PLYMOUTH COUNTY RETIREMENT ASSOCIATION

FINANCIAL STATEMENTS

YEAR ENDED DECEMBER 31, 2018

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Financial Section

Independent Auditor's Report

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Independent Auditor's Report

To the Honorable Plymouth Retirement Board Plymouth County Retirement Association Plymouth, Massachusetts

Report on the Financial Statements

We have audited the accompanying financial statements of the Plymouth County Retirement Association as of and for the year ended December 31, 2018, and the related notes to the financial statements, which collectively comprise the Plymouth County Retirement Association's financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Plymouth County Retirement Association as of December 31, 2018 and the results of its operations and changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis, the Schedule of Changes in the Net Pension Liability and Related Ratios; the Schedule of Contributions; and the Schedule of Investment Return be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 24, 2019, on our consideration of the Plymouth County Retirement Association's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Plymouth County Retirement Association's internal control over financial reporting and compliance.

Restriction on Use

This report is intended solely for the information and use of the Plymouth County Retirement Association, the Public Employee Retirement Administration Commission and all member units and is not intended to be and should not be used by anyone other than these specified parties.

October 24, 2019

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Management's Discussion and Analysis

As management of the Plymouth County Retirement Association (the "Association"), we offer readers of these financial statements this narrative overview and analysis of the financial activities for the year ended December 31, 2018. The Association complies with financial reporting requirements issued by the Governmental Accounting Standards Board (GASB).

The GASB is the authoritative standard setting body that provides guidance on how to prepare financial statements in conformity with generally accepted accounting principles (GAAP). Users of these financial statements rely on the GASB to establish consistent reporting standards for all governments in the United States. This consistent application is the only way users can assess the financial condition of a public retirement association compared to others.

Financial Highlights

- The Association's assets exceeded its liabilities at the close of the most recent year by \$936.6 million (net position).
- The Association's net position decreased by \$83.1 million for the year ended December 31, 2018.
- Total investment loss was \$63.9 million; investment expenses were \$8.6 million; and net investment loss was \$72.6 million.
- Total contributions were \$107.1 million including \$72.8 million from employers, \$27.3 million from members and \$7.0 million from other sources.
- Retirement benefits, refunds and transfers amounted to \$115.7 million.
- Administrative expenses were \$1.8 million.
- The Total Pension Liability is \$1.669 billion as of December 31, 2018 while the Net Pension Liability is \$732.6 million.
- The Plan fiduciary net position as a percentage of the total pension liability is 56.11%.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the Association fiduciary financial statements. These fiduciary financial statements comprise of four components: 1) management's discussion and analysis, 2) fiduciary financial statements, 3) notes to the financial statements and 4) required supplementary information.

Fiduciary Financial Statements

The *statement of net position* presents information on all assets and deferred outflows less deferred inflows and liabilities with the difference reported as *net position*. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position is improving or deteriorating.

The statement of changes in fiduciary net position presents information showing how the Association's net position changed during the most recent year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, additions and deductions are reported in this statement for some items that will only result in cash flows in future periods.

Notes to the financial statements

The notes provide additional information that is essential to a full understanding of the data provided in the fiduciary financial statements.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Schedule of Changes in the Net Pension Liability and Related Ratios; the Schedule of Contributions; and the Schedule of Investment Return be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context.

Financial Analysis

As noted earlier, net position may serve over time as a useful indicator of the Association's financial position. The Association's net position exceeded liabilities by \$936.6 million at the close of 2018.

The assets accumulated are held to provide pension benefits for qualified retirees along with active and inactive employees of the member units. At year-end the Association's net position include investments of \$926.5 million, cash of \$12.1 million, as well as accounts receivable and other assets of \$6.2 million.

In 2018, the Association's total contributions were \$107.1 million and net investment loss was \$72.6 million while retirement benefit payments, refunds, transfers and administration expenses were \$117.6 million, which resulted in a current decrease of \$83.1 million.

During 2018 net position decreased by \$83.1 million. This decrease was primarily the result of the \$72.6 million net investment loss. Net position also decreased due to current contributions not being sufficient to support the current expenses and therefore a portion of net investment income was needed to support the remaining expenses. The annual money weighted rate of return was a loss of (-7.1%) and a gain of 16.30% in 2018 and 2017 respectively. Fluctuations in the Association's annual investment returns are expected.

The following tables present summarized financial information for the year.

