



WORCESTER REGIONAL RETIREMENT SYSTEM

FINANCIAL REPORTING AND DISCLOSURES Governmental Accounting Standards Board Statements 67 and 68

**Disclosures as of
December 31, 2020**

KMS Actuarial, LLC
52 Hunt Road
Kingston, NH 03848

October, 2021



October 28, 2021

Mr. Kevin Blanchette
Chairman
Worcester Regional Retirement System
23 Midstate Drive, Suite 106
Auburn, MA 01501

Dear Kevin:

We are pleased to present the enclosed report providing financial reporting and disclosures under Governmental Accounting Standards Board (GASB) Statement No. 67, Financial Reporting for Pension Plans (GASB 67), and GASB Statement No. 68, Accounting and Financial Reporting for Pensions (GASB 68) for the Worcester Regional Retirement System and participating employers as of December 31, 2020. Results are based on liabilities developed in an actuarial valuation performed as of January 1, 2020 and rolled forward to the plan's measurement date of December 31, 2020.

The Principal Valuation Results are provided in Section 1. The Notes to the Financial Statements and the Required Supplementary Information are provided in Sections 2 and 3, respectively. Employer Reporting Amounts Under GASB 68 are provided in Section 4. Finally, a Glossary of Terms is provided in Section 5.

The financial reporting and disclosures contained in this report are based on the member data provided by the Worcester Regional Retirement Board, asset information reported to the Public Employee Retirement Administration Commission (PERAC) by the Retirement Board and plan provisions contained in Chapter 32 of the Massachusetts General Laws. Although we did not audit the data used in the valuation and disclosure calculations, we believe that the information is complete and reliable.

Liabilities presented in this report are based on a long-term investment return rate of 7.5%, net of investment expense, compounded annually.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions used in the determination of costs are reasonably related to the experience of the Plan and to reasonable expectations, and represent our best estimate of anticipated long-term experience under the Plan.

Mr. Kevin Blanchette

October 28, 2021

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Future actuarial valuation results may differ significantly from the current results presented in this report. Examples of potential sources of volatility include plan experience differing from that anticipated by the economic or demographic assumptions, the effect of new entrants, changes in economic or demographic assumptions, the effect of law changes and the delayed effect of smoothing techniques.

Our valuation follows generally accepted actuarial methods and we perform such tests as we consider necessary to assure the accuracy of the results. The amounts presented in this report have been appropriately determined according to the actuarial assumptions and methods stated herein.

This report is intended for the sole use of the Worcester Regional Retirement System and participating employers and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

The undersigned credentialed actuaries are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

Respectfully submitted,



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EXECUTIVE SUMMARY

GASB 67 and GASB 68

In June 2012, the GASB approved two related Statements that significantly changed the way pension plans and governments account and report pension liabilities. Effective for plans with fiscal years beginning after June 15, 2013, **GASB Statement No. 67**, *Financial Reporting for Pension Plans*, replaced the requirements of Statement No. 25 and effective for employers with fiscal years beginning after June 15, 2014, **GASB Statement No. 68**, *Accounting and Financial Reporting for Pensions*, replaced the requirements of Statement No. 27.

The pension standards reflect changes from those previously in place regarding how governments calculate total pension liability and pension expense. Further, the standards contain requirements for disclosing information in the notes to financial statements and presenting required supplementary information following the notes.

GASB 67 requires defined benefit pension plans, such as the Worcester Regional Retirement System, to present a statement of fiduciary net position (pension plan assets) and a statement of changes in fiduciary net position. Further, the statement requires that notes to financial statements include descriptive information such as the types of benefits provided, the classes of plan members covered and the composition of the pension plan's retirement board. Finally, GASB 67 requires pension plans to present in required supplementary information the sources of the changes in the net pension liability and information about the actuarially determined contributions compared with the actual contributions made to the plan and related ratios.

GASB 67 and GASB 68 require projected benefit payments be discounted to their actuarial present value using the single rate that reflects a long-term expected rate of return on pension plan investments to the extent that the pension plan's assets are sufficient to pay benefits and pension plan assets are expected to be invested using a strategy to achieve that return and a tax-exempt, high-quality municipal bond rate to the extent that the conditions for use of the long-term expected rate of return are not met.

GASB 68 establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources and pension expense by state and local governments.

The effective date for GASB 67 is for plan years beginning after June 15, 2013, which is the fiscal year ending December 31, 2014 for the Worcester Regional Retirement System. The effective date for GASB 68 is for employers' fiscal years beginning after June 15, 2014. The disclosures prepared as of December 31, 2020 (the measurement date) presents information to assist the Worcester Regional Retirement Board in providing the required information under GASB 68 to participating employers.

GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*, clarifies the application of certain provisions of Statements 67 and 68 with regard to the following issues:

- (1) Information about investment-related factors that significantly affect trends in the amounts reported for GASB 67 and GASB 68 should be limited to those factors over which the pension plan or participating governments have influence (such as an investment policy) and
- (2) The contribution-related schedules in the RSI should exclude amounts associated with payables to the pension plan that arose in a prior fiscal year.

GASB Statement No. 82, *Pension Issues - An Amendment of GASB Statements No. 67, No. 68, and No. 73*, clarifies the definition of covered payroll, that a deviation from the Actuarial Standards of Practice with respect to selection of assumptions is not considered to be in conformity with GASB 67, GASB 68 and GASB 73, and that employer-paid member contributions are to be classified as plan member contributions.

EXECUTIVE SUMMARY

A summary of principal results from the current disclosures and prior disclosures follows.

Disclosure Date	December 31, 2020	December 31, 2019	% Change
Valuation Date	January 1, 2020	January 1, 2018	
Membership Data			
Active Plan Members	7,137	7,024	1.6%
Inactive Members Currently in Receipt	3,941	3,802	3.7%
Inactive Members Deferred	2,414	2,247	7.4%
Total Plan Members	13,492	13,073	3.2%
Covered Payroll	\$321,050,145	\$301,686,927	6.4%
Net Pension Liability			
Discount Rate	7.50%	7.65%	
Total Pension Liability (TPL)	\$1,787,058,913	\$1,690,869,266	5.7%
Fiduciary Net Position (FNP)	898,658,766	800,739,275	12.2%
Net Pension Liability (NPL)	\$888,400,147	\$890,129,991	(0.2%)
FNP as % of TPL	50.3%	47.4%	6.1%
Pension Expense			
Pension Expense	\$100,873,556	\$109,427,624	(7.8%)
Deferred Outflows	\$56,206,384	\$52,365,133	
Deferred Inflows	\$68,957,576	\$29,781,954	
Recognition Period	5.71	5.84	

EXECUTIVE SUMMARY

Fiduciary Net Position

Pension plan investments are reported at market value as of the measurement date. The fiduciary net position as of the current and prior measurement dates are shown in Section 1, Fiduciary Net Position.

Total Pension Liability

The Total Pension Liability is based on liabilities developed in an actuarial valuation performed as of January 1, 2020 and rolled forward to the plan's measurement date of December 31, 2020 and is shown in Section 1, Total Pension Liability.

Benefit Changes

All benefit provisions remained the same from the prior measurement date. The Plan provisions used in these disclosures are detailed in Section 5, Summary of Plan Provisions, in the most recent funding actuarial report.

Assumption Changes

Most of the Actuarial Assumptions and Methods used in these disclosures are the same as the last measurement date, except the investment rate of return assumption decreased from 7.65% to 7.5% and the mortality table and mortality improvement rates were updated. The Actuarial Assumptions and Methods used in these disclosures are detailed in Section 6, Actuarial Assumptions and Methods, in the most recent funding valuation report.

Pension Expense

The Pension Expense for the fiscal year ending December 31, 2020 is \$100,873,556 and is developed in Exhibit 4.2. Pension Expense, as well as the Net Pension Liability and Deferred Outflows of Resources and Deferred Inflows of Resources, are developed for each member unit and are shown in Appendix C. Amounts by employer are developed using a proportionate share, the proportion of each employer's contribution to the aggregate amount of employer contributions, as shown in Exhibit 4.3.

COVID-19 Pandemic

The assumptions in this report do not reflect the potential impacts of the COVID-19 pandemic on the System. Especially in the short range, the pandemic is likely to materially affect the economic and demographic experience, in a way not anticipated by the assumptions on which the projections are based.

SECTION 1 - PRINCIPAL VALUATION RESULTS

Fiduciary Net Position

Asset information was provided by the Worcester Regional Retirement Board. The Trust Fund Composition, Asset Activity and the Gain or Loss on Pension Plan Investments for the current and prior fiscal years are as follows:

Fiscal Year Ended December 31 **2020** **2019**

Trust Fund Composition at Fiscal Year-End			
Cash	\$	4,386,752	\$ 2,813,343
Individually Owned Short Term Investments		0	0
Fixed Income Securities		0	0
Equities (at market value)		0	0
Pooled Short Term Funds		0	0
Pooled Domestic Equity Funds		0	0
Pooled International Equity Funds		0	0
Pooled Global Equity Funds		0	0
Pooled Domestic Fixed Income Funds		0	0
Pooled International Fixed Income Funds		0	0
Pooled Global Fixed Income Funds		0	0
Pooled Alternative/Private Equity		688,422	1,187,279
Pooled Real Estate Funds		0	0
Pooled Domestic Balanced Funds		0	0
Pooled International Balanced Funds		0	0
Hedge Funds		0	0
PRIT Cash		0	0
PRIT Fund		899,736,351	801,583,801
Interest Due and Accrued		0	0
Prepaid Expenses		0	0
Accounts Receivable (A)		5,656,731	5,363,063
Land		0	0
Buildings		0	0
Accumulated Depreciation - Buildings		0	0
Accounts Payable (A)		(8,092,378)	(9,496,354)
Auditor or Other Adjustments		(3,717,112)	(711,857)
Total Market Value of Assets	\$	898,658,766	\$ 800,739,275

SECTION 1 - PRINCIPAL VALUATION RESULTS

Fiscal Year Ended December 31	Fiduciary Net Position	
	2020	2019
Asset Activity		
Market value as of beginning of year	\$ 800,739,275	\$ 685,538,013
Contributions - employer	67,269,029	60,887,972
Contributions - member	35,391,500	35,087,583
Net investment income	97,497,004	110,458,217
Benefit payments, including refunds of member contributions	(93,751,426)	(88,229,714)
Administrative expenses	(1,045,530)	(1,112,640)
Other	(7,441,086)	(1,890,156)
Market Value as of end of year	\$ 898,658,766	\$ 800,739,275
Money-Weighted Rate of Return	12.03%	16.55%
(Gain) / Loss on Pension Plan Investments		
Projected earnings	\$ 61,180,238	\$ 52,987,612
Actual earnings	97,497,004	110,458,217
(Gain) / Loss on pension plan investments	\$ (36,316,766)	\$ (57,470,605)

SECTION 1 - PRINCIPAL VALUATION RESULTS

Total Pension Liability

The Total Pension Liability, developed using the Entry Age Normal funding method, is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service. The total pension liability as of the December 31, 2020 measurement date was developed from an actuarial valuation as of January 1, 2020 and rolled forward to the pension plan's fiscal year-end.

The Service Cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Only active employees who have not reached the age at which the probability of retirement is 100% incur a service cost.

Actuarial gains and losses arise from the difference between estimates and actual experience, excluding amounts related to benefit changes and changes in assumptions or other inputs.

The development of the Total Pension Liability from the beginning of the measurement period, December 31, 2019 to the end of the measurement period, December 31, 2020 is shown below:

Measurement Date	December 31, 2020
1. Total Pension Liability, beginning of year:	
a. Actives	\$ 948,131,957
b. Retired and Disabled Members and Beneficiaries	721,263,752
c. Inactive Members	21,473,557
d. Total Pension Liability at 7.65% (a. + b. + c.)	\$ 1,690,869,266
2. Service Cost	\$ 47,971,080
3. Benefit Payments	(93,751,426)
4. Interest [7.65% x (1.d. + 2. + .5 x 3)]	\$ 129,435,294
5. Changes of benefit terms	-
6. Differences between expected and actual experience	(23,171,133)
7. Changes of assumptions or other inputs	35,705,832
8. Total Pension Liability, end of year (1.d. + 2. + 3. + 4. + 5. + 6. + 7.)	
a. Actives	\$ 896,018,289
b. Retired and Disabled Members and Beneficiaries	862,552,083
c. Inactive Members	28,488,541
d. Total Pension Liability at 7.5% (a. + b. + c.)	\$ 1,787,058,913

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Plan Description

Plan administration

The Worcester Regional Retirement System (the "System") is a cost-sharing, multiple-employer defined benefit pension plan that provides pensions for eligible employees of 99 participating employers. The System is a member of the Massachusetts Contributory Retirement System and is governed by Chapter 32 of the Massachusetts General Laws. The System does not have the authority to amend benefit provisions.

The System is governed by a Retirement Board made up of five elected and appointed members.

Plan membership

At December 31, 2020, pension plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefits	3,941
Inactive plan members entitled to but not yet receiving benefits	2,414
Active plan members	7,137
	<hr/>
	13,492

Benefits provided

The System provides retirement, disability and death benefits. Retirement benefits are determined as a percentage of the member's 3-year (5-year for members hired after April 1, 2012) final average compensation times the member's years of service. The percentage is based on the age of the member at retirement and his or her Group classification. Cost-of-living adjustments of 3% of the first \$16,000 of the annual retirement allowance are provided at the discretion of the System's Retirement Board. A summary of the benefits is outlined in the January 1, 2020 actuarial valuation report.

Contributions

Plan members are required to contribute a percentage of their annual compensation that varies according to their membership date, as follows:

Prior to 1975	5% of Salary
1975 - 1983	7% of Salary
1984 - June 30, 1996	8% of Salary
July 1, 1996 - present	9% of Salary
1979 - present	An additional 2% of Salary in excess of \$30,000.
Group 1 members hired on or after April 2, 2012	6% of Salary with 30 or more years of creditable service.

Employer contributions are determined in accordance with the requirements set forth in Section 22D and Section 22F of Chapter 32 of the Massachusetts General Laws ("M.G.L."). The appropriation is comprised of the annual employer normal cost and amortization payments to pay the unfunded actuarial accrued liability.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Net Pension Liability

The components of the Net Pension Liability at December 31, 2020, were as follows:

Total Pension Liability	\$ 1,787,058,913
Fiduciary Net Position	(898,658,766)
Net Pension Liability	\$ 888,400,147

Fiduciary Net Position as a percentage of the Total Pension Liability 50.3%

Actuarial assumptions

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2020, rolled forward to the measurement date of December 31, 2020 using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.2% per year
Salary increases	Group 1: 6% - 4.25%, based on service Group 4: 7% - 4.75%, based on service
Investment rate of return	7.5%, net of pension plan investment expense, including inflation

Mortality rates were based on the RP-2014 Blue Collar Mortality Table with full generational mortality improvement using Scale MP-2018. For disabled lives, the mortality rates were based on the RP-2014 Blue Collar Mortality Table set forward one year with full generational mortality improvement using Scale MP-2018.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Long-Term Real Rates of Return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2020 (see the discussion of the pension plan's investment policy) are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rates of Return¹
Global Equity	39%	4.38%
Core Fixed Income	15%	0.05%
Value-Added Fixed Income	8%	4.00%
Private Equity	13%	8.00%
Real Estate	10%	3.80%
Timberland	4%	4.40%
Portfolio Completion (PCS)	11%	3.00%
Total	100%	

¹ Provided by NEPC, Inc. (inclusive of fees). Inflation of 2.2% is added to the long-term expected real rates of return to approximate the long-term expected rate of return.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Discount Rate

The discount rate used to measure the Total Pension Liability is 7.5%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rates and that contributions from participating employers will be made in accordance with Sections 22D and 22F of Chapter 32 of the Massachusetts General Laws. Based on those assumptions, the pension plan's Fiduciary Net Position was projected to be available to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate:

The following presents the Net Pension Liability calculated using the discount rate of 7.5%, as well as what the Net Pension Liability would be if it were calculated using a discount rate 1-percentage point lower (6.5%) or 1-percentage point higher (8.5%) than the current rate:

	1% Decrease (6.5%)	Current Discount Rate (7.5%)	1% Increase (8.5%)
Total Pension Liability	\$ 1,993,105,697	\$ 1,787,058,913	\$ 1,613,085,613
Fiduciary Net Position	898,658,766	898,658,766	898,658,766
Net Pension Liability	\$ 1,094,446,931	\$ 888,400,147	\$ 714,426,847

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net Pension Liability and Related Ratios

Fiscal Year Ended December 31	2020	2019	2018	2017	2016
Total Pension Liability					
Service cost	\$ 47,971,080	\$ 45,464,593	\$ 44,445,482	\$ 42,736,040	\$ 35,984,130
Interest	129,435,294	123,507,870	118,116,251	112,224,318	99,124,367
Changes of benefit terms	-	-	-	-	-
Differences between expected and actual experience	(23,171,133)	-	(8,110,737)	-	8,235,183
Changes of assumptions	35,705,832	17,826,312	-	-	94,194,565
Benefit payments, including refunds of member contributions	(93,751,426)	(88,229,714)	(83,571,930)	(77,717,794)	(72,799,275)
Net change in Total Pension Liability	<u>\$ 96,189,647</u>	<u>\$ 98,569,061</u>	<u>\$ 70,879,066</u>	<u>\$ 77,242,564</u>	<u>\$ 164,738,970</u>
Total Pension Liability--beginning	<u>\$1,690,869,266</u>	<u>\$1,592,300,205</u>	<u>\$1,521,421,139</u>	<u>\$1,444,178,575</u>	<u>\$1,279,439,605</u>
Total Pension Liability--ending (a)	<u><u>\$1,787,058,913</u></u>	<u><u>\$1,690,869,266</u></u>	<u><u>\$1,592,300,205</u></u>	<u><u>\$1,521,421,139</u></u>	<u><u>\$1,444,178,575</u></u>
Fiduciary Net Position					
Contributions--employer	\$ 67,269,029	\$ 60,887,972	\$ 55,674,504	\$ 50,599,326	\$ 48,574,831
Contributions--member	35,391,500	35,087,583	33,362,836	31,592,837	29,032,767
Net investment income	97,497,004	110,458,217	(17,770,572)	103,123,070	40,509,286
Benefit payments, including refunds of member contributions	(93,751,426)	(88,229,714)	(83,571,930)	(77,717,794)	(72,799,275)
Administrative expenses	(1,045,530)	(1,112,640)	(1,178,272)	(1,145,509)	(1,170,184)
Other	(7,441,086)	(1,890,156)	(6,971,840)	(7,043,455)	(7,195,247)
Net change in Fiduciary Net Position	<u>\$ 97,919,491</u>	<u>\$ 115,201,262</u>	<u>\$ (20,455,274)</u>	<u>\$ 99,408,475</u>	<u>\$ 36,952,178</u>
Fiduciary Net Position--beginning	<u>\$ 800,739,275</u>	<u>\$ 685,538,013</u>	<u>\$ 705,993,287</u>	<u>\$ 606,584,812</u>	<u>\$ 569,632,634</u>
Fiduciary Net Position--ending (b)	<u><u>\$ 898,658,766</u></u>	<u><u>\$ 800,739,275</u></u>	<u><u>\$ 685,538,013</u></u>	<u><u>\$ 705,993,287</u></u>	<u><u>\$ 606,584,812</u></u>
Net Pension Liability and Related Ratios					
Net Pension Liability--ending (a) -- (b)	<u><u>\$ 888,400,147</u></u>	<u><u>\$ 890,129,991</u></u>	<u><u>\$ 906,762,192</u></u>	<u><u>\$ 815,427,852</u></u>	<u><u>\$ 837,593,763</u></u>
Fiduciary Net Position as a percentage of the Total Pension Liability	50.29%	47.36%	43.05%	46.40%	42.00%
Covered Payroll	\$ 321,050,145	\$ 301,686,927	\$ 273,888,022	\$ 271,037,131	\$ 282,918,805
Net Pension Liability as a percentage of Covered Payroll	276.72%	295.05%	331.07%	300.85%	296.05%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net Pension Liability and Related Ratios (continued)

Fiscal Year Ended December 31	2015	2014	2013	2012	2011
Total Pension Liability					
Service cost	\$ 31,996,981	\$ 31,996,981			
Interest	91,276,045	84,568,061			
Changes of benefit terms	49,721,211	\$ -			
Differences between expected and actual experience	-	-			
Changes of assumptions	31,534,870	\$ -			
Benefit payments, including refunds of member contributions	(68,086,158)	(61,338,289)			
Net change in Total Pension Liability	<u>\$ 136,442,949</u>	<u>\$ 55,226,753</u>			
Total Pension Liability--beginning	<u>\$ 1,142,996,656</u>	<u>\$ 1,087,769,903</u>			
Total Pension Liability--ending (a)	<u><u>\$ 1,279,439,605</u></u>	<u><u>\$ 1,142,996,656</u></u>			
Fiduciary Net Position					
Contributions--employer	\$ 44,986,040	\$ 39,519,038			
Contributions--member	52,111,046	27,066,085			
Net investment income	1,177,960	\$ 40,135,521			
Benefit payments, including refunds of member contributions	(68,086,158)	(61,338,289)			
Administrative expenses	(1,055,662)	\$ (1,054,297)			
Other	(7,429,438)	(3,178,354)			
Net change in Fiduciary Net Position	<u>\$ 21,703,788</u>	<u>\$ 41,149,704</u>			
Fiduciary Net Position--beginning	<u>\$ 547,928,846</u>	<u>\$ 506,779,142</u>			
Fiduciary Net Position--ending (b)	<u><u>\$ 569,632,634</u></u>	<u><u>\$ 547,928,846</u></u>			
Net Pension Liability and Related Ratios					
Net Pension Liability--ending (a) -- (b)	<u>\$ 709,806,971</u>	<u>\$ 595,067,810</u>			
Fiduciary Net Position as a percentage of the Total Pension Liability	44.52%	47.94%			
Covered Payroll	\$ 269,899,678	\$ 252,829,591			
Net Pension Liability as a percentage of Covered Payroll	262.99%	235.36%			

Note: Only 7 years are presented here and on the previous page, beginning with the year of implementation; 10 years of information will be required.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Schedule of Employer Contributions

Fiscal Year Ended December 31	2020	2019	2018	2017	2016
Actuarially Determined Contribution	\$ 67,269,029	\$ 60,887,972	\$ 55,674,504	\$ 50,599,326	\$ 48,574,831
Contributions in relation to the Actuarially Determined Contribution	<u>67,269,029</u>	<u>60,887,972</u>	<u>55,674,504</u>	<u>50,599,326</u>	<u>48,574,831</u>
Contribution deficiency (excess)	<u>\$ -</u>				
Covered Payroll	\$ 321,050,145	\$ 301,686,927	\$ 273,888,022	\$ 271,037,131	\$ 282,918,805
Contributions as a percentage of Covered Payroll	20.95%	20.18%	20.33%	18.67%	17.17%

The contribution shown above, \$67,269,029, represents the actual contributions made by member units of the Worcester Regional Retirement System for the 2021 fiscal year.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Schedule of Employer Contributions (continued)

Fiscal Year Ended December 31	2015	2014	2013	2012	2011
Actuarially Determined Contribution	\$ 44,986,040	\$ 39,519,038			
Contributions in relation to the Actuarially Determined Contribution	<u>44,986,040</u>	<u>\$ 39,519,038</u>			
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>			
Covered Payroll	\$ 269,899,678	\$ 252,829,591			
Contributions as a percentage of Covered Payroll	16.67%	15.63%			

Note: Only 7 years are presented here and on the previous page, beginning with the year of implementation; 10 years of information will be required.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Investment Returns

Fiscal Year Ended December 31	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Annual money-weighted rate of return, net of investment expense	12.03%	16.55%	-2.75%	16.71%	7.06%	0.05%	7.79%			

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of pension plan investments by the proportion of time they are available to earn a return during that period. The rate of return is then calculated by solving, through an iterative process, for the rate that equates the sum of the weighted external cash flows into and out of the pension plan investments to the ending fair value of pension plan investments.

