

GASB 68 Actuarial Information for the Measurement Period Ending June 30, 2023



#### Submitted by:

James Ritchie, ASA, EA, FCA, MAAA President of Bolton Retirement 443.573.3924 jritchie@boltonusa.com Jordan McClane, FSA, EA, FCA, MAAA Consulting Actuary 667.218.6935 jmcclane@boltonusa.com



November 29, 2023

Mr. Danny Dillow City Treasurer City of Bluefield 200 Rogers Street Bluefield, WV 24701 Chief Dennis Dillow, Jr.
Pension Board Secretary
City of Bluefield
Policemen's Pension and Relief Fund

Re: City of Bluefield Policemen's Pension and Relief Fund GASB 68 Actuarial Information for the Measurement Period Ending June 30, 2023

Dear Danny,

The following report contains the GASB 67 and GASB 68 actuarial information for the City of Bluefield Policemen's Pension and Relief Fund to be included in the City's financial statements for FY 2023. The GASB 67 information has been provided as of June 30, 2023 (the GASB 68 measurement date for FY 2023).

#### Methodology, Reliance and Certification

This report is prepared for the City. The report contains the actuarial information to be included with the City's financial statements for the year ending June 30, 2023 (the City's fiscal year end date) as required by GASB 68. This information has been prepared for use in the financial statements of the City. This information is not intended for, nor should it be used for, any additional purposes.

The total pension liability is based on the July 1, 2022 actuarial valuation rolled forward to June 30, 2023. The methods, assumptions, and participant data used are detailed in the July 1, 2022 actuarial valuation report with the exception of the actuarial cost method. These calculations are based on the Entry Age Normal cost method as required by GASB 67. The calculation of the Actuarially Determined Contribution (ADC) for the fiscal year ending June 30, 2023 is contained in the July 1, 2021 actuarial valuation report. The discount rate assumption may have changed if a blended rate was used for GASB purposes.

The included calculations are based on the valuation discount rate of 6.25%. The plan's expected gross rate of investment return of 6.25% has been blended with the 3.86% yield corresponding to the 20-year maturity on a municipal general obligation AA bond yield curve published on Fidelity's Fixed Income Market Data webpage as of June 30, 2023. The development of the blended discount rate is included within this report. Since the plan assets are estimated to be sufficient to cover benefit payments throughout the projection period, the liability discount rate used for this June 30, 2023 measurement date is equal to the plan's expected rate of investment return.

The long-term nominal expected rate of return on pension plan investments was determined using a methodology approved by the Municipal Pensions Oversight Board (MPOB) and is based on the funded status (current and projected), equity exposure, and funding policy.

The included calculations assume that the members and the City will continue to make all required contributions in accordance with the City's funding policy.

Mr. Danny Dillow November 29, 2023 Page 2

#### Methodology, Reliance and Certification (cont.)

These calculations and comparisons with assets are 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 the assumptions; the differences may be significant or material because the 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.

The City is responsible for selecting the plan's funding policy based on five methods allowed for under state law. The actuarial valuation methods are chosen by the actuary in accordance with actuarial standards of practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries and as required by GASB 67 & 68. The MPOB selects the asset valuation methods and assumptions; these selections are reviewed by a qualified actuary no less than every five years. The actuary shall provide a report to the Board with recommendations on any changes to the actuarial process. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in this report. The City and MPOB are solely responsible for communicating to Bolton Partners, Inc. any changes required thereto.

The City 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. That type of analysis would be a separate assignment.

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 City or, in this case, a measure of accounting expense. It does not affect the cost of the plan. As the experience of the plan evolves, it is normal for the level of contributions and expense of the plan to change.

We make every effort to ensure that our calculations are accurately performed. 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.

The valuation was completed using both proprietary and third-party models (including software and tools). We have tested these models to ensure they are used for their intended purposes, within their known limitations, and without any known material inconsistencies unless otherwise stated.



Mr. Danny Dillow November 29, 2023 Page 3

#### Methodology, Reliance and Certification (cont.)

This report is based on plan provisions, census data, and asset data submitted by the City. 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 City 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 City.

The information in this report was prepared for the internal use of the City, the plan and their auditors in connection with our actuarial valuations of the pension plan as required by GASB 68. This report may not be used for any other purpose; Bolton Partners, Inc. is not responsible for the consequences of any unauthorized use or the reliance on this information by any other party.

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, an assumption based on the expected long-term rate of return on plan investments is used. If the plan is expected to become insolvent, the return assumption is blended with a long-term municipal bond rate. Using a lower discount rate assumption, such as a rate solely based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

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 enrolled actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The July 1, 2022 actuarial valuation report contains information that is integral to the results contained herein and a copy may be provided upon request.

Sincerely,

James Ritchie, ASA, EA, FCA, MAAA

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Jordan McClane, FSA, EA, FCA, MAAA

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Actuarial Information to Include in the Financial Statements for the June 30, 2023 Measurement Date



Net Pension Liability of the Employer

The components of the net pension liability of the Employer at June 30, 2023, were as follows:

Total pension liability	\$	14,136,674
Plan fiduciary net position		(9,157,978)
Employer's net pension liability	\$	4,978,696
	·	
Plan fiduciary net position as a percentage of the total pension liability		64.78%

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of July 1, 2022 rolled forward to June 30, 2023 using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation 2.50 percent

Salary increases Rates vary by years of service

Single discount rate (BOY) 6.25% Single discount rate (EOY) 6.25%

Investment rate of return (BOY) 6.25%, net of pension plan investment expense, including inflation Investment rate of return (EOY) 6.25%, net of pension plan investment expense, including inflation

Long-term municpal bond rate (BOY) 3.69% Long-term municpal bond rate (EOY) 3.86%

Mortality SOA PubS-2010(B) with generational projection using Scale MP-2019

Year Fund is projected to be fully funded
Year assets are expected to be depleted
N/A

for a closed plan

The above is a summary of key actuarial assumptions. Full descriptions of the actuarial assumptions are available in the July 1, 2022 actuarial valuation report.

