



**Municipal Pensions
Oversight Board**

**City of Nitro
West Virginia
Firemen's Pension and Relief Fund**

GASB 68 Actuarial Information for the
Measurement Period Ending
June 30, 2020

Bolton

Submitted by:

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November 4, 2020

Mr. John Young
City Treasurer
City of Nitro
2009 20th Street
Nitro, WV 25143

Captain Jonathan Atkins
Pension Board Secretary
City of Nitro
Firemen's Pension and Relief Fund

Re: City of Nitro Firemen's Pension and Relief Fund
GASB 68 Actuarial Information for the Measurement Period Ending June 30, 2020

Dear John,

The following report contains the GASB 67 and GASB 68 actuarial information for the City of Nitro Firemen's Pension and Relief Fund to be included in the City's financial statements for FY 2020. The GASB 67 information has been provided as of June 30, 2020 (the GASB 68 measurement date for FY 2020).

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, 2020 (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, 2019 actuarial valuation rolled forward to June 30, 2020. The methods, assumptions, and participant data used are detailed in the July 1, 2019 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, 2020 is contained in the July 1, 2018 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 a blended discount rate of 3.62%. The plan's expected gross rate of investment return of 4.50% has been blended with the 2.45% 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, 2020. The development of the blended discount rate is included within this report.

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 fund's current funding ratio, liquidity ratio, equity exposure and expected funded status in 15 years.

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.

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

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

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.



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, 2019 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



Jordan McClane, FSA, EA, FCA, MAAA



City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Net Pension Liability of the Employer

The components of the net pension liability of the Employer at June 30, 2020, were as follows:

Total pension liability	\$ 13,129,107
Plan fiduciary net position	(2,199,783)
Employer's net pension liability	<u>\$ 10,929,324</u>
Plan fiduciary net position as a percentage of the total pension liability	16.76%

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of July 1, 2019 rolled forward to June 30, 2020 using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75 percent
Salary increases	Rates vary by years of service
Single discount rate (BOY)	3.83%
Single discount rate (EOY)	3.62%
Investment rate of return (BOY)	4.50%, net of pension plan investment expense, including inflation
Investment rate of return (EOY)	4.50%, net of pension plan investment expense, including inflation
Long-term municipal bond rate (BOY)	3.13%
Long-term municipal bond rate (EOY)	2.45%
Mortality	RP-2014 Blue Collar Mortality Table with generational projection using Scale MP-2014
Year Fund is projected to be fully funded	2065
Year assets are expected to be depleted for a closed plan	2041

The above is a summary of key actuarial assumptions. Full descriptions of the actuarial assumptions are available in the July 1, 2019 actuarial valuation report.

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

	1% Decrease 2.62%	Current Discount Rate 3.62%	1% Increase 4.62%
Employer's net pension liability	\$ 13,668,666	\$ 10,929,324	\$ 8,836,669

City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Changes in the Net Pension Liability

	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at 6/30/19	\$ 11,987,311	\$ 2,095,659	\$ 9,891,652
Changes for the year:			
Service cost	505,577		505,577
Interest	451,985		451,985
Changes of benefit terms	-		-
Differences between expected and actual experience	70,425		70,425
Changes of assumptions	486,090		486,090
Contributions - employer (including Premium Tax Allocation)		371,369	(371,369)
Contributions - member		69,926	(69,926)
Net investment income		35,110	(35,110)
Benefit payments, including refunds of member contributions	(372,281)	(372,281)	-
Administrative expense		-	-
Other		-	-
Net Changes	<u>1,141,796</u>	<u>104,124</u>	<u>1,037,672</u>
Balances at 6/30/20	<u>\$ 13,129,107</u>	<u>\$ 2,199,783</u>	<u>\$ 10,929,324</u>
Return on Investments		1.6%	

City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
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Components of Employer's Pension Expense for the Fiscal Year Ended June 30, 2020

Note	Description	Amount
A	Service cost	\$ 505,577
B	Interest on the total pension liability	451,985
A	Changes of benefit terms	-
C	Differences between expected and actual experience	(6,798)
C	Changes of assumptions	306,820
A	Employee contributions	(69,926)
D	Projected earnings on pension plan investments	(95,858)
C	Differences between expected and actual earnings on plan investments	12,330
A	Pension plan administrative expense	-
A	Other changes in fiduciary net position	-
Total Pension Expense		\$ 1,104,130

Notes:

A Provided in the Changes in Net Pension Liability exhibit.

B Based on the following calculation:

	Amount for Period (a)	Portion of Period (b)	Interest Rate (c)	Projected Earnings (a) x (b) x (c)
Beginning total pension liability	\$ 11,987,311	100%	3.83%	\$ 459,114
Service cost (End of Year)	505,577	0%	3.83%	-
Benefit payments, including refunds of employee contributions	(372,281)	50%	3.83%	(7,129)
Total interest on the total pension liability				\$ 451,985

C Provided in the Schedules of Deferrals.