Appendix A shows the details of the calculation of the money-weighted rate of return for the current fiscal year.

Note: Only 7 years are presented here, beginning with the year of implementation; 10 years of information will be required.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Notes to the Required Supplementary Information

Changes of benefit terms

All benefit provisions remained the same from the prior measurement date. The Plan provisions used in these disclosures are detailed in Section 5, Summary of Plan Provisions, in the most recent funding actuarial report.

Changes of assumptions

Most of the Actuarial Assumptions and Methods used in these disclosures are the same as the last measurement date, except the investment rate of return assumption decreased from 7.65% to 7.5% and the mortality table and mortality improvement rates were updated. The Actuarial Assumptions and Methods used in these disclosures are detailed in Section 6, Actuarial Assumptions and Methods, in the most recent funding valuation report.

Methods and assumptions used in calculations of Actuarially Determined Contributions

The Actuarially Determined Contributions in the schedule of employers' contributions are calculated as of July 1 of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine contributions reported in that schedule:

Actuarial cost method	Entry Age Normal	
Amortization method	UAAL	Increasing dollar amount at 4% to reduce the Unfunded Actuarial Accrued Liability to zero on or before June 30, 2036. The annual increase in appropriation is further limited to 9.95%.
	2002, 2003 & 2010 ERI	Increasing dollar amount at 4.5% to reduce the 2002 and 2003 ERI Actuarial Accrued Liability to zero on or before June 30, 2028 and level payments to reduce the 2010 ERI Actuarial Accrued Liability to zero on or before June 30, 2022.
Asset valuation method	The Actuarial Value of Assets is the market value of assets as of the valuation date reduced by the sum of: a) 80% of gains and losses of the prior year, b) 60% of gains and losses of the second prior year, c) 40% of gains and losses of the third prior year, and d) 20% of gains and losses of the fourth prior year. Investment gains and losses are determined by the excess or deficiency of the expected return over the actual return on the market value. The actuarial valuation of assets is further constrained to be not less than 80% or more than 120% of market value.	

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Notes to the Required Supplementary Information

Inflation	2.2% per year
Salary increases	Group 1: 6% - 4.25%, based on service Group 4: 7% - 4.75%, based on service
Payroll growth	3.5% per year
Investment rate of return	7.65%, net of pension plan investment expense, including inflation.

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.1 - Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between expected and actual experience are recognized in Pension Expense over the average expected remaining service life of all active and inactive members.

				Balances at December 31, 2020	
	Experience Losses	Experience Gains	Amounts Recognized in Pension Expense through December 31, 2020	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2015	\$ -	\$ -	\$ -	\$ -	\$ -
2016	8,235,183	-	7,026,605	1,208,578	-
2017	-	-	-	-	-
2018	-	8,110,737	(4,166,475)	-	3,944,262
2019	-	-	-	-	-
2020	-	23,171,133	(4,057,992)	-	19,113,141
Total				<u>\$ 1,208,578</u>	<u>\$ 23,057,403</u>

Deferred Outflows of Resources and Deferred Inflows of Resources arising from changes of assumptions are recognized in Pension Expense over the average expected remaining service life of all active and inactive members.

				Balances at December 31, 2020	
	Increases in the Total Pension Liability	Decreases in the Total Pension Liability	Amounts Recognized in Pension Expense through December 31, 2020	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2015	\$ 31,534,870	\$ -	\$ 31,534,870	\$ -	\$ -
2016	94,194,565	-	80,370,790	13,823,775	-
2017	-	-	-	-	-
2018	-	-	-	-	-
2019	17,826,312	-	6,104,902	11,721,410	-
2020	35,705,832	-	6,253,211	29,452,621	-
Total				<u>\$ 54,997,806</u>	<u>\$ -</u>

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.1 - Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between projected and actual earnings on Pension Plan investments are recognized in Pension Expense over five years.

				Balances at December 31, 2020	
Year	Investment Earnings Less Than Projected (a)	Investment Earnings Greater Than Projected (b)	Amounts Recognized in Pension Expense through December 31, 2020 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2015	\$ 43,477,381	\$ -	\$ 43,477,381	\$ -	\$ -
2016	3,499,405	-	3,499,405	-	-
2017	-	56,256,688	(45,005,351)	-	11,251,337
2018	72,217,350	-	43,330,410	28,886,940	-
2019	-	57,470,605	(22,988,242)	-	34,482,363
2020	-	36,316,766	(7,263,353)	-	29,053,413
Subtotal				<u>\$ 28,886,940</u>	<u>\$ 74,787,113</u>
Net				<u>\$ -</u>	<u>\$ 45,900,173</u>

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.1 - Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from changes in proportion and differences between employer contributions and proportionate share of contributions are recognized in Pension Expense over the average expected remaining service life of all active and inactive members.

				Balances at December 31, 2020	
Year	Proportionate Share* Outflows	Proportionate Share* Inflows	Amounts Recognized in Pension Expense through December 31, 2020	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2015	\$ 39,045,388	\$ 39,045,388	\$ 39,045,388	\$ -	\$ -
2016	1,803,974	1,803,974	1,539,227	264,747	264,747
2017	22,317,342	22,317,342	15,233,678	7,083,664	7,083,664
2018	2,319,170	2,319,170	1,191,354	1,127,816	1,127,816
2019	12,790,409	12,790,409	4,380,279	8,410,130	8,410,130
2020	2,440,894	2,440,894	427,483	2,013,411	2,013,411
Total				<u>\$ 18,899,768</u>	<u>\$ 18,899,768</u>

* Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources will be recognized in Pension Expense as follows:

Year ended December 31	
2021	\$ 3,325,857
2022	\$ (455,159)
2023	\$ (14,676,416)
2024	\$ (2,504,078)
2025	\$ 1,558,604
Thereafter	\$ -
Total Deferred Outflows	\$ 75,106,152
Total Deferred Inflows	\$ 87,857,344

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.2 - Pension Expense

The Pension Expense and deferred outflows and inflows of resources primarily result from changes in the components of the net pension liability (NPL). Most changes in the NPL are included in the Pension Expense in the period of the change, including service cost, interest on total pension liability, changes in benefit terms and projected earnings on the pension plan's investments. Other changes in the net pension liability are included in Pension Expense over the current and future periods. These include the effects on the total pension liability of changes of economic and demographic assumptions and differences between expected and actual experience. In addition, the effect on the net pension liability of differences between the projected earnings on pension plan investments and actual experience with regard to those earnings are included in Pension Expense over the current and future periods. The Pension Expense for the reporting period ending December 31, 2020 is presented below:

Fiscal Year Ended December 31, 2020

1. Service cost	\$ 47,971,080
2. Interest on the total pension liability	
a. Total Pension Liability, beginning of year	1,690,869,266
b. Service cost, beginning of year	47,971,080
c. Benefit payments, including refunds of employee contributions	<u>(93,751,426)</u>
d. Interest on Total Pension Liability	129,435,294
3. Differences between expected and actual experience	(4,041,496)
4. Changes of benefit terms	-
5. Changes of assumptions	30,459,260
6. Employee contributions	(35,391,500)
7. Projected earnings on pension plan investments	
a. Fiduciary Net Position, beginning of year	800,739,275
b. Employer contributions	67,269,029
c. Employee contributions	35,391,500
d. Benefit payments, including refunds of employee contributions	<u>(93,751,426)</u>
e. Administrative expenses and other	<u>(8,486,616)</u>
f. Total projected earnings	(61,180,238)
8. Differences between projected and actual earnings on plan investments	(14,865,460)
9. Pension plan administrative expenses	1,045,530
10. Other changes in Fiduciary Net Position	<u>7,441,086</u>
11. Total Pension Expense	<u><u>\$100,873,556</u></u>

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.3 - Proportionate Share of Contributions

The basis of an employer's allocation of the collective pension amount is consistent with the manner in which contributions to the plan are made. The schedule of employer allocations for 2020 and 2019, based on employer contributions made for the 2021 fiscal year and 2020 fiscal year, respectively, shows the proportionate relationship of each employer to all employers and each employer's allocation percentage.

Entity	2020		2019	
	Employer Contribution	Proportionate Share of Total Employer Contribution	Employer Contribution	Proportionate Share of Total Employer Contribution
Ashburnham	880,527	1.308963%	799,982	1.313859%
Ashburnham-Westminster Regional	725,901	1.079101%	658,485	1.081470%
Athol	1,633,931	2.428950%	1,464,108	2.404593%
Athol Housing Authority	38,518	0.057260%	34,868	0.057266%
Athol-Royalston Regional	621,513	0.923921%	557,966	0.916381%
Auburn	3,559,783	5.291860%	3,232,114	5.308296%
Auburn Housing Authority	70,867	0.105349%	64,005	0.105119%
Auburn Water District	101,938	0.151538%	92,076	0.151222%
Barre	357,853	0.531973%	326,085	0.535549%
Barre Housing Authority	20,935	0.031121%	18,657	0.030642%
Berlin	533,288	0.792769%	483,121	0.793459%
Berlin-Boylston Regional	178,269	0.265009%	161,942	0.265967%
Blackstone	928,294	1.379972%	840,143	1.379818%
Blackstone Housing Authority	19,306	0.028700%	17,586	0.028883%
Blackstone-Millville Regional	581,897	0.865030%	526,516	0.864729%
Bolton	520,648	0.773979%	472,043	0.775265%
Boylston	723,109	1.074951%	660,605	1.084952%
Boylston Water District	13,583	0.020192%	12,214	0.020060%
Brookfield	314,618	0.467701%	285,203	0.468406%
Charlton	1,491,343	2.216983%	1,354,689	2.224888%
Cherry Valley-Rochdale Water	60,980	0.090651%	53,835	0.088416%
Cherry Valley Sewer District	-	0.000000%	-	0.000000%
Douglas	1,192,372	1.772542%	1,088,352	1.787466%
Dudley	955,135	1.419873%	869,193	1.427528%
Dudley Housing Authority	17,758	0.026398%	15,752	0.025870%
Dudley-Charlton Regional	1,129,966	1.679772%	1,023,723	1.681322%
East Brookfield	169,117	0.251404%	154,539	0.253809%
Grafton	2,074,425	3.083774%	1,878,900	3.085831%
Grafton Housing Authority	56,940	0.084645%	50,938	0.083659%
Hardwick	210,913	0.313537%	190,328	0.312587%
Harvard	1,001,439	1.488707%	900,768	1.479386%
Hillcrest Water District	3,994	0.005937%	8,020	0.013172%

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.3 - Proportionate Share of Contributions

The basis of an employer's allocation of the collective pension amount is consistent with the manner in which contributions to the plan are made. The schedule of employer allocations for 2020 and 2019, based on employer contributions made for the 2021 fiscal year and 2020 fiscal year, respectively, shows the proportionate relationship of each employer to all employers and each employer's allocation percentage.

Entity	2020		2019	
	Employer Contribution	Proportionate Share of Total Employer Contribution	Employer Contribution	Proportionate Share of Total Employer Contribution
Holden	2,391,040	3.554444%	2,149,451	3.530173%
Holden Housing Authority	36,390	0.054096%	33,309	0.054705%
Hopedale	1,067,572	1.587019%	987,717	1.622187%
Hopedale Housing Authority	5,723	0.008508%	4,900	0.008048%
Hubbardston	273,567	0.406676%	251,032	0.412285%
Lancaster	728,019	1.082250%	657,598	1.080013%
Lancaster Housing Authority	17,401	0.025868%	15,733	0.025839%
Lancaster Sewer	2,172	0.003229%	2,141	0.003516%
Leicester	1,456,243	2.164805%	1,314,800	2.159376%
Leicester Housing Authority	52,455	0.077978%	47,470	0.077963%
Leicester Water District	53,115	0.078959%	42,193	0.069296%
Lunenburg	1,502,144	2.233040%	1,354,353	2.224336%
Lunenburg Housing Authority	1,816	0.002700%	1,699	0.002790%
Lunenburg Water District	66,460	0.098797%	57,971	0.095209%
Mendon	717,711	1.066926%	652,398	1.071473%
Mendon-Upton Regional	855,158	1.271251%	778,108	1.277934%
Millbury	2,027,136	3.013476%	1,827,524	3.001453%
Millbury Housing Authority	107,298	0.159506%	96,700	0.158816%
Millville	189,731	0.282048%	181,637	0.298313%
Narragansett Regional	440,722	0.655163%	399,543	0.656194%
Nashoba Regional	1,146,017	1.703632%	1,039,818	1.707756%
Nashoba Valley Dispatch	42,695	0.063469%	38,988	0.064032%
New Braintree	64,267	0.095537%	57,671	0.094717%
Northboro	2,356,175	3.502615%	2,118,897	3.479993%
Northboro Housing Authority	75,236	0.111843%	67,847	0.111429%
Northboro-Southboro Regional	434,691	0.646198%	395,639	0.649782%
North Brookfield	568,015	0.844393%	516,126	0.847665%
North Brookfield Housing Authority	18,365	0.027301%	16,211	0.026624%
Oakham	78,584	0.116820%	70,935	0.116501%
Oxford	2,188,260	3.252998%	1,982,069	3.255272%
Oxford Housing Authority	83,797	0.124570%	75,748	0.124406%
Oxford-Rochdale Sewer District	37,828	0.056234%	33,977	0.055802%

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.3 - Proportionate Share of Contributions

The basis of an employer's allocation of the collective pension amount is consistent with the manner in which contributions to the plan are made. The schedule of employer allocations for 2020 and 2019, based on employer contributions made for the 2021 fiscal year and 2020 fiscal year, respectively, shows the proportionate relationship of each employer to all employers and each employer's allocation percentage.

Entity	2020		2019	
	Employer Contribution	Proportionate Share of Total Employer Contribution	Employer Contribution	Proportionate Share of Total Employer Contribution
Paxton	837,612	1.245167%	766,116	1.258239%
Petersham	174,811	0.259868%	158,460	0.260248%
Phillipston	149,318	0.221971%	136,442	0.224087%
Princeton	408,817	0.607734%	364,146	0.598059%
Quabbin Regional	1,147,408	1.705700%	1,035,747	1.701070%
Quaboag Regional	401,099	0.596261%	364,718	0.598998%
Royalston	63,203	0.093956%	55,615	0.091340%
Rutland	684,053	1.016891%	619,706	1.017781%
Southboro	2,170,625	3.226782%	1,958,833	3.217110%
Southboro Housing Authority	16,500	0.024528%	15,836	0.026008%
Spencer	978,163	1.454106%	881,810	1.448250%
Spencer-East Brookfield Regional	667,641	0.992494%	605,694	0.994768%
Spencer Housing Authority	51,695	0.076848%	46,111	0.075731%
Sterling	1,196,875	1.779236%	1,085,683	1.783083%
Sterling Housing Authority	6,246	0.009285%	5,447	0.008946%
Sturbridge	1,501,694	2.232371%	1,371,067	2.251786%
Sutton	1,314,568	1.954195%	1,184,523	1.945414%
Tantasqua Regional	794,242	1.180695%	708,239	1.163184%
Templeton	887,221	1.318915%	797,870	1.310390%
Templeton Housing Authority	46,383	0.068951%	43,018	0.070651%
Upton	696,704	1.035698%	628,639	1.032452%
Uxbridge	2,051,032	3.048999%	1,847,788	3.034734%
Uxbridge Housing Authority	59,854	0.088977%	53,485	0.087842%
Wachusett Regional	2,081,419	3.094171%	1,886,660	3.098576%
Warren	402,654	0.598573%	367,357	0.603333%
Warren Water District	19,509	0.029001%	17,774	0.029191%
Westboro	4,500,066	6.689655%	4,051,220	6.653564%
Westboro Housing Authority	51,300	0.076261%	46,690	0.076682%
West Boylston	1,432,352	2.129289%	1,305,298	2.143770%
West Boylston Housing Authority	6,244	0.009282%	5,445	0.008943%
West Boylston Water District	73,490	0.109248%	65,426	0.107453%
West Brookfield	322,339	0.479179%	287,712	0.472527%

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.3 - Proportionate Share of Contributions

The basis of an employer's allocation of the collective pension amount is consistent with the manner in which contributions to the plan are made. The schedule of employer allocations for 2020 and 2019, based on employer contributions made for the 2021 fiscal year and 2020 fiscal year, respectively, shows the proportionate relationship of each employer to all employers and each employer's allocation percentage.

Entity	2020		2019	
	Employer Contribution	Proportionate Share of Total Employer Contribution	Employer Contribution	Proportionate Share of Total Employer Contribution
Westminster	963,834	1.432805%	866,935	1.423820%
Winchendon	1,706,683	2.537101%	1,569,295	2.577348%
Winchendon Housing Authority	128,412	0.190893%	116,208	0.190855%
Total	67,269,029	100.000000%	60,887,972	100.000000%

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.4 - Pension Amounts by Employer

The Schedule of Pension Amounts by Employer is provided in Appendix C. The schedule shows the Net Pension Liability, the various categories of Deferred Outflows of Resources and Deferred Inflows of Resources and Pension Expense for each employer. The schedule includes the differences between expected and actual experience, differences between projected and actual investment earnings and changes of assumptions. Further, each employer is required to recognize Deferred Outflows of Resources and Deferred Inflows of Resources related to (1) the net impact from changes in proportion between periods and (2) differences between actual contributions made by an employer and their proportionate share of contributions.

Each employer's allocation of Pension Expense and Net Pension Liability can be based on the proportion of its contributions to the aggregate amount of employer contributions.

Under GASB 68, gains and losses (investment, experience or assumption changes) and changes in employer's proportionate shares related to pensions are recognized in Pension Expense systematically over time.

The first amortized amounts are recognized in Pension Expense for the year the gain or loss occurs. The remaining amounts are categorized as Deferred Inflows and Deferred Outflows to be recognized in future Pension Expense.

The amortization period differs depending on the source of the gain or loss:

Difference between projected and actual earnings	5 year straight-line amortization
All other amounts	Straight-line amortization over the average expected remaining service lives of all members that are provided with benefits (actives, inactives and retirees) as of the beginning of the measurement period

For 2020:

- ◆ Net Pension Liability, Deferred Outflows of Resources, Deferred Inflows of Resources and Pension Expense are allocated to each employer based on its proportionate share of Total Employer Contribution shown in Exhibit 4.3.
- ◆ The difference between expected and actual experience is amortized over the average of the expected future service lives of all participants, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in Pension Expense in 2015.
- ◆ Net difference between projected and actual investment earnings (gain on pension plan investments for 2020) is amortized over 5 years, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in Pension Expense in 2014.
- ◆ The change in Total Pension Liability as a result of changes in assumptions is amortized over the average of the expected future service lives of all participants, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in Pension Expense in 2015.