Sensitivity of the net pension liability to changes in the discount rate

			Current		
	Decrease 5.25%	Dis	scount Rate 6.25%	19	% Increase 7.25%
Employer's net pension liability	\$ 6,934,011	\$	4,978,696	\$	3,399,407

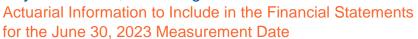
# City of Bluefield, West Virginia Policemen's Pension and Relief Fund Actuarial Information to Include in the Financial Statements

for the June 30, 2023 Measurement Date



### Changes in the Net Pension Liability

	I Total Pension Liability (a)	ncrease (Decrease Plan Fiduciary Net Position (b)	) Net Pension Liability (a) - (b)
Balances at 6/30/22	\$ 13,621,796	\$ 8,147,169	\$ 5,474,627
Changes for the year:			
Service cost	358,837		358,837
Interest	826,161		826,161
Changes of benefit terms	-		-
Differences between expected and actual experience	136,298		136,298
Changes of assumptions	-		-
Contributions - employer (including Premium Tax Allocation)		742,608	(742,608)
Contributions - member		134,150	(134,150)
Net investment income		940,769	(940,769)
Benefit payments, including refunds of member contributions	(806,418)	(806,418)	-
Administrative expense		(300)	300
Other			
Net Changes	514,878	1,010,809	(495,931)
Balances at 6/30/23	\$ 14,136,674	\$ 9,157,978	\$ 4,978,696
Return on Investments		11.5%	





Components of Employer's Pension Expense for the Fiscal Year Ended June 30, 2023

Note	Description	Amount
Α	Service cost	\$ 358,837
В	Interest on the total pension liability	826,161
Α	Changes of benefit terms	-
С	Differences between expected and actual experience	183,926
С	Changes of assumptions	(310,987)
Α	Employee contributions	(134,150)
D	Projected earnings on pension plan investments	(511,387)
С	Differences between expected and actual earnings on	(103,832)
	plan investments	
Α	Pension plan administrative expense	300
Α	Other changes in fiduciary net position	-
	Total Pension Expense	\$ 308,868

#### Notes:

A Provided in the Changes in Net Pension Liability exhibit.

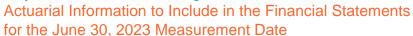
B Based on the following calculation:

	A	mount for Period (a)	Portion of Period (b)	Interest Rate (c)	E	rojected arnings x (b) x (c)
Beginning total pension liability	\$	13,621,796	100%	6.25%	\$	851,362
Service cost (End of Year)		358,837	0%	6.25%		-
Benefit payments, including refunds of employee contributions		(806,418)	50%	6.25%		(25,201)
Total interest on the total pension liability					\$	826,161

C Provided in the Schedules of Deferrals.

D Based on the following calculation:

	F	Amount for Period	Portion of Period	Projected Rate of Return	rojected
		(a)	(b)	(c)	arnings x (b) x (c)
Beginning plan fiduciary net position	\$	8,147,169	100%	6.25%	\$ 509,198
Employer contributions		742,608	50%	6.25%	23,207
Employee contributions		134,150	50%	6.25%	4,192
Benefit payments, including refunds of employee contributions		(806,418)	50%	6.25%	(25,201)
Administrative expense and other		(300)	50%	6.25%	(9)
Total Projected Earnings					\$ 511,387





Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2023, the Employer reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	red Outflows Resources	erred Inflows Resources
Differences between expected and actual experience	\$ 421,316	\$ 90,065
Changes of assumptions	-	621,976
Net difference between projected and actual earnings	-	
on pension plan investments		65,077
Total	\$ 421,316	\$ 777,118

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	
2024	\$ (208,209)
2025	(259,959)
2026	170,986
2027	(58,620)
2028	-
Thereafter	-

Actuarial Information to Include in the Financial Statements for the June 30, 2023 Measurement Date

Changes in the Employer's Net Pension Liability and Related Ratios Last 10 Fiscal Years



