,282	1,344
Beneficiaries	106	122
Total	3,893	3,940
Active Payroll (Rate at January 1st)	$116,024,717	$115,809,426
1. Actuarial Liability		
Active Participants	$270,478,936	$275,405,717
Terminated Vested Participants	18,040,162	17,715,625
Participants Receiving Benefits	405,061,577	442,607,691
Total	$693,580,675	$735,729,033
2. Actuarial Value of Assets	$508,232,321	$545,812,384
3. Unfunded Actuarial Liability (1-2)	$185,348,354	$189,916,649
4. County's Normal Cost	$ 10,356,158	$ 10,654,931
5. Amortization Payment	$ 11,304,523	$ 11,866,236
6. Estimated Expenses	$ 523,000	$ 636,000
7. Total Recommended Contributions as of January 1st (4 + 5 + 6)	$ 22,183,681	$ 23,157,167
8. Total Recommended Contribution as of December 31st (7 x 1.08 for 2013; 1.075 for 2014)	$ 23,958,375	$ 24,893,955
9. Contribution as a % of total payroll	20.6%	21.5%

UNFUNDED LIABILITY AMORTIZATION SCHEDULE

	Amortization Period			Balances		
Charge	Date Created	Initial Years	Years Left	Initial	Outstanding	2014 Payment
Actuarial Loss	01/01/2005	30	21	$ 9,888,883	$11,044,224	$ 780,128
Actuarial Loss	01/01/2006	30	22	$ 7,157,528	$ 7,946,247	$ 545,597
Actuarial Loss	01/01/2007	30	23	$ 8,028,164	$ 8,842,823	$ 591,309
Assumption Change	01/01/2008	30	24	$13,407,985	$14,626,998	$ 954,226
Actuarial Loss	01/01/2009	30	25	$45,836,717	$49,445,828	$3,152,030
Asset Method Change	01/01/2011	30	27	$28,621,055	$30,060,942	$1,837,547
Actuarial Loss	01/01/2012	30	28	$30,934,590	$31,998,998	$1,919,041
Assumption Change	01/01/2013	30	29	$12,159,909	$12,373,833	$ 728,881
Actuarial Loss	01/01/2013	30	29	$33,631,456	$34,223,121	$2,015,915
Assumption Change	01/01/2014	20	20	$20,355,789	$20,355,789	$1,482,388
Credit						
Unfunded Accrued Liability	01/01/2004	30	20	$ 215,150	$ 241,221	$ 17,567
Actuarial Gain	01/01/2008	30	24	$ 5,585,598	$ 6,093,422	$ 397,519
Actuarial Gain	01/01/2010	30	26	$ 1,937,140	$ 2,063,326	$ 128,714
Actuarial Gain	01/01/2011	30	27	$ 3,996,644	$ 4,197,708	$ 256,595
Actuarial Gain	01/01/2014	20	20	$18,406,477	$18,406,477	$1,340,431
Net Total					$189,916,649	$11,866,236

Note: Bases are amortized as an equal percent of payroll each year. Total payroll is assumed to increase 3.0% annually.

Assumptions and Methods

ASSUMPTIONS AND METHODS

Funding Method: Projected Unit Credit Actuarial Cost Method. The contribution equals the sum of the normal cost and the amount necessary to amortize the frozen unfunded actuarial liabilities and any actuarial gains or losses over a period of years. Amortization payments increase 3.0% (prior report used 3.5% for amortization payment growth).

Asset Method: Asset smoothing method. Spreading the investment gains or losses in excess of the assumed return over a 5-year period. Actuarial Value of Assets recognizes adjustments resulting from an audit.

Interest: 7.5% compounded annually net of investment expenses effective January 1, 2014. 8.0% in prior year.

COLA Increases: Benefits accrued before Bill 88-96 are assumed to increase by 3.0% of the original benefit each year from retirement.

Benefits accrued after Bill 88-96 are assumed to increase by 1.8% of the current benefit each year from retirement effective January 1, 2014. 2.1% in prior year.

Salary Increases: The following graded schedule is used:

Attained Age	% Increase at Attained Age
20	6.5%
25	6.0%
30	5.5%
35	5.0%
40	4.5%
45	4.0%
50	3.5%
55	3.5%

Mortality (Eff. 1/1/2013): *Healthy:* RP-2000 Blue Collar Mortality Table for males and females projected generationally using scale AA. Pre-Termination mortality uses 60% of these rates.