D Based on the following calculation:

	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	Projected Earnings (a) x (b) x (c)
Beginning plan fiduciary net position	\$ 2,095,659	100%	4.50%	\$ 94,305
Employer contributions	371,369	50%	4.50%	8,356
Employee contributions	69,926	50%	4.50%	1,573
Benefit payments, including refunds of employee contributions	(372,281)	50%	4.50%	(8,376)
Administrative expense and other	-	50%	4.50%	-
Total Projected Earnings				\$ 95,858

City of Nitro, West Virginia Firemen’s Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



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

At June 30, 2020, the Employer reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 519,467	\$ 325,970
Changes of assumptions	1,021,144	476,821
Net difference between projected and actual earnings on pension plan investments	48,645	-
Total	\$ 1,589,256	\$ 802,791

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:	
2021	\$ 256,207
2022	123,422
2023	95,102
2024	159,594
2025	72,637
Thereafter	79,503

City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



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

Total pension liability	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Service cost	\$ 505,577	\$ 479,667	\$ 422,494	\$ 466,302	\$ 298,577	\$ 274,332	\$ 261,666	\$ -	\$ -	\$ -
Interest	451,985	432,697	420,584	347,047	361,264	369,617	364,726	-	-	-
Changes of benefit terms	-	-	-	-	-	-	-	-	-	-
Differences between expected and actual experience	70,425	(55,742)	838,380	(486,502)	(425,741)	29,557	-	-	-	-
Changes of assumptions	486,090	7,705	(41,108)	(1,201,576)	2,468,097	331,542	345,132	-	-	-
Benefit payments, including refunds of member contributions	(372,281)	(327,394)	(346,417)	(306,296)	(277,009)	(294,327)	(268,023)	-	-	-
Net change in total pension liability	1,141,796	536,933	1,293,933	(1,181,025)	2,425,188	710,721	703,501	-	-	-
Total pension liability - beginning	11,987,311	11,450,378	10,156,445	11,337,470	8,912,282	8,201,561	7,498,060	-	-	-
Total pension liability - ending (a)	\$ 13,129,107	\$ 11,987,311	\$ 11,450,378	\$ 10,156,445	\$ 11,337,470	\$ 8,912,282	\$ 8,201,561	\$ -	\$ -	\$ -
Plan fiduciary net position	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Contributions - employer (including Premium Tax Allocation)	\$ 371,369	\$ 586,709	\$ 615,091	\$ 612,325	\$ 288,034	\$ 231,025	\$ 189,307	\$ -	\$ -	\$ -
Contributions - member	69,926	67,886	63,299	60,503	55,075	53,084	51,577	-	-	-
Net investment income	35,110	67,362	68,316	71,616	19,186	31,201	76,549	-	-	-
Benefit payments, including refunds of member contributions	(372,281)	(327,394)	(346,417)	(306,296)	(277,009)	(294,327)	(268,023)	-	-	-
Administrative expense	-	-	(90)	(90)	(98)	-	(675)	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
Net change in plan fiduciary net position	\$ 104,124	\$ 394,563	\$ 400,199	\$ 438,058	\$ 85,188	\$ 20,983	\$ 48,645	\$ -	\$ -	\$ -
Plan fiduciary net position - beginning	2,095,659	1,701,096	1,300,897	862,839	777,651	756,668	708,023	-	-	-
Plan fiduciary net position - ending (b)	\$ 2,199,783	\$ 2,095,659	\$ 1,701,096	\$ 1,300,897	\$ 862,839	\$ 777,651	\$ 756,668	\$ -	\$ -	\$ -
Employer's net pension liability - ending (a)-(b)	<u>\$ 10,929,324</u>	<u>\$ 9,891,652</u>	<u>\$ 9,749,282</u>	<u>\$ 8,855,548</u>	<u>\$ 10,474,631</u>	<u>\$ 8,134,631</u>	<u>\$ 7,444,893</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Plan fiduciary net position as a percentage of the total pension liability	16.76%	17.48%	14.86%	12.81%	7.61%	8.73%	9.23%	0.00%	0.00%	0.00%
Covered payroll	\$ 848,537	\$ 803,028	\$ 719,541	\$ 638,967	\$ 670,368	\$ 666,552	\$ 693,435	\$ -	\$ -	\$ -
Employer's net pension liability as a percentage of covered payroll	1288.02%	1231.79%	1354.93%	1385.92%	1562.52%	1220.40%	1073.63%	0.00%	0.00%	0.00%
Expected average remaining service years of all participants	7.00	7.00	6.62	6.43	6.58	6.12	-	-	-	-

Notes to Schedule:

Benefit changes: There were no changes for FY2020.

Changes of assumptions: The discount rate changed from 3.83% to 3.62%.

City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Schedule of Employer Contributions
 Last 10 Fiscal Years

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Actuarially determined contribution	\$ 824,018	\$ 782,859	\$ 690,694	\$ 624,038	\$ 616,637	\$ 486,921	\$ 469,302	\$ 422,547	\$ -	\$ -
Contributions in relation to the actuarially determined contribution										
Employer provided	225,000	450,000	486,000	485,000	144,719	127,574	77,008	111,848	-	-
State provided	146,369	136,709	129,091	127,325	143,315	103,451	112,299	114,829	-	-
Contribution deficiency (excess)	\$ 452,649	\$ 196,150	\$ 75,603	\$ 11,713	\$ 328,603	\$ 255,896	\$ 279,995	\$ 195,870	\$ -	\$ -
Covered payroll	\$ 848,537	\$ 803,028	\$ 719,541	\$ 638,967	\$ 670,368	\$ 666,552	\$ 693,435	\$ 619,388	\$ -	\$ -
Contributions as a percentage of covered employee payroll	43.77%	73.06%	85.48%	95.83%	42.97%	34.66%	27.30%	36.60%	N/A	N/A

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. Actuarial valuations are performed every year.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar
Remaining amortization period	31.5 years
Asset valuation method	Market Value
Inflation	2.75 percent
Salary increases	Rates vary by years of service
Investment rate of return	4.50%, net of pension plan investment expense, including inflation
Retirement age	Rates vary by age
Mortality	RP-2014 Blue Collar Mortality Table with generational projection using Scale MP-2014

City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 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.

Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Plan Investments											
Year	Differences between Projected and Actual Earnings on Pension Plan Investments	Recognition Period (Years)	2016	2017	2018	2019	2020	2021	2022	2023	2024
2016	\$ 21,347	5	\$ 4,269	4,269	4,269	4,269	4,271				
2017	(24,606)	5		\$ (4,921)	(4,921)	(4,921)	(4,921)	(4,922)			
2018	(12,400)	5			\$ (2,480)	(2,480)	(2,480)	(2,480)	(2,480)		
2019	16,549	5				\$ 3,310	3,310	3,310	3,310	3,309	
2020	60,748	5					\$ 12,150	12,150	12,150	12,150	12,148
Net increase (decrease) in pension expense							\$ 12,330	\$ 8,058	\$ 12,980	\$ 15,459	\$ 12,148

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

Year	Investment Earnings Less than Projected (a)	Investment Earnings Greater Than Projected (b)	Amounts Recognized in Pension Expense Through June 30, 2020 (c)	Balances at June 30, 2020	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2016	\$ 21,347	\$ -	\$ 21,347	\$ -	\$ -
2017	-	24,606	19,684	-	4,922
2018	-	12,400	7,440	-	4,960
2019	16,549	-	6,620	9,929	-
2020	60,748	-	12,150	48,598	-
				\$ 58,527	\$ 9,882

Schedule of Differences between Expected and Actual Experience

In conformity with paragraph 33a 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.

Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Expected and Actual Experience																			
Year	Differences between Expected and Actual Experience	Recognition Period (Years)	Prior	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Thereafter
Prior	-	-																	
2011	-	-																	
2012	-	-																	
2013	-	-																	
2014	-	-																	
2015	29,557	6.120708						\$ 4,829	4,829	4,829	4,829	4,829	4,829	583					
2016	(425,741)	6.579335						\$ (64,709)	(64,709)	(64,709)	(64,709)	(64,709)	(64,709)	(64,709)	(37,487)				
2017	(486,502)	6.432120							\$ (75,636)	(75,636)	(75,636)	(75,636)	(75,636)	(75,636)	(75,636)	(75,636)	(32,686)		
2018	838,380	6.621210								\$ 126,620	126,620	126,620	126,620	126,620	126,620	126,620	78,660		
2019	(55,742)	7.000000									\$ (7,963)	(7,963)	(7,963)	(7,963)	(7,963)	(7,963)	(7,963)	(7,963)	(7,964)
2020	70,425	7.000000										\$ 10,061	10,061	10,061	10,061	10,061	10,061	10,061	10,061
Net increase (decrease) in pension expense													\$ (6,798)	\$ (11,044)	\$ 15,595	\$ 96,032	\$ 80,758	\$ 2,097	\$ 10,059

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

Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense Through June 30, 2020 (c)	Balances at June 30, 2020	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
Prior	\$ -	\$ -	\$ -	\$ -	\$ -
2011	-	-	-	-	-
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	-	-	-	-	-
2015	29,557	-	28,974	583	-
2016	-	425,741	323,545	-	102,196
2017	-	486,502	302,544	-	183,958
2018	838,380	-	379,860	458,520	-
2019	-	55,742	15,926	-	39,816
2020	70,425	-	10,061	60,364	-
				\$ 519,467	\$ 325,970

City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



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.

Increase (Decrease) in Pension Expense Arising from the Effects of Changes of Assumptions																			
Year	Changes of Assumptions	Recognition Period (Years)	Prior	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Thereafter
Prior	\$ -	-																	
2011	-	-																	
2012	-	-																	
2013	-	-																	
2014	-	-																	
2015	331,542	6.120708						\$ 54,167	54,167	54,167	54,167	54,167	54,167	6,540					
2016	2,468,097	6.579335						\$ 375,129	375,129	375,129	375,129	375,129	375,129	375,129	217,323				
2017	(1,201,576)	6.432120							\$ (186,809)	(186,809)	(186,809)	(186,809)	(186,809)	(186,809)	(186,809)	(186,809)	(80,722)		
2018	(41,108)	6.621210								\$ (6,209)	(6,209)	(6,209)	(6,209)	(6,209)	(6,209)	(6,209)	(3,854)		
2019	7,705	7.000000								\$ 1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,099	-
2020	486,090	7.000000										\$ 69,441	69,441	69,441	69,441	69,441	69,441	69,441	69,444
Net increase (decrease) in pension expense													\$ 306,820	\$ 259,193	\$ 94,847	\$ (16,389)	\$ 66,688	\$ 70,540	\$ 69,444

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

Year	Increases in the Total Pension Liability (a)	Decreases in the Total Pension Liability (b)	Amounts Recognized in Pension Expense Through June 30, 2020 (c)	Balances at June 30, 2020	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
Prior	\$ -	\$ -	\$ -	\$ -	\$ -
2011	-	-	-	-	-
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	-	-	-	-	-
2015	331,542	-	325,002	6,540	-
2016	2,468,097	-	1,875,645	592,452	-
2017	-	1,201,576	747,236	-	454,340
2018	-	41,108	18,627	-	22,481
2019	7,705	-	2,202	5,503	-
2020	486,090	-	69,441	416,649	-
				\$ 1,021,144	\$ 476,821

City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Projection of Pension Plan's Fiduciary Net Position