Total pension liability	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Service cost	\$ 358,837	\$ 359,482	\$ 424,136	\$ 407,114	\$ 390,251	\$ 319,814	\$ 392,147	\$ 220,182	\$ 250,953	\$ 258,950
Interest	826,161	812,730	836,320	775,860	735,057	722,124	679,543	700,256	670,364	662,929
Changes of benefit terms	-	-	-	-	-	-	-	-	-	-
Differences between expected and actual experience	136,298	(150,109)	165,924	597,973	279,504	89,417	(912,402)	(40,233)	(128,049)	-
Changes of assumptions	-	-	(1,554,937)	-	-	-	(833,335)	2,079,763	(696,283)	-
Benefit payments, including refunds of member contributions	(806,418)	(807,964)	(804,902)	(741,643)	(707,898)	(625,051)	(598,019)	(585,237)	(552,719)	(520,150)
Net change in total pension liability	514,878	214,139	(933,459)	1,039,304	696,914	506,304	(1,272,066)	2,374,731	(455,734)	401,729
Total pension liability - beginning	13,621,796	13,407,657	14,341,116	13,301,812	12,604,898	12,098,594	13,370,660	10,995,929	11,451,663	11,049,934
Total pension liability - ending (a)	\$ 14,136,674	\$ 13,621,796	\$ 13,407,657	\$ 14,341,116	\$ 13,301,812	\$ 12,604,898	\$ 12,098,594	\$ 13,370,660	\$ 10,995,929	\$ 11,451,663
Plan fiduciary net position	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Contributions - employer (including Premium Tax Allocation)	\$ 742,608	\$ 753,093	\$ 713,926	\$ 687,020	\$ 633,528	\$ 600,582	\$ 583,904	\$ 520,935	\$ 659,543	\$ 543,351
Contributions - member	134,150	129,634	113,517	113,231	109,496	100,599	97,183	88,383	71,722	67,170
Net investment income	940,769	(744,696)	1,690,935	376,112	517,785	407,572	486,123	157,192	181,170	379,653
Benefit payments, including refunds of member contributions	(806,418)	(807,964)	(804,902)	(741,643)	(707,898)	(625,051)	(598,019)	(585,237)	(552,719)	(520,150)
Administrative expense	(300)	(300)	(300)	(300)	-	(300)	(300)	(300)	(300)	(4,643)
Other	-	 -	-	-	(300)	-	6,214	2,566	-	-
Net change in plan fiduciary net position	\$ 1,010,809	\$ (670,233)	\$ 1,713,176	\$ 434,420	\$ 552,611	\$ 483,402	\$ 575,105	\$ 183,539	\$ 359,416	\$ 465,381
Plan fiduciary net position - beginning	8,147,169	8,817,402	7,104,226	6,669,806	6,117,195	5,633,794	5,058,689	4,875,150	4,515,734	4,050,353
Plan fiduciary net position - ending (b)	\$ 9,157,978	\$ 8,147,169	\$ 8,817,402	\$ 7,104,226	\$ 6,669,806	\$ 6,117,195	\$ 5,633,794	\$ 5,058,689	\$ 4,875,150	\$ 4,515,734
Employer's net pension liability - ending (a)-(b)	\$ 4,978,696	\$ 5,474,627	\$ 4,590,255	\$ 7,236,890	\$ 6,632,006	\$ 6,487,703	\$ 6,464,800	\$ 8,311,971	\$ 6,120,779	\$ 6,935,929
Plan fiduciary net position as a percentage of the	0.4.700/	50.040/	05 700/	10.510/	50.440/	40.500/	40.570/	07.000/	44.040/	00.400/
total pension liability	64.78%	59.81%	65.76%	49.54%	50.14%	48.53%	46.57%	37.83%	44.34%	39.43%
Covered payroll	\$ 1,208,136	\$ 1,165,303	\$ 1,142,704	\$ 1,121,382	\$ 1,135,170	\$ 955,341	\$ 1,025,108	\$ 841,730	\$ 834,851	\$ 837,491
Employer's net pension liability as a percentage of										
covered payroll	412.10%	469.80%	401.70%	645.35%	584.23%	679.10%	630.65%	987.49%	733.16%	828.18%
Expected average remaining service years of all participants	5.00	5.00	5.00	6.00	6.00	5.44	6.00	4.73	4.74	N/A
Exposited arrange remaining service yours of all participants	0.00	0.00	0.00	0.00	0.00	0.44	0.00	4.70	4.14	1471

Notes to Schedule: Benefit changes:

There were no changes for FY2023.

Changes of assumptions: There were no changes for FY2023.

Actuarial Information to Include in the Financial Statements for the June 30, 2023 Measurement Date

Schedule of Employer Contributions

Last 10 Fiscal Years



	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Actuarially determined contribution	\$ 640,521	\$ 630,273	\$ 803,530	\$ 752,872	\$ 691,752	\$ 599,307	\$ 612,202	\$ 656,589	\$ 475,033	\$ 524,627
Contributions in relation to the actuarially determined contribution										
Employer provided	473,438	442,466	413,519	386,467	361,184	337,555	340,042	270,265	297,006	256,115
State provided	269,170	 310,627	300,407	 300,553	 272,344	263,027	 243,862	 250,670	362,537	 287,236
Contribution deficiency (excess)	\$ (102,087)	\$ (122,820)	\$ 89,604	\$ 65,852	\$ 58,224	\$ (1,275)	\$ 28,298	\$ 135,654	\$ (184,510)	\$ (18,724)
Covered payroll	\$ 1,208,136	\$ 1,165,303	\$ 1,142,704	\$ 1,121,382	\$ 1,135,170	\$ 955,341	\$ 1,025,108	\$ 841,730	\$ 834,851	\$ 837,491
Contributions as a percentage of covered employee payroll	61.47%	64.63%	62.48%	61.27%	55.81%	62.87%	56.96%	61.89%	79.00%	64.88%

#### Notes to Schedule

#### Valuation date:

Actuarially determined contribution amounts are calculated as of the beginning of the fiscal year (July 1) for the year immediately following the fiscal year. The assumption shown below are those used in the 7/1/2021 actuarial valuation to calculate the FY2023 ADC. Assumptions used to determine all contributions in the past would not have been the same.

Methods and assumptions used to determine contribution rates:

Actuarial cost method Entry Age Normal
Amortization method Level Dollar
Remaining amortization period 15 to 27.5 years
Asset valuation method 4-year smoothed market

Inflation 2.50 percent

Salary increases Rates vary by years of service

Investment rate of return 6.25%, net of pension plan investment expense, including inflation

Retirement age Rates vary by age

Mortality SOA PubS-2010(B) with generational projection using Scale MP-2019

Actuarial Information to Include in the Financial Statements for the June 30, 2023 Measurement Date



Schedule of Differences between Projected and Actual Earnings on Pension Plan Investments

In conformity with paragraph 33b of Statement 68, the effects of differences between projected and actual earnings on pension plan investments are recognized in pension expense using a systematic and rational method over a closed five-year period, beginning in the current reporting period. The following table illustrates the application of this requirement.