Disabled: RP-2000 Blue Collar Mortality Table for males and females set forward nine years and then projected generationally using scale AA.

100% of pre-retirement deaths are assumed to be non-duty-related.

ASSUMPTIONS AND METHODS
(continued)

Disability (Eff. 1/1/2013):

Sample rates are:

Age	Rate
30	.0198%
35	.0297%
40	.0607%
45	.1003%
50	.1622%
55	.2661%
60	.3973%
64	.5408%

10% of disablement is assumed to be duty-related.

Turnover[1] (Eff. 1/1/2013):

Sample rates are:

	Rate	
Age	Males	Females
20	12.47%	21.57%
25	9.97%	18.12%
30	6.78%	13.34%
35	4.37%	9.05%
40	3.48%	7.48%
45	2.40%	5.95%
50	0.63%	1.56%
55	0.43%	1.07%
60	0.00%	0.00%

Retirement (Eff. 1/1/2013):

Sample Rates

	Service		
Age	20	30	31
50	6%	40%	40%
55	9%	30%	5%
60	15%	15%	15%
65	40%	40%	40%
68	100%	100%	100%

[1] Tier 1 terminations prior to age 40 are assumed to elect a refund of employee contributions with interest

ASSUMPTIONS AND METHODS
(continued)

Disability Leave:	Active liabilities (which depend on credited service) are loaded by 1.5% to account for future crediting of disability service.
Military Service:	Active liabilities (which depend on credited service) are loaded by 1% to account for future crediting of military service.
Marriage:	It is assumed that 70% of employees are married.
Other Methods and Assumptions:	Administrative Expenses are $636,000 for FY2015 and $523,000 for FY2014 (average of actual expenses for the two years preceding the valuation date). Males are assumed to be four years older than their spouses. The Tier 1 service cap of 60% is valued as 62% to account for Disability and Military service credit not being limited by the 30-year cap on service. Actual military service information for actives is not available. Members are assumed to stay in their current tier. The rationale for the demographic assumptions is based on the results of the December 2012 Experience Study. The economic assumptions are based on future expectations with an underlying 3.0% inflation assumption.

Plan Provisions

PLAN PROVISIONS

(for Members in Tier 1)

Normal Retirement Age:	Age 60, or if earlier, when the participant has reached 30 years of service.
Early Retirement Age:	Age 50 and the completion of 20 years of service.
Normal Form of Benefit:	Monthly life annuity with modified cash refund.
Cost of Living Increase (simple, for benefits accrued as of 1/31/97):	Retiree benefits are adjusted each year. The revised benefit amount is the lesser of: a. Prior year benefit plus base benefit multiplied by increase in the current March CPI from March CPI for prior year, or b. Benefit increased by 3% of original benefit.
Cost of Living Increase (compound, for benefits accrued after1/31/97):	Retiree benefits are adjusted each year. The revised benefit amount is the lesser of: a. Prior year benefit multiplied by 60% of the increase in the current March CPI from March CPI for prior year, or b. Benefit increased by 2.5%.
Employee Contributions:	4% of compensation.
Compensation:	Regular annual rate of pay, exclusive of extra compensation of any kind such as overtime pay, bonuses, and commissions.
Final Earnings:	The average of the highest 3 years of annual basic pay.
Normal Retirement Benefit Formula:	2% of final earnings for each year of service, maximum 60%.
Early Retirement Benefit Formula:	Same as normal retirement, but reduced by the following factors:

PLAN PROVISIONS

(for Members in Tier 1)
(continued)

Years Early	Reduction Factor
1	2%
2	5%
3	9%
4	14%
5	20%
6	28%
7	36%
8	44%
9	52%
10	60%

Termination Prior to Retirement:

Less than 5 years of service: Return of employee contributions with 4.25% interest.

5 years of service or more: At the discretion of the employee, either a return of contributions with interest or the accrued normal retirement benefit taking into account final earnings and service at date of termination, payable at normal retirement date.

Disability: Must be totally and permanently disabled (except as the result of activities specified in the County code) regardless of length of service.

Line of Duty Disability: The greater of the accrued benefit or 66 2/3% of final earnings, payable immediately, unreduced.

Non-Line of Duty Disability: Five years of service are required to receive non-duty benefits. The greater of the accrued benefit or 25% of final earnings, payable immediately, unreduced.

PLAN PROVISIONS

(for Members in Tier 1)
(continued)

Pre-Retirement Spouse's Benefit:

Married and eligible for early retirement: The greatest of:

- $10 per month
- 50% of the final earnings
- The accrued benefit, reduced actuarially for early commencement and the joint and 100% survivor form.