Fiscal Year	Gross Normal Cost (BOY)			Employee Contributions (BOY)			Employer Normal Cost (BOY)			Expenses (BOY)			Employer Contributions (MOY)			Premium Tax Allocation (MOY)		
	Current Members	Future Members	Total	Current Members	Future Members	Total	Current Members	Future Members	Total	Current Members	Future Members	Total	Current Members	Future Members	Total	Current Members	Future Members	Total
2020	\$ 403,195	\$ -	\$ 403,195	\$ 69,105	\$ -	\$ 69,105	\$ 334,090	\$ -	\$ 334,090	\$ 2,818	\$ -	\$ 2,818	\$ 189,695	\$ -	\$ 189,695	\$ 146,369	\$ -	\$ 146,369
2021	\$ 396,305	\$ 21,565	\$ 417,870	\$ 68,329	\$ 3,982	\$ 72,311	\$ 327,976	\$ 17,583	\$ 345,559	\$ 2,895	\$ -	\$ 2,895	\$ 185,000	\$ 17,974	\$ 202,974	\$ 148,540	\$ -	\$ 148,540
2022	\$ 392,750	\$ 44,690	\$ 437,440	\$ 67,936	\$ 8,258	\$ 76,194	\$ 324,814	\$ 36,432	\$ 361,246	\$ 2,975	\$ 119	\$ 3,094	\$ 179,820	\$ 37,362	\$ 217,182	\$ 149,656	\$ -	\$ 149,656
2023	\$ 392,058	\$ 67,560	\$ 459,618	\$ 67,921	\$ 12,491	\$ 80,412	\$ 324,137	\$ 55,069	\$ 379,206	\$ 2,929	\$ 250	\$ 3,179	\$ 175,841	\$ 56,544	\$ 232,385	\$ 155,712	\$ -	\$ 155,712
2024	\$ 384,736	\$ 90,062	\$ 474,798	\$ 67,056	\$ 16,662	\$ 83,718	\$ 317,680	\$ 73,400	\$ 391,080	\$ 3,010	\$ 256	\$ 3,266	\$ 173,363	\$ 75,289	\$ 248,652	\$ 159,442	\$ -	\$ 159,442
2025	\$ 390,709	\$ 114,983	\$ 505,692	\$ 67,953	\$ 21,287	\$ 89,240	\$ 322,756	\$ 93,696	\$ 416,452	\$ 2,958	\$ 398	\$ 3,356	\$ 169,879	\$ 96,179	\$ 266,058	\$ 163,275	\$ -	\$ 163,275
2026	\$ 398,240	\$ 136,475	\$ 534,715	\$ 69,132	\$ 25,280	\$ 94,412	\$ 329,108	\$ 111,195	\$ 440,303	\$ 3,039	\$ 409	\$ 3,448	\$ 170,604	\$ 114,078	\$ 284,682	\$ 167,744	\$ -	\$ 167,744
2027	\$ 391,560	\$ 157,044	\$ 548,604	\$ 68,328	\$ 29,106	\$ 97,434	\$ 323,232	\$ 127,938	\$ 451,170	\$ 2,981	\$ 698	\$ 3,679	\$ 173,127	\$ 131,483	\$ 304,610	\$ 171,799	\$ -	\$ 171,799
2028	\$ 372,457	\$ 195,488	\$ 567,945	\$ 65,900	\$ 36,266	\$ 102,166	\$ 306,557	\$ 159,222	\$ 465,779	\$ 3,063	\$ 717	\$ 3,780	\$ 162,451	\$ 163,482	\$ 325,933	\$ 177,163	\$ -	\$ 177,163
2029	\$ 350,307	\$ 232,507	\$ 582,814	\$ 63,360	\$ 43,164	\$ 106,524	\$ 286,947	\$ 189,343	\$ 476,290	\$ 3,147	\$ 881	\$ 4,028	\$ 154,311	\$ 194,437	\$ 348,748	\$ 182,193	\$ -	\$ 182,193
2030	\$ 321,951	\$ 276,699	\$ 598,650	\$ 59,852	\$ 51,408	\$ 111,260	\$ 262,099	\$ 225,291	\$ 487,390	\$ 3,234	\$ 1,053	\$ 4,287	\$ 141,803	\$ 231,357	\$ 373,160	\$ 186,636	\$ -	\$ 186,636
2031	\$ 301,710	\$ 324,437	\$ 626,147	\$ 57,340	\$ 60,318	\$ 117,658	\$ 244,370	\$ 264,119	\$ 508,489	\$ 3,323	\$ 1,082	\$ 4,405	\$ 128,203	\$ 271,078	\$ 399,281	\$ 191,201	\$ -	\$ 191,201
2032	\$ 291,460	\$ 365,457	\$ 656,917	\$ 56,322	\$ 67,979	\$ 124,301	\$ 235,138	\$ 297,478	\$ 532,616	\$ 3,252	\$ 1,430	\$ 4,682	\$ 121,703	\$ 305,528	\$ 427,231	\$ 195,891	\$ -	\$ 195,891