Year	between Projected and Actual Earnings on Pension Plan Investments		Investments		between Projected and Actual Earning on Pension Plan Investments		between Projecter and Actual Earning on Pension Plan Investments		Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027
2019	\$	(149,708)	5	\$ (29,942)	(29,942)	(29,942)	(29,942)	(29,940)										
2020		25,826	5		\$ 5,165	5,165	5,165	5,165	5,166									
2021		(1,264,013)	5			\$ (252,803)	(252,803)	(252,803)	(252,803)	(252,801)								
2022		1,298,111	5				\$ 259,622	259,622	259,622	259,622	259,623							
2023		(429,382)	5					\$ (85,876)	(85,876)	(85,876)	(85,876)	(85,878)						
Net increa	se (deci	ease) in pension	expense					\$ (103,832)	\$ (73,891)	\$ (79,055)	\$ 173,747	\$ (85,878)						

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Projected and Actual Earnings on Pension Plan Investments

					Balan June 3		
Year	Investment Earnings Less than Projected (a)		Investment Earnings Greater Than Projected (b)	Amounts Recognized in Pension Expense Through June 30, 2023 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows o Resource (b) - (c)	
2019	\$	-	\$ 149,708	\$ 149,708	\$ -	\$	-
2020		25,826	-	20,660	5,166		-
2021		-	1,264,013	758,409	-		505,604
2022		1,298,111	-	519,244	778,867		-
2023		-	429,382	85,876	-		343,506
					\$ 784,033	\$	849,110



Schedule of Differences between Expected and Actual Experience

In conformity with paragraph 33 a of Statement 68, the effects of differences between expected and actual experience are recognized in pension expense, beginning in the current reporting period, using a systematic and rational method over a closed period equal to the average of the remaining service lives of all employees that are provided with pensions through the pension plan (active and inactive employees), determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

	Differences between Expected and Actual	Recognition Period					Increas	se (Decrease) i	n Pension Exper	se Arising fror	n the Reco	ognition	of Differences	betwee	n Expected	and Actua	l Expe	rience						
Year	Experience	(Years)	Prior	2014	2015	2016	2017	2018	2019	2020	20:	21	2022		2023	2024		2025	2026		2027	2028	Ther	reafter
Prior	-	-																						-
2014	-	-																						
2015	(128,049)	4.740139			\$ (27,014)	(27,014)	(27,014)	(27,014)	(19,993)															
2016	(40,233)	4.728475				\$ (8,509)	(8,509)	(8,509)	(8,509)	(6,197)														
2017	(912,402)	5.995135					\$ (152,190)	(152,190)	(152,190)	(152,190)	(15	52,190)	(151,452)											
2018	89,417	5.441766						\$ 16,432	16,432	16,432	1	16,432	16,432		7,257									
2019	279,504	6.000000							\$ 46,584	46,584	4	46,584	46,584		46,584	46	,584							
2020	597,973	6.000000								\$ 99,662	9	99,662	99,662		99,662	99	,662	99,663						
2021	165,924	5.000000									\$ 3	33,185	33,185		33,185	33	,185	33,184						
2022	(150,109)	5.000000											\$ (30,022)		(30,022)	(30	,022)	(30,022)	(30,021					
2023	136,298	5.000000												\$	27,260	27	,260	27,260	27,260	)	27,258			
Net increase	se (decrease) in per	nsion expense												\$	183,926	\$ 176	,669	\$ 130,085	\$ (2,761	1) \$	27,258	\$	- \$	-

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Expected and Actual Experience

					Balan June 3		
Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense Through June 30, 2023 (c)	Oi R	Deferred utflows of esources (a) - (c)	In Re	eferred flows of sources (b) - (c)
Prior	\$ -	\$ -	\$ -	\$		\$	
2014	-	-			-		
2015	-	128,049	128,049		-		
2016	-	40,233	40,233		-		
2017	-	912,402	912,402		-		
2018	89,417	-	89,417		-		
2019	279,504	-	232,920		46,584		
2020	597,973	-	398,648		199,325		
2021	165,924	-	99,555		66,369		
2022	-	150,109	60,044		-		90,065
2023	136,298	-	27,260		109,038		
				\$	421,316	\$	90,065



for the June 30, 2023 Measurement Date

## B

#### Schedule of Changes of Assumptions

In conformity with paragraph 33a of Statement 68, the effects of changes of assumptions should be recognized in pension expense, beginning in the current reporting period, using a systematic and rational method over a closed period equal to the average of the remaining service lives of all employees that are provided with pensions through the pension plan (active and inactive employees), determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

		Recognition						Incre	ease (Decrease)	in Pension Expe	nse Arising from	the Effects of C	hanges of Assumptio	ns					
Year	Changes of Assumptions	Period (Years)	Prior	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Thereafter
Prior	\$ -	-																	
2014																			
2015	(696,283)	4.740139			\$ (146,891)	(146,891)	(146,891)	(146,891)	(108,719)										
2016	2,079,763	4.728475				\$ 439,838	439,838	439,838	439,838	320,411									
2017	(833,335)	5.995135					\$ (139,002)	(139,002)	(139,002)	(139,002)	(139,002)	(138,325)							
2018		5.441766																	
2019	-	6.000000																	
2020		6.000000																	
2021	(1,554,937)	5.000000									\$ (310,987)	(310,987)	(310,987)	(310,987)	(310,989)				
2022	-	5.000000																	
2023	-	5.000000																	
Net increas	e (decrease) in per	nsion expense											\$ (310,987) \$	(310,987)	\$ (310,989)	\$ -	\$ -	\$ -	\$ -