Other Pre-Retirement Death Benefits: Return of employee contributions with 4.25% interest plus a lump sum of 50% of final earnings.

PLAN PROVISIONS

(for Members in Tier 2)

Normal Retirement Age:	Age 60, or if earlier, when the participant has reached 30 years of service.
Early Retirement Age:	Age 50 and the completion of 20 years of service.
Normal Form of Benefit:	Monthly life annuity.
Cost of Living Increase (compound, for benefits accrued after1/31/97):	Retiree benefits are adjusted each year. The revised benefit amount is the lesser of: a. Prior year benefit multiplied by 60% of the increase in the current March CPI from March CPI for prior year, or b. Benefit increased by 2.5%.
Employee Contributions:	No employee contributions required or allowed.
Compensation:	Regular annual rate of pay, exclusive of extra compensation of any kind such as overtime pay, bonuses, and commissions.
Final Earnings:	The average of the highest 3 years of the last 5 years of annual basic pays.
Normal Retirement Benefit Formula:	1.0% of final earnings for each year of service.
Early Retirement Benefit Formula:	Same as normal retirement, but reduced for early commencement (using the same factors as Tier 1).
Termination Prior to Retirement:	
Less than 5 years of service:	No benefit is payable.
5 years of service or more:	The accrued normal retirement benefit taking into account final earnings and service at date of termination, payable at normal retirement date.
Disability:	Must be totally and permanently disabled (except as the result of activities specified in the County code) regardless of length of service.

PLAN PROVISIONS

(for Members in Tier 2)
(continued)

Line of Duty Disability: The greater of the accrued benefit or 66 2/3% of final earnings, payable immediately, unreduced.

Non-Line of Duty Disability: Five years of service are required to receive non-duty benefits. The greater of the accrued benefit or 25% of final earnings, payable immediately, unreduced.

Pre-Retirement Spouse's Benefit:

Married and eligible for early retirement: The greatest of:

- $10 per month
- 50% of the final earnings
- The accrued benefit, reduced actuarially for early commencement and the joint and 100% survivor form.

Unmarried or not eligible for early retirement: A lump sum of 50% of final earnings.

Summary of Legislative Changes

SUMMARY OF MAJOR LEGISLATIVE CHANGES

County Council Bill No. 36-89: Effective 7/1/89.

Pension benefits and vesting provisions were improved. The accrual percentage per year of service was increased from 1.8% to 2.0%, permitting accrual of the maximum 60% benefit in 30 years instead of 33-1/3.

Full vesting was granted after 5 years of service. The old provisions used a graded scale granting 75% vesting after 10 years, climbing to 100% vesting after 15 years.

County Council Bill No. 34-92: Effective 6/1/92 through 8/31/92.

Participants age 50 or older with at least 20 years of service could elect to retire with an additional pension equal to 1/12 of 2% for each year of credited service. The additional amount could be taken as a pension increase, a lump sum, or as a temporary supplement to age 62. Appropriate actuarial adjustments apply.

State House Bill No. 687: Effective 7/1/90.

County employees were given the opportunity to apply for credit under the County's plan for previous service with the State of Maryland (or a political subdivision of the State).

County Council Bill 90-93: Effective 12/22/93.

Plan participants are required to pay the full actuarial value for service purchases. Purchases can only be made at retirement. To be eligible, an employee must have 60 months of County service. Existing plan participants must be notified of their right to purchase service under existing law.

SUMMARY OF MAJOR LEGISLATIVE CHANGES
(continued)

County Council Bill No. 82-94:	Effective 10/31/94. Transfers assets from general employees plan to A&E plan for participants who have transferred between these two plans.
County Council Bill No. 88-96:	Effective 12/4/96. The previous method of calculating cost of living increases will only apply to benefits accrued as of 1/31/97. The cost of living increase for future benefits is a compound increase equal to 60% of the annual change in the CPI, not to exceed 2.5%. Employees hired, or rehired, on or after 12/4/96 will be Tier Two employees and will have different benefits than current employees.
County Council Bill No. 41-99:	Effective 6/15/99. Employees paid under the deputy sheriff employees pay schedule become Tier Two members of the Detention Center Plan effective as of January 1, 1999. Service credited under the Employees' Plan will count as credited service in the Detention Center Plan and no future benefit will be paid from the Employees' Plan. Assets are transferred from the Employees' Plan to the Detention Center Plan in an amount equal to the projected unit credit accrued liability in the Employees' Plan.
Recodification:	Effective 2/25/2002. Allows a benefit based on disability leave service and pre-plan military service to be paid over the 60% cap. Normal Retirement was changed to the earlier of 30 years of service or age 60.