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

Exhibit 4.4 - Pension Amounts by Employer

For 2020 (continued):

- ◆ There are no differences between employer contributions and the proportionate share of contributions because the Plan utilizes employer contributions as the method of allocation.

- ◆ The net effect of the change in the employer's proportionate shares of the collective Net Pension Liability, collective Deferred Outflows and Deferred Inflows is amortized over the average expected remaining service lives of all members, with the first amortized amount recognized in Pension Expense in the current year. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in 2015.

- ◆ No adjustments have been made for employer contributions made subsequent to the measurement date as defined in paragraph 57 of GASB 68.

SECTION 5 - GLOSSARY OF TERMS

Actuarial Assumptions – Assumptions, based upon past experience or standard tables, used to predict the occurrence of future events affecting the commencement, amount and duration of pension benefits, such as: changes in compensation, mortality, withdrawal, disablement and retirement; rates of investment earnings and asset appreciation or depreciation; and any other relevant items.

Actuarial Cost Method (or Funding Method) – A procedure for allocating the Actuarial Present Value of projected benefit payments to the current year (Service Cost) and the past (Total Pension Liability).

Actuarial (Experience) Gain or Loss – A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions during the period between the valuation date and the most recent immediately preceding valuation date.

Actuarial Present Value of Projected Benefit Payments – The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

Actuarially Determined Contribution – A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

Actuarial Valuation Date – The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

Covered Payroll – The payroll on which contributions to a pension plan are based.

Deferred Inflow of Resources – Acquisition of resources by a government that is applicable to future reporting periods. Under GASB 68, deferred inflows of resources are made up of experience gains, assumption changes reducing the Total Pension Liability and investment gains that are recognized in future reporting periods.

Deferred Outflow of Resources – Consumption of resources by a government that is applicable to future reporting periods. Under GASB 68, deferred outflows of resources are made up of experience losses, assumption changes increasing the Total Pension Liability and investment losses that are recognized in future reporting periods.

Discount Rate – Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of:

- (1) a long-term expected rate of return on pension plan investments *to the extent that the pension plan's assets are sufficient to pay benefits and pension plan assets are expected to be invested using a strategy to achieve that return and*
- (2) a tax-exempt, high-quality municipal bond rate *to the extent that the conditions for use of the long-term expected rate of return are not met.*

Entry Age Normal Actuarial Cost Method – A method under which the actuarial present value of the projected benefits of each individual in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age.

SECTION 5 - GLOSSARY OF TERMS

Fiduciary Net Position – The fair market value of assets as of the measurement date.

Funded Ratio – The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

GASB – Governmental Accounting Standards Board.

Long-Term Expected Rate of Return – Long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits, net of investment expenses.

Measurement Date – The date as of which the Total Pension Liability and Fiduciary Net Position are measured.

Municipal Bond Rate – Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Net Pension Liability – The liability of the employer for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Fiduciary Net Position.

Present Value of Future Benefits – The actuarial present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

Reporting Date – The last day of the Plan or employer's fiscal year.

Service Cost – The portion of the actuarial present value of projected benefit amounts that is attributed to a valuation year.

Total Pension Liability – The portion of the actuarial present value of projected benefit amounts that is attributed to past periods of employee service using the Entry Age Normal cost method based on the requirements of GASB 67 and GASB 68.

Unfunded Actuarial Accrued Liability – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

APPENDIX A - CALCULATION OF MONEY-WEIGHTED RATE OF RETURN

	Plan Investments/ Net External Cash Flows (a)	Periods Invested (b)	Period Weight (c)=(b)÷12	(d)=(a) x (1+r _{mw}) ^(c)
Beginning value - January 1, 2020	\$ 800,739,275	12	1.00	\$ 897,060,654
Monthly net external cash flows:				
January	(3,519,431)	11	0.92	(3,905,640)
February	(5,675,454)	10	0.83	(6,238,921)
March	(4,929,057)	9	0.75	(5,367,374)
April	(5,622,471)	8	0.67	(6,064,770)
May	(4,914,390)	7	0.58	(5,251,046)
June	(3,604,730)	6	0.50	(3,815,382)
July	58,533,222	5	0.42	61,370,107
August	(6,710,504)	4	0.33	(6,969,453)
September	(5,734,877)	3	0.25	(5,900,065)
October	(5,468,852)	2	0.17	(5,573,371)
November	(6,583,697)	1	0.08	(6,646,312)
December	(4,039,661)	0	0.00	(4,039,661)
Ending value - December 31, 2020				\$ 898,658,766
Money-weighted rate of return				12.03%

Note: Beginning and ending values are based on amounts reported in the System's 2020 Annual Statement with GAAP adjustments for 3(8)(c) amounts due to the Commonwealth, and monthly cash flows are based on amounts provided by the Retirement Board.

APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	Differences between Expected and Actual Experience	Recognition Period (Years)											
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
2015	-	5.96	-	-	-	-	-	-	-	-	-	-	-
2016	8,235,183	5.86	1,405,321	1,208,578	-	-	-	-	-	-	-	-	-
2017	-	5.86	-	-	-	-	-	-	-	-	-	-	-
2018	(8,110,737)	5.84	(1,388,825)	(1,388,825)	(1,388,825)	(1,166,612)	-	-	-	-	-	-	-
2019	-	5.84	-	-	-	-	-	-	-	-	-	-	-
2020	(23,171,133)	5.71	(4,057,992)	(4,057,992)	(4,057,992)	(4,057,992)	(4,057,992)	(4,057,992)	(2,881,173)	-	-	-	-
Net Increase (Decrease) in Pension Expense			(4,041,496)	(4,238,239)	(5,446,817)	(5,224,604)	(4,057,992)	(2,881,173)	-	-	-	-	-

Year	Changes of Assumptions	Recognition Period (Years)											
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
2015	31,534,870	5.96	5,079,440	-	-	-	-	-	-	-	-	-	-
2016	94,194,565	5.86	16,074,158	13,823,775	-	-	-	-	-	-	-	-	-
2017	-	5.86	-	-	-	-	-	-	-	-	-	-	-
2018	-	5.84	-	-	-	-	-	-	-	-	-	-	-
2019	17,826,312	5.84	3,052,451	3,052,451	3,052,451	3,052,451	2,564,057	-	-	-	-	-	-
2020	35,705,832	5.71	6,253,211	6,253,211	6,253,211	6,253,211	6,253,211	4,439,777	-	-	-	-	-
Net Increase (Decrease) in Pension Expense			30,459,260	23,129,437	9,305,662	9,305,662	8,817,268	4,439,777	-	-	-	-	-

APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	Differences between Projected and Actual Earnings on Pension Plan Investments	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2015	43,477,381	5	-	-	-	-	-	-	-	-	-	-
2016	3,499,405	5	699,881	-	-	-	-	-	-	-	-	-
2017	(56,256,688)	5	(11,251,337)	(11,251,337)	-	-	-	-	-	-	-	-
2018	72,217,350	5	14,443,470	14,443,470	14,443,470	-	-	-	-	-	-	-
2019	(57,470,605)	5	(11,494,121)	(11,494,121)	(11,494,121)	(11,494,121)	-	-	-	-	-	-
2020	(36,316,766)	5	(7,263,353)	(7,263,353)	(7,263,353)	(7,263,353)	(7,263,354)	-	-	-	-	-
Net Increase (Decrease) in Pension Expense			(14,865,460)	(15,565,341)	(4,314,004)	(18,757,474)	(7,263,354)	-	-	-	-	-

