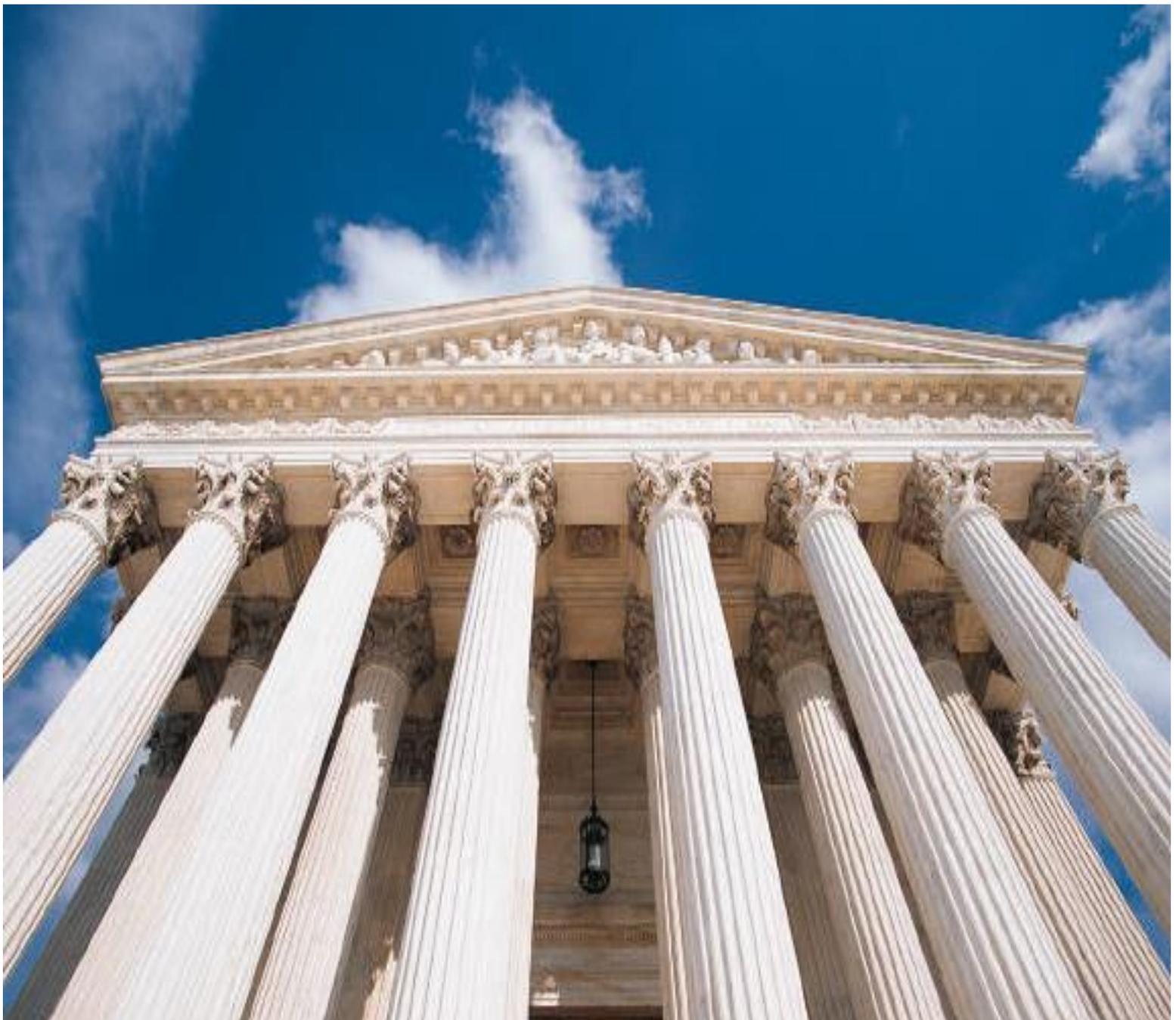


# Schuylkill County Employees' Retirement System

Report on 2016 Actuarial Valuation Including  
Determination of County Actuarially Determined  
Contribution for 2016

HayGroup®



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for

**Schuylkill County Employees' Retirement Board**

Frank Staudenmeier	Commissioner/Chairman
George F. Halcovage, Jr.	Commissioner
Gary J. Hess	Commissioner
Christy D. Joy	Controller/Secretary
Jacqueline V. McGovern	Treasurer

**March 29, 2016**

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## I. Introduction

The primary purpose of this report is to investigate and fully and fairly disclose the actuarial position of the Schuylkill County Employees' Retirement System as of January 1, 2016 and to establish the proper appropriation for the 2016 plan year, in accordance with the funding standards of Section 6 of Act 96, 1971 of the Commonwealth of Pennsylvania as amended.

On the basis of the actuarial methods, assumptions and major plan provisions summarized in this report and in reliance on the member data and statement of the Fund's assets furnished by the County, to the best of our knowledge the information in this report is complete and accurate.

To the best of our knowledge, this report is complete and accurate and all costs and liabilities have been determined in conformance with generally accepted actuarial principles, and on the basis of actuarial assumptions and methods which are reasonable (taking into account past experience under the plan and reasonable expectations) and which represent our best estimate of anticipated experience under the plan.