SUMMARY OF MAJOR LEGISLATIVE CHANGES

(continued)

<u>County Council Bill No. 74-09</u>:	Effective 12/11/2009. For non-represented members, FY2010 annual pay shall be determined by increasing FY2009 annual pay by an assumed 3% for determining the final average basic pay.
<u>County Council Bill No. 6-10</u>:	Effective 4/18/2010. Provides for a disability benefit for those participants who are totally and permanently disabled as a result of qualified military service.
<u>County Council Bill No. 98-12</u>:	Effective 5/13/2013. Changed the definition of "final average basic pay" from highest 3 out of the last 5 years basic pays to higher 3 of all basic pays.

Statement No. 25 of the GASB

STATEMENT NO. 25 OF THE GOVERNMENTAL ACCOUNTING STANDARDS BOARD

Schedules of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Unfunded AAL (UAAL) (b-a)	Actuarial Accrued Liability (AAL) (b)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a)/c)
01/01/2004	$367,756,502	$ (215,150)	$367,541,352	100.1%	$100,944,238	(0.2)%
01/01/2005	$395,501,876	$ 9,669,948	$405,171,824	97.6%	$103,105,736	9.4%
01/01/2006	$422,234,496	$16,997,830	$439,232,326	96.1%	$107,290,189	15.8%
01/01/2007	$456,656,849	$25,314,781	$481,971,630	94.7%	$116,709,102	21.7%
01/01/2008[1]	$492,788,674	$20,144,823	$512,933,497	96.1%	$117,222,681	17.2%
01/01/2008[2]	$492,788,674	$33,552,808	$526,341,482	93.6%	$117,222,681	28.6%
01/01/2009	$488,275,803	$79,919,177	$568,194,980	85.9%	$124,803,488	64.0%
01/01/2010	$519,556,093	$79,285,038	$598,841,131	86.8%	$126,030,706	62.9%
01/01/2011[3]	$550,786,200	$76,483,387	$627,269,587	87.8%	$123,498,129	61.9%
01/01/2011[4]	$522,165,144	$105,104,443	$627,269,587	83.2%	$123,498,129	85.1%
01/01/2012	$516,070,401	$137,582,657	$653,653,058	79.0%	$120,415,534	114.3%
01/01/2013[1]	$508,232,321	$173,188,445	$681,420,766	74.6%	$116,024,717	149.3%
01/01/2013[2]	$508,232,321	$185,348,354	$693,580,675	73.3%	$116,024,717	159.7%
01/01/2014[1]	$545,812,384	$169,560,860	$715,373,244	76.3%	$115,809,426	146.4%
01/01/2014[2]	$545,812,384	$189,916,649	$735,729,033	74.2%	$115,809,426	164.0%

Schedules of County's Contributions

Year Ended December 31	*Annual Required Contribution*	*Actual Contribution*	*Percentage Contributed*
2013	$22,361,662	$22,361,658[5]	100.0%

[1] *Prior to Assumption Changes*
[2] *After Assumption Changes*
[3] *Prior to Asset Method Change*
[4] *After Asset Method Change*
[5] *On an accrual basis. Subject to verification.*

STATEMENT NO. 25 OF THE GOVERNMENTAL ACCOUNTING STANDARDS BOARD

(continued)

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows.

Actuarial cost method	Projected Unit Credit
Amortization method	Level percent of pay, closed
Remaining amortization period	Remaining amortization periods range from 20 to 29 years with an average of 24 years. Starting with new bases in 2014, Assumption changes and gains and losses are amortized over 20 years and plan changes are amortized over the average future service of the active population at time of the change.
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.5%
Projected salary increases	Varies by age
Post Retirement Cost-of-living adjustments	3.0% for pre 2/97 accruals 1.8% for post 2/97 accruals

ACTUARIAL CERTIFICATION

This actuarial valuation sets forth our calculation of an estimate of the liabilities of the Anne Arundel County Employees' Retirement Plan, together with a comparison of these liabilities with the value of the plan assets, as submitted by Anne Arundel County (the County). This calculation and comparison with assets is applicable for the valuation date only. The future is uncertain, and the plan may become better funded or more poorly funded in the future. This valuation does not provide any guarantee that the plan will be able to provide the promised benefits in the future.