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Changes of Assumptions

				Bal: June	ances	
Year	Increases in the Total Pension Liability (a)	Decreases in the Total Pension Liability (b)	Amounts Recognized in Pension Expense Through June 30, 2023 (c)	Deferred Outflows of Resources (a) - (c)		Deferred Inflows of Resources (b) - (c)
Prior	\$ -	\$ -	\$ -	\$ -	\$	
2014		-	-	-		
2015	-	696,283	696,283	-		
2016	2,079,763	-	2,079,763	-		
2017	-	833,335	833,335	-		
2018		-	-			
2019	-	-				
2020		-	-	-		
2021	-	1,554,937	932,961	-		621,976
2022						
2023		-	-			
				\$ -	\$	621,976

## City of Bluefield, West Virginia Policemen's Pension and Relief Fund Actuarial Information to Include in the Financial Statements

for the June 30, 2023 Measurement Date

Projection of Pension Plan's Fiduciary Net Position



	G	ross Norm (BOY)	al Cost			Emp	loye	e Contribu (BOY)	ıtion	s		Emp		r Normal ( BOY)	Cos	t				oenses MOY)				Emplo		Contribu MOY)	tions			Prem		ax Alloc OY)	ation	
Fiscal Year	Current Members	Future Membe		Total		Current Members		Future Members		Total		Current embers		uture embers		Total		ırrent mbers		uture mbers		Total		Current Members		uture embers		Total		Current lembers		ture ibers	1	Γotal
2023	\$ 337,729	\$	- \$	337,729	\$	134,150	\$	-	\$	134,150	\$	203,579	\$	-	\$	203,579	\$	300	\$	-	\$	300	\$	473,438	\$	-	\$	473,438	\$	269,170	\$	-	\$	269,170
2024	\$ 323,906	\$ 40,0	)23 \$	363,929	\$	101,983	\$	13,511	\$	115,494	\$	221,923	\$	26,512	\$	248,435	\$	316	\$	-	\$	316	\$	479,249	\$	27,328	\$	506,577	\$	327,272	\$	-		327,272
2025	\$ 314,038				\$	,	\$	24,132	\$	123,193	\$		\$	47,468	\$	262,445	\$	312		12		324	\$		\$	48,941	\$	542,037	\$	, -	\$	-		329,794
2026	\$ 303,735				\$	96,139	\$	35,845	\$	131,984	\$	. ,	\$	70,630	\$	278,226	\$	314		24		338	\$		\$	72,828	\$	579,980	\$	346,075		-		346,075
2027	\$ 296,395				\$	93,885	\$	46,622	\$	140,507	\$	. ,	\$		\$	294,541	\$	303		32		335	\$		\$	94,895	\$	620,579	\$	354,475		-		354,475
2028	\$ 291,442				\$	92,214	\$	56,931	\$	149,145	\$				\$	311,845	\$	292		45		337	\$			116,128	\$	664,020	\$	,	\$	-		363,086
2029	\$ 289,310				\$	91,266	\$	66,535	\$	157,801	\$	/ -			\$	329,969	\$	293		52		345	\$			136,037	\$	710,501	\$	371,911		-		371,911
2030	\$ 289,387	\$ 225,5			\$	90,908	\$	75,490	\$	166,398	\$				\$	348,532	\$		\$	54		354	\$			154,725	\$	760,236	\$		\$	-		383,811
2031	\$ 290,798 \$ 292,900				\$	90,934 91,209	\$	84,130 92,663	\$	175,064 183,872	\$ \$	,		167,630 185.043	\$	367,494 386.734	\$ \$		\$ \$	62 77		363 372	\$ \$			172,851	\$	813,453	\$	,	\$	-		394,088 406,408
2032 2033	\$ 292,900 \$ 292,446				\$	90,588	\$	101.242	\$ \$	191.830	\$ \$	201,858		202.606	\$	404.464	s s		\$	73		368	s s	,		190,815 208,914	\$ \$	870,395 649.862	s s	406,408	\$ \$	-	\$	406,408
2034	\$ 287,440			, .	\$	88,610	\$	112,204	S	200.814	\$	198,889		224.875	\$	423,764	s		\$	82		370	S		•	231.878	s	437,176	S	_	s S	-	\$	
2035	\$ 284,128				\$	87,238	\$	123,431	\$	210,669	\$	,		,	\$	444,651	s		\$	92		372	\$	,		255,478	S	458,708	S	-	s S	-	\$	
2036	\$ 248.238	\$ 402.8			\$	78,110	\$	133,797	s	211,907	\$	170,128		269.080	\$	439.208	s		\$	102		381	s			277.463	s	453,106	s	_	\$	_	\$	_
2037	\$ 245,552	T,			\$	77,107	\$	149,714	S	226,821	\$	- /	-	,	\$	469,682	s	278		120		398	s			310,628	\$	484,535	s	_	s.	_	\$	_
2038	\$ 232.617				\$	73,469	\$	162.645	s	236,114	\$	,			\$	486.926	s	277		131		408	s	- ,		337.997	\$	502.319	s	_	s	_	\$	_
2039	\$ 178.273				\$	59.510	\$	177.509	\$	237,019	\$			358,230	\$	476.993	\$		\$	134		418	\$			369,389	\$	492,091	\$		\$	_	\$	