Respectfully submitted,

### HayGroup

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## II. Findings

### Certified Actuarially Determined Contribution

Please note that the certified actuarially determined contribution which is reported on page 13 of this report and which must be funded in 2016 is \$2,193,692. This amount is required to ensure that the fund accumulates sufficient assets to pay future benefits and should be paid by the County from the General Fund.

### Actuarial Adjustments

Also note that the balances in the Reserve Accounts on page 9 reflect the following transfers which are necessary to keep the balance in the Retired Member's Reserve Account equal to the liability for the retired lives and to reflect the difference between the amount of interest credited to the respective reserves and the interest rate assumed in the valuation of the liabilities. Please make these transfers in your records:

	DEBIT	CREDIT
County Annuity Reserve Account	\$ 1,684,080.43	
Retired Members Annuity Reserve Account		\$ 1,684,080.43

### III. Schedules

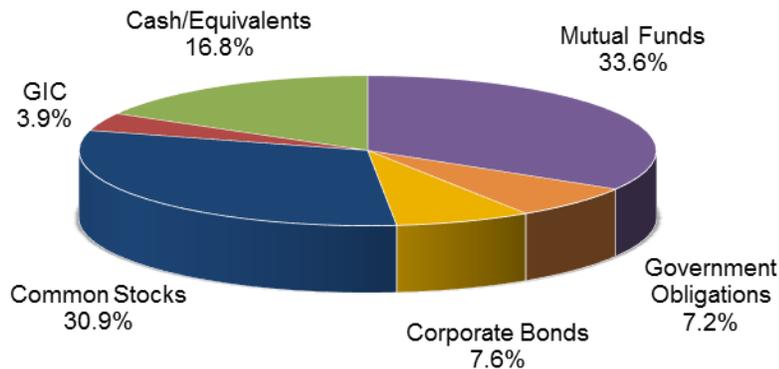
#### Schedule A

<b>SCHUYLKILL COUNTY EMPLOYEES' RETIREMENT SYSTEM</b>			
<b>CHANGES IN PLAN NET ASSETS FOR THE CALENDAR YEAR 2015 AND 2014</b>			
<b>Additions</b>			
		<u><b>2015 Total</b></u>	<u><b>2014 Total</b></u>
Contributions			
County	\$	2,582,040.00	\$ 2,589,652.67
Plan Members	\$	2,615,146.54	\$ 2,561,661.58
Total Contributions	\$	<u>5,197,186.54</u>	<u>\$ 5,151,314.25</u>
Investment Income			
Realized Gain	\$	<u>6,337,284.80</u>	
Unrealized Loss	\$	<u>(8,706,359.98)</u>	
Net Loss in Fair Value	\$	(2,369,075.18)	\$ 5,177,085.18
Interest	\$	1,685,105.32	\$ 1,314,584.33
Dividends	\$	465,762.90	\$ 844,129.78
Investment Income	\$	<u>(218,206.96)</u>	<u>\$ 7,335,799.29</u>
Less Investment Expense	\$	388,608.44	\$ 431,324.36
Net Investment Income	\$	<u>(606,815.40)</u>	<u>\$ 6,904,474.93</u>
Total Additions	\$	<u>4,590,371.14</u>	<u>\$ 12,055,789.18</u>
<b>Deductions</b>			
Benefits	\$	7,571,145.46	\$ 7,461,098.55
Refunds of Member Contributions	\$	868,869.03	\$ 351,880.16
Administrative Expense	\$	<u>21,820.90</u>	<u>\$ 6,830.78</u>
Total Deductions	\$	<u>8,461,835.39</u>	<u>\$ 7,819,809.49</u>
Net Increase/(Decrease)	\$	<u>(3,871,464.25)</u>	<u>\$ 4,235,979.69</u>
<b>Net Assets Held In Trust For Pension Benefits</b>			
Beginning of Year	\$	125,928,323.16	\$ 121,692,343.47
End of Year	\$	<u>122,056,858.91</u>	<u>\$ 125,928,323.16</u>

**Schedule A—Continued**

<b>SCHUYLKILL EMPLOYEES' RETIREMENT SYSTEM</b>				
<b>PLAN ASSETS AS OF DECEMBER 31, 2015 AND 2014</b>				
<b>Assets</b>				
	<b>2015 Total</b>		<b>2014 Total</b>	
Cash and Short-Term Investments	\$	20,663,427.92	\$	22,401,433.65
Receivables	\$	90,145.50	\$	0.00
Investments, at fair market value				
Government Obligations	\$	8,734,969.49	\$	7,738,491.59
Corporate Bonds	\$	9,322,157.42	\$	8,105,861.44
Common Stocks	\$	37,699,265.64	\$	46,583,635.57
Mutual Funds	\$	41,046,622.54	\$	36,962,859.33
GIC	\$	4,786,317.07	\$	4,657,690.90
Total Investments	\$	101,589,332.16	\$	104,048,538.83
Total Assets	\$	122,342,905.58	\$	126,449,972.48
<b>Liabilities</b>				
Refunds Payable and Other	\$	286,046.67	\$	521,649.32
<b>Net Assets Held In Trust For Pension Benefits</b>				
	\$	122,056,858.91	\$	125,928,323.16

**TOTAL ASSETS (MARKET VALUE 12-31-2015)**



## Schedule A – Continued

### Schuylkill County Employees' Retirement System

#### Plan Description and Contribution Information

**Basis of Accounting:** The Schuylkill County Employees' Retirement System financial statements are prepared using the accrual basis of accounting. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions to each plan are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of each plan.