	2018	2017
Statement of Fiduciary Net Position		
Assets:		
Cash\$	12,099,482	\$ 7,607,381
Investments	926,504,968	1,012,111,628
Receivables	5,101,109	7,699,564
Other assets	1,082,838	1,099,153
-		
Total assets	944,788,397	1,028,517,726
	_	
Liabilities:		
Accounts payable	8,148,591	8,810,280
Net Position Restricted for Pension Benefits \$	936,639,806	\$ 1,019,707,446

	2018	2017
Statement of Changes in Fiduciary Net Position		
Additions:		
Contributions:		
Member contributions\$	27,326,242 \$	26,076,090
Employer contributions	72,811,482	69,896,514
Other contributions	6,940,373	4,788,362
Total contributions	107,078,097	100,760,966
Net investment income (loss):		
Total investment income (loss)	(63,921,914)	152,487,999
Less, investment expenses	(8,646,486)	(7,580,883)
Net investment income (loss)	(72,568,400)	144,907,116
Total additions	34,509,697	245,668,082
Deductions:		
Administration	1,828,777	1,737,836
Retirement benefits, refunds and transfers	115,748,560	110,807,537
Total deductions	117,577,337	112,545,373
Net increase (decrease) in fiduciary net position	(83,067,640)	133,122,709
Fiduciary net position at beginning of year	1,019,707,446	886,584,737
Fiduciary net position at end of year\$	936,639,806 \$	1,019,707,446

Requests for Information

This financial report is designed to provide a general overview of the Association's finances for all those with an interest in the Association's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Association's Board, 10 Cordage Circle, Suite 234, Plymouth, MA 02360.

Financial Statements

STATEMENT OF FIDUCIARY NET POSITION

DECEMBER 31, 2018

Assets	_	
•	\$	12,099,482
Investments:		
Fixed income		108,472,228
Domestic equities		208,039,745
International equities		398,009,658
Real estate funds		110,167,658
Venture capital funds		21,304,419
Hedge funds		45,958,916
Bank loan		34,552,344
Total investments		926,504,968
Accounts receivable:		
Member contributions		1,394,873
Employer pension appropriation		347,292
3(8)c Reimbursements from other systems		1,952,207
Due from Commonwealth - sheriff retirees (See Note 7)		1,101,247
Other accounts receivable		305,490
Total accounts receivable		5,101,109
		_
Interest and dividends		1,051,163
Other assets		31,675
Total Assets		944,788,397
Liabilities		
Accounts payable		8,148,591
Net Position Restricted for Pensions	\$	936,639,806

See notes to financial statements.

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

YEAR ENDED DECEMBER 31, 2018

Additions:		
Contributions:		
Employer pension assessments	\$	72,127,482
Employer additional contributions		684,000
Member contributions		27,326,242
Transfers from other systems		2,467,211
3(8)(c) contributions from other systems		3,119,006
State COLA reimbursements		526,967
Members' makeup payments and redeposits		565,125
Other revenue	_	262,064
Total contributions	_	107,078,097
Net investment income:		
Investment income (loss)		(63,921,914)
investment moonie (iess)		(00,021,014)
Less: investment expense	_	(8,646,486)
Net investment income (loss)	_	(72,568,400)
Total additions	_	34,509,697
Deductions:		
Administration		1,828,777
Retirement benefits and refunds		105,591,653
Transfers to other systems		2,248,109
3(8)(c) transfer to other systems		7,908,798
Total deductions		117,577,337
Net increase (decrease) in fiduciary net position	_	(83,067,640)
Fiduciary net position at beginning of year		1,019,707,446
Fiduciary net position at end of year	\$_	936,639,806

See notes to financial statements.

NOTE 1 – PLAN DESCRIPTION

Established in 1937, the Plymouth County Retirement Association is a multiple-employer, cost-sharing, contributory defined benefit pension plan covering all employees of the governmental member units deemed eligible by the Plymouth County Retirement Board (the Board), with the exception of school department employees who serve in a teaching capacity. The pensions of such school employees are administered by the Commonwealth of Massachusetts' Teachers Retirement System. Membership in the Association is mandatory immediately upon the commencement of employment for all permanent employees working a minimum of 20 hours per week. The Association has 54 participating employers.

The Association is governed by a five-member Board that establishes the policies under which the Association operates. Board members also approve most of the Association's financial transactions, including the approval of retirement benefits to members. The day-to-day operations of the Association are managed by the Executive Director.

