THE ANNE ARUNDEL COUNTY
DETENTION OFFICERS' AND DEPUTY SHERIFFS' RETIREMENT PLAN

ACTUARIAL VALUATION
AS OF
JANUARY 1, 2012

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

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April 12, 2012

PERSONAL & CONFIDENTIAL
Andrea Fulton
Personnel Officer
Anne Arundel County Government
P.O. Box 6675
Annapolis, MD 21401

Re: Detention Officers' and Deputy Sheriffs' Retirement Plan Valuation

Dear Andrea:

The following report sets forth the actuarial valuation as of January 1, 2012 of the Anne Arundel County Detention Officers' and Deputy Sheriffs' Retirement Plan, for the plan year beginning on that date. The valuation is based on participant data submitted by the personnel department of Anne Arundel County and Aetna and unaudited asset data submitted by the County.

INVESTMENT PERFORMANCE

The market value of plan assets as of December 31, 2011 was $82,318,946. The average investment return for the fund on a market basis for the year ended December 31, 2011 was 1.8% and 0.1% 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, 2011, the actuarial value of assets was $90,334,022. Details of the development of the actuarial value of assets are set forth later in this report.

PRINCIPAL RESULTS

The principal purpose of the valuation is to set forth the County's contributions for the fiscal year ending June 30, 2013. 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, 2013 increased from $5,089,053 to $5,193,501. This is in addition to employee contributions of 6.75% of pay for the DT1 employees and 5% of pay for DSM employees. The increase can be broken down to the following factors:

January 1, 2011 valuation	26.4%
Pay Increases	(0.1%)
Investment Loss	2.2%
New Entrants/Change in Normal Cost	(0.5%)
COLAs	(0.1%)
Mortality Table Change	(0.1%)
Demographics and Other Changes	(0.1)%
January 1, 2012 valuation	27.7%

The overall funded ratio based on the actuarial value of assets for the plan decreased from 73.4% to 71.7%.

The Normal Cost was adjusted upward to reflect Bill 74-09 and Bill 78-09 which increased the FY10 pensionable pay and has a temporary effect. Pay amounts shown in this report (and employer contributions as a percentage of payroll) are based on cash payroll amounts that exclude the extra pay used for pension purposes.

There are changes in pension accounting rules that are expected to be published in June 2012. These changes are not expected to impact this report or the County's FY13 accounting expense. However, we should discuss the likely changes and related discussions.

There are also proposed changes in actuarial standards that may impact future valuations. These changes focus largely on increased disclosure including more disclosure about risk. We should also discuss the likely changes in actuarial standards.

There have been no changes in the plan provisions since the last valuation. The only assumption update is a one year change in the mortality table that we have been doing every year. The assumption change is not material.

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.

Sincerely,

BOLTON PARTNERS, INC.

Thomas B. Lowman, FSA

David W. Ballard, CEBS

TBL/DWB/mmg

Trust Fund Asset Statement

TRUST FUND ASSET STATEMENT FOR YEAR ENDED DECEMBER 31, 2011

Original Market Value 1/1/2011	$ 78,589,371
Audit Adjustment	$ 0
Market Value 1/1/2011	$ 78,589,371
Receipts:	
Employer Contributions	$ 4,880,230
Employee Contributions	1,179,874
Interest and Dividends	1,423,667
Realized and Unrealized Gain/(Loss)	263,226
Other	132,302
Total Receipts:	$ 7,879,299
Disbursements:	
Benefit Payments	$ 4,209,383
Administrative Expenses	81,106
Investment Expenses	416,763
Total Disbursements	$ 4,707,252
Net Increase/(Decrease)	$ 3,172,047
Preliminary Ending Value 12/31/2011	$ 81,761,419
Contribution Receivable	$ 557,527
Ending Value 12/31/2011	$ 82,318,946

(Note: There may be some dollar rounding differences.)