**Method Used to Value Investments:** Investments are reported at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Investments that do not have an established market are reported at estimated fair value.

Membership of the plan consisted of the following as of January 1, 2016:

Retirees and Beneficiaries Receiving Benefits	566
Terminated Plan Members Entitled to but not yet Receiving Benefits	91
Active Plan Members	588
Total	1,245
Number of Participating Employers	1

## Schedule A—Continued

### Schuylkill County Employees' Retirement System

**Plan Description:** The Schuylkill County Employees' Retirement Plan is a single-employer defined benefit pension plan that covers all employees of the County. The plan provides retirement, disability, and death benefits to plan members and their beneficiaries. Cost-of-living adjustments (COLA) are provided at the discretion of the Schuylkill County Employees' Retirement Board. Act 96 of 1971, as amended cited as the County Pension Law provides for the creation, maintenance and operation of this plan.

**Contributions:** Plan members are required to contribute 8% of their annual covered salary. The County is required to contribute at an actuarially determined rate. Per Act 96 of 1971, as amended, contribution requirements of the plan members and the County are established and may be amended by the General Assembly of the Commonwealth of Pennsylvania. Administrative costs may be financed through investment earnings.

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#### SCHEDULE OF EMPLOYER CONTRIBUTIONS

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Year	Contribution *	County Contribution
2006	\$ 1,227,586	\$ 1,227,586
2007	\$ 1,217,811	\$ 1,217,811
2008	\$ 733,243	\$ 733,243
2009	\$ 2,217,034	\$ 2,217,034
2010	\$ 3,148,444	\$ 3,148,444
2011	\$ 3,180,461	\$ 3,180,461
2012	\$ 3,227,289	\$ 3,227,289
2013	\$ 3,391,169	\$ 3,391,169
2014	\$ 2,589,653	\$ 2,589,653
2015	\$ 2,582,040	\$ 2,582,040

**Note:** Effective in 2015 the Entry Age Funding Method was used to determine the annual required contribution. Prior to 2015 the Aggregate Method was used.

\*Prior to 2014, contribution was described as Annual Required Contribution (ARC). After 2013, contribution was described as actuarially determined contribution.

**Schedule A—Continued**

<b>SCHEDULE OF FUNDING PROGRESS</b>						
<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) - Entry Age (b)</b>	<b>Unfunded AAL (UAAL) (b-a)</b>	<b>Funded Ratio (a/b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b-a)/c)</b>
1/1/2008	97,213,001	95,781,127	(1,431,874)	101.5%	26,094,042	(5.5%)
1/1/2009	90,642,099	101,240,112	10,598,013	89.5%	26,268,179	40.3%
1/1/2010	88,175,275	106,027,742	17,852,467	83.2%	27,521,360	64.9%
1/1/2011	92,959,297	111,277,577	18,318,280	83.5%	27,323,547	67.0%
1/1/2012	97,595,446	115,921,028	18,325,582	84.2%	27,725,849	66.1%
1/1/2013	100,785,118	119,612,051	18,826,933	84.3%	27,796,464	67.7%
1/1/2014	111,581,965	123,805,736	12,223,771	90.1%	28,179,028	43.4%
1/1/2015	118,796,748	131,816,808	13,020,060	90.1%	30,403,565	42.8%
1/1/2016	124,150,912	135,112,495	10,691,583	91.9%	26,949,878	40.7%

### Schedule A--Continued

HISTORICAL ACCOUNTING INFORMATION	
The information was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:	
Valuation Date	01/01/2016
Actuarial Cost Method	Entry Age
Asset Valuation Method	5-year smoothed market
Actuarial Assumptions:	
Investment Rate of Return *	7.5%
Projected Salary Increases *	4.5%
* Includes Inflation at	3%

ACCOUNTING PROCEDURES FOR CALCULATING - NET PENSION OBLIGATION (NPO)							
Subsequent years Net Pension Liability calculation found in GASB 67 & 68 disclosure report							
(1) Year	(2) ARC	(3) Interest on NPO ***	(4) ARC Adjustment **	(5) Pension Cost (2+3-4)	(6) Contribution	(7) Change in NPO (5-6)	(8) NPO Balance* (BB+7)
2005	943,363	(2,438)	(3,865)	944,790	943,363	1,427	(31,077)
2006	1,227,586	(2,331)	(3,709)	1,228,964	1,227,586	1,378	(29,699)
2007	1,217,811	(2,227)	(3,559)	1,219,143	1,217,811	1,332	(28,367)
2008	733,243	(2,128)	(3,425)	734,540	733,243	1,297	(27,070)
2009	2,217,034	(2,030)	(3,285)	2,218,289	2,217,034	1,255	(25,815)
2010	3,148,444	(1,936)	(3,151)	3,149,659	3,148,444	1,215	(24,600)
2011	3,180,461	(1,845)	(2,968)	3,181,584	3,180,461	1,123	(23,477)
2012	3,227,289	(1,761)	(2,861)	3,228,389	3,227,289	1,100	(22,377)
2013	3,391,169	(1,678)	(2,747)	3,392,238	3,391,169	1,069	(21,308)

\* BB = Beginning balance for the year.