The legislative body for the Association is an Advisory Council consisting of treasurers of the member units. The Advisory Council meets semi-annually and is responsible for supervising and certifying the procedures involved in the election of members to the retirement board.

The Association is a member of the Massachusetts Contributory Retirement System and is governed by Chapter 32 of the Massachusetts General Laws (MGL). Public Employee Retirement Administration Commission (PERAC) is the state agency responsible for oversight of the Commonwealth's public retirement systems.

Massachusetts contributory retirement system benefits are, with certain exceptions, uniform from system to system. The Plan provides for retirement allowance benefits up to a maximum of 80% of a member's highest three-year average annual rate of regular compensation for those hired prior to April 2, 2012. For persons who became members on or after April 2, 2012, average salary is the average annual rate of regular compensation received during the five consecutive years that produce the highest average, or, if greater, during the last five years (whether or not consecutive) preceding retirement. Benefit payments are based upon a member's age, length of creditable service, level of compensation, and group classification.

There are three classes of membership in the retirement Association Group 1, Group 2 and Group 4. Group 1 consists of general employees, which includes clerical and administrative positions. Group 2 consists of positions that have been specified as hazardous. Lastly, Group 4 consists of police officers, firefighters, and other hazardous positions.

Any individual in whose membership began before January 1, 1978, and who maintains an annuity savings fund account, is eligible to receive a superannuation retirement allowance at age 55 or later, regardless of how many years of credible service he or she has completed.

Members hired after January 1, 1978 and prior to April 2, 2012, are eligible to receive a superannuation retirement allowance upon the completion of 20 years of service or upon the completion of 10 years of service and upon reaching the age of 55.

Members hired on or after April 2, 2012, are eligible to receive a superannuation retirement allowance upon the completion of 10 years of service and upon reaching the age of 60 for Groups 1 & 2 or age 55 for Group 4.

A retirement allowance consists of two parts: an annuity and a pension. A member's accumulated total deductions and the interest they generate constitute the annuity. The differential between the total retirement benefit and the annuity is the pension.

Active members contribute between 5 and 9% of their gross regular compensation. The percentage rate is keyed to the date upon which an employee's membership commences. Members hired on or after January 1, 1979, contribute an additional 2% of annual regular compensation in excess of \$30,000. Deductions are deposited in the Annuity Savings Fund and earn interest at a rate determined by the PERAC actuary. When a member's retirement becomes effective, his/her deductions and related interest are transferred to the Annuity Reserve Fund. Any cost-of-living adjustments granted between 1981 and 1997 and any increase in other benefits imposed by the Commonwealth of Massachusetts' state law during those years are borne by the Commonwealth and are deposited into the Pension Fund. Cost-of-living adjustments granted after 1997 must be approved by the Association and all costs are borne by the Association.

The pension portion of any retirement benefit is paid from the Pension Fund of the Association. The governmental unit employing the member must annually appropriate and contribute the amount of current-year pension assessment. Chapter 32 of the MGL requires Massachusetts retirement systems to adopt funding schedules designed to reduce the unfunded actuarial liability of the system to zero by no later than June 30, 2040. The Association adopted Section 22d of Chapter 32 in April of 1989. The Association's current funding schedule is designed to reduce the unfunded actuarial liability to zero by 2029.

Administrative expenses are paid from investment income.

Members who become permanently and totally disabled for further duty may be eligible to receive a disability retirement allowance. The amount of benefits to be received in such cases is dependent on several factors, including whether or not the disability is work related, the member's age, years of creditable service, level of compensation, veterans' status and group classification.

Employees who resign from service are entitled to request a refund of their accumulated total deductions.

Survivor benefits are extended to eligible beneficiaries of members whose death occurs prior to or following retirement.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accompanying financial statements of the Association have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The Governmental Accounting Standards Board (GASB) is the recognized standard-setting body for establishing governmental accounting and financial reporting principles.

The Association is a special-purpose government engaged only in fiduciary activities. Accordingly, the financial statements are reported using the flow of economic resources measurement focus and use the accrual basis of accounting. Under this method, additions are recorded when earned and deductions are recorded when the liabilities are incurred.