2040	\$ 134,528				\$	47,960	\$	202,955	\$	250,915	\$	86,568		409,328	\$	495,896	\$		\$	162		445	\$			422,088	\$	511,603	\$	-	\$	-	\$	-
2041	\$ 110,931	\$ 675,5	53 \$	786,484	\$	41,161	\$	223,775	\$	264,936	\$	69,770	\$	451,778	\$	521,548	\$	281	\$	175	\$	456	\$	72,198	\$	465,857	\$	538,055	\$	-	\$	-	\$	-
2042	\$ 95,516	\$ 732,0	71 \$	827,587	\$	36,325	\$	242,218	\$	278,543	\$	59,191	\$	489,853	\$	549,044	\$	279	\$	188	\$	467	\$	61,291	\$	505,117	\$	566,408	\$	-	\$	-	\$	-
2043	\$ 81,222	\$ 784,4	178 \$	865,700	\$	32,009	\$	259,193	\$	291,202	\$	49,213	\$	525,285	\$	574,498	\$	286	\$	193	\$	479	\$	51,015	\$	541,644	\$	592,659	\$	-	\$	-	\$	-
2044	\$ 68,987	\$ 829,8	887 \$	898,874	\$	28,113	\$	274,234	\$	302,347	\$	40,874	\$	555,653	\$	596,527	\$	284	\$	207	\$	491	\$	42,416	\$	572,961	\$	615,377	\$	-	\$	-	\$	-
2045	\$ 52,963	\$ 874,4	127 \$	927,390	\$	22,340	\$	289,457	\$	311,797	\$	30,623	\$	584,970	\$	615,593	\$	291	\$	212	\$	503	\$	31,857	\$	603,185	\$	635,042	\$	-	\$	-	\$	-
2046	\$ 39,695	\$ 927,2	276 \$	966,971	\$	17,256	\$	307,642	\$	324,898	\$	22,439	\$	619,634	\$	642,073	\$	288	\$	237	\$	525	\$	23,418	\$	638,941	\$	662,359	\$	-	\$	-	\$	-
2047	\$ 30,613	\$ 971,6	663 \$	1,002,276	\$	13,541	\$	323,050	\$	336,591	\$	17,072	\$	648,613	\$	665,685	\$	285	\$	253	\$	538	\$	17,883	\$	668,828	\$	686,711	\$	-	\$	-	\$	-
2048	\$ 22,364	\$ 1,017,	39 \$	1,039,503	\$	9,993	\$	339,002	\$	348,995	\$	12,371	\$	678,137	\$	690,508	\$	292	\$	259	\$	551	\$	13,043	\$	699,267	\$	712,310	\$	-	\$	-	\$	-
2049	\$ 18,887	\$ 1,061,0	003 \$	1,079,890	\$	8,546	\$	354,211	\$	362,757	\$	10,341	\$	706,792	\$	717,133	\$	289	\$	276	\$	565	\$	10,948	\$	728,821	\$	739,769	\$	-	\$	-	\$	-
2050	\$ 15,357			1,119,512	\$	7,086	\$	369,115	\$	376,201	\$	8,271			\$	743,311	\$		\$	283		579	\$			757,945	\$	766,766	\$	-	\$	-	\$	-
2051	\$ 10,571	. , . ,		1,161,900	\$	- / -	\$	385,285	\$	390,309	\$				\$	771,591	\$		\$	312	\$	593	\$	- ,		789,932	\$	795,931	\$	-	\$	-	\$	-
2052	\$ 7,097	\$ 1,198,6		1,205,718	\$		\$	401,232	\$	404,696	\$	3,633		797,389	\$	801,022	\$		\$	320	\$	608	\$			822,250	\$	826,283	\$	-	\$	-	\$	-
2053	\$ 4,578			1,250,853	\$		\$	417,019	\$	419,284	\$				\$	831,569	\$		\$	340	\$	623	\$	2,667		855,118	\$	857,785	\$	-	\$	-	\$	-
2054	\$ 2,395	. ,		1,298,228	\$		\$	433,452	\$	434,623	\$				\$	863,605	\$	278		361	\$	639	\$			889,283	\$	890,822	\$	-	\$	-	\$	-
2055		\$ 1,345,4		1,346,860	\$		\$	449,917	\$	450,597	\$				\$	896,263	\$		\$			655	\$			923,501	\$	924,501	\$	-	\$	-	\$	-
2056		\$ 1,397,0		1,397,873	\$	400	\$	466,988	\$	467,388	\$				\$	930,485	\$	279		392		671	\$			959,097	\$	959,793	\$	-	\$	-	\$	-
2057	\$ 427	\$ 1,447,4		1,447,924	\$	214	\$	483,800	\$	484,014	\$	213			\$	963,910	\$		\$	415	\$	688	\$			993,771	\$	994,264	\$	-	\$	-	\$	-
2058	\$ 245 \$ 137			1,500,034	\$	123	\$	501,372	\$	501,495	\$ \$			998,417		998,539	\$ \$	280 273	\$	425	\$ \$	705 723	\$ \$			,029,570	\$	1,029,975	\$	-	\$ \$	-	\$ \$	-
2059 2060	\$ 137 \$ 65			1,554,082 1,604,769	\$ \$		\$	519,545 536,978	\$ \$	519,613 537.011	\$					1,034,469 1,067,758	\$	266		450 475	-	723 741	\$			,066,685		1,067,029 1.101.361	\$	-	\$ \$	-	\$	-
2060	\$ 25			1,656,143	э \$	13		554.988	\$	555,001	\$					1,101,142	s S		\$	500	\$	741	S		•	,135,519		1,135,804	S	-	Ф \$	-	\$	-
2062	\$ 25 \$ 15			1,712,878	э \$	8	\$	574,555	\$	574.563	э \$					1,138,315	ş S		\$	527	s S	773	S			,173,868		1,174,140	S	-	Ф \$	-	\$	-
2063	\$ -			1,772,474	\$	-	\$	594,927	S	594,927	\$					1,177,547	s		\$	555	-	812	S					1,214,599	\$	_	s S	_	\$	_
2003	Ψ -	ψ 1,112,2	-, -+ · ·	1,112,414	φ	-	φ	J34,321	φ	554,527	φ	-	اب	, 111,541	Ψ	1,111,041	φ	201	φ	555	φ	012	Ψ	230	۱ پ	,214,040	φ	1,214,000	Ψ	-	Ψ	-	φ	-