\*\* ARC Adjustment - Amortization factor based upon level percentage of projected payroll.

\*\*\* Interest on the balance of the NPO at the beginning of the year using the investment return rate assumed in determining ARC. The interest is an estimate of the investment earnings lost to the plan on any contributions that were not made (7.5% when applicable).

### Schedule B

Schedule B shows the allocation of the assets among the Fund's reserve accounts (see Schedule I for Determination of Reserve Balances) and the Fund's liabilities as of January 1, 2016. The liabilities were determined from the actuarial valuation of the System based upon the data submitted by the County.

<b>ASSETS</b>	
Members' Annuity Reserve Account	\$ 30,345,109.25
County Annuity Reserve Account	\$ 15,500,103.58
Retired Members' Reserve Account	\$ 66,265,056.00
Unrealized Appreciation of Assets	\$ 9,946,590.08
<i>Total Assets, (Market Value) of the Schuylkill County Employees' Retirement Fund</i>	<i>\$ 122,056,858.91</i>
<b>LIABILITIES</b>	
Actuarial Present Value of:	
Accumulated Plan Benefits	
Vested participants (411)	\$ 19,637,034
Nonvested participants (177)	\$ 455,462
Future Benefit Accruals	\$ 24,886,357
Terminated Vested Benefits	\$ 2,494,412
Retired Benefits	\$ 66,265,056
Member Accumulated Deductions	\$ 30,345,109
<i>Total Liabilities of the Schuylkill County Employees' Retirement Fund</i>	<i>\$ 144,083,430</i>

## Schedule C

### Unfunded Actuarial Liability and Normal Cost

Schedule C shows the development of the unfunded actuarial liability and the normal cost for 2016.

#### I. Unfunded Actuarial Liability January 1, 2016

1. Actuarial Liability:		
(a) Active Participants		
Retirement Benefits	\$	32,499,905
Termination Benefits		2,341,111
Death Benefits		1,166,902
Total	\$	36,007,918
(b) Terminated Vested Participants	\$	2,494,412
(c) Retired Members and Beneficiaries		
Retirement Benefits	\$	63,873,198
Cost-of-Living Benefits		2,391,858
Total	\$	66,265,056
(d) Member Accumulated Deductions	\$	30,345,109
(e) Total (a) + (b) + (c) + (d)	\$	135,112,495
2. Actuarial Value of Plan Assets (see page 15)	\$	124,150,912
3. Unfunded Actuarial Liability as of January 1, 2016: (1e) – (2)	\$	10,961,583

#### II. Normal Cost for 2016

1. Normal Cost for:		
(a) Retirement Benefits	\$	987,907
(b) Termination Benefits		125,364
(c) Death Benefits		37,571
(d) Normal Cost as of January 1, 2016	\$	1,150,842
(e) Normal Cost with interest to end of year: (d) x 1.075	\$	1,237,155

**Schedule D**

**Actuarial Gain(Loss) for One Year Period Ending December 31, 2015**

Schedule D shows the development of the actuarial gain (loss) for the 2015 plan year.

1.	Unfunded Actuarial Liability as of January 1, 2015	\$ 13,020,060
2.	Normal Cost as of January 1, 2015	1,315,351
3.	Interest at 7.50% Per Year to December 31, 2015 on (1) and (2)	1,075,156
4.	Employer Contributions for the 2015 Plan Year	2,582,040
5.	Change in Unfunded Actuarial Liability Due to Cost of Living Increase to Retirees	0
6.	Change in Unfunded Actuarial Liability Due to Change in Assumptions	0
7.	Expected Unfunded Actuarial Liability as of January 1, 2016: (1) + (2) + (3) - (4) + (5) + (6)	12,828,527
8.	Unfunded Actuarial Liability as of January 1, 2016	10,961,583
9.	Actuarial Gain (Loss) for 2015 Plan Year: (7) – (8)	1,866,944

## Schedule E

### Amortization Schedule

Schedule E provides a record of the amortization amounts. Actuarial gains (losses) will be amortized over 15 years from the date determined; increases or decreases created by pension plan establishing an unfunded actuarial accrued liability will be amortized over 30 years from the effective establishment date; increases or decreases created by a modification in the benefit plan applicable to active members will be amortized over 20 years beginning with the January 1<sup>st</sup> coinciding with or next following the effective date of change; increases or decreases created by a modification in the benefit plan applicable to retired members will be amortized over 10 years beginning with the January 1<sup>st</sup> coinciding with or next following the effective date of change; increases in actuarial accrued liability attributable to the special early retirement provision will be amortized over 5 years beginning with the January 1<sup>st</sup> coinciding with or next following the end of the early retirement period; and increases or decreases created by changes in actuarial assumptions will be amortized over 15 years from the effective date of change; resetting the unfunded actuarial liability (UAL) due to outstanding balance becoming negative will be amortized over 15 years beginning with the January 1<sup>st</sup> coinciding with or next following when the outstanding balance becomes negative. When resetting, any previous charges or credits will be considered paid off and eliminated.