2033	\$ 285,639	\$ 403,995	\$ 689,634	\$ 55,949	\$ 75,178	\$ 131,127	\$ 229,690	\$ 328,817	\$ 558,507	\$ 3,509	\$ 1,302	\$ 4,811	\$ 119,701	\$ 337,436	\$ 457,137	\$ 200,710	\$ -	\$ 200,710
2034	\$ 283,627	\$ 441,169	\$ 724,796	\$ 56,128	\$ 82,127	\$ 138,255	\$ 227,499	\$ 359,042	\$ 586,541	\$ 3,434	\$ 1,509	\$ 4,943	\$ 120,596	\$ 368,541	\$ 489,137	\$ 206,957	\$ -	\$ 206,957
2035	\$ 284,546	\$ 477,521	\$ 762,067	\$ 56,737	\$ 88,924	\$ 145,661	\$ 227,809	\$ 388,597	\$ 616,406	\$ 3,528	\$ 1,551	\$ 5,079	\$ 124,582	\$ 398,795	\$ 523,377	\$ 213,085	\$ -	\$ 213,085
2036	\$ 285,010	\$ 514,043	\$ 799,053	\$ 57,324	\$ 95,754	\$ 153,078	\$ 227,686	\$ 418,289	\$ 645,975	\$ 3,625	\$ 1,594	\$ 5,219	\$ 130,822	\$ 429,191	\$ 560,013	\$ 222,977	\$ -	\$ 222,977
2037	\$ 288,580	\$ 552,136	\$ 840,716	\$ 58,295	\$ 102,882	\$ 161,177	\$ 230,285	\$ 449,254	\$ 679,539	\$ 3,725	\$ 1,638	\$ 5,363	\$ 138,325	\$ 460,889	\$ 599,214	\$ 229,086	\$ -	\$ 229,086
2038	\$ 295,143	\$ 590,906	\$ 886,049	\$ 59,710	\$ 110,137	\$ 169,847	\$ 235,433	\$ 480,769	\$ 716,202	\$ 3,636	\$ 1,874	\$ 5,510	\$ 147,818	\$ 493,341	\$ 641,159	\$ 234,783	\$ -	\$ 234,783
2039	\$ 301,294	\$ 630,213	\$ 931,507	\$ 61,083	\$ 117,494	\$ 178,577	\$ 240,211	\$ 512,719	\$ 752,930	\$ 3,539	\$ 2,123	\$ 5,662	\$ 159,789	\$ 526,251	\$ 686,040	\$ 240,637	\$ -	\$ 240,637
2040	\$ 292,832	\$ 671,272	\$ 964,104	\$ 59,341	\$ 125,183	\$ 184,524	\$ 233,491	\$ 546,089	\$ 779,580	\$ 3,636	\$ 2,182	\$ 5,818	\$ 173,640	\$ 560,423	\$ 734,063	\$ 246,652	\$ -	\$ 246,652
2041	\$ 237,291	\$ 731,909	\$ 969,200	\$ 48,244	\$ 136,554	\$ 184,798	\$ 189,047	\$ 595,355	\$ 784,402	\$ 3,944	\$ 2,233	\$ 6,177	\$ 174,611	\$ 610,836	\$ 785,447	\$ 259,109	\$ -	\$ 259,109
2042	\$ 174,382	\$ 828,047	\$ 1,002,429	\$ 35,720	\$ 154,625	\$ 190,345	\$ 138,662	\$ 673,422	\$ 812,084	\$ 3,839	\$ 2,713	\$ 6,552	\$ 149,308	\$ 691,120	\$ 840,428	\$ 265,618	\$ -	\$ 265,618
2043	\$ 136,169	\$ 901,810	\$ 1,037,979	\$ 28,087	\$ 168,518	\$ 196,605	\$ 108,082	\$ 733,292	\$ 841,374	\$ 3,945	\$ 2,787	\$ 6,732	\$ 146,861	\$ 752,397	\$ 899,258	\$ 276,132	\$ -	\$ 276,132
2044	\$ 102,888	\$ 971,431	\$ 1,074,319	\$ 21,392	\$ 181,672	\$ 203,064	\$ 81,496	\$ 789,759	\$ 871,255	\$ 3,828	\$ 3,305	\$ 7,133	\$ 151,568	\$ 810,638	\$ 962,206	\$ 287,700	\$ -	\$ 287,700
2045	\$ 81,640	\$ 1,032,046	\$ 1,113,686	\$ 17,141	\$ 193,145	\$ 210,286	\$ 64,499	\$ 838,901	\$ 903,400	\$ 4,165	\$ 3,164	\$ 7,329	\$ 168,827	\$ 860,733	\$ 1,029,560	\$ 297,300	\$ -	\$ 297,300
2046	\$ 66,313	\$ 1,088,965	\$ 1,155,278	\$ 14,079	\$ 203,932	\$ 218,011	\$ 52,234	\$ 885,033	\$ 937,267	\$ 4,280	\$ 3,479	\$ 7,759	\$ 193,423	\$ 908,206	\$ 1,101,629	\$ 307,720	\$ -	\$ 307,720