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Ashburnham
◆ Current Proportionate Share		1.308963%
◆ Prior Proportionate Share		1.313859%
Beginning Net Pension Liability	\$ 890,129,991	\$ 11,695,052
Ending Net Pension Liability	\$ 888,400,147	\$ 11,628,833
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 15,820
◆ Changes of Assumptions	54,997,806	719,901
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	193,619
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 929,340
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 301,813
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	600,816
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	120,150
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,022,779
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,320,398
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(68,029)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,252,369
Covered Payroll:	\$ 321,050,145	\$ 4,018,167
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 11,628,833
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 14,325,910
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 9,351,586
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 115,870
◆ 2022	\$ (455,159)	\$ 52,950
◆ 2023	\$ (14,676,416)	\$ (221,920)
◆ 2024	\$ (2,504,078)	\$ (55,459)
◆ 2025	\$ 1,558,604	\$ 15,120
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Ashburnham- Westminster Regional
◆ Current Proportionate Share		1.079101%
◆ Prior Proportionate Share		1.081470%
Beginning Net Pension Liability	\$ 890,129,991	\$ 9,626,487
Ending Net Pension Liability	\$ 888,400,147	\$ 9,586,738
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 13,042
◆ Changes of Assumptions	54,997,806	593,482
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	151,123
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 757,647
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 248,813
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	495,309
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	34,533
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 778,655
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,088,528
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	17,537
Total Employer Pension Expense	\$ 100,873,556	\$ 1,106,065
Covered Payroll:	\$ 321,050,145	\$ 4,274,862
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 9,586,738
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 11,810,192
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 7,709,390
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 106,708
◆ 2022	\$ (455,159)	\$ 56,029
◆ 2023	\$ (14,676,416)	\$ (166,603)
◆ 2024	\$ (2,504,078)	\$ (31,410)
◆ 2025	\$ 1,558,604	\$ 14,268
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Athol
◆ Current Proportionate Share		2.428950%
◆ Prior Proportionate Share		2.404593%
Beginning Net Pension Liability	\$ 890,129,991	\$ 21,404,005
Ending Net Pension Liability	\$ 888,400,147	\$ 21,578,794
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 29,356
◆ Changes of Assumptions	54,997,806	1,335,869
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	266,080
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,631,305
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 560,053
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,114,892
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	2,582,532
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 4,257,477
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 2,450,168
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	2,069,583
Total Employer Pension Expense	\$ 100,873,556	\$ 4,519,751
Covered Payroll:	\$ 321,050,145	\$ 6,023,644
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 21,578,794
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 26,583,567
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 17,353,070
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (1,237,754)
◆ 2022	\$ (455,159)	\$ (1,139,159)
◆ 2023	\$ (14,676,416)	\$ (309,561)
◆ 2024	\$ (2,504,078)	\$ (3,831)
◆ 2025	\$ 1,558,604	\$ 64,133
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Athol Housing Authority
◆ Current Proportionate Share		0.057260%
◆ Prior Proportionate Share		0.057266%
Beginning Net Pension Liability	\$ 890,129,991	\$ 509,740
Ending Net Pension Liability	\$ 888,400,147	\$ 508,695
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 692
◆ Changes of Assumptions	54,997,806	31,492
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	3,093
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 35,277
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 13,203
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	26,282
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	194,507
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 233,992
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 57,760
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	35,567
Total Employer Pension Expense	\$ 100,873,556	\$ 93,327
Covered Payroll:	\$ 321,050,145	\$ 306,452
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 508,695
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 626,676
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 409,078
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (85,640)
◆ 2022	\$ (455,159)	\$ (75,891)
◆ 2023	\$ (14,676,416)	\$ (23,328)
◆ 2024	\$ (2,504,078)	\$ (14,740)
◆ 2025	\$ 1,558,604	\$ 884
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Athol-Royalston Regional
◆ Current Proportionate Share		0.923921%
◆ Prior Proportionate Share		0.916381%
Beginning Net Pension Liability	\$ 890,129,991	\$ 8,156,985
Ending Net Pension Liability	\$ 888,400,147	\$ 8,208,120
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 11,166
◆ Changes of Assumptions	54,997,806	508,137
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	69,569
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 588,872
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 213,032
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	424,082
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	1,433,095
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 2,070,209
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 931,992
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	739,069
Total Employer Pension Expense	\$ 100,873,556	\$ 1,671,061
Covered Payroll:	\$ 321,050,145	\$ 2,842,721
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 8,208,120
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 10,111,830
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 6,600,743
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (685,729)
◆ 2022	\$ (455,159)	\$ (602,771)
◆ 2023	\$ (14,676,416)	\$ (165,268)
◆ 2024	\$ (2,504,078)	\$ (50,104)
◆ 2025	\$ 1,558,604	\$ 22,535
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Auburn
◆ Current Proportionate Share		5.291860%
◆ Prior Proportionate Share		5.308296%
Beginning Net Pension Liability	\$ 890,129,991	\$ 47,250,738
Ending Net Pension Liability	\$ 888,400,147	\$ 47,012,894
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 63,956
◆ Changes of Assumptions	54,997,806	2,910,407
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	1,522,149
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 4,496,512
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 1,220,166
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	2,428,973
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	211,090
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 3,860,229
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 5,338,088
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	513,983
Total Employer Pension Expense	\$ 100,873,556	\$ 5,852,071
Covered Payroll:	\$ 321,050,145	\$ 16,835,974
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 47,012,894
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 57,916,602
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 37,806,470
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 743,009
◆ 2022	\$ (455,159)	\$ 484,770
◆ 2023	\$ (14,676,416)	\$ (649,009)
◆ 2024	\$ (2,504,078)	\$ (7,234)
◆ 2025	\$ 1,558,604	\$ 64,747
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Auburn Housing Authority
◆ Current Proportionate Share		0.105349%
◆ Prior Proportionate Share		0.105119%
Beginning Net Pension Liability	\$ 890,129,991	\$ 935,698
Ending Net Pension Liability	\$ 888,400,147	\$ 935,917
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,273
◆ Changes of Assumptions	54,997,806	57,939
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	13,625
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 72,837
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 24,291
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	48,355
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	24,773
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 97,419
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 106,269
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(40,837)
Total Employer Pension Expense	\$ 100,873,556	\$ 65,432
Covered Payroll:	\$ 321,050,145	\$ 278,976
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 935,917
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,152,985
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 752,639
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 4,185
◆ 2022	\$ (455,159)	\$ (1,448)
◆ 2023	\$ (14,676,416)	\$ (21,576)
◆ 2024	\$ (2,504,078)	\$ (7,628)
◆ 2025	\$ 1,558,604	\$ 1,885
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Auburn Water District
◆ Current Proportionate Share		0.151538%
◆ Prior Proportionate Share		0.151222%
Beginning Net Pension Liability	\$ 890,129,991	\$ 1,346,072
Ending Net Pension Liability	\$ 888,400,147	\$ 1,346,262
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,831
◆ Changes of Assumptions	54,997,806	83,342
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	8,117
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 93,290
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 34,941
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	69,556
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	116,156
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 220,653
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 152,862
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(21,503)
Total Employer Pension Expense	\$ 100,873,556	\$ 131,359
Covered Payroll:	\$ 321,050,145	\$ 483,483
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 1,346,262
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,658,501
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 1,082,627
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (24,904)
◆ 2022	\$ (455,159)	\$ (30,594)
◆ 2023	\$ (14,676,416)	\$ (47,959)
◆ 2024	\$ (2,504,078)	\$ (26,607)
◆ 2025	\$ 1,558,604	\$ 2,701
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Barre
◆ Current Proportionate Share		0.531973%
◆ Prior Proportionate Share		0.535549%
Beginning Net Pension Liability	\$ 890,129,991	\$ 4,767,083
Ending Net Pension Liability	\$ 888,400,147	\$ 4,726,048
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 6,429
◆ Changes of Assumptions	54,997,806	292,573
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	101,808
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 400,810
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 122,659
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	244,176
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	67,008
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 433,843
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 536,620
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(147,996)
Total Employer Pension Expense	\$ 100,873,556	\$ 388,624
Covered Payroll:	\$ 321,050,145	\$ 2,487,212
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 4,726,048
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 5,822,161
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 3,800,557
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 39,709
◆ 2022	\$ (455,159)	\$ 14,005
◆ 2023	\$ (14,676,416)	\$ (83,077)
◆ 2024	\$ (2,504,078)	\$ (8,102)
◆ 2025	\$ 1,558,604	\$ 4,432
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Barre Housing Authority
◆ Current Proportionate Share		0.031121%
◆ Prior Proportionate Share		0.030642%
Beginning Net Pension Liability	\$ 890,129,991	\$ 272,749
Ending Net Pension Liability	\$ 888,400,147	\$ 276,482
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 376
◆ Changes of Assumptions	54,997,806	17,116
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	26,352
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 43,844
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 7,176
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	14,285
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 21,461
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 31,393
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	10,064
Total Employer Pension Expense	\$ 100,873,556	\$ 41,457
Covered Payroll:	\$ 321,050,145	\$ 106,336
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 276,482
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 340,606
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 222,339
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 9,071
◆ 2022	\$ (455,159)	\$ 7,395
◆ 2023	\$ (14,676,416)	\$ 1,182
◆ 2024	\$ (2,504,078)	\$ 3,734
◆ 2025	\$ 1,558,604	\$ 1,001
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Berlin
◆ Current Proportionate Share		0.792769%
◆ Prior Proportionate Share		0.793459%
Beginning Net Pension Liability	\$ 890,129,991	\$ 7,062,815
Ending Net Pension Liability	\$ 888,400,147	\$ 7,042,961
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 9,581
◆ Changes of Assumptions	54,997,806	436,006
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	142,765
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 588,352
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 182,792
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	363,882
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	197,081
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 743,755
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 799,694
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	80,335
Total Employer Pension Expense	\$ 100,873,556	\$ 880,029
Covered Payroll:	\$ 321,050,145	\$ 2,206,435
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 7,042,961
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 8,676,436
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 5,663,754
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 52,547
◆ 2022	\$ (455,159)	\$ 10,202
◆ 2023	\$ (14,676,416)	\$ (167,552)
◆ 2024	\$ (2,504,078)	\$ (62,213)
◆ 2025	\$ 1,558,604	\$ 11,613
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Berlin-Boylston Regional
◆ Current Proportionate Share		0.265009%
◆ Prior Proportionate Share		0.265967%
Beginning Net Pension Liability	\$ 890,129,991	\$ 2,367,453
Ending Net Pension Liability	\$ 888,400,147	\$ 2,354,341
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 3,203
◆ Changes of Assumptions	54,997,806	145,749
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	269,824
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 418,776
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 61,104
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	121,640
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	7,708
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 190,452
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 267,324
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	45,107
Total Employer Pension Expense	\$ 100,873,556	\$ 312,431
Covered Payroll:	\$ 321,050,145	\$ 1,889,207
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 2,354,341
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 2,900,383
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 1,893,296
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 84,273
◆ 2022	\$ (455,159)	\$ 72,379
◆ 2023	\$ (14,676,416)	\$ 23,131
◆ 2024	\$ (2,504,078)	\$ 45,440
◆ 2025	\$ 1,558,604	\$ 3,101
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Blackstone
◆ Current Proportionate Share		1.379972%
◆ Prior Proportionate Share		1.379818%
Beginning Net Pension Liability	\$ 890,129,991	\$ 12,282,171
Ending Net Pension Liability	\$ 888,400,147	\$ 12,259,676
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 16,678
◆ Changes of Assumptions	54,997,806	758,955
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	594,518
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,370,151
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 318,186
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	633,410
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 951,596
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,392,027
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(210,339)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,181,688
Covered Payroll:	\$ 321,050,145	\$ 4,097,711
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 12,259,676
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 15,103,065
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 9,858,893
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 273,070
◆ 2022	\$ (455,159)	\$ 198,820
◆ 2023	\$ (14,676,416)	\$ (113,949)
◆ 2024	\$ (2,504,078)	\$ 38,940
◆ 2025	\$ 1,558,604	\$ 21,674
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Blackstone Housing Authority
◆ Current Proportionate Share		0.028700%
◆ Prior Proportionate Share		0.028883%
Beginning Net Pension Liability	\$ 890,129,991	\$ 257,092
Ending Net Pension Liability	\$ 888,400,147	\$ 254,968
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 347
◆ Changes of Assumptions	54,997,806	15,784
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	10,176
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 26,307
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 6,617
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	13,173
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	26,833
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 46,623
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 28,950
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(491)
Total Employer Pension Expense	\$ 100,873,556	\$ 28,459
Covered Payroll:	\$ 321,050,145	\$ -
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 254,968
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 314,103
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 205,038
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (464)
◆ 2022	\$ (455,159)	\$ (2,764)
◆ 2023	\$ (14,676,416)	\$ (11,210)
◆ 2024	\$ (2,504,078)	\$ (6,130)
◆ 2025	\$ 1,558,604	\$ 252
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Blackstone-Millville Regional
◆ Current Proportionate Share		0.865030%
◆ Prior Proportionate Share		0.864729%
Beginning Net Pension Liability	\$ 890,129,991	\$ 7,697,213
Ending Net Pension Liability	\$ 888,400,147	\$ 7,684,924
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 10,455
◆ Changes of Assumptions	54,997,806	475,747
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	2,151
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 488,353
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 199,453
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	397,050
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	179,145
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 775,648
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 872,586
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(61,056)
Total Employer Pension Expense	\$ 100,873,556	\$ 811,530
Covered Payroll:	\$ 321,050,145	\$ 2,583,447
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 7,684,924
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 9,467,290
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 6,180,004
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (52,901)
◆ 2022	\$ (455,159)	\$ (60,802)
◆ 2023	\$ (14,676,416)	\$ (148,523)
◆ 2024	\$ (2,504,078)	\$ (38,875)
◆ 2025	\$ 1,558,604	\$ 13,806
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Bolton
◆ Current Proportionate Share		0.773979%
◆ Prior Proportionate Share		0.775265%
Beginning Net Pension Liability	\$ 890,129,991	\$ 6,900,864
Ending Net Pension Liability	\$ 888,400,147	\$ 6,876,028
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 9,354
◆ Changes of Assumptions	54,997,806	425,671
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	292,922
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 727,947
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 178,459
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	355,258
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	23,241
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 556,958
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 780,740
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	165,978
Total Employer Pension Expense	\$ 100,873,556	\$ 946,718
Covered Payroll:	\$ 321,050,145	\$ 2,731,812
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 6,876,028
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 8,470,787
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 5,529,512
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 118,468
◆ 2022	\$ (455,159)	\$ 86,040
◆ 2023	\$ (14,676,416)	\$ (66,548)
◆ 2024	\$ (2,504,078)	\$ 22,354
◆ 2025	\$ 1,558,604	\$ 10,675
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Boylston
◆ Current Proportionate Share		1.074951%
◆ Prior Proportionate Share		1.084952%
Beginning Net Pension Liability	\$ 890,129,991	\$ 9,657,479
Ending Net Pension Liability	\$ 888,400,147	\$ 9,549,865
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 12,992
◆ Changes of Assumptions	54,997,806	591,199
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	302,483
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 906,674
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 247,856
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	493,404
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	127,342
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 868,602
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,084,341
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	49,522
Total Employer Pension Expense	\$ 100,873,556	\$ 1,133,863
Covered Payroll:	\$ 321,050,145	\$ 2,902,779
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 9,549,865
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 11,764,767
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 7,679,737
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 162,517
◆ 2022	\$ (455,159)	\$ 102,182
◆ 2023	\$ (14,676,416)	\$ (188,173)
◆ 2024	\$ (2,504,078)	\$ (44,423)
◆ 2025	\$ 1,558,604	\$ 5,969
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Boylston Water District
◆ Current Proportionate Share		0.020192%
◆ Prior Proportionate Share		0.020060%
Beginning Net Pension Liability	\$ 890,129,991	\$ 178,558
Ending Net Pension Liability	\$ 888,400,147	\$ 179,386
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 244
◆ Changes of Assumptions	54,997,806	11,105
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	14,121
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 25,470
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 4,656
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	9,268
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 13,924
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 20,368
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(21,418)
Total Employer Pension Expense	\$ 100,873,556	\$ (1,050)
Covered Payroll:	\$ 321,050,145	\$ 70,547
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 179,386
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 220,991
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 144,257
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 5,841
◆ 2022	\$ (455,159)	\$ 4,641
◆ 2023	\$ (14,676,416)	\$ (657)
◆ 2024	\$ (2,504,078)	\$ 1,263
◆ 2025	\$ 1,558,604	\$ 458
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Brookfield
◆ Current Proportionate Share		0.467701%
◆ Prior Proportionate Share		0.468406%
Beginning Net Pension Liability	\$ 890,129,991	\$ 4,169,424
Ending Net Pension Liability	\$ 888,400,147	\$ 4,155,057
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 5,653
◆ Changes of Assumptions	54,997,806	257,225
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	95,993
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 358,871
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 107,840
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	214,676
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	108,829
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 431,345
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 471,787
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(35,448)
Total Employer Pension Expense	\$ 100,873,556	\$ 436,339
Covered Payroll:	\$ 321,050,145	\$ 1,477,818
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 4,155,057
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 5,118,741
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 3,341,382
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 36,693
◆ 2022	\$ (455,159)	\$ 13,680
◆ 2023	\$ (14,676,416)	\$ (96,620)
◆ 2024	\$ (2,504,078)	\$ (32,753)
◆ 2025	\$ 1,558,604	\$ 6,526
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Charlton
◆ Current Proportionate Share		2.216983%
◆ Prior Proportionate Share		2.224888%
Beginning Net Pension Liability	\$ 890,129,991	\$ 19,804,393
Ending Net Pension Liability	\$ 888,400,147	\$ 19,695,681
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 26,794
◆ Changes of Assumptions	54,997,806	1,219,292
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	834,510
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 2,080,596
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 511,179
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,017,599
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	87,331
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,616,109
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 2,236,350
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	388,964
Total Employer Pension Expense	\$ 100,873,556	\$ 2,625,314
Covered Payroll:	\$ 321,050,145	\$ 6,525,375
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 19,695,681
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 24,263,703
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 15,838,722
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 301,865
◆ 2022	\$ (455,159)	\$ 209,766
◆ 2023	\$ (14,676,416)	\$ (161,103)
◆ 2024	\$ (2,504,078)	\$ 87,934
◆ 2025	\$ 1,558,604	\$ 26,025
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Cherry Valley- Rochdale Water
◆ Current Proportionate Share		0.090651%
◆ Prior Proportionate Share		0.088416%
Beginning Net Pension Liability	\$ 890,129,991	\$ 787,022
Ending Net Pension Liability	\$ 888,400,147	\$ 805,343
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,096
◆ Changes of Assumptions	54,997,806	49,856
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	56,443
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 107,395
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 20,902
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	41,609
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	5,130
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 67,641
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 91,443
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	561
Total Employer Pension Expense	\$ 100,873,556	\$ 92,004
Covered Payroll:	\$ 321,050,145	\$ 284,492
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 805,343
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 992,126
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 647,635
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 15,961
◆ 2022	\$ (455,159)	\$ 11,619
◆ 2023	\$ (14,676,416)	\$ 601
◆ 2024	\$ (2,504,078)	\$ 7,751
◆ 2025	\$ 1,558,604	\$ 3,822
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Cherry Valley Sewer District
◆ Current Proportionate Share		0.000000%
◆ Prior Proportionate Share		0.000000%
Beginning Net Pension Liability	\$ 890,129,991	\$ -
Ending Net Pension Liability	\$ 888,400,147	\$ -
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ -
◆ Changes of Assumptions	54,997,806	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	7,195
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 7,195
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ -
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	-
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	16,898
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 16,898
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ -
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(1,214)
Total Employer Pension Expense	\$ 100,873,556	\$ (1,214)
Covered Payroll:	\$ 321,050,145	\$ -
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ -
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ -
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ -
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (625)
◆ 2022	\$ (455,159)	\$ (1,129)
◆ 2023	\$ (14,676,416)	\$ (4,253)
◆ 2024	\$ (2,504,078)	\$ (3,696)
◆ 2025	\$ 1,558,604	\$ -
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Douglas
◆ Current Proportionate Share		1.772542%
◆ Prior Proportionate Share		1.787466%
Beginning Net Pension Liability	\$ 890,129,991	\$ 15,910,774
Ending Net Pension Liability	\$ 888,400,147	\$ 15,747,268
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 21,423
◆ Changes of Assumptions	54,997,806	974,859
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	315,854
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,312,136
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 408,702
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	813,600
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	196,390
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,418,692
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,788,026
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	69,830
Total Employer Pension Expense	\$ 100,873,556	\$ 1,857,856
Covered Payroll:	\$ 321,050,145	\$ 6,204,246
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 15,747,268
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 19,399,535
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 12,663,518
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 172,492
◆ 2022	\$ (455,159)	\$ 88,933
◆ 2023	\$ (14,676,416)	\$ (306,164)
◆ 2024	\$ (2,504,078)	\$ (73,347)
◆ 2025	\$ 1,558,604	\$ 11,530
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Dudley
◆ Current Proportionate Share		1.419873%
◆ Prior Proportionate Share		1.427528%
Beginning Net Pension Liability	\$ 890,129,991	\$ 12,706,857
Ending Net Pension Liability	\$ 888,400,147	\$ 12,614,157
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 17,160
◆ Changes of Assumptions	54,997,806	780,899
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 798,059
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 327,386
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	651,724
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	291,815
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,270,925
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,432,277
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(332,281)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,099,996
Covered Payroll:	\$ 321,050,145	\$ 3,531,925
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 12,614,157
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 15,539,760
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 10,143,956
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (67,043)
◆ 2022	\$ (455,159)	\$ (108,939)
◆ 2023	\$ (14,676,416)	\$ (246,299)
◆ 2024	\$ (2,504,078)	\$ (64,462)
◆ 2025	\$ 1,558,604	\$ 13,877
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Dudley Housing Authority
◆ Current Proportionate Share		0.026398%
◆ Prior Proportionate Share		0.025870%
Beginning Net Pension Liability	\$ 890,129,991	\$ 230,281
Ending Net Pension Liability	\$ 888,400,147	\$ 234,524
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 319
◆ Changes of Assumptions	54,997,806	14,519
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	13,286
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 28,124
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 6,087
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	12,117
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	48,260
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 66,464
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 26,629
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(33,871)
Total Employer Pension Expense	\$ 100,873,556	\$ (7,242)
Covered Payroll:	\$ 321,050,145	\$ 124,316
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 234,524
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 288,917
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 188,598
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (21,546)
◆ 2022	\$ (455,159)	\$ (18,368)
◆ 2023	\$ (14,676,416)	\$ (397)
◆ 2024	\$ (2,504,078)	\$ 990
◆ 2025	\$ 1,558,604	\$ 981
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Dudley-Charlton Regional
◆ Current Proportionate Share		1.679772%
◆ Prior Proportionate Share		1.681322%
Beginning Net Pension Liability	\$ 890,129,991	\$ 14,965,953
Ending Net Pension Liability	\$ 888,400,147	\$ 14,923,093
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 20,301
◆ Changes of Assumptions	54,997,806	923,837
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	114,988
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,059,126
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 387,312
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	771,018
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	27,197
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,185,527
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,694,445
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	70,158
Total Employer Pension Expense	\$ 100,873,556	\$ 1,764,603
Covered Payroll:	\$ 321,050,145	\$ 5,506,965
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 14,923,093
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 18,384,208
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 12,000,739
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 87,904
◆ 2022	\$ (455,159)	\$ 23,550
◆ 2023	\$ (14,676,416)	\$ (233,931)
◆ 2024	\$ (2,504,078)	\$ (28,432)
◆ 2025	\$ 1,558,604	\$ 24,508
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	East Brookfield
◆ Current Proportionate Share		0.251404%
◆ Prior Proportionate Share		0.253809%
Beginning Net Pension Liability	\$ 890,129,991	\$ 2,259,228
Ending Net Pension Liability	\$ 888,400,147	\$ 2,233,473
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 3,038
◆ Changes of Assumptions	54,997,806	138,267
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	147,857
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 289,162
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 57,967
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	115,395
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	30,988
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 204,350
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 253,600
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	96,792
Total Employer Pension Expense	\$ 100,873,556	\$ 350,392
Covered Payroll:	\$ 321,050,145	\$ 790,633
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 2,233,473
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 2,751,483
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 1,796,097
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 69,531
◆ 2022	\$ (455,159)	\$ 52,030
◆ 2023	\$ (14,676,416)	\$ (35,582)
◆ 2024	\$ (2,504,078)	\$ (2,493)
◆ 2025	\$ 1,558,604	\$ 1,326
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Grafton
◆ Current Proportionate Share		3.083774%
◆ Prior Proportionate Share		3.085831%
Beginning Net Pension Liability	\$ 890,129,991	\$ 27,467,908
Ending Net Pension Liability	\$ 888,400,147	\$ 27,396,255
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 37,270
◆ Changes of Assumptions	54,997,806	1,696,008
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	477,296
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 2,210,574
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 711,038
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,415,458
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	30,826
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 2,157,322
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 3,110,713
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	104,578
Total Employer Pension Expense	\$ 100,873,556	\$ 3,215,291
Covered Payroll:	\$ 321,050,145	\$ 12,006,398
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 27,396,255
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 33,750,273
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 22,031,311
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 241,813
◆ 2022	\$ (455,159)	\$ 120,794
◆ 2023	\$ (14,676,416)	\$ (359,263)
◆ 2024	\$ (2,504,078)	\$ 4,063
◆ 2025	\$ 1,558,604	\$ 45,845
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Grafton Housing Authority
◆ Current Proportionate Share		0.084645%
◆ Prior Proportionate Share		0.083659%
Beginning Net Pension Liability	\$ 890,129,991	\$ 744,670
Ending Net Pension Liability	\$ 888,400,147	\$ 751,988
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,023
◆ Changes of Assumptions	54,997,806	46,553
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	7,060
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 54,636
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 19,517
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	38,852
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	47,895
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 106,264
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 85,385
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(9,303)
Total Employer Pension Expense	\$ 100,873,556	\$ 76,082
Covered Payroll:	\$ 321,050,145	\$ 173,534
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 751,988
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 926,397
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 604,728
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (10,972)
◆ 2022	\$ (455,159)	\$ (12,847)
◆ 2023	\$ (14,676,416)	\$ (21,587)
◆ 2024	\$ (2,504,078)	\$ (8,605)
◆ 2025	\$ 1,558,604	\$ 2,383
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Hardwick
◆ Current Proportionate Share		0.313537%
◆ Prior Proportionate Share		0.312587%
Beginning Net Pension Liability	\$ 890,129,991	\$ 2,782,432
Ending Net Pension Liability	\$ 888,400,147	\$ 2,785,459
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 3,789
◆ Changes of Assumptions	54,997,806	172,438
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	10,925
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 187,152
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 72,293
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	143,914
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	291,020
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 507,227
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 316,275
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(155,224)
Total Employer Pension Expense	\$ 100,873,556	\$ 161,051
Covered Payroll:	\$ 321,050,145	\$ 917,584
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 2,785,459
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 3,431,491
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 2,239,989
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (94,294)
◆ 2022	\$ (455,159)	\$ (99,214)
◆ 2023	\$ (14,676,416)	\$ (88,587)
◆ 2024	\$ (2,504,078)	\$ (43,892)
◆ 2025	\$ 1,558,604	\$ 5,912
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Harvard
◆ Current Proportionate Share		1.488707%
◆ Prior Proportionate Share		1.479386%
Beginning Net Pension Liability	\$ 890,129,991	\$ 13,168,457
Ending Net Pension Liability	\$ 888,400,147	\$ 13,225,679
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 17,992
◆ Changes of Assumptions	54,997,806	818,756
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	91,651
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 928,399
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 343,257
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	683,319
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	174,855
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,201,431
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,501,712
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(195,009)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,306,703
Covered Payroll:	\$ 321,050,145	\$ 5,028,600
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 13,225,679
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 16,293,112
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 10,635,725
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 13,009
◆ 2022	\$ (455,159)	\$ (40,090)
◆ 2023	\$ (14,676,416)	\$ (229,188)
◆ 2024	\$ (2,504,078)	\$ (50,019)
◆ 2025	\$ 1,558,604	\$ 33,256
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Hillcrest Water District
◆ Current Proportionate Share		0.005937%
◆ Prior Proportionate Share		0.013172%
Beginning Net Pension Liability	\$ 890,129,991	\$ 117,246
Ending Net Pension Liability	\$ 888,400,147	\$ 52,747
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 72
◆ Changes of Assumptions	54,997,806	3,265
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	13,520
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 16,857
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 1,369
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	2,725
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	61,807
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 65,901
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 5,989
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(284)
Total Employer Pension Expense	\$ 100,873,556	\$ 5,705
Covered Payroll:	\$ 321,050,145	\$ 51,795
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 52,747
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 64,981
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 42,418
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (3,697)
◆ 2022	\$ (455,159)	\$ (15,054)
◆ 2023	\$ (14,676,416)	\$ (11,412)
◆ 2024	\$ (2,504,078)	\$ (11,170)
◆ 2025	\$ 1,558,604	\$ (7,711)
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Holden
◆ Current Proportionate Share		3.554444%
◆ Prior Proportionate Share		3.530173%
Beginning Net Pension Liability	\$ 890,129,991	\$ 31,423,132
Ending Net Pension Liability	\$ 888,400,147	\$ 31,577,686
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 42,958
◆ Changes of Assumptions	54,997,806	1,954,866
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	248,804
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 2,246,628
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 819,562
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,631,496
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	1,404,136
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 3,855,194
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 3,585,494
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(574,520)
Total Employer Pension Expense	\$ 100,873,556	\$ 3,010,974
Covered Payroll:	\$ 321,050,145	\$ 10,400,639
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 31,577,686
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 38,901,504
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 25,393,903
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (267,568)
◆ 2022	\$ (455,159)	\$ (392,972)
◆ 2023	\$ (14,676,416)	\$ (744,649)
◆ 2024	\$ (2,504,078)	\$ (284,955)
◆ 2025	\$ 1,558,604	\$ 81,578
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Holden Housing Authority
◆ Current Proportionate Share		0.054096%
◆ Prior Proportionate Share		0.054705%
Beginning Net Pension Liability	\$ 890,129,991	\$ 486,949
Ending Net Pension Liability	\$ 888,400,147	\$ 480,591
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 654
◆ Changes of Assumptions	54,997,806	29,752
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	15,177
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 45,583
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 12,473
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	24,830
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	12,200
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 49,503
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 54,569
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	3,623
Total Employer Pension Expense	\$ 100,873,556	\$ 58,192
Covered Payroll:	\$ 321,050,145	\$ -
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 480,591
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 592,054
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 386,478
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 913
◆ 2022	\$ (455,159)	\$ (336)
◆ 2023	\$ (14,676,416)	\$ (5,723)
◆ 2024	\$ (2,504,078)	\$ 1,040
◆ 2025	\$ 1,558,604	\$ 186
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Hopedale
◆ Current Proportionate Share		1.587019%
◆ Prior Proportionate Share		1.622187%
Beginning Net Pension Liability	\$ 890,129,991	\$ 14,439,576
Ending Net Pension Liability	\$ 888,400,147	\$ 14,099,076
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 19,180
◆ Changes of Assumptions	54,997,806	872,825
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	240,046
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,132,051
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 365,925
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	728,444
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	369,725
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,464,094
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,600,882
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(166,635)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,434,247
Covered Payroll:	\$ 321,050,145	\$ 5,570,747
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 14,099,076
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 17,369,076
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 11,338,087
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 92,636
◆ 2022	\$ (455,159)	\$ 17,081
◆ 2023	\$ (14,676,416)	\$ (317,657)
◆ 2024	\$ (2,504,078)	\$ (110,896)
◆ 2025	\$ 1,558,604	\$ (13,207)
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Hopedale Housing Authority
◆ Current Proportionate Share		0.008508%
◆ Prior Proportionate Share		0.008048%
Beginning Net Pension Liability	\$ 890,129,991	\$ 71,634
Ending Net Pension Liability	\$ 888,400,147	\$ 75,582
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 103
◆ Changes of Assumptions	54,997,806	4,679
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	5,030
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 9,812
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 1,962
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	3,905
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	16,858
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 22,725
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 8,582
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(7,308)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,274
Covered Payroll:	\$ 321,050,145	\$ -
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 75,582
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 93,111
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 60,781
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (5,876)
◆ 2022	\$ (455,159)	\$ (5,617)
◆ 2023	\$ (14,676,416)	\$ (1,436)
◆ 2024	\$ (2,504,078)	\$ (613)
◆ 2025	\$ 1,558,604	\$ 629
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Hubbardston
◆ Current Proportionate Share		0.406676%
◆ Prior Proportionate Share		0.412285%
Beginning Net Pension Liability	\$ 890,129,991	\$ 3,669,873
Ending Net Pension Liability	\$ 888,400,147	\$ 3,612,910
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 4,915
◆ Changes of Assumptions	54,997,806	223,663
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	70,163
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 298,741
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 93,769
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	186,665
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	344,437
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 624,871
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 410,229
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	1,210
Total Employer Pension Expense	\$ 100,873,556	\$ 411,439
Covered Payroll:	\$ 321,050,145	\$ 1,452,270
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 3,612,910
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 4,450,853
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 2,905,403
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (44,407)
◆ 2022	\$ (455,159)	\$ (60,120)
◆ 2023	\$ (14,676,416)	\$ (147,795)
◆ 2024	\$ (2,504,078)	\$ (74,096)
◆ 2025	\$ 1,558,604	\$ 288
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Lancaster
◆ Current Proportionate Share		1.082250%
◆ Prior Proportionate Share		1.080013%
Beginning Net Pension Liability	\$ 890,129,991	\$ 9,613,519
Ending Net Pension Liability	\$ 888,400,147	\$ 9,614,710
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 13,080
◆ Changes of Assumptions	54,997,806	595,214
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	421,759
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,030,053
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 249,539
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	496,755
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 746,294
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,091,704
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	88,890
Total Employer Pension Expense	\$ 100,873,556	\$ 1,180,594
Covered Payroll:	\$ 321,050,145	\$ 3,034,175
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 9,614,710
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 11,844,651
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 7,731,884
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 149,082
◆ 2022	\$ (455,159)	\$ 103,798
◆ 2023	\$ (14,676,416)	\$ (51,417)
◆ 2024	\$ (2,504,078)	\$ 63,017
◆ 2025	\$ 1,558,604	\$ 19,279
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Lancaster Housing Authority
◆ Current Proportionate Share		0.025868%
◆ Prior Proportionate Share		0.025839%
Beginning Net Pension Liability	\$ 890,129,991	\$ 230,003
Ending Net Pension Liability	\$ 888,400,147	\$ 229,809
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 313
◆ Changes of Assumptions	54,997,806	14,227
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	20,743
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 35,283
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 5,964
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	11,873
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	3,677
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 21,514
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 26,094
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(3,340)
Total Employer Pension Expense	\$ 100,873,556	\$ 22,754
Covered Payroll:	\$ 321,050,145	\$ 57,629
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 229,809
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 283,109
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 184,806
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 11,058
◆ 2022	\$ (455,159)	\$ 8,343
◆ 2023	\$ (14,676,416)	\$ (4,662)
◆ 2024	\$ (2,504,078)	\$ (1,409)
◆ 2025	\$ 1,558,604	\$ 439
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Lancaster Sewer
◆ Current Proportionate Share		0.003229%
◆ Prior Proportionate Share		0.003516%
Beginning Net Pension Liability	\$ 890,129,991	\$ 31,300
Ending Net Pension Liability	\$ 888,400,147	\$ 28,685
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 39
◆ Changes of Assumptions	54,997,806	1,776
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	14,092
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 15,907
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 744
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,482
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	2,057
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 4,283
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 3,257
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	4,195
Total Employer Pension Expense	\$ 100,873,556	\$ 7,452
Covered Payroll:	\$ 321,050,145	\$ 47,700
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 28,685
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 35,338
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 23,068
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 4,302
◆ 2022	\$ (455,159)	\$ 4,180
◆ 2023	\$ (14,676,416)	\$ 3,130
◆ 2024	\$ (2,504,078)	\$ 268
◆ 2025	\$ 1,558,604	\$ (256)
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Leicester
◆ Current Proportionate Share		2.164805%
◆ Prior Proportionate Share		2.159376%
Beginning Net Pension Liability	\$ 890,129,991	\$ 19,221,250
Ending Net Pension Liability	\$ 888,400,147	\$ 19,232,127
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 26,163
◆ Changes of Assumptions	54,997,806	1,190,595
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	438,013
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,654,771
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 499,148
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	993,649
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	50,891
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,543,688
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 2,183,715
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(269,689)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,914,026
Covered Payroll:	\$ 321,050,145	\$ 5,809,792
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 19,232,127
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 23,692,637
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 15,465,945
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 161,024
◆ 2022	\$ (455,159)	\$ 77,892
◆ 2023	\$ (14,676,416)	\$ (206,692)
◆ 2024	\$ (2,504,078)	\$ 39,267
◆ 2025	\$ 1,558,604	\$ 39,592
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Leicester Housing Authority
◆ Current Proportionate Share		0.077978%
◆ Prior Proportionate Share		0.077963%
Beginning Net Pension Liability	\$ 890,129,991	\$ 693,971
Ending Net Pension Liability	\$ 888,400,147	\$ 692,756
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 942
◆ Changes of Assumptions	54,997,806	42,886
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	53,555
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 97,383
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 17,980
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	35,792
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	12,141
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 65,913
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 78,659
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	5,373
Total Employer Pension Expense	\$ 100,873,556	\$ 84,032
Covered Payroll:	\$ 321,050,145	\$ 221,256
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 692,756
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 853,427
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 557,095
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 10,547
◆ 2022	\$ (455,159)	\$ 8,165
◆ 2023	\$ (14,676,416)	\$ 2,516
◆ 2024	\$ (2,504,078)	\$ 9,012
◆ 2025	\$ 1,558,604	\$ 1,230
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Leicester Water District
◆ Current Proportionate Share		0.078959%
◆ Prior Proportionate Share		0.069296%
Beginning Net Pension Liability	\$ 890,129,991	\$ 616,826
Ending Net Pension Liability	\$ 888,400,147	\$ 701,472
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 954
◆ Changes of Assumptions	54,997,806	43,426
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	74,822
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 119,202
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 18,206
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	36,242
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	107,504
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 161,952
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 79,649
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(42,593)
Total Employer Pension Expense	\$ 100,873,556	\$ 37,056
Covered Payroll:	\$ 321,050,145	\$ 305,538
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 701,472
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 864,165
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 564,105
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (26,330)
◆ 2022	\$ (455,159)	\$ (16,258)
◆ 2023	\$ (14,676,416)	\$ (11,148)
◆ 2024	\$ (2,504,078)	\$ (668)
◆ 2025	\$ 1,558,604	\$ 11,654
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Lunenburg
◆ Current Proportionate Share		2.233040%
◆ Prior Proportionate Share		2.224336%
Beginning Net Pension Liability	\$ 890,129,991	\$ 19,799,481
Ending Net Pension Liability	\$ 888,400,147	\$ 19,838,326
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 26,988
◆ Changes of Assumptions	54,997,806	1,228,123
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	311,390
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,566,501
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 514,881
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,024,969
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,539,850
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 2,252,546
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	150,984
Total Employer Pension Expense	\$ 100,873,556	\$ 2,403,530
Covered Payroll:	\$ 321,050,145	\$ 6,969,393
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 19,838,326
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 24,439,432
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 15,953,434
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 178,606
◆ 2022	\$ (455,159)	\$ 76,796
◆ 2023	\$ (14,676,416)	\$ (265,318)
◆ 2024	\$ (2,504,078)	\$ (7,624)
◆ 2025	\$ 1,558,604	\$ 44,191
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Lunenburg Housing Authority
◆ Current Proportionate Share		0.002700%
◆ Prior Proportionate Share		0.002790%
Beginning Net Pension Liability	\$ 890,129,991	\$ 24,838
Ending Net Pension Liability	\$ 888,400,147	\$ 23,983
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 33
◆ Changes of Assumptions	54,997,806	1,485
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	2,007
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 3,525
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 622
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,239
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	12,841
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 14,702
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 2,723
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(9,838)
Total Employer Pension Expense	\$ 100,873,556	\$ (7,115)
Covered Payroll:	\$ 321,050,145	\$ 59,608
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 23,983
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 29,546
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 19,287
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (6,185)
◆ 2022	\$ (455,159)	\$ (5,025)
◆ 2023	\$ (14,676,416)	\$ (144)
◆ 2024	\$ (2,504,078)	\$ 233
◆ 2025	\$ 1,558,604	\$ (56)
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Lunenburg Water District
◆ Current Proportionate Share		0.098797%
◆ Prior Proportionate Share		0.095209%
Beginning Net Pension Liability	\$ 890,129,991	\$ 847,486
Ending Net Pension Liability	\$ 888,400,147	\$ 877,716
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,194
◆ Changes of Assumptions	54,997,806	54,336
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	68,058
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 123,588
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 22,780
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	45,348
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	21,966
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 90,094
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 99,660
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(15,620)
Total Employer Pension Expense	\$ 100,873,556	\$ 84,040
Covered Payroll:	\$ 321,050,145	\$ 333,199
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 877,716
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,081,284
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 705,835
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 10,867
◆ 2022	\$ (455,159)	\$ 6,131
◆ 2023	\$ (14,676,416)	\$ 1,660
◆ 2024	\$ (2,504,078)	\$ 9,426
◆ 2025	\$ 1,558,604	\$ 5,410
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Mendon
◆ Current Proportionate Share		1.066926%
◆ Prior Proportionate Share		1.071473%
Beginning Net Pension Liability	\$ 890,129,991	\$ 9,537,500
Ending Net Pension Liability	\$ 888,400,147	\$ 9,478,575
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 12,895
◆ Changes of Assumptions	54,997,806	586,786
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	424,458
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,024,139
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 246,006
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	489,721
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	50,576
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 786,303
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,076,247
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	200,166
Total Employer Pension Expense	\$ 100,873,556	\$ 1,276,413
Covered Payroll:	\$ 321,050,145	\$ 3,056,702
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 9,478,575
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 11,676,943
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 7,622,408
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 182,689
◆ 2022	\$ (455,159)	\$ 117,111
◆ 2023	\$ (14,676,416)	\$ (98,849)
◆ 2024	\$ (2,504,078)	\$ 25,159
◆ 2025	\$ 1,558,604	\$ 11,726
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Mendon-Upton Regional
◆ Current Proportionate Share		1.271251%
◆ Prior Proportionate Share		1.277934%
Beginning Net Pension Liability	\$ 890,129,991	\$ 11,375,272
Ending Net Pension Liability	\$ 888,400,147	\$ 11,293,793
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 15,364
◆ Changes of Assumptions	54,997,806	699,160
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	84,656
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 799,180
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 293,117
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	583,506
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	90,217
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 966,840
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,282,356
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	81,761
Total Employer Pension Expense	\$ 100,873,556	\$ 1,364,117
Covered Payroll:	\$ 321,050,145	\$ 4,699,024
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 11,293,793
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 13,913,164
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 9,082,156
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 51,671
◆ 2022	\$ (455,159)	\$ 7,618
◆ 2023	\$ (14,676,416)	\$ (201,698)
◆ 2024	\$ (2,504,078)	\$ (37,856)
◆ 2025	\$ 1,558,604	\$ 12,605
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Millbury
◆ Current Proportionate Share		3.013476%
◆ Prior Proportionate Share		3.001453%
Beginning Net Pension Liability	\$ 890,129,991	\$ 26,716,835
Ending Net Pension Liability	\$ 888,400,147	\$ 26,771,725
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 36,420
◆ Changes of Assumptions	54,997,806	1,657,346
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	155,691
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,849,457
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 694,829
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,383,191
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	763,976
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 2,841,996
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 3,039,800
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(435,945)
Total Employer Pension Expense	\$ 100,873,556	\$ 2,603,855
Covered Payroll:	\$ 321,050,145	\$ 7,909,444
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 26,771,725
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 32,980,895
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 21,529,081
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (39,963)
◆ 2022	\$ (455,159)	\$ (166,846)
◆ 2023	\$ (14,676,416)	\$ (623,264)
◆ 2024	\$ (2,504,078)	\$ (222,403)
◆ 2025	\$ 1,558,604	\$ 59,937
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Millbury Housing Authority