## City of Bluefield, West Virginia Policemen's Pension and Relief Fund Actuarial Information to Include in the Financial Statements

Actuarial Information to Include in the Financial Statement for the June 30, 2023 Measurement Date

Projection of Pension Plan's Fiduciary Net Position



		Actı	uaria	al Accrued Liability (B	OY)		Closed Group Asset Projection  Projected FFC Projected FR Contrib + Projected Admin												
Fiscal Year	Curre	ent Members		Future Members		Total	Fi	duciary Net Position (BOY)	Funded Ratio (BOY)		Projected EEC Contributions (MOY)	Pi	rojected ER Contrib + Premium Tax (MOY)		Projected BP (MOY)	ľ	Projected Admin Expenses (MOY)	Pro	jected Investment Earnings
2023	\$	13,750,076	\$	-	\$	13,750,076	\$	8,147,169	59.25%	\$	134,150	\$	742,608	\$	806,418	\$	300	\$	940,769
2024	\$	14,137,056	\$	-	\$	14,137,056	\$	9,157,978	64.78%	\$	105,122	\$	806,521	\$	862,538		316	\$	573,875
2025	\$	14,475,688		41,827	\$	14,517,515	\$	9,780,642	67.57%	\$	102,110				886,894		312		612,453
2026	\$	14,799,894		118,072		14,917,966	\$	10,430,889	70.48%	\$	99,098				902,352		314		653,459
2027	\$	15,117,483		,		15,350,881	\$	11,134,007	73.65%	\$	96,774				913,952		303		697,804
2028	\$	15,435,165		386,578		15,821,743	\$	11,894,489	77.06%	\$	95,052				923,402		292		745,940
2029	\$	15,757,699		578,161		16,335,860	\$	12,722,765	80.74%	\$	94,075				932,284		293		798,493
2030	\$	16,088,971		808,259		16,897,230	\$	13,629,131	84.71%	\$	93,706				936,652		300		856,316
2031	\$	16,436,527		1,076,428		17,512,955	\$	14,631,523	89.02%	\$	93,733				941,258		301		920,221
2032	\$	16,802,556		1,383,751		18,186,307	\$	15,738,608	93.67%	\$	94,016				938,746		295		991,079
2033	\$	17,196,285		1,731,602		18,927,887	\$	16,970,650	98.69%	\$	93,376				952,905		295		1,047,774
2034	\$	17,599,545		2,123,046		19,722,591	\$	17,599,547	100.00%	\$	91,337				977,992		288		1,078,993
2035	\$	17,996,893		2,567,712		20,564,605	\$	17,996,895	100.00%	\$	89,923			•	985,816	•	280		1,103,480
2036	\$	18,407,429		3,068,909		21,476,338	\$	18,407,432	100.00%	\$	80,514				1,048,698		279		1,126,064
2037	\$	18,740,673		3,626,721		22,367,394	\$	18,740,676	100.00%	\$	79,480				1,055,988		278		1,146,583
2038	\$	19,084,377		4,261,275		23,345,652	\$	19,084,380	100.00%	\$	75,730		- /- /		1,082,627		277		1,166,834
2039	\$	19,408,360		4,968,676		24,377,036	\$	19,408,362	100.00%	\$	61,342				1,188,791		284		1,182,091
2040	\$	19,585,420	\$	5,758,539	\$	25,343,959	\$	19,585,422	100.00%	\$	49,436	\$	89,515	\$	1,270,651	\$	283		1,189,251
2041	\$	19,642,688		6,667,490		26,310,178	\$	19,642,690	100.00%	\$	42,428				1,318,776		281		1,190,600
2042	\$	19,628,857		7,687,045		27,315,902	\$	19,628,859	100.00%	\$	37,443		- , - ,		1,346,068		279		1,188,407
2043	\$	19,569,651		8,816,383	\$	28,386,034	\$	19,569,653	100.00%	\$	32,994	\$	51,015	\$	1,370,225		286		1,183,509
2044	\$	19,466,657		10,057,125		29,523,782	\$	19,466,660	100.00%	\$	28,978				1,394,009		284		1,175,952
2045	\$	19,319,710		11,397,122	\$	30,716,832	\$	19,319,713	100.00%	\$	23,028	\$	31,857	\$	1,441,158	\$	291		1,164,809
2046	\$	19,097,953		12,825,167		31,923,120	\$	19,097,958	100.00%	\$	17,787		-, -		1,468,627	\$	288	•	1,149,683
2047	\$	18,819,925		14,350,353		33,170,278	\$	18,819,931	100.00%	\$	13,958				1,496,193		285		1,131,169
2048	\$	18,486,456	\$	15,964,055	\$	34,450,511	\$	18,486,463	100.00%	\$	10,301	\$	13,043	\$	1,510,052	\$	292	\$	1,109,639
2049	\$	18,109,095		17,657,171		35,766,266	\$	18,109,102	100.00%	\$	8,809				1,506,234		289		1,086,062
2050	\$	17,708,390		19,428,100		37,136,490	\$	17,708,399	100.00%	\$	7,304				1,503,864		296		1,060,979
2051	\$	17,281,334		21,278,621		38,559,955	\$	17,281,343	100.00%	\$	5,179				1,506,490		281		1,034,055
2052	\$	16,819,795		23,216,613		40,036,408	\$	16,819,805	100.00%	\$	3,571				1,499,522		288		1,005,313
2053	\$	16,332,901	\$	25,234,254	\$	41,567,155	\$	16,332,912	100.00%	\$	2,335	\$	2,667	\$	1,493,089	\$	283	\$	975,000
2054	\$	15,819,531	\$	27,330,288	\$	43,149,819	\$	15,819,542	100.00%	\$	1,207	\$	1,539	\$	1,480,355	\$	278	\$	943,237
2055	\$	15,284,881	\$	29,508,093	\$	44,792,974	\$	15,284,892	100.00%	\$	701	\$	1,000 \$	\$	1,461,598	\$	285	\$	910,367
2056	\$	14,735,065	\$	31,767,256	\$	46,502,321	\$	14,735,077	100.00%	\$	412	\$	696	\$	1,440,001	\$	279	\$	876,650
2057	\$	14,172,543	\$	34,112,009	\$	48,284,552	\$	14,172,555	100.00%	\$	221	\$	493 \$	\$	1,416,491	\$	273	\$	842,204
2058	\$	13,598,695		36,540,414	\$	50,139,109	\$	13,598,709	100.00%	\$	127			\$	1,391,053	\$	280		807,115
2059	\$	13,015,009		39,051,940	\$	52,066,949	\$	13,015,024	100.00%	\$	70	\$	344 \$	\$	1,364,158		273		771,459
2060	\$	12,422,451	\$	41,651,508	\$	54,073,959	\$	12,422,465	100.00%	\$	34	\$	299	\$	1,335,982	\$	266	\$	735,289
2061	\$	11,821,825	\$	44,328,708	\$	56,150,533	\$	11,821,840	100.00%	\$	13	\$	285	\$	1,306,489	\$	273	\$	698,657
2062	\$	11,214,018	\$	47,070,742	\$	58,284,760	\$	11,214,033	100.00%	\$	8	\$	272	\$	1,275,842	\$	265	\$	661,612
2063	\$	10,599,802	\$	49,886,111	\$	60,485,913	\$	10,599,818	100.00%	\$	-	\$	256	\$	1,244,184	\$	257	\$	624,197