### Amortization Record for 2016

		As of January 1, 2016				
	<u>Initial Amount</u>	<u>Effective Date</u>	<u>Remaining Period</u>	<u>Outstanding Balance</u>	<u>Amortization Charge or (Credit)</u>	
Amortization of Liability for:						
(a)	Initial UAAL	\$ 13,020,060	1/1/2015	24 Years	\$12,828,527	\$1,168,038
(b)	Experience gain	(1,866,944)	1/1/2016	15 Years	<u>(1,866,944)</u>	<u>(211,501)</u>
(c)	Total				\$10,961,583	\$ 956,537

### **Schedule F**

Schedule F determines the certified actuarially determined contribution of \$2,193,692 for 2016 for the Schuylkill County Employees' Retirement System.

1.	Total Amortization Charge/(Credit) (page 12 (c))	\$ 956,537
2.	Normal Cost with interest to end of year (page 10 II 1(e))	\$ 1,237,155
3.	Total Funding Requirement for 2016 (actuarially determined contribution for 2016): (1) + (2), but not less than 0	\$ 2,193,692

**Notes:**

The actuarially determined contribution for 2016 as a percentage of the estimated 2016 compensation (\$26,949,878) for active members is 8.14%.

The equivalent normal cost accrual rate to be applied to actual 2015 salaries to determine reimbursable expenses is 8.51%.

## **Schedule G**

The following are notes to Schedules B and I:

### **Members' Annuity Reserve Account**

The balance of \$30,345,109.25 in this account is the total of the contributions deducted from the salaries of the active and terminated vested members of the retirement system and the IRC 414(h)(2) pickup contributions together with the interest additions as of January 1, 2016. Since these accumulations represent the present value as of January 1, 2016, of future benefits, the reserve balance and liability are identical.

### **County Annuity Reserve Account**

The balance of \$15,500,103.58 in this account as of January 1, 2016 and the amounts expected to be credited in the future, plus investment earnings, represent the reserves set aside for the payment of the county's share of the retirement allowances.

This is the account out of which regular interest is credited to the member's annuity and retired members' reserve account, administrative expenses may be paid and the pension obligations of the County are funded.

When a County Annuity is scheduled to commence for a particular member, sufficient monies are transferred from the County Annuity Reserve Account to the Retired Members' Reserve Account to provide for such County Annuities actually entered upon.

### **Retired Members' Reserve Account**

This is the account out of which monthly retirement allowances including cost-of-living increases and death benefits are paid.

The assets allocated to this reserve account as of January 1, 2016 amount to \$66,265,056.00. The corresponding liability for those annuitants on the roll is identical.

**Schedule G--Continued**

**Adjustment for Market Value Fluctuation**

In order to reduce the fluctuations in the County normal cost which can result from full recognition of the unrealized appreciation or depreciation of the Fund's securities each year, the value of assets used to determine costs was determined by adjusting the cost value of the assets by the average ratio of market to cost value for the past five years:

RATIO OF MARKET VALUE TO COST VALUE OF ASSETS				
January 1	(1) Cost Value of Assets	(2) Market Value of Assets	Ratio (2) / (1)	
2012	\$ 95,177,927	\$ 96,614,515	1.0151	
2013	\$ 98,683,167	\$ 106,654,941	1.0808	
2014	\$ 103,240,161	\$ 121,692,343	1.1787	
2015	\$ 107,275,373	\$ 125,928,323	1.1739	
2016	\$ 112,110,269	\$ 122,056,859	1.0887	
Average			1.1074	

ACTUARIAL VALUE OF ASSETS JANUARY 1, 2016		
(1) Cost Value of Assets	\$	112,110,268.83
(2) Average Ratio		1.1074
(3) Actuarial Value of Assets (see line 2, page 10)	\$	124,150,911.70

### Schedule H

APPROXIMATE RATE OF RETURN FOR 2015 PLAN YEAR			
		<u>Actuarial Value</u>	<u>Market Value</u>
1. Value as of December 31, 2014	\$	118,796,748.17	\$ 125,928,323.16
2. Contributions Received During Year	\$	5,197,186.54	\$ 5,197,186.54
3. Benefits and Expenses Paid During Year	\$	8,850,443.83	\$ 8,850,443.83
4. Value as of December 31, 2015	\$	124,150,911.70	\$ 122,056,858.91
5. Non-Investment Increment: (2) - (3)	\$	(3,653,257.29)	\$ (3,653,257.29)
6. Investment Increment: (4) - (1) - (5)	\$	9,007,420.82	\$ (218,206.96)
7. Time Weighted Value of Assets: (1) + .5 x (5)	\$	116,970,119.52	\$ 124,101,694.52
8. Approximate Rate of Return for 2015: (6) / (7)		7.70%	(0.18%)

### HISTORY OF RATE OF RETURNS

<u>Plan Year</u>	<u>Actuarial Value Rate of Return</u>	<u>Market Value Rate of Return</u>
2014	9.37%	6.11%
2013	12.97%	16.26%
2012	5.31%	12.53%
2011	5.78%	1.02%
2010	5.95%	11.64%
2009	(1.24%)	19.02%
2008	(4.21%)	(18.54%)
2007		8.49%
2006		11.47%
Five Year Average (2011 - 2015):	8.19%	6.96%
Ten Year Average (2006 - 2015):		6.24%