◆ Current Proportionate Share		0.159506%
◆ Prior Proportionate Share		0.158816%
Beginning Net Pension Liability	\$ 890,129,991	\$ 1,413,671
Ending Net Pension Liability	\$ 888,400,147	\$ 1,417,050
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,928
◆ Changes of Assumptions	54,997,806	87,725
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	5,295
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 94,948
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 36,778
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	73,213
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	23,322
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 133,313
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 160,899
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	3,018
Total Employer Pension Expense	\$ 100,873,556	\$ 163,917
Covered Payroll:	\$ 321,050,145	\$ 463,056
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 1,417,050
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,745,706
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 1,139,552
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 71
◆ 2022	\$ (455,159)	\$ (6,216)
◆ 2023	\$ (14,676,416)	\$ (28,142)
◆ 2024	\$ (2,504,078)	\$ (7,309)
◆ 2025	\$ 1,558,604	\$ 3,231
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Millville
◆ Current Proportionate Share		0.282048%
◆ Prior Proportionate Share		0.298313%
Beginning Net Pension Liability	\$ 890,129,991	\$ 2,655,377
Ending Net Pension Liability	\$ 888,400,147	\$ 2,505,715
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 3,409
◆ Changes of Assumptions	54,997,806	155,120
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	214,794
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 373,323
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 65,033
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	129,461
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	181,605
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 376,099
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 284,512
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	124,797
Total Employer Pension Expense	\$ 100,873,556	\$ 409,309
Covered Payroll:	\$ 321,050,145	\$ 831,943
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 2,505,715
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 3,086,866
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 2,015,027
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 41,597
◆ 2022	\$ (455,159)	\$ 28,898
◆ 2023	\$ (14,676,416)	\$ (53,657)
◆ 2024	\$ (2,504,078)	\$ (6,464)
◆ 2025	\$ 1,558,604	\$ (13,150)
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Narragansett Regional
◆ Current Proportionate Share		0.655163%
◆ Prior Proportionate Share		0.656194%
Beginning Net Pension Liability	\$ 890,129,991	\$ 5,840,976
Ending Net Pension Liability	\$ 888,400,147	\$ 5,820,472
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 7,918
◆ Changes of Assumptions	54,997,806	360,325
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 368,243
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 151,064
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	300,721
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	125,719
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 577,504
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 660,887
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(92,299)
Total Employer Pension Expense	\$ 100,873,556	\$ 568,588
Covered Payroll:	\$ 321,050,145	\$ 2,768,991
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 5,820,472
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 7,170,415
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 4,680,663
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (30,063)
◆ 2022	\$ (455,159)	\$ (48,447)
◆ 2023	\$ (14,676,416)	\$ (111,008)
◆ 2024	\$ (2,504,078)	\$ (28,841)
◆ 2025	\$ 1,558,604	\$ 9,098
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Nashoba Regional
◆ Current Proportionate Share		1.703632%
◆ Prior Proportionate Share		1.707756%
Beginning Net Pension Liability	\$ 890,129,991	\$ 15,201,248
Ending Net Pension Liability	\$ 888,400,147	\$ 15,135,073
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 20,590
◆ Changes of Assumptions	54,997,806	936,960
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	419,547
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,377,097
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 392,813
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	781,970
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	361,272
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,536,055
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,718,515
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(121,674)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,596,841
Covered Payroll:	\$ 321,050,145	\$ 6,894,047
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 15,135,073
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 18,645,353
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 12,171,208
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 176,608
◆ 2022	\$ (455,159)	\$ 92,496
◆ 2023	\$ (14,676,416)	\$ (341,207)
◆ 2024	\$ (2,504,078)	\$ (108,961)
◆ 2025	\$ 1,558,604	\$ 22,106
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Nashoba Valley Dispatch
◆ Current Proportionate Share		0.063469%
◆ Prior Proportionate Share		0.064032%
Beginning Net Pension Liability	\$ 890,129,991	\$ 569,971
Ending Net Pension Liability	\$ 888,400,147	\$ 563,859
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 767
◆ Changes of Assumptions	54,997,806	34,907
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	292,715
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 328,389
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 14,634
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	29,132
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	4,031
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 47,797
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 64,023
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	85,728
Total Employer Pension Expense	\$ 100,873,556	\$ 149,751
Covered Payroll:	\$ 321,050,145	\$ 871,438
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 563,859
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 694,635
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 453,440
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 87,839
◆ 2022	\$ (455,159)	\$ 85,439
◆ 2023	\$ (14,676,416)	\$ 70,050
◆ 2024	\$ (2,504,078)	\$ 36,883
◆ 2025	\$ 1,558,604	\$ 381
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	New Braintree
◆ Current Proportionate Share		0.095537%
◆ Prior Proportionate Share		0.094717%
Beginning Net Pension Liability	\$ 890,129,991	\$ 843,101
Ending Net Pension Liability	\$ 888,400,147	\$ 848,753
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,155
◆ Changes of Assumptions	54,997,806	52,543
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	32,206
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 85,904
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 22,028
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	43,852
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	88,774
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 154,654
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 96,372
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(24,495)
Total Employer Pension Expense	\$ 100,873,556	\$ 71,877
Covered Payroll:	\$ 321,050,145	\$ 237,017
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 848,753
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,045,605
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 682,544
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (36,779)
◆ 2022	\$ (455,159)	\$ (32,263)
◆ 2023	\$ (14,676,416)	\$ (5,766)
◆ 2024	\$ (2,504,078)	\$ 3,684
◆ 2025	\$ 1,558,604	\$ 2,374
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Northboro
◆ Current Proportionate Share		3.502615%
◆ Prior Proportionate Share		3.479993%
Beginning Net Pension Liability	\$ 890,129,991	\$ 30,976,459
Ending Net Pension Liability	\$ 888,400,147	\$ 31,117,235
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 42,332
◆ Changes of Assumptions	54,997,806	1,926,361
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	865,066
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 2,833,759
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 807,612
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,607,706
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 2,415,318
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 3,533,212
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	106,388
Total Employer Pension Expense	\$ 100,873,556	\$ 3,639,600
Covered Payroll:	\$ 321,050,145	\$ 11,319,620
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 31,117,235
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 38,334,261
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 25,023,621
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 381,054
◆ 2022	\$ (455,159)	\$ 222,817
◆ 2023	\$ (14,676,416)	\$ (318,268)
◆ 2024	\$ (2,504,078)	\$ 53,844
◆ 2025	\$ 1,558,604	\$ 78,994
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Northboro Housing Authority
◆ Current Proportionate Share		0.111843%
◆ Prior Proportionate Share		0.111429%
Beginning Net Pension Liability	\$ 890,129,991	\$ 991,865
Ending Net Pension Liability	\$ 888,400,147	\$ 993,617
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,352
◆ Changes of Assumptions	54,997,806	61,511
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	17,521
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 80,384
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 25,788
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	51,336
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	3,416
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 80,540
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 112,820
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	27,590
Total Employer Pension Expense	\$ 100,873,556	\$ 140,410
Covered Payroll:	\$ 321,050,145	\$ 395,203
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 993,617
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,224,067
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 799,040
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 11,038
◆ 2022	\$ (455,159)	\$ 5,997
◆ 2023	\$ (14,676,416)	\$ (16,617)
◆ 2024	\$ (2,504,078)	\$ (2,765)
◆ 2025	\$ 1,558,604	\$ 2,191
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Northboro- Southboro Regional
◆ Current Proportionate Share		0.646198%
◆ Prior Proportionate Share		0.649782%
Beginning Net Pension Liability	\$ 890,129,991	\$ 5,783,903
Ending Net Pension Liability	\$ 888,400,147	\$ 5,740,822
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 7,810
◆ Changes of Assumptions	54,997,806	355,395
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	237,330
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 600,535
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 148,996
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	296,606
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	49,805
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 495,407
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 651,843
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	3,220
Total Employer Pension Expense	\$ 100,873,556	\$ 655,063
Covered Payroll:	\$ 321,050,145	\$ 2,816,152
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 5,740,822
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 7,072,292
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 4,616,611
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 112,054
◆ 2022	\$ (455,159)	\$ 77,733
◆ 2023	\$ (14,676,416)	\$ (86,393)
◆ 2024	\$ (2,504,078)	\$ (4,471)
◆ 2025	\$ 1,558,604	\$ 6,205
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	North Brookfield
◆ Current Proportionate Share		0.844393%
◆ Prior Proportionate Share		0.847665%
Beginning Net Pension Liability	\$ 890,129,991	\$ 7,545,320
Ending Net Pension Liability	\$ 888,400,147	\$ 7,501,589
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 10,205
◆ Changes of Assumptions	54,997,806	464,398
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	469,418
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 944,021
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 194,695
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	387,578
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	101,282
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 683,555
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 851,769
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	18,222
Total Employer Pension Expense	\$ 100,873,556	\$ 869,991
Covered Payroll:	\$ 321,050,145	\$ 2,767,703
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 7,501,589
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 9,241,434
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 6,032,571
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 105,173
◆ 2022	\$ (455,159)	\$ 77,600
◆ 2023	\$ (14,676,416)	\$ (6,828)
◆ 2024	\$ (2,504,078)	\$ 74,891
◆ 2025	\$ 1,558,604	\$ 9,630
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	North Brookfield Housing Authority
◆ Current Proportionate Share		0.027301%
◆ Prior Proportionate Share		0.026624%
Beginning Net Pension Liability	\$ 890,129,991	\$ 236,991
Ending Net Pension Liability	\$ 888,400,147	\$ 242,541
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 330
◆ Changes of Assumptions	54,997,806	15,015
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	9,904
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 25,249
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 6,295
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	12,531
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	33,091
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 51,917
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 27,539
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(2,644)
Total Employer Pension Expense	\$ 100,873,556	\$ 24,895
Covered Payroll:	\$ 321,050,145	\$ 55,944
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 242,541
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 298,793
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 195,044
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (4,395)
◆ 2022	\$ (455,159)	\$ (6,032)
◆ 2023	\$ (14,676,416)	\$ (10,500)
◆ 2024	\$ (2,504,078)	\$ (6,895)
◆ 2025	\$ 1,558,604	\$ 1,154
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Oakham
◆ Current Proportionate Share		0.116820%
◆ Prior Proportionate Share		0.116501%
Beginning Net Pension Liability	\$ 890,129,991	\$ 1,037,009
Ending Net Pension Liability	\$ 888,400,147	\$ 1,037,833
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,412
◆ Changes of Assumptions	54,997,806	64,249
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	9,283
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 74,944
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 26,936
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	53,621
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	46,872
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 127,429
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 117,841
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(62,273)
Total Employer Pension Expense	\$ 100,873,556	\$ 55,568
Covered Payroll:	\$ 321,050,145	\$ 307,375
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 1,037,833
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,278,538
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 834,597
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (19,009)
◆ 2022	\$ (455,159)	\$ (19,552)
◆ 2023	\$ (14,676,416)	\$ (15,181)
◆ 2024	\$ (2,504,078)	\$ (909)
◆ 2025	\$ 1,558,604	\$ 2,166
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Oxford
◆ Current Proportionate Share		3.252998%
◆ Prior Proportionate Share		3.255272%
Beginning Net Pension Liability	\$ 890,129,991	\$ 28,976,151
Ending Net Pension Liability	\$ 888,400,147	\$ 28,899,637
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 39,315
◆ Changes of Assumptions	54,997,806	1,789,077
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	215,445
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 2,043,837
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 750,057
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,493,132
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	1,634,527
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 3,877,716
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 3,281,415
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(770,472)
Total Employer Pension Expense	\$ 100,873,556	\$ 2,510,943
Covered Payroll:	\$ 321,050,145	\$ 8,627,144
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 28,899,637
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 35,602,334
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 23,240,289
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (433,157)
◆ 2022	\$ (455,159)	\$ (500,920)
◆ 2023	\$ (14,676,416)	\$ (659,534)
◆ 2024	\$ (2,504,078)	\$ (288,511)
◆ 2025	\$ 1,558,604	\$ 48,243
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Oxford Housing Authority
◆ Current Proportionate Share		0.124570%
◆ Prior Proportionate Share		0.124406%
Beginning Net Pension Liability	\$ 890,129,991	\$ 1,107,371
Ending Net Pension Liability	\$ 888,400,147	\$ 1,106,680
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,506
◆ Changes of Assumptions	54,997,806	68,511
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	115,451
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 185,468
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 28,723
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	57,178
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	6,715
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 92,616
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 125,658
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	32,807
Total Employer Pension Expense	\$ 100,873,556	\$ 158,465
Covered Payroll:	\$ 321,050,145	\$ 428,603
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 1,106,680
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,363,352
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 889,961
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 30,963
◆ 2022	\$ (455,159)	\$ 26,447
◆ 2023	\$ (14,676,416)	\$ 11,719
◆ 2024	\$ (2,504,078)	\$ 21,604
◆ 2025	\$ 1,558,604	\$ 2,119
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Oxford-Rochdale Sewer District
◆ Current Proportionate Share		0.056234%
◆ Prior Proportionate Share		0.055802%
Beginning Net Pension Liability	\$ 890,129,991	\$ 496,715
Ending Net Pension Liability	\$ 888,400,147	\$ 499,582
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 680
◆ Changes of Assumptions	54,997,806	30,927
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	56,586
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 88,193
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 12,966
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	25,811
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 38,777
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 56,725
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	33,312
Total Employer Pension Expense	\$ 100,873,556	\$ 90,037
Covered Payroll:	\$ 321,050,145	\$ 165,076
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 499,582
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 615,450
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 401,750
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 27,026
◆ 2022	\$ (455,159)	\$ 21,407
◆ 2023	\$ (14,676,416)	\$ (2,992)
◆ 2024	\$ (2,504,078)	\$ 2,635
◆ 2025	\$ 1,558,604	\$ 1,340
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Paxton
◆ Current Proportionate Share		1.245167%
◆ Prior Proportionate Share		1.258239%
Beginning Net Pension Liability	\$ 890,129,991	\$ 11,199,960
Ending Net Pension Liability	\$ 888,400,147	\$ 11,062,069
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 15,049
◆ Changes of Assumptions	54,997,806	684,815
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	877,202
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,577,066
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 287,103
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	571,534
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	122,900
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 981,537
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,256,045
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	258,763
Total Employer Pension Expense	\$ 100,873,556	\$ 1,514,808
Covered Payroll:	\$ 321,050,145	\$ 3,760,544
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 11,062,069
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 13,627,696
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 8,895,810
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 359,624
◆ 2022	\$ (455,159)	\$ 278,810
◆ 2023	\$ (14,676,416)	\$ (94,922)
◆ 2024	\$ (2,504,078)	\$ 46,709
◆ 2025	\$ 1,558,604	\$ 5,308
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Petersham
◆ Current Proportionate Share		0.259868%
◆ Prior Proportionate Share		0.260248%
Beginning Net Pension Liability	\$ 890,129,991	\$ 2,316,549
Ending Net Pension Liability	\$ 888,400,147	\$ 2,308,672
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 3,141
◆ Changes of Assumptions	54,997,806	142,922
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 146,063
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 59,919
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	119,280
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	84,812
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 264,011
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 262,139
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(226,554)
Total Employer Pension Expense	\$ 100,873,556	\$ 35,585
Covered Payroll:	\$ 321,050,145	\$ 591,648
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 2,308,672
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 2,844,123
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 1,856,570
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (17,931)
◆ 2022	\$ (455,159)	\$ (25,941)
◆ 2023	\$ (14,676,416)	\$ (56,930)
◆ 2024	\$ (2,504,078)	\$ (20,787)
◆ 2025	\$ 1,558,604	\$ 3,641
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Phillipston
◆ Current Proportionate Share		0.221971%
◆ Prior Proportionate Share		0.224087%
Beginning Net Pension Liability	\$ 890,129,991	\$ 1,994,665
Ending Net Pension Liability	\$ 888,400,147	\$ 1,971,994
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 2,683
◆ Changes of Assumptions	54,997,806	122,079
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	16,697
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 141,459
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 51,181
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	101,885
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	29,422
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 182,488
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 223,910
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	43,614
Total Employer Pension Expense	\$ 100,873,556	\$ 267,524
Covered Payroll:	\$ 321,050,145	\$ 616,702
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 1,971,994
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 2,429,359
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 1,585,823
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 1,408
◆ 2022	\$ (455,159)	\$ (5,083)
◆ 2023	\$ (14,676,416)	\$ (33,411)
◆ 2024	\$ (2,504,078)	\$ (5,119)
◆ 2025	\$ 1,558,604	\$ 1,176
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Princeton
◆ Current Proportionate Share		0.607734%
◆ Prior Proportionate Share		0.598059%
Beginning Net Pension Liability	\$ 890,129,991	\$ 5,323,503
Ending Net Pension Liability	\$ 888,400,147	\$ 5,399,113
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 7,345
◆ Changes of Assumptions	54,997,806	334,241
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	119,343
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 460,929
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 140,128
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	278,951
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	332,365
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 751,444
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 613,043
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(269,241)
Total Employer Pension Expense	\$ 100,873,556	\$ 343,802
Covered Payroll:	\$ 321,050,145	\$ 1,986,298
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 5,399,113
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 6,651,330
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 4,341,817
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (58,290)
◆ 2022	\$ (455,159)	\$ (89,270)
◆ 2023	\$ (14,676,416)	\$ (117,865)
◆ 2024	\$ (2,504,078)	\$ (44,998)
◆ 2025	\$ 1,558,604	\$ 19,908
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Quabbin Regional
◆ Current Proportionate Share		1.705700%
◆ Prior Proportionate Share		1.701070%
Beginning Net Pension Liability	\$ 890,129,991	\$ 15,141,734
Ending Net Pension Liability	\$ 888,400,147	\$ 15,153,444
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 20,615
◆ Changes of Assumptions	54,997,806	938,098
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	141,530
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,100,243
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 393,290
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	782,919
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	350,012
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,526,221
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,720,601
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(221,004)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,499,597
Covered Payroll:	\$ 321,050,145	\$ 5,191,722
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 15,153,444
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 18,667,984
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 12,185,981
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (48,020)
◆ 2022	\$ (455,159)	\$ (93,666)
◆ 2023	\$ (14,676,416)	\$ (248,717)
◆ 2024	\$ (2,504,078)	\$ (67,157)
◆ 2025	\$ 1,558,604	\$ 31,582
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Quaboag Regional
◆ Current Proportionate Share		0.596261%
◆ Prior Proportionate Share		0.598998%
Beginning Net Pension Liability	\$ 890,129,991	\$ 5,331,865
Ending Net Pension Liability	\$ 888,400,147	\$ 5,297,184
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 7,206
◆ Changes of Assumptions	54,997,806	327,930
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	29,438
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 364,574
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 137,482
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	273,685
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	47,327
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 458,494
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 601,470
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(60,160)
Total Employer Pension Expense	\$ 100,873,556	\$ 541,310
Covered Payroll:	\$ 321,050,145	\$ 2,454,490
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 5,297,184
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 6,525,760
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 4,259,849
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 8,533
◆ 2022	\$ (455,159)	\$ (9,735)
◆ 2023	\$ (14,676,416)	\$ (86,406)
◆ 2024	\$ (2,504,078)	\$ (12,650)
◆ 2025	\$ 1,558,604	\$ 6,338
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Royalston
◆ Current Proportionate Share		0.093956%
◆ Prior Proportionate Share		0.091340%
Beginning Net Pension Liability	\$ 890,129,991	\$ 813,044
Ending Net Pension Liability	\$ 888,400,147	\$ 834,701
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,136
◆ Changes of Assumptions	54,997,806	51,674
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	22,185
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 74,995
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 21,664
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	43,126
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	34,905
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 99,695
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 94,776
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	27,039
Total Employer Pension Expense	\$ 100,873,556	\$ 121,815
Covered Payroll:	\$ 321,050,145	\$ 272,117
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 834,701
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,028,294
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 671,244
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (5,825)
◆ 2022	\$ (455,159)	\$ (8,439)
◆ 2023	\$ (14,676,416)	\$ (12,965)
◆ 2024	\$ (2,504,078)	\$ (1,756)
◆ 2025	\$ 1,558,604	\$ 4,285
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Rutland
◆ Current Proportionate Share		1.016891%
◆ Prior Proportionate Share		1.017781%
Beginning Net Pension Liability	\$ 890,129,991	\$ 9,059,571
Ending Net Pension Liability	\$ 888,400,147	\$ 9,034,065
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 12,290
◆ Changes of Assumptions	54,997,806	559,268
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	341,794
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 913,352
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 234,469
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	466,755
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	29,956
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 731,180
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,025,775
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	9,322
Total Employer Pension Expense	\$ 100,873,556	\$ 1,035,097
Covered Payroll:	\$ 321,050,145	\$ 3,998,722
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 9,034,065
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 11,129,337
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 7,264,945
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 187,949
◆ 2022	\$ (455,159)	\$ 130,027
◆ 2023	\$ (14,676,416)	\$ (139,124)
◆ 2024	\$ (2,504,078)	\$ (11,569)
◆ 2025	\$ 1,558,604	\$ 14,889
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Southboro
◆ Current Proportionate Share		3.226782%
◆ Prior Proportionate Share		3.217110%
Beginning Net Pension Liability	\$ 890,129,991	\$ 28,636,460
Ending Net Pension Liability	\$ 888,400,147	\$ 28,666,737
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 38,998
◆ Changes of Assumptions	54,997,806	1,774,659
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	310,947
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 2,124,604
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 744,012
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,481,099
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 2,225,111
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 3,254,970
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	24,862
Total Employer Pension Expense	\$ 100,873,556	\$ 3,279,832
Covered Payroll:	\$ 321,050,145	\$ 10,365,406
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 28,666,737
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 35,315,418
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 23,052,998
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 214,768
◆ 2022	\$ (455,159)	\$ 76,728
◆ 2023	\$ (14,676,416)	\$ (416,285)
◆ 2024	\$ (2,504,078)	\$ (36,447)
◆ 2025	\$ 1,558,604	\$ 60,729
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Southboro Housing Authority
◆ Current Proportionate Share		0.024528%
◆ Prior Proportionate Share		0.026008%
Beginning Net Pension Liability	\$ 890,129,991	\$ 231,509
Ending Net Pension Liability	\$ 888,400,147	\$ 217,910
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 296
◆ Changes of Assumptions	54,997,806	13,490
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 13,786
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 5,656
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	11,259
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	19,684
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 36,599
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 24,743
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(13,406)
Total Employer Pension Expense	\$ 100,873,556	\$ 11,337
Covered Payroll:	\$ 321,050,145	\$ 101,400
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 217,910
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 268,450
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 175,237
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (5,181)
◆ 2022	\$ (455,159)	\$ (5,008)
◆ 2023	\$ (14,676,416)	\$ (8,084)
◆ 2024	\$ (2,504,078)	\$ (3,324)
◆ 2025	\$ 1,558,604	\$ (1,216)
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Spencer
◆ Current Proportionate Share		1.454106%
◆ Prior Proportionate Share		1.448250%
Beginning Net Pension Liability	\$ 890,129,991	\$ 12,891,307
Ending Net Pension Liability	\$ 888,400,147	\$ 12,918,280
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 17,574
◆ Changes of Assumptions	54,997,806	799,726
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	228,776
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,046,076
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 335,279
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	667,437
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	332,192
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,334,908
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,466,808
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(79,946)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,386,862
Covered Payroll:	\$ 321,050,145	\$ 4,259,235
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 12,918,280
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 15,914,419
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 10,388,524
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 70,120
◆ 2022	\$ (455,159)	\$ (268)
◆ 2023	\$ (14,676,416)	\$ (287,485)
◆ 2024	\$ (2,504,078)	\$ (100,182)
◆ 2025	\$ 1,558,604	\$ 28,983
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Spencer-East Brookfield Regional
◆ Current Proportionate Share		0.992494%
◆ Prior Proportionate Share		0.994768%
Beginning Net Pension Liability	\$ 890,129,991	\$ 8,854,727
Ending Net Pension Liability	\$ 888,400,147	\$ 8,817,317
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 11,995
◆ Changes of Assumptions	54,997,806	545,850
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	13,451
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 571,296
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 228,843
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	455,556
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	235,465
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 919,864
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,001,164
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(85,763)
Total Employer Pension Expense	\$ 100,873,556	\$ 915,401
Covered Payroll:	\$ 321,050,145	\$ 3,133,709
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 8,817,317
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 10,862,319
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 7,090,643
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (20,398)
◆ 2022	\$ (455,159)	\$ (60,010)
◆ 2023	\$ (14,676,416)	\$ (204,923)
◆ 2024	\$ (2,504,078)	\$ (76,256)
◆ 2025	\$ 1,558,604	\$ 13,019
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Spencer Housing Authority
◆ Current Proportionate Share		0.076848%
◆ Prior Proportionate Share		0.075731%
Beginning Net Pension Liability	\$ 890,129,991	\$ 674,103
Ending Net Pension Liability	\$ 888,400,147	\$ 682,719
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 929
◆ Changes of Assumptions	54,997,806	42,265
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	36,681
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 79,875
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 17,719
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	35,273
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	12,398
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 65,390
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 77,519
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	15,274
Total Employer Pension Expense	\$ 100,873,556	\$ 92,793
Covered Payroll:	\$ 321,050,145	\$ 332,236
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 682,719
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 841,062
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 549,024
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 5,720
◆ 2022	\$ (455,159)	\$ 3,324
◆ 2023	\$ (14,676,416)	\$ (2,086)
◆ 2024	\$ (2,504,078)	\$ 5,125
◆ 2025	\$ 1,558,604	\$ 2,402
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Sterling
◆ Current Proportionate Share		1.779236%
◆ Prior Proportionate Share		1.783083%
Beginning Net Pension Liability	\$ 890,129,991	\$ 15,871,755
Ending Net Pension Liability	\$ 888,400,147	\$ 15,806,738
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 21,503
◆ Changes of Assumptions	54,997,806	978,541
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	714,754
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,714,798
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 410,246
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	816,673
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	46,228
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,273,147
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,794,779
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	112,546
Total Employer Pension Expense	\$ 100,873,556	\$ 1,907,325
Covered Payroll:	\$ 321,050,145	\$ 5,198,361
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 15,806,738
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 19,472,797
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 12,711,342
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 261,609
◆ 2022	\$ (455,159)	\$ 186,990
◆ 2023	\$ (14,676,416)	\$ (113,530)
◆ 2024	\$ (2,504,078)	\$ 83,004
◆ 2025	\$ 1,558,604	\$ 23,578
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Sterling Housing Authority
◆ Current Proportionate Share		0.009285%
◆ Prior Proportionate Share		0.008946%
Beginning Net Pension Liability	\$ 890,129,991	\$ 79,630
Ending Net Pension Liability	\$ 888,400,147	\$ 82,489
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 112
◆ Changes of Assumptions	54,997,806	5,107
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	3,958
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 9,177
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 2,141
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	4,262
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	38,473
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 44,876
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 9,366
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(5,964)
Total Employer Pension Expense	\$ 100,873,556	\$ 3,402
Covered Payroll:	\$ 321,050,145	\$ 53,242
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 82,489
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 101,621
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 66,335
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (8,563)
◆ 2022	\$ (455,159)	\$ (8,883)
◆ 2023	\$ (14,676,416)	\$ (10,860)
◆ 2024	\$ (2,504,078)	\$ (7,902)
◆ 2025	\$ 1,558,604	\$ 509
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Sturbridge
◆ Current Proportionate Share		2.232371%
◆ Prior Proportionate Share		2.251786%
Beginning Net Pension Liability	\$ 890,129,991	\$ 20,043,825
Ending Net Pension Liability	\$ 888,400,147	\$ 19,832,383
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 26,980
◆ Changes of Assumptions	54,997,806	1,227,755
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	297,637
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,552,372
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 514,727
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,024,662
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	446,469
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,985,858
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 2,251,872
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	15,850
Total Employer Pension Expense	\$ 100,873,556	\$ 2,267,722
Covered Payroll:	\$ 321,050,145	\$ 8,091,792
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 19,832,383
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 24,432,111
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 15,948,655
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 110,686
◆ 2022	\$ (455,159)	\$ 12,077
◆ 2023	\$ (14,676,416)	\$ (438,139)
◆ 2024	\$ (2,504,078)	\$ (131,960)
◆ 2025	\$ 1,558,604	\$ 13,850
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Sutton
◆ Current Proportionate Share		1.954195%
◆ Prior Proportionate Share		1.945414%
Beginning Net Pension Liability	\$ 890,129,991	\$ 17,316,712
Ending Net Pension Liability	\$ 888,400,147	\$ 17,361,071
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 23,618
◆ Changes of Assumptions	54,997,806	1,074,764
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	295,482
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,393,864
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 450,587
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	896,979
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,347,566
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,971,266
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(173,308)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,797,958
Covered Payroll:	\$ 321,050,145	\$ 7,204,520
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 17,361,071
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 21,387,627
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 13,961,294
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 156,910
◆ 2022	\$ (455,159)	\$ 76,721
◆ 2023	\$ (14,676,416)	\$ (226,214)
◆ 2024	\$ (2,504,078)	\$ (1,048)
◆ 2025	\$ 1,558,604	\$ 39,929
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Tantasqua Regional
◆ Current Proportionate Share		1.180695%
◆ Prior Proportionate Share		1.163184%
Beginning Net Pension Liability	\$ 890,129,991	\$ 10,353,847
Ending Net Pension Liability	\$ 888,400,147	\$ 10,489,295
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 14,270
◆ Changes of Assumptions	54,997,806	649,356
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	359,750
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,023,376
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 272,238
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	541,941
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	28,704
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 842,883
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,191,009
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	64,534
Total Employer Pension Expense	\$ 100,873,556	\$ 1,255,543
Covered Payroll:	\$ 321,050,145	\$ 4,212,660
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 10,489,295
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 12,922,079
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 8,435,201
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 125,985
◆ 2022	\$ (455,159)	\$ 83,088
◆ 2023	\$ (14,676,416)	\$ (104,335)
◆ 2024	\$ (2,504,078)	\$ 38,463
◆ 2025	\$ 1,558,604	\$ 37,292
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Templeton
◆ Current Proportionate Share		1.318915%
◆ Prior Proportionate Share		1.310390%
Beginning Net Pension Liability	\$ 890,129,991	\$ 11,664,176
Ending Net Pension Liability	\$ 888,400,147	\$ 11,717,239
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 15,940
◆ Changes of Assumptions	54,997,806	725,374
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	85,142
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 826,456
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 304,107
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	605,384
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	181,561
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,091,052
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,330,436
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(400,449)
Total Employer Pension Expense	\$ 100,873,556	\$ 929,987
Covered Payroll:	\$ 321,050,145	\$ 3,922,523
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 11,717,239
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 14,434,820
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 9,422,680
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (8,141)
◆ 2022	\$ (455,159)	\$ (54,386)
◆ 2023	\$ (14,676,416)	\$ (194,846)
◆ 2024	\$ (2,504,078)	\$ (36,974)
◆ 2025	\$ 1,558,604	\$ 29,751
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Templeton Housing Authority
◆ Current Proportionate Share		0.068951%
◆ Prior Proportionate Share		0.070651%
Beginning Net Pension Liability	\$ 890,129,991	\$ 628,886
Ending Net Pension Liability	\$ 888,400,147	\$ 612,565
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 833
◆ Changes of Assumptions	54,997,806	37,922
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 38,755
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 15,898
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	31,649
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	29,627
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 77,174
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 69,554
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(31,918)
Total Employer Pension Expense	\$ 100,873,556	\$ 37,636
Covered Payroll:	\$ 321,050,145	\$ 102,891
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 612,565
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 754,638
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 492,608
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (6,743)
◆ 2022	\$ (455,159)	\$ (8,130)
◆ 2023	\$ (14,676,416)	\$ (16,670)
◆ 2024	\$ (2,504,078)	\$ (6,119)
◆ 2025	\$ 1,558,604	\$ (757)
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Upton
◆ Current Proportionate Share		1.035698%
◆ Prior Proportionate Share		1.032452%
Beginning Net Pension Liability	\$ 890,129,991	\$ 9,190,164
Ending Net Pension Liability	\$ 888,400,147	\$ 9,201,143
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 12,517
◆ Changes of Assumptions	54,997,806	569,611
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	327,779
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 909,907
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 238,805
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	475,387
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	-
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 714,192
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,044,745
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(36,998)
Total Employer Pension Expense	\$ 100,873,556	\$ 1,007,747
Covered Payroll:	\$ 321,050,145	\$ 3,957,228
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 9,201,143
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 11,335,165
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 7,399,305
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 174,367
◆ 2022	\$ (455,159)	\$ 117,427
◆ 2023	\$ (14,676,416)	\$ (117,298)
◆ 2024	\$ (2,504,078)	\$ 1,575
◆ 2025	\$ 1,558,604	\$ 19,644
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Uxbridge
◆ Current Proportionate Share		3.048999%
◆ Prior Proportionate Share		3.034734%
Beginning Net Pension Liability	\$ 890,129,991	\$ 27,013,078
Ending Net Pension Liability	\$ 888,400,147	\$ 27,087,311
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 36,850
◆ Changes of Assumptions	54,997,806	1,676,883
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	212,075
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,925,808
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 703,020
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,399,496
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	612,985
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 2,715,501
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 3,075,634
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(206,636)
Total Employer Pension Expense	\$ 100,873,556	\$ 2,868,998
Covered Payroll:	\$ 321,050,145	\$ 8,980,346
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 27,087,311
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 33,369,676
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 21,782,867
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (15,821)
◆ 2022	\$ (455,159)	\$ (182,478)
◆ 2023	\$ (14,676,416)	\$ (514,646)
◆ 2024	\$ (2,504,078)	\$ (139,663)
◆ 2025	\$ 1,558,604	\$ 62,915
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Uxbridge Housing Authority
◆ Current Proportionate Share		0.088977%
◆ Prior Proportionate Share		0.087842%
Beginning Net Pension Liability	\$ 890,129,991	\$ 781,905
Ending Net Pension Liability	\$ 888,400,147	\$ 790,472
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,075
◆ Changes of Assumptions	54,997,806	48,935
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	26,103
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 76,113
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 20,516
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	40,841
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	52,063
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 113,420
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 89,754
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(7,469)
Total Employer Pension Expense	\$ 100,873,556	\$ 82,285
Covered Payroll:	\$ 321,050,145	\$ 200,841
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 790,472
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 973,807
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 635,676
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (17,806)
◆ 2022	\$ (455,159)	\$ (17,725)
◆ 2023	\$ (14,676,416)	\$ (6,595)
◆ 2024	\$ (2,504,078)	\$ 2,208
◆ 2025	\$ 1,558,604	\$ 2,611
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Wachusett Regional
◆ Current Proportionate Share		3.094171%
◆ Prior Proportionate Share		3.098576%
Beginning Net Pension Liability	\$ 890,129,991	\$ 27,581,353
Ending Net Pension Liability	\$ 888,400,147	\$ 27,488,623
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 37,395
◆ Changes of Assumptions	54,997,806	1,701,726
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	851,654
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 2,590,775
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 713,436
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,420,230
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	1,227,443
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 3,361,109
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 3,121,201
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(200,657)
Total Employer Pension Expense	\$ 100,873,556	\$ 2,920,544
Covered Payroll:	\$ 321,050,145	\$ 12,322,363
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 27,488,623
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 33,864,063
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 22,105,591
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 168,631
◆ 2022	\$ (455,159)	\$ 70,582
◆ 2023	\$ (14,676,416)	\$ (755,478)
◆ 2024	\$ (2,504,078)	\$ (297,539)
◆ 2025	\$ 1,558,604	\$ 43,470
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Warren
◆ Current Proportionate Share		0.598573%
◆ Prior Proportionate Share		0.603333%
Beginning Net Pension Liability	\$ 890,129,991	\$ 5,370,445
Ending Net Pension Liability	\$ 888,400,147	\$ 5,317,720
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 7,234
◆ Changes of Assumptions	54,997,806	329,202
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	147,222
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 483,658
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 138,015
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	274,746
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	294,434
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 707,195
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 603,802
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	14,821
Total Employer Pension Expense	\$ 100,873,556	\$ 618,623
Covered Payroll:	\$ 321,050,145	\$ 1,457,293
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 5,317,720
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 6,551,060
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 4,276,364
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 17,727
◆ 2022	\$ (455,159)	\$ (11,680)
◆ 2023	\$ (14,676,416)	\$ (162,964)
◆ 2024	\$ (2,504,078)	\$ (70,814)
◆ 2025	\$ 1,558,604	\$ 4,194
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Warren Water District
◆ Current Proportionate Share		0.029001%
◆ Prior Proportionate Share		0.029191%
Beginning Net Pension Liability	\$ 890,129,991	\$ 259,841
Ending Net Pension Liability	\$ 888,400,147	\$ 257,649
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 351
◆ Changes of Assumptions	54,997,806	15,950
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	17,574
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 33,875
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 6,687
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	13,312
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	2,681
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 22,680
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 29,255
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	11,692
Total Employer Pension Expense	\$ 100,873,556	\$ 40,947
Covered Payroll:	\$ 321,050,145	\$ 92,491
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 257,649
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 317,406
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 207,194
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 7,082
◆ 2022	\$ (455,159)	\$ 5,536
◆ 2023	\$ (14,676,416)	\$ (2,581)
◆ 2024	\$ (2,504,078)	\$ 911
◆ 2025	\$ 1,558,604	\$ 247
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Westboro
◆ Current Proportionate Share		6.689655%
◆ Prior Proportionate Share		6.653564%
Beginning Net Pension Liability	\$ 890,129,991	\$ 59,225,365
Ending Net Pension Liability	\$ 888,400,147	\$ 59,430,911
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 80,848
◆ Changes of Assumptions	54,997,806	3,679,167
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	386,351
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 4,146,366
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 1,542,459
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	3,070,565
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	451,934
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 5,064,958
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 6,748,093
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	233,445
Total Employer Pension Expense	\$ 100,873,556	\$ 6,981,538
Covered Payroll:	\$ 321,050,145	\$ 22,860,595
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 59,430,911
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 73,214,724
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 47,792,692
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 217,789
◆ 2022	\$ (455,159)	\$ (57,811)
◆ 2023	\$ (14,676,416)	\$ (1,011,806)
◆ 2024	\$ (2,504,078)	\$ (209,998)
◆ 2025	\$ 1,558,604	\$ 143,234
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Westboro Housing Authority
◆ Current Proportionate Share		0.076261%
◆ Prior Proportionate Share		0.076682%
Beginning Net Pension Liability	\$ 890,129,991	\$ 682,568
Ending Net Pension Liability	\$ 888,400,147	\$ 677,502
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 922
◆ Changes of Assumptions	54,997,806	41,942
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	67,684
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 110,548
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 17,584
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	35,004
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	4,802
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 57,390
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 76,927
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	20,278
Total Employer Pension Expense	\$ 100,873,556	\$ 97,205
Covered Payroll:	\$ 321,050,145	\$ 227,366
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 677,502
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 834,636
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 544,829
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 22,114
◆ 2022	\$ (455,159)	\$ 18,332
◆ 2023	\$ (14,676,416)	\$ 2,252
◆ 2024	\$ (2,504,078)	\$ 9,726
◆ 2025	\$ 1,558,604	\$ 734
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	West Boylston
◆ Current Proportionate Share		2.129289%
◆ Prior Proportionate Share		2.143770%
Beginning Net Pension Liability	\$ 890,129,991	\$ 19,082,339
Ending Net Pension Liability	\$ 888,400,147	\$ 18,916,606
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 25,734
◆ Changes of Assumptions	54,997,806	1,171,062
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	416,107
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,612,903
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 490,959
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	977,347
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	148,450
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,616,756
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 2,147,889
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(88,405)
Total Employer Pension Expense	\$ 100,873,556	\$ 2,059,484
Covered Payroll:	\$ 321,050,145	\$ 5,477,605
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 18,916,606
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 23,303,938
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 15,212,212
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 158,475
◆ 2022	\$ (455,159)	\$ 77,748
◆ 2023	\$ (14,676,416)	\$ (257,126)
◆ 2024	\$ (2,504,078)	\$ (519)
◆ 2025	\$ 1,558,604	\$ 17,569
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	West Boylston Housing Authority
◆ Current Proportionate Share		0.009282%
◆ Prior Proportionate Share		0.008943%
Beginning Net Pension Liability	\$ 890,129,991	\$ 79,601
Ending Net Pension Liability	\$ 888,400,147	\$ 82,462
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 112
◆ Changes of Assumptions	54,997,806	5,105
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	4,431
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 9,648
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 2,140
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	4,261
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	59,081
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 65,482
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 9,363
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(15,170)
Total Employer Pension Expense	\$ 100,873,556	\$ (5,807)
Covered Payroll:	\$ 321,050,145	\$ 60,312
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 82,462
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 101,588
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 66,314
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (15,526)
◆ 2022	\$ (455,159)	\$ (15,691)
◆ 2023	\$ (14,676,416)	\$ (13,968)
◆ 2024	\$ (2,504,078)	\$ (11,155)
◆ 2025	\$ 1,558,604	\$ 506
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	West Boylston Water District
◆ Current Proportionate Share		0.109248%
◆ Prior Proportionate Share		0.107453%
Beginning Net Pension Liability	\$ 890,129,991	\$ 956,472
Ending Net Pension Liability	\$ 888,400,147	\$ 970,558
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 1,320
◆ Changes of Assumptions	54,997,806	60,084
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	104,517
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 165,921
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 25,190
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	50,145
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	2,416
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 77,751
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 110,202
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(1,848)
Total Employer Pension Expense	\$ 100,873,556	\$ 108,354
Covered Payroll:	\$ 321,050,145	\$ 394,905
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 970,558
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 1,195,660
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 780,496
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 29,992
◆ 2022	\$ (455,159)	\$ 25,169
◆ 2023	\$ (14,676,416)	\$ 10,497
◆ 2024	\$ (2,504,078)	\$ 18,873
◆ 2025	\$ 1,558,604	\$ 3,639
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	West Brookfield
◆ Current Proportionate Share		0.479179%
◆ Prior Proportionate Share		0.472527%
Beginning Net Pension Liability	\$ 890,129,991	\$ 4,206,103
Ending Net Pension Liability	\$ 888,400,147	\$ 4,257,026
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 5,791
◆ Changes of Assumptions	54,997,806	263,538
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	104,457
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 373,786
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 110,486
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	219,944
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	20,721
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 351,151
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 483,365
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(98,073)
Total Employer Pension Expense	\$ 100,873,556	\$ 385,292
Covered Payroll:	\$ 321,050,145	\$ 1,323,721
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 4,257,026
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 5,244,359
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 3,423,383
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 25,475
◆ 2022	\$ (455,159)	\$ 20,225
◆ 2023	\$ (14,676,416)	\$ (44,865)
◆ 2024	\$ (2,504,078)	\$ 7,158
◆ 2025	\$ 1,558,604	\$ 14,642
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Westminster
◆ Current Proportionate Share		1.432805%
◆ Prior Proportionate Share		1.423820%
Beginning Net Pension Liability	\$ 890,129,991	\$ 12,673,847
Ending Net Pension Liability	\$ 888,400,147	\$ 12,729,042
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 17,317
◆ Changes of Assumptions	54,997,806	788,011
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	90,109
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 895,437
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 330,368
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	657,660
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	191,390
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 1,179,418
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 1,445,321
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	108,615
Total Employer Pension Expense	\$ 100,873,556	\$ 1,553,936
Covered Payroll:	\$ 321,050,145	\$ 4,186,629
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 12,729,042
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 15,681,290
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 10,236,343
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 22,634
◆ 2022	\$ (455,159)	\$ (36,347)
◆ 2023	\$ (14,676,416)	\$ (239,184)
◆ 2024	\$ (2,504,078)	\$ (63,105)
◆ 2025	\$ 1,558,604	\$ 32,021
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Winchendon
◆ Current Proportionate Share		2.537101%
◆ Prior Proportionate Share		2.577348%
Beginning Net Pension Liability	\$ 890,129,991	\$ 22,941,749
Ending Net Pension Liability	\$ 888,400,147	\$ 22,539,606
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 30,663
◆ Changes of Assumptions	54,997,806	1,395,350
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	308,420
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 1,734,433
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 584,990
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	1,164,534
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	740,798
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 2,490,322
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 2,559,264
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(303,121)
Total Employer Pension Expense	\$ 100,873,556	\$ 2,256,143
Covered Payroll:	\$ 321,050,145	\$ 6,774,852
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 22,539,606
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 27,767,221
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 18,125,728
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ (131,433)
◆ 2022	\$ (455,159)	\$ (200,045)
◆ 2023	\$ (14,676,416)	\$ (353,619)
◆ 2024	\$ (2,504,078)	\$ (66,919)
◆ 2025	\$ 1,558,604	\$ (3,873)
◆ Thereafter	\$ -	\$ -

APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2020	Worcester Regional Retirement System	Winchendon Housing Authority
◆ Current Proportionate Share		0.190893%
◆ Prior Proportionate Share		0.190855%
Beginning Net Pension Liability	\$ 890,129,991	\$ 1,698,861
Ending Net Pension Liability	\$ 888,400,147	\$ 1,695,895
Total Deferred Outflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 1,208,578	\$ 2,307
◆ Changes of Assumptions	54,997,806	104,987
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	160,420
Total Deferred Outflows of Resources	\$ 75,106,152	\$ 267,714
Total Deferred Inflows of Resources:		
◆ Differences Between Expected and Actual Experience	\$ 23,057,403	\$ 44,015
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	45,900,173	87,620
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	18,899,768	2
Total Deferred Inflows of Resources	\$ 87,857,344	\$ 131,637
Employer Pension Expense:		
◆ Proportionate Share of Plan Pension Expense	\$ 100,873,556	\$ 192,561
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	70,171
Total Employer Pension Expense	\$ 100,873,556	\$ 262,732
Covered Payroll:	\$ 321,050,145	\$ 609,171
Sensitivity of the Net Pension Liability to Changes in the Discount Rate:		
◆ Current discount rate: 7.5%	\$ 888,400,147	\$ 1,695,895
◆ 1% decrease in the discount rate: 6.5%	\$ 1,094,446,931	\$ 2,089,225
◆ 1% increase in the discount rate: 8.5%	\$ 714,426,847	\$ 1,363,792
Deferred Outflows of Resources and Deferred Inflows of Resources Recognized in Future Pension Expense:		
◆ 2021	\$ 3,325,857	\$ 55,884
◆ 2022	\$ (455,159)	\$ 46,593
◆ 2023	\$ (14,676,416)	\$ 6,617
◆ 2024	\$ (2,504,078)	\$ 23,969
◆ 2025	\$ 1,558,604	\$ 3,014
◆ Thereafter	\$ -	\$ -