Development of Actuarial Value of Assets

ACTUARIAL VALUE OF ASSETS

		2010	2011
1.	**MVA Beginning of Year**	**$66,904,129**	**$78,589,371**
2.	Contributions	5,917,999	6,060,104
3.	Benefit Payments	3,841,663	4,209,383
4.	Administrative Expenses	78,128	81,106
5.	Expected 8% Return	5,432,259	6,357,934
6.	**Expected Asset Value** (1. + 2. – 3. – 4. + 5.)	**$74,334,596**	**$86,716,920**
7.	Market Value End of Year	$78,589,371	$81,761,419
8.	**Asset Gain/(Loss)** (7. –6.)	**$4,254,775**	**($4,955,501)**
9.	80% of 2010 Gain/(Loss) of $4,254,775	$3,403,820	
10.	60% of 2009 Gain/(Loss) of ($2,093,203)	($1,255,922)	
11.	40% of 2008 Gain/(Loss) of ($28,831,295)	($11,532,518)	
12.	20% of 2007 Gain/(Loss) of $3,145,116	$629,023	
13.	**Initial Actuarial Value of Assets 1/1/2011**	**$87,344,968**	
14.	Contribution Receivable	$566,165	
15.	Audit Adjustment	$0	
16.	**Final Actuarial Value of Assets 1/1/2011**	**$87,911,133**	
17.	80% of 2011 Gain/(Loss) of ($4,955,501)		($3,964,401)
18.	60% of 2010 Gain/(Loss) of $4,254,775		$2,552,865
19.	40% of 2009 Gain/(Loss) of ($2,093,203)		($837,281)
20.	20% of 2008 Gain/(Loss) of ($28,831,295)		($5,766,259)
21.	**Initial Actuarial Value of Assets 1/1/2012**		**$89,776,495**
22.	Contribution Receivable		$557,527
23.	Audit Adjustment		$0
24.	**Final Actuarial Value of Assets 1/1/2012**		**$90,334,022**
	Rate of Return on Actuarial Value of Assets *(net of investment expenses)*	**1.1%**	**0.1%**

Participant Summary

PARTICIPANT SUMMARY

	Active Participants	Inactive Participants With Deferred Benefits	Inactive Participants Receiving Benefits	Total
Participants as of January 1, 2011	354	12	164	530
Retired	(13)	(3)	16	0
Terminated Vested	0	0	0	0
Terminated Non Vested	(14)	0	0	(14)
Disabled	0	0	0	0
Deceased/Payment Expired	0	0	(1)	(1)
Lump Sum	0	0	0	0
Rehired	0	0	0	0
Transfers in from:				
Fire Plan	0	0	0	0
Police Plan	0	0	0	0
Employee Plan	1	0	0	1
Transfers out to:				
Fire Plan	0	0	0	0
Police Plan	0	0	0	0
Employee Plan	0	0	0	0
New Hires	19	0	0	19
New Beneficiary	0	0	0	0
Data Adjustment	0	0	0	0
Net Change	(7)	(3)	15	5
Participants as of January 1, 2012	347	9	179	535

Service - Age Distribution

AGE, SERVICE AND AVERAGE SALARY DISTRIBUTION

Age as of 1/1/2012	Under 1	01-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40 +	Total
Under 25	4	8	1	0	0	0	0	0	0	0	13
	38,052	40,036	44,086	0	0	0	0	0	0	0	39,737
25-29	8	11	9	0	0	0	0	0	0	0	28
	38,485	40,171	44,514	0	0	0	0	0	0	0	41,085
30-34	2	13	6	1	0	0	0	0	0	0	22
	38,052	41,716	47,672	52,591	0	0	0	0	0	0	43,502
35-39	2	5	14	25	1	0	0	0	0	0	47
	39,002	40,010	47,591	54,874	56,019	0	0	0	0	0	50,472
40-44	0	7	12	31	12	5	0	0	0	0	67
	0	43,066	46,726	55,409	67,488	75,109	0	0	0	0	56,198
45-49	2	7	8	22	10	11	1	0	0	0	61
	41,362	43,510	47,066	59,147	67,835	70,035	86,934	0	0	0	59,028
50-54	1	6	9	14	12	6	3	0	0	0	51
	41,201	52,419	46,606	54,500	69,160	78,642	72,893	0	0	0	59,973
55-59	0	7	4	12	5	1	1	1	1	0	32
	0	48,043	44,511	56,758	62,881	74,044	87,281	86,934	89,459	0	57,736
60-64	0	5	5	7	4	0	0	0	0	0	21
	0	45,126	46,180	61,718	80,266	0	0	0	0	0	57,601
35-69	0	0	0	2	3	0	0	0	0	0	5
	0	0	0	56,926	56,279	0	0	0	0	0	56,538
70 & Up	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Total	19	69	68	114	47	23	5	1	1	0	347
	38,848	43,290	46,510	56,433	67,627	73,558	78,579	86,934	89,459	0	54,065