## Schedule I

### Determination of Reserve Balances

	M.A.R.A.	C.A.R.A.	R.M.R.A.	TOTAL
Balance 1/1/2015	\$ 30,937,185.65	\$ 15,247,694.45	\$ 61,090,493.00	\$ 107,275,373.10
County Appropriations		2,582,040.00		2,582,040.00
Member Contributions	2,605,755.47			2,605,755.47
Member Purchases		9,391.07		9,391.07
Net Investment Income		8,488,153.02		8,488,153.02
Investment Expenses		(388,608.44)		(388,608.44)
Member Contributions Refunded	(868,637.24)	(231.79)		(868,869.03)
Pension Payments			(7,477,055.06)	(7,477,055.06)
Death Benefits			(94,090.40)	(94,090.40)
Retiree and Death Benefit Transfers	(3,555,034.12)	(5,042,447.89)	8,597,482.01	0.00
Cost of Living Funding Requirement		0.00	0.00	0.00
Administrative Expenses		(21,820.90)		(21,820.90)
Miscellaneous		0.41	(0.41)	0.00
Balance Before Interest	29,119,269.76	20,874,169.93	62,116,829.14	112,110,268.83
Interest Allocated in 2015	1,225,839.49	(3,689,985.92)	2,464,146.43	
Balance Before Actuarial Adjustments	30,345,109.25	17,184,184.01	64,580,975.57	112,110,268.83
Actuarial Adjustments		(1,684,080.43)	1,684,080.43	
Ending Balance 12/31/2015	30,345,109.25	15,500,103.58	66,265,056.00	112,110,268.83
Unrealized Appreciation				9,946,590.08
Total Assets (12/31/2015) (Market Value)				122,056,858.91

## Schedule J

### Membership History

Below is a ten-year history of the Retirement System's membership.

ACTIVE MEMBERS AND VESTED TERMINATED MEMBERS				RETIRED MEMBERS AND BENEFICIARIES		
January 1	Male	Female	Total	Male	Female	Total
2016	262	416	678	178	388	566
2015	268	491	759	176	363	539
2014	258	481	739	176	347	523
2013	268	478	746	172	342	514
2012	271	481	752	166	330	496
2011	268	484	752	168	331	499
2010	274	489	763	163	318	481
2009	276	476	752	161	312	473
2008	271	478	749	158	299	457
2007	264	482	746	149	294	443

## Schedule K

### Changes in Plan Participation From January 1, 2015 to January 1, 2016

<b>ACTIVE PARTICIPANTS</b>		
Number as of January 1, 2015		702
Changes During Plan Year:		
Retired	(-)	44
Terminated and Vested	(-)	36
Terminated	(-)	87
Died	(-)	0
New Participants	(+)	53
Number as of January 1, 2016		588

<b>RETIRED PARTICIPANTS</b>		
Number as of January 1, 2015		539
Changes During Plan Year:		
Returned to Active Service	(-)	0
Died	(-)	20
New Retirements from Active Service	(+)	44
New Surviving Annuitants	(+)	1
Vested Terminated Participants Whose Benefits Commenced	(+)	4
Deletions	(-)	2
Number as of January 1, 2016		566

<b>TERMINATED VESTED PARTICIPANTS</b>		
Number as of January 1, 2015		57
Changes During Plan Year:		
Returned to Active Service	(-)	1
Benefits Commenced	(-)	4
Terminated	(-)	1
New Termination's with Vesting	(+)	36
Additions	(+)	3
Number as of January 1, 2016		90

### Schedule L

#### Age, Service and Average Salary Profile of the Active Members on January 1, 2016.

MALES -- FULL YEARS OF SERVICE TO JANUARY 1, 2016									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total	Average Salary
0-19	0	0	0	0	0	0	0	0	\$ 0
20-24	8	0	0	0	0	0	0	8	\$ 38,241
25-29	17	4	0	0	0	0	0	21	\$ 42,679
30-34	6	14	6	0	0	0	0	26	\$ 49,707
35-39	8	3	12	7	0	0	0	30	\$ 52,887
40-44	3	4	3	14	6	0	0	30	\$ 51,850
45-49	5	6	5	5	2	2	0	25	\$ 49,203
50-54	4	3	2	6	4	5	2	26	\$ 51,676
55-59	2	9	4	7	5	1	6	34	\$ 48,738
60-64	3	10	2	4	2	0	2	23	\$ 46,981
65 +	1	3	4	2	0	0	3	13	\$ 57,223
Total	57	56	38	45	19	8	13	236	\$ 49,542

Average Age: 45.54  
Average Service: 11.85

FEMALES -- FULL YEARS OF SERVICE TO JANUARY 1, 2016									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total	Average Salary
0-19	0	0	0	0	0	0	0	0	\$ 0
20-24	3	0	0	0	0	0	0	3	\$ 33,007
25-29	20	8	0	0	0	0	0	28	\$ 39,046
30-34	9	17	9	0	0	0	0	35	\$ 42,947
35-39	8	9	15	9	0	0	0	41	\$ 41,427
40-44	6	13	7	10	3	1	0	40	\$ 45,697
45-49	15	12	4	11	10	3	0	55	\$ 42,230
50-54	9	10	5	7	9	9	4	53	\$ 47,521
55-59	8	13	5	6	9	6	5	52	\$ 44,058
60-64	4	2	6	5	6	2	5	30	\$ 42,682
65 +	0	1	4	1	5	1	3	15	\$ 44,341
Total	82	85	55	49	42	22	17	352	\$ 43,465

Average Age: 46.36  
Average Service: 12.48

## Schedule M

### Actuarial Assumptions and Actuarial Cost Method for Funding Purposes, January 1, 2016.

#### Actuarial Assumptions

**Mortality Rates:** 2013 RP Annuitant and Non-Annuitant Mortality Tables for males and females with no projected improvement.