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Under GASB 67, a series of projections and calculations are used to determine the discount rate for the purpose of the measurement of the Total Pension Liability. The discount rate is the single rate that reflects (1) the long-term expected rate of return on pension plan investments that are expected to be used to finance the payment of benefits, to the extent that the pension plan's Fiduciary Net Position is projected to be sufficient to make projected benefit payments and pension plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher, to the extent that the conditions for use of the long-term expected rate of return are not met.

Projected cash flows into and out of the pension plan are assumed to be contributions to the pension plan, benefit payments, pension plan administrative expenses and pension plan investment earnings. These projected cash flows are used to project the pension plan's Fiduciary Net Position at the beginning of each period. The pension plan's projected Fiduciary Net Position at the beginning of each period is compared to the amount of benefit payments projected to occur in that period.

It is assumed that the pension plan's Fiduciary Net Position is expected to always be invested using a strategy to achieve the long-term expected rate of return on pension plan investments.

The benefit payments that are projected to occur in a period are discounted using the long-term expected rate of return on pension plan investments if the amount of the pension plan's beginning Fiduciary Net Position is projected to be sufficient to make the benefit payments in that period. In periods in which benefit payments are projected to be greater than the amount of the pension plan's Fiduciary Net Position, they are discounted using a municipal bond rate as required by GASB 67.

For purposes of this valuation, the long-term expected rate of return on pension plan investments is 7.5%; the municipal bond rate is 2.12%, based on the December 2020 Bond Buyer Index as published by the Federal Reserve. For each period, the pension plan's Fiduciary Net Position is projected to be sufficient to make the benefit payments in that period, therefore, the resulting single discount rate is based solely on the long-term expected rate of return of 7.5%.

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d)	Employer Service Cost and Expense Contributions (e)	UAL Contributions (f)	Total Contributions (g) = (d) + (e) + (f)
2021	315,271,204	-	315,271,204	31,796,971	23,466,626	51,787,720	107,051,317
2022	303,353,999	22,951,697	326,305,696	30,613,524	22,433,169	58,611,695	111,658,388
2023	292,348,753	45,377,642	337,726,395	29,612,413	21,482,988	66,157,474	117,252,875
2024	281,098,895	68,447,924	349,546,819	28,608,183	20,529,645	74,498,372	123,636,200
2025	270,488,618	91,292,340	361,780,958	27,661,596	19,636,983	83,715,056	131,013,635
2026	259,683,678	114,759,614	374,443,292	26,717,243	18,049,815	94,896,274	139,663,332
2027	248,715,325	138,833,482	387,548,807	25,718,597	17,208,823	106,139,655	149,067,075
2028	237,870,301	163,242,714	401,113,015	24,700,420	16,385,801	118,552,606	159,638,827
2029	226,969,899	188,182,072	415,151,971	23,705,910	15,567,949	132,253,281	171,527,140
2030	216,488,574	213,193,716	429,682,290	22,720,548	14,787,311	143,836,978	181,344,837
2031	206,848,866	237,872,304	444,721,170	21,769,457	14,071,891	149,590,457	185,431,805
2032	197,872,787	262,413,624	460,286,411	20,887,813	13,408,588	155,574,075	189,870,476
2033	189,470,898	286,925,537	476,396,435	20,073,891	12,790,525	161,797,038	194,661,454
2034	181,478,225	311,592,085	493,070,310	19,250,812	12,205,881	168,268,919	199,725,612
2035	174,309,411	336,018,360	510,327,771	18,504,148	11,681,879	174,999,675	205,185,702
2036	167,343,184	360,846,059	528,189,243	17,821,338	11,176,204	-	28,997,542
2037	160,462,079	386,213,788	546,675,867	17,142,050	10,680,685	-	27,822,735
2038	153,748,954	412,060,568	565,809,522	16,492,634	10,200,558	-	26,693,192
2039	147,085,402	438,527,453	585,612,855	15,833,525	9,727,694	-	25,561,219
2040	140,914,955	465,194,350	606,109,305	15,186,091	9,291,123	-	24,477,214
2041	134,485,049	492,838,082	627,323,131	14,559,760	8,840,910	-	23,400,670
2042	128,164,477	521,114,964	649,279,441	13,911,323	8,401,221	-	22,312,544
2043	121,570,351	550,433,870	672,004,221	13,249,948	7,946,813	-	21,196,761
2044	115,246,165	580,278,204	695,524,369	12,548,850	7,513,116	-	20,061,966
2045	108,908,152	610,959,570	719,867,722	11,810,632	7,081,396	-	18,892,028
2046	102,300,139	642,762,953	745,063,092	10,993,689	6,634,912	-	17,628,601
2047	95,073,062	676,067,238	771,140,300	10,135,136	6,151,080	-	16,286,216
2048	88,400,538	709,729,673	798,130,211	9,304,545	5,705,810	-	15,010,355
2049	81,467,799	744,596,969	826,064,768	8,365,050	5,246,256	-	13,611,306
2050	75,150,758	779,826,277	854,977,035	7,522,303	4,828,340	-	12,350,643
2051	68,216,064	816,685,167	884,901,231	6,613,152	4,372,725	-	10,985,877
2052	61,379,330	854,493,444	915,872,774	5,956,119	3,925,444	-	9,881,563
2053	54,333,940	893,594,381	947,928,321	5,295,071	3,466,880	-	8,761,951
2054	47,680,032	933,425,780	981,105,812	4,657,795	3,035,325	-	7,693,120
2055	41,016,405	974,428,110	1,015,444,515	4,027,038	2,605,118	-	6,632,156
2056	34,540,389	1,016,444,684	1,050,985,073	3,416,741	2,188,759	-	5,605,500