Average Age: 44.50

Average Service: 10.80

Average Salary: $54,065

Actuarial Costs

ACTUARIAL COSTS

	As of 01/01/2011	As of 01/01/2012
Participants		
Active	354	347
Inactive	176	188
Total	530	535
Active Payroll (Rate at January 1st)	$19,310,216	$18,760,664
1. Accrued Liabilities		
Active Participants	$65,260,172	$66,448,848
Participants Receiving Benefits	53,501,314	58,779,260
Participants with Deferred Benefits	1,005,717	759,176
Total	$119,767,203	$125,987,284
2. Actuarial Value of Assets	$87,911,133	$90,334,022
3. Unfunded Actuarial Liability	$31,856,070	$ 35,653,262
4. County's Normal Cost	$ 2,655,651	$ 2,484,395
5. Amortization Payment	$ 1,979,435	$ 2,244,402
6. Estimated Expenses	$ 77,000	$ 80,000
7. Total Recommended Contributions as of January 1st	$ 4,712,086	$ 4,808,797
8. Total Recommended Contribution as of December 31st	$ 5,089,053	$ 5,193,501
9. Contributions as a Percentage of Payroll	26.4%	27.7%

UNFUNDED LIABILITY AMORTIZATION SCHEDULE

	Amortization Period			Balances		
Charge	Date Created	Initial Years	Years Left	Initial	Outstanding	2012 Payment
Unfunded Accrued Liability	01/01/2003	30	21	$8,245,799	$ 9,209,172	$649,394
Actuarial Loss	01/01/2005	30	23	$ 780,906	$ 860,153	$ 57,410
Actuarial Loss	01/01/2006	30	24	$1,772,183	$ 1,933,305	$125,882
Plan and Assumption Change	01/01/2006	30	24	$ 744,267	$ 811,939	$ 52,866
Actuarial Loss	01/01/2008	30	26	$3,220,741	$ 3,430,544	$213,565
Assumption Change	01/01/2008	30	26	$1,378,213	$ 1,467,991	$ 91,388
Actuarial Loss	01/01/2009	30	27	$7,322,632	$ 7,691,022	$469,139
Actuarial Loss	01/01/2010	30	28	$ 4,497,219	$ 4,675,414	$ 279,782
Asset Method Change	01/01/2011	30	29	$ 5,057,664	$ 5,146,642	$302,484
Actuarial Loss	01/01/2012	30	30	$3,386,496	$ 3,386,496	$ 195,687
Total					$38,612,678	$2,437,597

	Amortization Period			Balances		
Charge	Date Created	Initial Years	Years Left	Initial	Outstanding	2012 Payment
Actuarial Gain and Assumption Change	01/01/2004	30	22	$1,216,481	$ 1,350,532	$ 92,563
Actuarial Gain	01/01/2007	30	25	$1,161,281	$ 1,252,717	$ 79,699
Actuarial Gain	01/01/2011	30	29	$ 350,009	$ 356,167	$ 20,933
Total					$ 2,959,416	$193,195
Net					$35,653,262	$2,244,402

Note: Bases are amortized as an equal percent of payroll each year. Total payroll is assumed to increase 3.5% annually.

Assumptions and Methods

ASSUMPTIONS AND METHODS

Funding Method: Projected Unit Credit Cost Method. This method divides the cost of funding benefits into two parts: normal cost and actuarial accrued liability. The normal cost is the estimated cost of the benefits that are considered to be accrued in that plan year. The actuarial accrued liability is the estimated cost of all benefits that are considered to have been accrued to the valuation date. The unfunded actuarial accrued liability is the actuarial accrued liability minus plan assets. An actuarial gain or loss is calculated each year based on the change in the unfunded actuarial accrued liability. The total contribution is the normal cost plus (minus) a payment to amortize actuarial losses (gains) that occur. The benefit that is considered to be accrued in a year is the participant's projected benefit divided by his total projected years of service.

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: 8% compounded annually.

COLA Increases: Benefits accrued before Bill 88-96 are assumed to increase by 3.5% of the original benefit each year from retirement.

Benefits accrued after Bill 88-96 are assumed to increase by 2.1% of the current benefit each year from retirement.