**Withdrawal Rates:** Members not eligible to retire are assumed to terminate employment in accordance with a percentage of the withdrawal rates set forth in Table T-7 of the Actuary's Handbook. The applicable percentage depends on the member's years of service as follows:

YEARS OF SERVICE	PERCENTAGE
less than 1	300%
1 but less than 2	275%
2 but less than 3	250%
3 but less than 4	225%
4 but less than 5	200%
5 but less than 6	175%
6 or more	100%

It is further assumed that a percentage of members who terminate after having met the Plan's five year vesting requirement will elect an immediate refund of their own contributions with interest thus forfeiting the County -- provided pension. The applicable percentage is 100% for termination ages up to age 30. After age 30 the applicable percentage is determined as 100% less (age - 30) x 3 1/3%. Illustrative percentages are as follows:

AGE	PERCENTAGE
30 or less	100.0%
35	83.3%
40	66.7%
45	50.0%
50	33.3%
55	16.7%

### Schedule M--Continued

The following tables set forth illustrative withdrawal rates as determined in accordance with the methodology described on the previous page.

#### Probability of Withdrawing During Year:

LESS THAN FIVE YEARS OF SERVICE					
Age at Hire	Years of Service				
	0	1	2	3	4
20	.2982	.2720	.2460	.2202	.1947
30	.2791	.2532	.2275	.2021	.1770
40	.2326	.2067	.1814	.1570	.1335
50	.1267	.1013	.0781	.0577	.0407
59	.0086	-	-	-	-

FIVE OR MORE YEARS OF SERVICE		
Age at Beginning of Year	Probability of Withdrawing and Forfeiting County Pension	Probability of Withdrawing and Retaining County Pension
30	.0930	.0000
40	.0517	.0258
50	.0141	.0281
59	.0001	.0028

### Schedule M--Continued

**Retirement Rates:**

Members eligible to retire are assumed to retire in accordance with the following rates:

AGE AT BEGINNING OF YEAR	PROBABILITY OF RETIRING DURING YEAR
55-59	.07
60-61	.08
62-64	.15
65	.34
66-70	.23
71-79	.21
80	1.00

**Disability Rates**

Disability rates are not used.

**Investment Return**

7.5% per annum, compounded annually.

**Salary Increases**

4.5% per annum.

**Valuation Assets**

The asset at cost value adjusted by the past five-year average of the market to cost ratio of assets.

**Administrative Expenses**

Assumed to be paid from the County's general fund and not from plan assets. However, administrative expenses may from year to year be paid from the fund unless it is determined by the actuary that such payment will impair the actuarial soundness of the fund.

**Actuarial Cost Method**

The actuarial cost method used to determine the plan's funding requirements is the entry age normal method. Under this method, an actuarial accrued liability is determined as the actuarial present value of projected benefits for all participants minus the actuarial present value of future normal costs. The normal cost is determined as the annual amount required to fund between entry age and assumed exit age the actuarial present value of projected benefits for each active participant under the assumed retirement age.

## Schedule N

### Summary of Plan Provisions

- 1. Effective Date** The effective date of this plan is January 1, 1942.
- 2. Eligibility for Plan Membership** An employee shall be eligible to become a participant immediately upon becoming an employee.
- 3. Accrued Benefit** The Retirement Board has authorized benefits equal to a percentage of the members Final Average Salary for each year of service the member has participated in the following Classes:

<u>CLASS</u>	<u>PERCENTAGE</u>	<u>EFFECTIVE</u>
1/120	0.833%	01/01/1942
1/100	1.000%	09/01/1949
1/80	1.250%	09/01/1953
1/70	1.429%	01/01/1970

- 4. Normal Retirement (Superannuation)** *Eligibility:* Retirement occurs at age 60 or at age 55 if the participant has completed 20 years of service.

*Pension:* A monthly pension equal to (a) and (b), as follows:

- (a) 0.833% of 1/12th of Final Average Salary multiplied by years of credited service on the 1/120 Class,  
 1.000% of 1/12th of Final Average Salary multiplied by years of credited service on the 1/100 Class,  
 1.250% of 1/12th of Final Average Salary multiplied by years of credited service on the 1/80 Class,  
 1.429% of 1/12th of Final Average Salary multiplied by years of credited service on the 1/70 Class,

PLUS

- (b) a monthly annuity based on the actuarial equivalent of the member's accumulated contributions with credited interest.