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d)	Employer Service Cost and Expense Contributions (e)	UAL Contributions (f)	Total Contributions (g) = (d) + (e) + (f)
2057	28,240,559	1,059,528,992	1,087,769,551	2,807,288	1,785,440	-	4,592,728
2058	22,762,347	1,103,079,138	1,125,841,485	2,257,745	1,435,787	-	3,693,532
2059	17,750,510	1,147,495,427	1,165,245,937	1,761,154	1,117,081	-	2,878,235
2060	13,501,436	1,192,528,109	1,206,029,545	1,340,713	847,725	-	2,188,438
2061	9,990,893	1,238,249,686	1,248,240,579	980,373	625,865	-	1,606,238
2062	7,346,264	1,284,582,735	1,291,928,999	718,330	459,138	-	1,177,468
2063	5,130,934	1,332,015,580	1,337,146,514	496,296	319,944	-	816,240
2064	3,538,718	1,380,407,924	1,383,946,642	341,130	220,153	-	561,283
2065	2,240,576	1,430,144,198	1,432,384,774	216,171	139,072	-	355,243
2066	1,413,780	1,481,104,461	1,482,518,241	137,524	87,551	-	225,075
2067	759,608	1,533,646,771	1,534,406,379	74,398	46,932	-	121,330
2068	336,338	1,587,774,264	1,588,110,602	33,199	20,733	-	53,932
2069	164,477	1,643,529,996	1,643,694,473	16,273	10,116	-	26,389
2070	69,467	1,701,154,313	1,701,223,780	6,949	4,262	-	11,211
2071	21,153	1,760,745,459	1,760,766,612	2,091	1,295	-	3,386
2072	-	1,822,393,443	1,822,393,443	-	-	-	-
2073	-	1,886,177,214	1,886,177,214	-	-	-	-

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the Pension Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) +(e)
2021	898,658,766	107,051,317	101,430,261	1,100,000	67,568,947	970,748,769
2022	970,748,769	111,658,388	107,496,253	1,138,500	72,919,544	1,046,691,948
2023	1,046,691,948	117,252,875	113,998,634	1,178,348	78,579,742	1,127,347,583
2024	1,127,347,583	123,636,200	120,247,362	1,219,590	84,632,416	1,214,149,247
2025	1,214,149,247	131,013,635	126,604,176	1,262,276	91,179,213	1,308,475,643
2026	1,308,475,643	139,663,332	133,063,087	1,306,456	98,334,190	1,412,103,622
2027	1,412,103,622	149,067,075	139,645,120	1,352,182	106,210,388	1,526,383,783
2028	1,526,383,783	159,638,827	146,219,363	1,399,508	114,929,532	1,653,333,271
2029	1,653,333,271	171,527,140	152,596,778	1,448,491	124,655,565	1,795,470,707
2030	1,795,470,707	181,344,837	158,878,857	1,499,188	135,446,558	1,951,884,057
2031	1,951,884,057	185,431,805	165,442,037	1,551,660	147,082,733	2,117,404,898
2032	2,117,404,898	189,870,476	171,614,077	1,605,968	159,429,759	2,293,485,088
2033	2,293,485,088	194,661,454	177,634,158	1,662,177	172,587,574	2,481,437,781
2034	2,481,437,781	199,725,612	183,010,783	1,720,353	186,670,126	2,683,102,383
2035	2,683,102,383	205,185,702	188,022,400	1,780,565	201,809,531	2,900,294,651
2036	2,900,294,651	28,997,542	192,768,606	1,842,885	211,311,576	2,945,992,278
2037	2,945,992,278	27,822,735	196,974,826	1,907,386	214,534,690	2,989,467,491
2038	2,989,467,491	26,693,192	200,791,524	1,974,145	217,607,344	3,031,002,358
2039	3,031,002,358	25,561,219	204,043,499	2,043,240	220,555,470	3,071,032,308
2040	3,071,032,308	24,477,214	207,014,815	2,114,753	223,402,960	3,109,782,914
2041	3,109,782,914	23,400,670	209,671,643	2,188,769	226,166,478	3,147,489,650
2042	3,147,489,650	22,312,544	212,010,152	2,265,376	228,863,112	3,184,389,778
2043	3,184,389,778	21,196,761	213,825,602	2,344,664	231,517,727	3,220,934,000
2044	3,220,934,000	20,061,966	215,258,155	2,426,727	234,159,191	3,257,470,275
2045	3,257,470,275	18,892,028	216,597,658	2,511,662	236,802,122	3,294,055,105
2046	3,294,055,105	17,628,601	217,827,781	2,599,570	239,449,180	3,330,705,535
2047	3,330,705,535	16,286,216	218,394,197	2,690,555	242,122,970	3,368,029,969
2048	3,368,029,969	15,010,355	218,890,358	2,784,724	244,852,320	3,406,217,562
2049	3,406,217,562	13,611,306	218,477,698	2,882,189	247,675,745	3,446,144,726
2050	3,446,144,726	12,350,643	218,150,517	2,983,066	250,631,494	3,487,993,280
2051	3,487,993,280	10,985,877	217,433,830	3,087,473	253,741,918	3,532,199,772
2052	3,532,199,772	9,881,563	216,472,939	3,195,535	257,047,974	3,579,460,835
2053	3,579,460,835	8,761,951	214,988,556	3,307,379	260,602,038	3,630,528,889
2054	3,630,528,889	7,693,120	213,213,505	3,423,137	264,454,285	3,686,039,652
2055	3,686,039,652	6,632,156	211,042,096	3,542,947	268,654,741	3,746,741,506
2056	3,746,741,506	5,605,500	208,581,696	3,666,950	273,256,495	3,813,354,855

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the Pension Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) +(e)
2057	3,813,354,855	4,592,728	205,425,722	3,795,293	278,328,053	3,887,054,621
2058	3,887,054,621	3,693,532	201,766,896	3,928,128	283,954,041	3,969,007,170
2059	3,969,007,170	2,878,235	197,433,885	4,065,612	290,227,240	4,060,613,148
2060	4,060,613,148	2,188,438	192,527,320	4,207,908	297,250,481	4,163,316,839
2061	4,163,316,839	1,606,238	186,880,762	4,355,185	305,137,649	4,278,824,779
2062	4,278,824,779	1,177,468	180,887,947	4,507,616	314,003,680	4,408,610,364
2063	4,408,610,364	816,240	174,430,673	4,665,383	323,960,284	4,554,290,832
2064	4,554,290,832	561,283	167,793,610	4,828,671	335,119,525	4,717,349,359
2065	4,717,349,359	355,243	160,840,560	4,997,674	347,595,590	4,899,461,958
2066	4,899,461,958	225,075	153,843,779	5,172,593	361,504,973	5,102,175,634
2067	5,102,175,634	121,330	146,766,711	5,353,634	376,963,209	5,327,139,828
2068	5,327,139,828	53,932	139,606,909	5,541,011	394,094,463	5,576,140,303
2069	5,576,140,303	26,389	132,515,902	5,734,946	413,027,106	5,850,942,950
2070	5,850,942,950	11,211	125,524,591	5,935,669	433,891,382	6,153,385,283
2071	6,153,385,283	3,386	118,651,474	6,143,417	456,824,215	6,485,417,993
2072	6,485,417,993	-	111,903,390	6,358,437	481,971,531	6,849,127,697
2073	6,849,127,697	-	105,299,585	6,580,982	509,489,056	7,246,736,186
2074	7,246,736,186	-	98,842,259	6,811,316	539,543,205	7,680,625,816
2075	7,680,625,816	-	92,534,679	7,049,712	572,312,522	8,153,353,947
2076	8,153,353,947	-	86,380,734	7,296,452	607,988,652	8,667,665,413
2077	8,667,665,413	-	80,384,313	7,551,828	646,777,301	9,226,506,573
2078	9,226,506,573	-	74,549,514	7,816,142	688,899,281	9,833,040,198
2079	9,833,040,198	-	68,881,128	8,089,707	734,591,609	10,490,660,972
2080	10,490,660,972	-	63,385,776	8,372,847	784,108,625	11,203,010,974
2081	11,203,010,974	-	58,070,708	8,665,897	837,723,200	11,973,997,569
2082	11,973,997,569	-	52,944,738	8,969,203	895,728,045	12,807,811,673
2083	12,807,811,673	-	48,018,778	9,283,125	958,437,054	13,708,946,824
2084	13,708,946,824	-	43,305,177	9,608,034	1,026,186,766	14,682,220,379
2085	14,682,220,379	-	38,817,403	9,944,315	1,099,337,964	15,732,796,625
2086	15,732,796,625	-	34,568,718	10,292,366	1,178,277,456	16,866,212,997
2087	16,866,212,997	-	30,570,265	10,652,599	1,263,420,117	18,088,410,250
2088	18,088,410,250	-	26,831,515	11,025,440	1,355,211,133	19,405,764,428
2089	19,405,764,428	-	23,360,162	11,411,330	1,454,128,401	20,825,121,337
2090	20,825,121,337	-	20,160,677	11,810,727	1,560,685,173	22,353,835,106
2091	22,353,835,106	-	17,234,895	12,224,102	1,675,432,921	23,999,809,030
2092	23,999,809,030	-	14,582,530	12,651,946	1,798,964,384	25,771,538,938

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the Pension Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2093	25,771,538,938	-	12,200,628	13,094,764	1,931,916,843	27,678,160,389
2094	27,678,160,389	-	10,084,195	13,553,081	2,074,975,631	29,729,498,744
2095	29,729,498,744	-	8,225,888	14,027,439	2,228,877,906	31,936,123,323
2096	31,936,123,323	-	6,615,603	14,518,399	2,394,416,724	34,309,406,045
2097	34,309,406,045	-	5,240,598	15,026,543	2,572,445,436	36,861,584,340
2098	36,861,584,340	-	4,085,087	15,552,472	2,763,882,417	39,605,829,198
2099	39,605,829,198	-	3,130,378	16,096,809	2,969,716,170	42,556,318,181
2100	42,556,318,181	-	2,355,843	16,660,197	3,191,010,762	45,728,312,903
2101	45,728,312,903	-	1,739,761	17,243,304	3,428,911,603	49,138,241,441
2102	49,138,241,441	-	1,259,758	17,846,820	3,684,651,611	52,803,786,474
2103	52,803,786,474	-	893,692	18,471,459	3,959,557,792	56,743,979,115
2104	56,743,979,115	-	620,731	19,117,960	4,255,058,233	60,979,298,657
2105	60,979,298,657	-	421,961	19,787,089	4,572,689,560	65,531,779,167
2106	65,531,779,167	-	280,664	20,479,637	4,914,104,926	70,425,123,792
2107	70,425,123,792	-	182,606	21,196,424	5,281,082,571	75,684,827,333
2108	75,684,827,333	-	116,219	21,938,299	5,675,535,006	81,338,307,821
2109	81,338,307,821	-	72,412	22,706,139	6,099,518,891	87,415,048,161
2110	87,415,048,161	-	44,199	23,500,854	6,555,245,673	93,946,748,781
2111	93,946,748,781	-	26,428	24,323,384	7,045,093,041	100,967,492,010
2112	100,967,492,010	-	15,481	25,174,702	7,571,617,269	108,513,919,096
2113	108,513,919,096	-	8,883	26,055,817	8,137,566,506	116,625,420,902
2114	116,625,420,902	-	4,983	26,967,771	8,745,895,089	125,344,343,237
2115	125,344,343,237	-	2,728	27,911,643	9,399,778,954	134,716,207,820
2116	134,716,207,820	-	1,454	28,888,551	10,102,632,211	144,789,950,026
2117	144,789,950,026	-	748	29,899,650	10,858,124,987	155,618,174,615
2118	155,618,174,615	-	372	30,946,138	11,670,202,602	167,257,430,707
2119	167,257,430,707	-	183	32,029,253	12,543,106,199	179,768,507,470
2120	179,768,507,470	-	88	33,150,277	13,481,394,922	193,216,752,027
2121	193,216,752,027	-	39	34,310,537	14,489,969,755	207,672,411,206
2122	207,672,411,206	-	17	35,511,406	15,574,099,162	223,210,998,945
2123	223,210,998,945	-	8	36,754,305	16,739,446,634	239,913,691,266
2124	239,913,691,266	-	3	38,040,706	17,992,100,318	257,867,750,875
2125	257,867,750,875	-	1	39,372,131	19,338,604,861	277,166,983,604
2126	277,166,983,604	-	-	40,750,156	20,785,995,639	297,912,229,087
2127	297,912,229,087	-	-	42,176,411	22,341,835,566	320,211,888,242

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments			
		Projected Benefit Payments (b)	"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g)
2021	898,658,766	101,430,261	101,430,261	-	97,828,031	-	97,828,031
2022	970,748,769	107,496,253	107,496,253	-	96,445,203	-	96,445,203
2023	1,046,691,948	113,998,634	113,998,634	-	95,143,360	-	95,143,360
2024	1,127,347,583	120,247,362	120,247,362	-	93,356,795	-	93,356,795
2025	1,214,149,247	126,604,176	126,604,176	-	91,434,468	-	91,434,468
2026	1,308,475,643	133,063,087	133,063,087	-	89,394,550	-	89,394,550
2027	1,412,103,622	139,645,120	139,645,120	-	87,271,159	-	87,271,159
2028	1,526,383,783	146,219,363	146,219,363	-	85,004,400	-	85,004,400
2029	1,653,333,271	152,596,778	152,596,778	-	82,522,698	-	82,522,698
2030	1,795,470,707	158,878,857	158,878,857	-	79,925,562	-	79,925,562
2031	1,951,884,057	165,442,037	165,442,037	-	77,420,682	-	77,420,682
2032	2,117,404,898	171,614,077	171,614,077	-	74,706,015	-	74,706,015
2033	2,293,485,088	177,634,158	177,634,158	-	71,931,759	-	71,931,759
2034	2,481,437,781	183,010,783	183,010,783	-	68,938,592	-	68,938,592
2035	2,683,102,383	188,022,400	188,022,400	-	65,885,047	-	65,885,047
2036	2,900,294,651	192,768,606	192,768,606	-	62,835,505	-	62,835,505
2037	2,945,992,278	196,974,826	196,974,826	-	59,727,050	-	59,727,050
2038	2,989,467,491	200,791,524	200,791,524	-	56,636,610	-	56,636,610
2039	3,031,002,358	204,043,499	204,043,499	-	53,538,497	-	53,538,497
2040	3,071,032,308	207,014,815	207,014,815	-	50,528,496	-	50,528,496
2041	3,109,782,914	209,671,643	209,671,643	-	47,606,492	-	47,606,492
2042	3,147,489,650	212,010,152	212,010,152	-	44,779,029	-	44,779,029
2043	3,184,389,778	213,825,602	213,825,602	-	42,011,603	-	42,011,603
2044	3,220,934,000	215,258,155	215,258,155	-	39,342,387	-	39,342,387
2045	3,257,470,275	216,597,658	216,597,658	-	36,825,308	-	36,825,308
2046	3,294,055,105	217,827,781	217,827,781	-	34,450,651	-	34,450,651
2047	3,330,705,535	218,394,197	218,394,197	-	32,130,449	-	32,130,449
2048	3,368,029,969	218,890,358	218,890,358	-	29,956,693	-	29,956,693
2049	3,406,217,562	218,477,698	218,477,698	-	27,814,156	-	27,814,156
2050	3,446,144,726	218,150,517	218,150,517	-	25,834,886	-	25,834,886
2051	3,487,993,280	217,433,830	217,433,830	-	23,953,499	-	23,953,499
2052	3,532,199,772	216,472,939	216,472,939	-	22,183,854	-	22,183,854
2053	3,579,460,835	214,988,556	214,988,556	-	20,494,638	-	20,494,638
2054	3,630,528,889	213,213,505	213,213,505	-	18,907,371	-	18,907,371

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments			
		Projected Benefit Payments (b)	"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g)
2055	3,686,039,652	211,042,096	211,042,096	-	17,409,130	-	17,409,130
2056	3,746,741,506	208,581,696	208,581,696	-	16,005,738	-	16,005,738
2057	3,813,354,855	205,425,722	205,425,722	-	14,663,778	-	14,663,778
2058	3,887,054,621	201,766,896	201,766,896	-	13,397,770	-	13,397,770
2059	3,969,007,170	197,433,885	197,433,885	-	12,195,393	-	12,195,393
2060	4,060,613,148	192,527,320	192,527,320	-	11,062,621	-	11,062,621
2061	4,163,316,839	186,880,762	186,880,762	-	9,988,995	-	9,988,995
2062	4,278,824,779	180,887,947	180,887,947	-	8,994,113	-	8,994,113
2063	4,408,610,364	174,430,673	174,430,673	-	8,067,949	-	8,067,949
2064	4,554,290,832	167,793,610	167,793,610	-	7,219,502	-	7,219,502
2065	4,717,349,359	160,840,560	160,840,560	-	6,437,525	-	6,437,525
2066	4,899,461,958	153,843,779	153,843,779	-	5,727,892	-	5,727,892
2067	5,102,175,634	146,766,711	146,766,711	-	5,083,162	-	5,083,162
2068	5,327,139,828	139,606,909	139,606,909	-	4,497,849	-	4,497,849
2069	5,576,140,303	132,515,902	132,515,902	-	3,971,527	-	3,971,527
2070	5,850,942,950	125,524,591	125,524,591	-	3,499,531	-	3,499,531
2071	6,153,385,283	118,651,474	118,651,474	-	3,077,129	-	3,077,129
2072	6,485,417,993	111,903,390	111,903,390	-	2,699,649	-	2,699,649
2073	6,849,127,697	105,299,585	105,299,585	-	2,363,101	-	2,363,101
2074	7,246,736,186	98,842,259	98,842,259	-	2,063,430	-	2,063,430
2075	7,680,625,816	92,534,679	92,534,679	-	1,796,980	-	1,796,980
2076	8,153,353,947	86,380,734	86,380,734	-	1,560,440	-	1,560,440
2077	8,667,665,413	80,384,313	80,384,313	-	1,350,806	-	1,350,806
2078	9,226,506,573	74,549,514	74,549,514	-	1,165,355	-	1,165,355
2079	9,833,040,198	68,881,128	68,881,128	-	1,001,625	-	1,001,625
2080	10,490,660,972	63,385,776	63,385,776	-	857,409	-	857,409
2081	11,203,010,974	58,070,708	58,070,708	-	730,710	-	730,710
2082	11,973,997,569	52,944,738	52,944,738	-	619,730	-	619,730
2083	12,807,811,673	48,018,778	48,018,778	-	522,856	-	522,856
2084	13,708,946,824	43,305,177	43,305,177	-	438,634	-	438,634
2085	14,682,220,379	38,817,403	38,817,403	-	365,747	-	365,747
2086	15,732,796,625	34,568,718	34,568,718	-	302,990	-	302,990
2087	16,866,212,997	30,570,265	30,570,265	-	249,251	-	249,251
2088	18,088,410,250	26,831,515	26,831,515	-	203,504	-	203,504

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments			
		Projected Benefit Payments (b)	"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g)
2089	19,405,764,428	23,360,162	23,360,162	-	164,815	-	164,815
2090	20,825,121,337	20,160,677	20,160,677	-	132,317	-	132,317
2091	22,353,835,106	17,234,895	17,234,895	-	105,223	-	105,223
2092	23,999,809,030	14,582,530	14,582,530	-	82,819	-	82,819
2093	25,771,538,938	12,200,628	12,200,628	-	64,457	-	64,457
2094	27,678,160,389	10,084,195	10,084,195	-	49,559	-	49,559
2095	29,729,498,744	8,225,888	8,225,888	-	37,606	-	37,606
2096	31,936,123,323	6,615,603	6,615,603	-	28,134	-	28,134
2097	34,309,406,045	5,240,598	5,240,598	-	20,732	-	20,732
2098	36,861,584,340	4,085,087	4,085,087	-	15,033	-	15,033
2099	39,605,829,198	3,130,378	3,130,378	-	10,716	-	10,716
2100	42,556,318,181	2,355,843	2,355,843	-	7,502	-	7,502
2101	45,728,312,903	1,739,761	1,739,761	-	5,154	-	5,154
2102	49,138,241,441	1,259,758	1,259,758	-	3,471	-	3,471
2103	52,803,786,474	893,692	893,692	-	2,291	-	2,291
2104	56,743,979,115	620,731	620,731	-	1,480	-	1,480
2105	60,979,298,657	421,961	421,961	-	936	-	936
2106	65,531,779,167	280,664	280,664	-	579	-	579
2107	70,425,123,792	182,606	182,606	-	350	-	350
2108	75,684,827,333	116,219	116,219	-	208	-	208
2109	81,338,307,821	72,412	72,412	-	120	-	120
2110	87,415,048,161	44,199	44,199	-	68	-	68
2111	93,946,748,781	26,428	26,428	-	38	-	38
2112	100,967,492,010	15,481	15,481	-	21	-	21
2113	108,513,919,096	8,883	8,883	-	11	-	11
2114	116,625,420,902	4,983	4,983	-	6	-	6
2115	125,344,343,237	2,728	2,728	-	3	-	3
2116	134,716,207,820	1,454	1,454	-	1	-	1
2117	144,789,950,026	748	748	-	1	-	1
2118	155,618,174,615	372	372	-	-	-	-
2119	167,257,430,707	183	183	-	-	-	-
2120	179,768,507,470	88	88	-	-	-	-
2121	193,216,752,027	39	39	-	-	-	-
2122	207,672,411,206	17	17	-	-	-	-

APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments			Present Value of Benefit Payments Using the Single Discount Rate (g)
		Projected Benefit Payments (b)	"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	
2123	223,210,998,945	8	8	-	-	-	-
2124	239,913,691,266	3	3	-	-	-	-
2125	257,867,750,875	1	1	-	-	-	-
2126	277,166,983,604	-	-	-	-	-	-
2127	297,912,229,087	-	-	-	-	-	-