ASSUMPTIONS AND METHODS

(continued)

Salary Increases:

The following graded schedule is used:

Attained Age	% Increase at Attained Age
20	6.50%
25	6.50%
30	6.00%
35	5.75%
40	5.25%
45	4.75%
50	4.75%

Mortality:

Healthy: RP-2000 Blue Collar Mortality Table for males and females projected to 2012 using scale AA. Pre-Termination mortality uses 70% of these rates.

Disabled: RP-2000 Blue Collar Mortality Table for males and females set forward five years and then projected to 2012 using scale AA.

The mortality rates are as of the measurement date without adjustment for future mortality improvements.

Disability:

Sample rates are:

Age	Rate
30	0.144%
35	0.213%
40	0.440%
45	0.735%
50	1.082%
55	0.000%

75% of disablements are assumed to be duty-related.

Turnover:

Sample rates are:

Rate Age	Males	Females
20	12.38%	18.75%
25	8.98%	14.06%
30	6.81%	11.25%
35	4.95%	8.44%
40	3.41%	6.19%
45	1.86%	3.94%
50	0.00%	0.00%
55	0.00%	0.00%

ASSUMPTIONS AND METHODS
(continued)

Retirement (Category II):

Age/Service	Annual Rate
At 20 years of service	5%
Between 20 years and age 50	2%
50	30%
51 – 59	20%
60	100%

Rate is 100% after age 50 if at least 30 years of actual County service has been accrued.

Retirement (Category I):

Sample Service Rates

Age	20	22	24	27	30
40	25%	10%	10%	10%	10%
45	25%	10%	10%	10%	10%
50	50%	50%	50%	50%	100%
55	100%	100%	100%	100%	100%

Disability Leave: Service credit for benefit formula purposes is increased by 1.75% to account for disability leave which is converted to service credit at retirement.

Military Service: Active liabilities (which depend on credit service) are loaded by 3.25% to account for future crediting of military service.

In addition, it is assumed that participants with 30 or more years of service will have credit for 1 year of combined Disability Leave and military service.

Marriage: It is assumed that 85% of employees who die are married and males are four years older than their spouses.

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

Other Methods and Assumptions: Administrative Expenses are $80,000 for FY2013 and $77,000 for FY2012 (average of actual expenses for the two years preceding the valuation date).

It is assumed that vested terminations prior to age 40 will choose to take a lump sum while those 40 and older will choose a deferred benefit.

Plan Provisions

PLAN PROVISIONS

Normal Retirement Age:	Category I Participants: 20 years of service, or age 50 with 5 years. Category II Participants: Age 50 with 5 years of service.
Normal Form of Benefit:	Monthly life annuity with payments guaranteed for 5 years.
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 current CPI from CPI for prior year, or b. Benefit increased by 4% of original benefit.
Cost of Living Increase (compound, for benefits accrued after 1/31/97):	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:	5% of compensation for DSM and 6.75% for DT1.
Compensation:	Regular annual rate of pay, exclusive of extra compensation of any kind such as overtime pay, bonuses, and commissions. Some members receive a special FY10 increase for pension purposes.
Final Earnings:	The average of the highest 3 consecutive years of the last 5 years of annual basic pays.
Benefit Formula:	2 ½% of final earnings for each year of service up to 20 years plus 2% of final earnings for each year of service after 20 years (maximum 70% plus 2% times unused disability credit and pre-employment military service credit)

PLAN PROVISIONS
(continued)

Benefit Formula:	2 ½% of final earnings for each year of service up to 20 years plus 2% of final earnings for each year of service after 20 years (maximum 70% plus 2% times unused disability credit and pre-employment military service credit)
Early Retirement:	Reduced benefits are available the first of any month coincident with or next following the completion of 20 years of continuous service.
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 Benefit:	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:	The greater of the accrued benefit or 20% of final earnings, payable immediately, unreduced.
Pre-Retirement Spouse's Benefit:	
Line of Duty Death Benefit:	Greater of accrued benefit or 66 2/3% of final earnings.
Non-Line of Duty Death Benefit:	Accrued benefit.
Other Pre-Retirement Death Benefits:	Return of employee contributions with 4.25% interest, and a lump sum equal to 50% of annual pay.