This is a deterministic valuation in that it is based on a single set of assumptions. This set of assumptions is one possible basis for our calculations. Other assumptions may be equally valid. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions. We may consider that some factors are not material to the valuation of the plan and may not provide a specific assumption for those factors. We may have used other assumptions in the past. We will likely consider changes in assumptions at a future date.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely "correct" and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report. We have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At the County's request, Bolton Partners, Inc. is available to perform such a sensitivity analysis.

The County is responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in this report. The County is solely responsible for communicating to Bolton Partners, Inc. any changes required thereto.

The County could reasonably ask how the valuation would change if we used a different assumption set or if plan experience exhibited variations from our assumptions. This report does not contain such an analysis. This type of analysis would be a separate assignment.

In addition, decisions regarding benefit improvements, benefit changes, the trust's investment policy, and similar issues should not be based on this valuation. These are complex issues and other factors should be considered when making such decisions. These other factors might include the anticipated vitality of the local economy and future growth expectations, as well as other economic and financial factors.

ACTUARIAL CERTIFICATION

(continuation)

The cost of this plan is determined by the benefits promised by the plan, the plan's participant population, the investment experience of the plan and many other factors. An actuarial valuation is a budgeting tool for the County. It does not affect the cost of the plan. Different funding methods provide for different timing of contributions to the plan. As the experience of the plan evolves, it is normal for the level of contributions to the plan to change. If a contribution is not made for a particular year, either by deliberate choice or because of an error in a calculation, that contribution can be made in later years. We will not be responsible for contributions that are made at a future time rather than an earlier time. The plan sponsor is responsible for funding the cost of the plan.

We make every effort to ensure that our calculations are accurately performed. These calculations are complex. Despite our best efforts, we may make a mistake. We reserve the right to correct any potential errors by amending the results of this report or by including the corrections in a future valuation report.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

This report is based on plan provisions, census data, and asset data submitted by the County. We have relied on this information for purposes of preparing this report, but have not performed an audit. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information. The plan sponsor is solely responsible for the validity and completeness of this information.

The County is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Bolton Partners, Inc.'s actuaries have not provided any investment advice to the County.

The information in this report was prepared for the internal use of the County and its auditors in connection with our actuarial valuations of the pension plan. It is neither intended nor necessarily suitable for other purposes. Bolton Partners, Inc. is not responsible for the consequences of any other use.

ACTUARIAL CERTIFICATION

(continuation)

The only purposes of this report are to:

- Present Bolton Partners, Inc.'s actuarial estimates of the Plan's liabilities and expenses for the County to incorporate, as the County deems appropriate, in its financial statements,
- Provide the recommended employer contribution for fiscal year beginning July 1, 2014.

This report may not be used for any other purpose; Bolton Partners, Inc. is not responsible for the consequences of any unauthorized use.

The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the "present value" of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, you selected an assumption based on the expected long-term rate of return on plan investments. Using a lower discount rate assumption, such as a rate based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

Because valuations are a snapshot in time and are based on estimates and assumptions that are not precise and will differ from actual experience, contribution calculations are inherently imprecise. There is no uniquely "correct" level of contributions for the coming plan year.

This report provides certain financial calculations for use by the auditor. These values have been computed in accordance with our understanding of generally accepted actuarial principles and practices and fairly reflect the actuarial position of the Plan. The various actuarial assumptions and methods which have been used are, in our opinion, appropriate for the purposes of this report.

The report is conditioned on the assumption of an ongoing plan and is not meant to present the actuarial position of the Plan in the case of Plan termination. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic 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 or additional cost or contribution requirements based on the plan's funded status), and changes in plan provisions or applicable law.

ACTUARIAL CERTIFICATION

(continuation)

The County should notify Bolton Partners, Inc. promptly after receipt of this report if the County disagrees with anything contained in the report or is aware of any information that would affect the results of the report that has not been communicated to Bolton Partners, Inc. or incorporated therein. The report will be deemed final and acceptable to the County unless the County promptly provides such notice to Bolton Partners, Inc.

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. They are currently compliant with the Continuing Professional Development Requirement of the Society of Actuaries. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest that would impair the objectivity of our work.

We are available to answer any questions on the material in this report to provide explanations or further details as appropriate.

Bolton Partners, Inc.

Thomas B. Lowman, FSA, EA

Kristopher E. Seets, ASA, EA