2047	\$ 49,265	\$ 1,144,239	\$ 1,193,504	\$ 10,517	\$ 214,415	\$ 224,932	\$ 38,748	\$ 929,824	\$ 968,572	\$ 4,153	\$ 3,819	\$ 7,972	\$ 224,409	\$ 954,334	\$ 1,178,743	\$ 315,520	\$ -	\$ 315,520
2048	\$ 32,729	\$ 1,205,647	\$ 1,238,376	\$ 6,958	\$ 226,055	\$ 233,013	\$ 25,771	\$ 979,592	\$ 1,005,363	\$ 4,016	\$ 4,175	\$ 8,191	\$ 255,690	\$ 1,005,565	\$ 1,261,255	\$ 334,103	\$ -	\$ 334,103
2049	\$ 22,884	\$ 1,263,715	\$ 1,286,599	\$ 4,875	\$ 237,074	\$ 241,949	\$ 18,009	\$ 1,026,641	\$ 1,044,650	\$ 4,126	\$ 4,538	\$ 8,664	\$ 295,519	\$ 1,054,024	\$ 1,349,543	\$ 342,607	\$ -	\$ 342,607
2050	\$ 14,454	\$ 1,320,638	\$ 1,335,092	\$ 3,092	\$ 247,890	\$ 250,982	\$ 11,362	\$ 1,072,748	\$ 1,084,110	\$ 4,239	\$ 4,663	\$ 8,902	\$ 342,729	\$ 1,101,282	\$ 1,444,011	\$ 454,798	\$ -	\$ 454,798
2051	\$ 6,181	\$ 1,373,739	\$ 1,379,920	\$ 1,395	\$ 258,007	\$ 259,402	\$ 4,786	\$ 1,115,732	\$ 1,120,518	\$ 4,356	\$ 4,791	\$ 9,147	\$ 399,741	\$ 1,145,351	\$ 1,545,092	\$ 475,540	\$ -	\$ 475,540
2052	\$ 4,404	\$ 1,426,931	\$ 1,431,335	\$ 996	\$ 268,143	\$ 269,139	\$ 3,408	\$ 1,158,788	\$ 1,162,196	\$ 4,476	\$ 5,191	\$ 9,667	\$ 463,483	\$ 1,189,765	\$ 1,653,248	\$ 491,109	\$ -	\$ 491,109
2053	\$ 2,328	\$ 1,478,568	\$ 1,480,896	\$ 542	\$ 277,991	\$ 278,533	\$ 1,786	\$ 1,200,577	\$ 1,202,363	\$ 4,599	\$ 5,334	\$ 9,933	\$ 536,348	\$ 1,232,627	\$ 1,768,975	\$ 588,202	\$ -	\$ 588,202
2054	\$ 1,563	\$ 1,531,660	\$ 1,533,223	\$ 364	\$ 288,100	\$ 288,464	\$ 1,199	\$ 1,243,560	\$ 1,244,759	\$ 4,430	\$ 6,060	\$ 10,490	\$ 615,511	\$ 1,277,292	\$ 1,892,803	\$ 1,214,057	\$ -	\$ 1,214,057
2055	\$ 1,049	\$ 1,589,456	\$ 1,590,505	\$ 244	\$ 299,080	\$ 299,324	\$ 805	\$ 1,290,376	\$ 1,291,181	\$ 4,552	\$ 6,226	\$ 10,778	\$ 699,983	\$ 1,325,316	\$ 2,025,299	\$ 1,246,262	\$ -	\$ 1,246,262
2056	\$ 704	\$ 1,651,587	\$ 1,652,291	\$ 164	\$ 310,867	\$ 311,031	\$ 540	\$ 1,340,720	\$ 1,341,260	\$ 4,677	\$ 6,397	\$ 11,074	\$ 790,119	\$ 1,376,951	\$ 2,167,070	\$ 1,279,352	\$ -	\$ 1,279,352
2057	\$ -	\$ 1,717,767	\$ 1,717,767	\$ -	\$ 323,408	\$ 323,408	\$ -	\$ 1,394,359	\$ 1,394,359	\$ 4,806	\$ 6,573	\$ 11,379	\$ 886,805	\$ 1,431,960	\$ 2,318,765	\$ 1,513,655	\$ -	\$ 1,513,655
2058	\$ -	\$ 1,788,122	\$ 1,788,122	\$ -	\$ 336,728	\$ 336,728	\$ -	\$ 1,451,394	\$ 1,451,394	\$ 4,609	\$ 7,399	\$ 12,008	\$ 989,989	\$ 1,491,090	\$ 2,481,079	\$ 1,615,117	\$ -	\$ 1,615,117
2059	\$ -	\$ 1,862,225	\$ 1,862,225	\$ -	\$ 350,748	\$ 350,748	\$ -	\$ 1,511,477	\$ 1,511,477	\$ 4,736	\$ 7,602	\$ 12,338	\$ 1,102,042	\$ 1,552,713	\$ 2,654,755	\$ 1,871,487	\$ -	\$ 1,871,487
2060	\$ -	\$ 1,940,292	\$ 1,940,292	\$ -	\$ 365,508	\$ 365,508	\$ -	\$ 1,574,784	\$ 1,574,784	\$ 4,866	\$ 7,811	\$ 12,677	\$ 1,222,950	\$ 1,617,638	\$ 2,840,588	\$ 1,921,692	\$ -	\$ 1,921,692