## ***Schedule N--Continued***

- 5. Final Average Salary** The average of the member's annual compensation received for the three years which produce the highest such average.
- 6. Compensation** Pick-up contributions plus remuneration received as a county employee excluding refunds for expenses, contingency and accountable expense allowances and excluding severance payments or payments for unused vacation or sick leave.
- 7. Early Retirement**
- Eligibility:***
- Voluntary:*** Upon completion of 20 years of service.
- Involuntary:*** Upon completion of 8 years of service.
- Pension:***
- (a) a monthly pension equal to the actuarial equivalent of the benefits calculated in 4(a),
- PLUS
- (b) a monthly annuity based on the actuarial equivalent of the member's accumulated contributions with credited interest.
- 8. Vesting** One Hundred Percent (100%) upon completion of five years of credited service. A member who terminates employment after five years of credited service will receive a deferred annuity commencing at age 60 (or at age 55 if the member has at least 20 years of service at termination). The deferred benefit shall be calculated using the normal retirement pension formula but based on credited service, final average salary and accumulated contributions at termination.
- If a member terminates employment prior to entitlement to Plan benefits, he will receive his accumulated contributions with interest.
- 9. Postponed Retirement** A member may work past normal retirement age and continue to accrue pension credits.

## **Schedule N--Continued**

### **10. Disability Retirement**

**Eligibility:** Total and permanent disability prior to Superannuation (Normal Retirement) age and after completion of five years of credited service.

**Pension:** A total monthly pension commencing on the last day of the month following disability retirement equal to 25% of the 1/12th of Final Average Salary at time of retirement. Such total monthly pension shall include the monthly disability that is actuarially equivalent to the member's accumulated contributions at retirement.

### **11. Normal Form of Pension**

Benefits are payable in the form of a modified cash refund life annuity, that is for the member's lifetime only, except that disability benefits shall cease upon cessation of disability.

### **12. Optional Retirement Benefits**

A member may elect to receive the actuarial equivalent of his retirement benefit as a full cash refund annuity (Option One) or a reduced joint and survivor pension payable for the remainder of his life, with either 100% or 50% of the member's pension continuing after death to the designated beneficiary. A member may also elect to receive, in one payment, the full amount of his accumulated deductions and continue to receive the annuity provided by the county.

### **13. Death Benefits**

(a) Pre-Retirement. If a member dies after having attained age 60 or having completed ten years of credited service, his beneficiary will receive a lump sum equal to the actuarially determined present value of the benefits calculated in (7a) based on the member's Final Average Salary and credited service at time of death plus the member's accumulated contributions with interest at time of death.

(b) Post-Retirement. Upon the death of a terminated or retired member, his beneficiary will receive survivor benefits, if any, in accordance with the form under which benefits were being paid to the member. In any event, the total amount of benefits paid to the deceased member and beneficiary must, at least, equal the member's accumulated contributions with interest.

**Schedule N--Continued**

- 14. Employee Contributions**      Employees on the 1/70 Class must contribute between 8% and 18% of salary.
  
- 15. Deposit Administrator**      Investment Managers:  
    Silvercrest Asset Management Group  
    Barrow, Hanley, Mewhinney & Strauss  
    Fred Alger Management  
    C.S. McKee  
    Emerald Advisers, Inc.  
  
    Custodian:  
    M&T Bank  
  
    Investment Consultant:  
    Cornerstone Advisors Asset Management
  
- 16. Administration**              Retirement Board as designated in Act 96 of 1971, the County Pension Law.
  
- 17. Cost-of-Living**                The cost-of-living increase shall be reviewed at least once in every three years by the Retirement Board. The Board has granted cost-of-living increases nine times in the past from January, 1972 through and including January, 1990 and since then as follows:

PERCENTAGE CHANGE IN C.P.I.	EFFECTIVE DATE OF INCREASE
85%	1/1/1992
85%	1/1/1995
85%	1/1/1997
85%	1/1/1999
85%	1/1/2000
85%	1/1/2001
85%	1/1/2003
85%	1/1/2004
85%	1/1/2006
85%	1/1/2007

## Schedule O

### Historical Trend Information

REVENUES BY SOURCE						
Fiscal Year	Employee Contributions	Employer Contributions	Investment Income	Miscellaneous	Total	
2006	\$ 2,076,751	\$ 1,227,586	\$ 7,578,598	\$ 0	\$ 10,882,935	
2007	2,102,354	1,217,811	9,530,301	0	12,850,466	
2008	2,148,399	733,243	1,419,375	0	4,301,017	
2009	2,201,308	2,217,034	605,208	0	5,023,550	
2010	2,219,603	3,148,444	5,642,722	0	11,010,769	
2011	2,247,438	3,180,461	7,367,822	0	12,795,721	
2012	2,287,079	3,227,289	5,447,612	0	10,961,980	
2013	2,391,391	3,391,169	6,691,484	0	12,474,044	
2014	2,561,661	2,589,653	7,135,032	0	12,286,346	
2015	2,615,147	2,582,040	8,488,153	0	13,685,340	

EXPENSES BY TYPE					
Fiscal Year	Benefits	Refunds	Administrative/ Miscellaneous	Total	
2006	\$ 3,859,608	\$ 438,828	\$ 405,903	\$ 4,704,339	
2007	4,196,840	369,963	401,413	4,968,216	
2008	4,434,263	572,674	402,785	5,409,722	
2009	5,272,623	170,910	330,004	5,773,537	
2010	5,136,282	331,720	352,128	5,820,130	
2011	5,376,091	419,247	346,688	6,142,026	
2012	6,569,822	480,792	406,126	7,456,740	
2013	7,145,293	331,415	440,343	7,917,051	
2014	7,461,099	351,880	438,155	8,251,134	
2015	7,571,146	868,869	410,429	8,850,444	