Summary of Legislative Changes

SUMMARY OF MAJOR LEGISLATIVE CHANGES

County Council Bill No. 34-92:	Effective 6/1/92 through 8/31/92. Participants over age 50 or with at least 20 years of service could elect to retire with an additional pension equal to 1/12 of 2.5% of final earnings for the first 20 years of service, plus 1/12 of 2% of final earnings for each additional year of 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.
County Council Bill No. 94-93:	Effective 11/19/93. All current and future employees shall be 100% vested after 5 years of Credited Service.
County Council Bill 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.

SUMMARY OF MAJOR LEGISLATIVE CHANGES

(continued)

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 70% cap. Elimination of Tier 2 benefits. Changed early retirement factors. Added a death benefit.

County Council Bill No. 32-04: Effective 7/1/2004.

Allows retirement after 20 years of service for "Category I" participants. Changes vesting for new hires from 5 years to 20 years. Provides for employees contributions to be made on a pre-tax ("pick up") basis.

County Council Bill No. 74-09: 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. For D3 and S2 members, FY2010 annual pay shall be determined by increasing FY2009 annual pay by an assumed 4% for determining the final average basic pay.

SUMMARY OF MAJOR LEGISLATIVE CHANGES

(continued)

County Council Bill No. 78-09:	Effective 11/16/2009. For D1 and D2 members, FY2010 annual pay shall be determined by increasing FY2009 annual pay by an assumed 4% for determining the final average basic pay.
County Council Bill No. 6-10:	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.
County Council Bill No. 41-10:	Effective 7/1/2010. Increased the contribution rate for Detention Officers, Detention Corporals and Detention Sergeants to 6.75%. Added a "pop-up" option.

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)
01/01/2002	$34,742,230	$5,711,531	$40,453,761	85.9%	$13,565,333	42.1%
01/01/2003	$38,889,689	$8,245,799	$47,135,488	82.5%	$14,690,339	56.1%
01/01/2004	$45,710,154	$7,174,384	$52,884,538	86.4%	$15,396,301	46.6%
01/01/2005	$52,200,204	$8,072,549	$60,272,753	86.6%	$15,355,590	52.6%
01/01/2006	$58,379,332	$10,713,394	$69,092,726	84.5%	$16,794,068	63.8%
01/01/2007	$66,233,757	$9,712,479	$75,946,236	87.2%	$17,367,873	55.9%
01/01/2008[1]	$74,355,736	$13,061,602	$87,417,338	85.1%	$18,122,458	72.1%
01/01/2008[2]	$74,355,736	$14,439,815	$88,795,551	83.7%	$18,122,458	79.7%
01/01/2009	$76,525,847	$21,959,305	$98,485,152	77.7%	$19,785,653	111.0%
01/01/2010	$84,490,610	$26,787,087	$111,277,697	75.9%	$20,203,895	132.6%
01/01/2011[3]	$92,968,797	$26,798,406	$119,767,203	77.6%	$19,310,216	138.8%
01/01/2011[4]	$87,911,133	$31,856,070	$119,767,203	73.4%	$19,310,216	165.0%
01/01/2012	$90,334,022	$35,653,262	$125,987,284	71.7%	$18,760,664	190.0%

Schedules of County's Contributions

Year Ended December 31	*Annual Required Contribution*	*Annual Contribution*	*Percentage Contributed*
2011	$4,994,389	$4,875,490[5]	97.6%

[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
Remaining amortization period	Remaining Amortization periods range from 21 to 30 years with an average of 25 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return	8.0%
Projected salary increases	Varies by age
Post Retirement Cost-of-living adjustments	3.5% for pre 2/97 accruals 2.1% for post 2/97 accruals

ACTUARIAL CERTIFICATION

This actuarial valuation sets forth our calculation of an estimate of the liabilities of the pension plan, together with a comparison of these liabilities with the value of the plan assets, as submitted by 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. 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.

A change in assumptions does not indicate that the prior assumptions were invalid. At the time the prior assumptions were chosen, they represented our best estimate of the future experience of the plan. If we change assumptions in the future, it would be to align the assumptions with our then current best estimate.

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.

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.

Actuarial Certification

(Continuation)

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.

This report is based on plan provisions, census data, and asset data submitted by the personnel department of Anne Arundel 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 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 is not responsible for the consequences of any other use.

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.

The undersigned credentialed actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. He is 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.

BOLTON PARTNERS, INC.

Thomas B. Lowman, FSA, EA