City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Projection of Pension Plan's Fiduciary Net Position

Fiscal Year	Actuarial Accrued Liability (BOY)			Closed Group Asset Projection						
	Current Members	Future Members	Total	Fiduciary Net Position (BOY)	Funded Ratio (BOY)	Projected EEC Contributions (MOY)	Projected ER Contrib + Premium Tax (MOY)	Projected BP (MOY)	Projected Admin Expenses (MOY)	Projected Investment Earnings
2020	\$ 10,736,141	\$ -	\$ 10,736,141	\$ 2,095,659	19.52%	\$ 70,643	\$ 336,064	\$ 337,560	\$ 2,818	\$ 95,781
2021	\$ 11,297,062	\$ -	\$ 11,297,062	\$ 2,257,769	19.99%	\$ 69,849	\$ 333,540	\$ 362,195	\$ 2,895	\$ 102,452
2022	\$ 11,849,314	\$ 22,377	\$ 11,871,691	\$ 2,398,520	20.24%	\$ 69,448	\$ 329,476	\$ 380,411	\$ 2,975	\$ 108,279
2023	\$ 12,404,081	\$ 69,510	\$ 12,473,591	\$ 2,522,337	20.33%	\$ 69,432	\$ 331,553	\$ 394,158	\$ 2,929	\$ 113,592
2024	\$ 12,969,036	\$ 142,014	\$ 13,111,050	\$ 2,639,827	20.35%	\$ 68,548	\$ 332,805	\$ 417,012	\$ 3,010	\$ 118,377
2025	\$ 13,528,400	\$ 240,440	\$ 13,768,840	\$ 2,739,534	20.25%	\$ 69,465	\$ 333,154	\$ 421,742	\$ 2,958	\$ 122,788
2026	\$ 14,114,342	\$ 368,233	\$ 14,482,575	\$ 2,840,241	20.12%	\$ 70,670	\$ 338,348	\$ 423,351	\$ 3,039	\$ 127,424
2027	\$ 14,732,877	\$ 522,938	\$ 15,255,815	\$ 2,950,293	20.03%	\$ 69,848	\$ 344,926	\$ 459,247	\$ 2,981	\$ 131,707
2028	\$ 15,335,570	\$ 704,620	\$ 16,040,190	\$ 3,034,546	19.79%	\$ 67,366	\$ 339,614	\$ 501,771	\$ 3,063	\$ 134,377
2029	\$ 15,901,952	\$ 933,005	\$ 16,834,957	\$ 3,071,069	19.31%	\$ 64,770	\$ 336,504	\$ 550,103	\$ 3,147	\$ 134,816
2030	\$ 16,421,267	\$ 1,208,518	\$ 17,629,785	\$ 3,053,909	18.60%	\$ 61,184	\$ 328,439	\$ 612,092	\$ 3,234	\$ 132,403
2031	\$ 16,870,950	\$ 1,540,637	\$ 18,411,587	\$ 2,960,608	17.55%	\$ 58,616	\$ 319,404	\$ 657,110	\$ 3,323	\$ 126,943
2032	\$ 17,273,697	\$ 1,935,388	\$ 19,209,085	\$ 2,805,138	16.24%	\$ 57,575	\$ 317,594	\$ 685,396	\$ 3,252	\$ 119,256
2033	\$ 17,654,941	\$ 2,388,115	\$ 20,043,056	\$ 2,610,915	14.79%	\$ 57,194	\$ 320,411	\$ 708,141	\$ 3,509	\$ 110,058
2034	\$ 18,024,007	\$ 2,898,470	\$ 20,922,477	\$ 2,386,928	13.24%	\$ 57,377	\$ 327,553	\$ 721,854	\$ 3,434	\$ 99,838
2035	\$ 18,393,561	\$ 3,467,237	\$ 21,860,798	\$ 2,146,409	11.67%	\$ 58,000	\$ 337,667	\$ 731,238	\$ 3,528	\$ 89,043
2036	\$ 18,771,112	\$ 4,095,917	\$ 22,867,029	\$ 1,896,353	10.10%	\$ 58,600	\$ 353,799	\$ 743,334	\$ 3,625	\$ 77,891
2037	\$ 19,153,773	\$ 4,787,111	\$ 23,940,884	\$ 1,639,684	8.56%	\$ 59,592	\$ 367,411	\$ 749,744	\$ 3,725	\$ 66,521
2038	\$ 19,550,831	\$ 5,545,099	\$ 25,095,930	\$ 1,379,739	7.06%	\$ 61,039	\$ 382,601	\$ 751,885	\$ 3,636	\$ 55,148
2039	\$ 19,970,427	\$ 6,373,397	\$ 26,343,824	\$ 1,123,006	5.62%	\$ 62,442	\$ 400,426	\$ 752,095	\$ 3,539	\$ 44,020
2040	\$ 20,415,118	\$ 7,275,274	\$ 27,690,392	\$ 874,259	4.28%	\$ 60,661	\$ 420,292	\$ 791,257	\$ 3,636	\$ 32,356
2041	\$ 20,830,943	\$ 8,255,391	\$ 29,086,334	\$ 592,675	2.85%	\$ 49,318	\$ 433,720	\$ 903,314	\$ 3,944	\$ 17,230
2042	\$ 21,092,890	\$ 9,338,785	\$ 30,431,675	\$ 185,685	0.88%	\$ 36,515	\$ 414,926	\$ 998,812	\$ 3,839	\$ -
2043	\$ 21,203,261	\$ 10,563,338	\$ 31,766,599	\$ -	0.00%	\$ 28,712	\$ 422,993	\$ 1,065,777	\$ 3,945	\$ -
2044	\$ 21,210,211	\$ 11,905,541	\$ 33,115,752	\$ -	0.00%	\$ 21,868	\$ 439,268	\$ 1,118,278	\$ 3,828	\$ -
2045	\$ 21,129,026	\$ 13,352,523	\$ 34,481,549	\$ -	0.00%	\$ 17,522	\$ 466,127	\$ 1,151,891	\$ 4,165	\$ -
2046	\$ 20,987,623	\$ 14,887,567	\$ 35,875,190	\$ -	0.00%	\$ 14,392	\$ 501,143	\$ 1,175,705	\$ 4,280	\$ -
2047	\$ 20,799,496	\$ 16,504,180	\$ 37,303,676	\$ -	0.00%	\$ 10,751	\$ 539,929	\$ 1,208,685	\$ 4,153	\$ -
2048	\$ 20,551,374	\$ 18,199,709	\$ 38,751,083	\$ -	0.00%	\$ 7,113	\$ 589,793	\$ 1,233,690	\$ 4,016	\$ -
2049	\$ 20,249,245	\$ 19,981,743	\$ 40,230,988	\$ -	0.00%	\$ 4,983	\$ 638,126	\$ 1,246,805	\$ 4,126	\$ -
2050	\$ 19,909,825	\$ 21,846,848	\$ 41,756,673	\$ -	0.00%	\$ 3,161	\$ 797,527	\$ 1,256,720	\$ 4,239	\$ -
2051	\$ 19,536,187	\$ 23,793,970	\$ 43,330,157	\$ -	0.00%	\$ 1,426	\$ 875,281	\$ 1,264,959	\$ 4,356	\$ -
2052	\$ 19,128,667	\$ 25,811,653	\$ 44,940,320	\$ -	0.00%	\$ 1,018	\$ 954,592	\$ 1,262,478	\$ 4,476	\$ -
2053	\$ 18,703,488	\$ 27,891,782	\$ 46,595,270	\$ -	0.00%	\$ 554	\$ 1,124,550	\$ 1,259,509	\$ 4,599	\$ -
2054	\$ 18,260,042	\$ 30,027,691	\$ 48,287,733	\$ -	0.00%	\$ 372	\$ 1,829,568	\$ 1,253,493	\$ 4,430	\$ 12,729
2055	\$ 17,801,991	\$ 32,216,637	\$ 50,018,628	\$ 584,746	3.28%	\$ 249	\$ 1,946,245	\$ 1,246,058	\$ 4,552	\$ 41,799
2056	\$ 17,330,391	\$ 34,466,331	\$ 51,796,722	\$ 1,322,429	7.63%	\$ 168	\$ 2,069,471	\$ 1,237,270	\$ 4,677	\$ 77,927
2057	\$ 16,846,192	\$ 36,786,860	\$ 53,633,052	\$ 2,228,048	13.23%	\$ -	\$ 2,400,460	\$ 1,227,636	\$ 4,806	\$ 126,253
2058	\$ 16,349,317	\$ 39,187,961	\$ 55,537,278	\$ 3,522,319	21.54%	\$ -	\$ 2,605,106	\$ 1,215,445	\$ 4,609	\$ 189,325
2059	\$ 15,842,545	\$ 41,679,512	\$ 57,522,057	\$ 5,096,696	32.17%	\$ -	\$ 2,973,529	\$ 1,201,824	\$ 4,736	\$ 268,671
2060	\$ 15,326,892	\$ 44,270,889	\$ 59,597,781	\$ 7,132,336	46.53%	\$ -	\$ 3,144,642	\$ 1,186,768	\$ 4,866	\$ 364,414