## City of Bluefield, West Virginia Policemen's Pension and Relief Fund Actuarial Information to Include in the Financial Statements





**Projection of Pension Plan's Fiduciary Net Position** 

				Calcu	ation o	f Single Equivaler	nt Rate			
iscal Year	"Fund	led" Portion of BP	"Unfunde	d" Portion of BP	PV o	f "Funded" BP	PV of "Uı	nfunded" BP		f BP Using a ingle DR
2023	\$	806,418	\$	-	\$	782,340	\$	-	\$	782,340
2024	\$	862,538	\$	-	\$	787,562	\$	-	\$	787,562
2025	\$	886,894	\$	-	\$	762,166	\$	-	\$	762,16
2026	\$	902,352	\$	-	\$	729,835	\$	-	\$	729,83
2027	\$	913,952	\$	-	\$	695,734	\$	-	\$	695,73
2028	\$	923,402	\$	-	\$	661,579	\$	-	\$	661,57
2029	\$	932,284	\$	-	\$	628,652	\$	-	\$	628,65
2030	\$	936,652	\$	-	\$	594,444	\$	-	\$	594,44
2031	\$	941,258	\$	-	\$	562,228	\$	-	\$	562,22
2032	\$	938,746	\$	-	\$	527,744	\$	-	\$	527,74
2033	\$	952,905	\$	-	\$	504,192	\$	-	\$	504,19
2034	\$	977,992	\$	-	\$	487,026	\$	-	\$	487,02
2035	\$	985,816	\$	-	\$	462,045	\$	-	\$	462,04
2036	\$	1,048,698	\$	-	\$	462,604	\$	-	\$	462,60
2037	\$	1,055,988	\$	-	\$	438,419	\$	-	\$	438,41
2038	\$	1,082,627	\$	-	\$	423,039	\$	-	\$	423,03
2039	\$	1,188,791	\$	-	\$	437,198	\$	-	\$	437,19
2040	\$	1,270,651	\$	-	\$	439,815	\$	-	\$	439,81
2041	\$	1,318,776	\$	-	\$	429,621	\$	-	\$	429,62
2042	\$	1,346,068	\$	-	\$	412,717	\$	-	\$	412,71
2043	\$	1,370,225	\$	-	\$	395,411	\$	-	\$	395,41
2044	\$	1,394,009	\$	-	\$	378,611	\$	-	\$	378,61
2045	\$	1,441,158	\$	-	\$	368,392	\$	_	\$	368,39
2046	\$	1,468,627	\$	-	\$	353,331	\$	_	\$	353,33
2047	\$	1,496,193	\$	-	\$	338,788	\$	-	\$	338,78
2048	\$	1,510,052	\$	-	\$	321,813	\$	_	\$	321,81
2049	\$	1,506,234	\$	-	\$	302,117	\$	_	\$	302,11
2050	\$	1,503,864	\$	-	\$	283,898	\$	-	\$	283,89
2051	\$	1,506,490	\$	-	\$	267,665	\$	_	\$	267,66
2052	\$	1,499,522	\$	-	\$	250,755	\$	-	\$	250,75
2053	\$	1,493,089	\$	-	\$	234,992	\$	-	\$	234,99
2054	\$	1,480,355	\$	-	\$	219,283	\$	-	\$	219,28
2055	\$	1,461,598	\$	-	\$	203,769	\$	-	\$	203,76
2056	\$	1,440,001	\$	-	\$	188,948	\$	-	\$	188,94
2057	\$	1,416,491	\$	-	\$	174,930	\$	_	\$	174,93
2058	\$	1,391,053	\$	-	\$	161,684	\$	_	\$	161,68
2059	\$	1,364,158	\$	_	\$	149,231	\$	_	\$	149,23
2060	\$	1,335,982	\$	-	\$	137,552	\$	_	\$	137,55
2061	\$	1,306,489	\$	-	\$	126,602	\$	_	\$	126,60
2062	\$	1,275,842	\$	-	\$	116,360	\$	-	\$	116,36
2062	\$ \$	1,275,842	\$ \$	-	\$ \$	106,798		-	\$ \$	106,79