City of Nitro, West Virginia Firemen's Pension and Relief Fund
 Actuarial Information to Include in the Financial Statements
 for the June 30, 2020 Measurement Date



Projection of Pension Plan's Fiduciary Net Position

Calculation of Single Equivalent Rate								
Fiscal Year	"Funded" Portion of BP	"Unfunded" Portion of BP	PV of "Funded" BP	PV of "Unfunded" BP	PV of BP Using a Single DR			
2020	\$ 337,560	\$ -	\$ 330,212	\$ -	\$ 331,605			
2021	\$ 362,195	\$ -	\$ 339,053	\$ -	\$ 343,362			
2022	\$ 380,411	\$ -	\$ 340,771	\$ -	\$ 348,018			
2023	\$ 394,158	\$ -	\$ 337,881	\$ -	\$ 347,984			
2024	\$ 417,012	\$ -	\$ 342,078	\$ -	\$ 355,285			
2025	\$ 421,742	\$ -	\$ 331,060	\$ -	\$ 346,748			
2026	\$ 423,351	\$ -	\$ 318,013	\$ -	\$ 335,898			
2027	\$ 459,247	\$ -	\$ 330,122	\$ -	\$ 351,636			
2028	\$ 501,771	\$ -	\$ 345,157	\$ -	\$ 370,759			
2029	\$ 550,103	\$ -	\$ 362,109	\$ -	\$ 392,256			
2030	\$ 612,092	\$ -	\$ 385,563	\$ -	\$ 421,194			
2031	\$ 657,110	\$ -	\$ 396,096	\$ -	\$ 436,358			
2032	\$ 685,396	\$ -	\$ 395,356	\$ -	\$ 439,224			
2033	\$ 708,141	\$ -	\$ 390,886	\$ -	\$ 437,929			
2034	\$ 721,854	\$ -	\$ 381,297	\$ -	\$ 430,797			
2035	\$ 731,238	\$ -	\$ 369,621	\$ -	\$ 421,135			
2036	\$ 743,334	\$ -	\$ 359,555	\$ -	\$ 413,130			
2037	\$ 749,744	\$ -	\$ 347,039	\$ -	\$ 402,119			
2038	\$ 751,885	\$ -	\$ 333,043	\$ -	\$ 389,164			
2039	\$ 752,095	\$ -	\$ 318,790	\$ -	\$ 375,659			
2040	\$ 791,257	\$ -	\$ 320,947	\$ -	\$ 381,398			
2041	\$ -	\$ 903,314	\$ -	\$ 536,824	\$ 420,183			
2042	\$ -	\$ 998,812	\$ -	\$ 579,381	\$ 448,356			
2043	\$ -	\$ 1,065,777	\$ -	\$ 603,442	\$ 461,685			
2044	\$ -	\$ 1,118,278	\$ -	\$ 618,026	\$ 467,486			
2045	\$ -	\$ 1,151,891	\$ -	\$ 621,379	\$ 464,697			
2046	\$ -	\$ 1,175,705	\$ -	\$ 619,058	\$ 457,716			
2047	\$ -	\$ 1,208,685	\$ -	\$ 621,204	\$ 454,099			
2048	\$ -	\$ 1,233,690	\$ -	\$ 618,892	\$ 447,283			
2049	\$ -	\$ 1,246,805	\$ -	\$ 610,514	\$ 436,229			
2050	\$ -	\$ 1,256,720	\$ -	\$ 600,653	\$ 424,321			
2051	\$ -	\$ 1,264,959	\$ -	\$ 590,133	\$ 412,166			
2052	\$ -	\$ 1,262,478	\$ -	\$ 574,890	\$ 396,971			
2053	\$ -	\$ 1,259,509	\$ -	\$ 559,823	\$ 382,187			
2054	\$ -	\$ 1,253,493	\$ -	\$ 543,825	\$ 367,059			
2055	\$ -	\$ 1,246,058	\$ -	\$ 527,671	\$ 352,121			
2056	\$ 1,237,270	\$ -	\$ 248,153	\$ -	\$ 337,410			
2057	\$ 1,227,636	\$ -	\$ 235,618	\$ -	\$ 323,074			
2058	\$ 1,215,445	\$ -	\$ 223,233	\$ -	\$ 308,679			
2059	\$ 1,201,824	\$ -	\$ 211,226	\$ -	\$ 294,545			
2060	\$ 1,186,768	\$ -	\$ 199,598	\$ -	\$ 280,683			