Cash and Investments

Cash and cash equivalents are considered to be cash on hand, demand deposits and short-term investments with an original maturity of three months or less from the date of acquisition. Investments are carried at fair value. The fair values were determined by the closing price for those securities traded on national stock exchanges and at the average bid-and-asked quotation for those securities traded in the over-the-counter market. The fair value of private equities are based on management's valuation of estimates and assumptions from information and representations provided by the respective general partners, in the absence of readily ascertainable market values. Real estate assets are reported at fair value utilizing an income approach to valuation along with independent appraisals and estimates by management.

Accounts Receivable

Accounts receivable consist of member deductions, pension fund appropriations, and other miscellaneous reimbursements. These receivables are considered 100% collectible and therefore the Association does not report an allowance for uncollectibles.

Fair Value Measurements

The Association reports required types of financial instruments in accordance with the fair value standards. These standards require an entity to maximize the use of observable inputs (such as quoted prices in active markets) and minimize the use of unobservable inputs (such as appraisals or valuation techniques) to determine fair value. Fair value standards also require the government to classify these financial instruments into a three-level hierarchy, based on the priority of inputs to the valuation technique or in accordance with net asset value practical expedient rules, which allow for either Level 2 or Level 3 depending on lock up and notice periods associated with the underlying funds.

Instruments measured and reported at fair value are classified and disclosed in one of the following categories:

Level 1 – Quoted prices are available in active markets for identical instruments as of the reporting date. Instruments, which are generally included in this category, include actively traded equity and debt securities, U.S. government obligations, and mutual funds with quoted market prices in active markets.

Level 2 – Pricing inputs are other than quoted in active markets, which are either directly or indirectly observable as of the reporting date, and fair value is determined through the use of models or other valuation methodologies. Certain fixed income securities, primarily corporate bonds, are classified as Level 2 because fair values are estimated using pricing models, matrix pricing, or discounted cash flows.

Level 3 – Pricing inputs are unobservable for the instrument and include situations where there is little, if any, market activity for the instrument. The inputs into the determination of fair value require significant management judgment or estimation.

In some instances the inputs used to measure fair value may fall into different levels of the fair value hierarchy and is based on the lowest level of input that is significant to the fair value measurement.

Market price is affected by a number of factors, including the type of instrument and the characteristics specific to the instrument. Instruments with readily available active quoted prices generally will have a higher degree of market price observability and a lesser degree of judgment used in measuring fair value. It is reasonably possible that change in values of these instruments will occur in the near term and that such changes could materially affect amounts reported in these financial statements. For more information on the fair value of the Association's financial instruments, see Note 4 – Cash and Investments.

Deferred Outflows/Inflows of Resources

In addition to assets, the statement of fiduciary net position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, *deferred outflows of resources*, represents a consumption of fiduciary net position that applies to a future period(s) and so will not be recognized as an outflow of resources (deduction) until then. The Association did not have any items that qualify for reporting in this category.

In addition to liabilities, the statement of fiduciary net position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, *deferred inflows of resources*, represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (addition) until that time. The Association did not have any items that qualify for reporting in this category.

NOTE 3 – PLAN ADMINISTRATION

The Association is administered by a five-person Board of Retirement consisting of the County Finance Director/Treasurer, who shall be a member ex-officio, a second member appointed by the governing authority (the County Commission), a third and fourth member who shall be elected by the members in or retired from the service of such Association, and a fifth member appointed by the Advisory Council consisting of representatives from the member units.

Chairman Thomas J. O'Brien

Appointed Member James Harrington

Elected Member Joseph McDonough

Elected Member John Sciara

Member Mary Beth Carter

Board members are required to meet at least once a month. The Board must keep a record of all of its proceedings. The Board must annually submit to the appropriate authority an estimate of the expenses of administration and cost of operation of the Association. The Board must annually file a financial statement of condition for the Association with the Executive Director of PERAC.

The investment of the Association's funds is the responsibility of the Board. All retirement allowances must be approved by the Retirement Board. The PERAC Actuary performs verification prior to payment, unless the Association has obtained a waiver for superannuation calculations allowing them to bypass this requirement. All expenses incurred by the Association must be approved by a majority vote of the Board. Payments shall be made only upon vouchers signed by four members of the Board.

The following retirement board members and employees are bonded by an authorized agent representing a company licensed to do business in Massachusetts as follows:

Treasurer-Custodian:

Ex-Officio Member:

Elected Members:

Appointed Members:

Staff Employees:

) MACRS Blanket Policy

\$50,000,000 Fiduciary Liability

\$1,000,000 Fidelity (ERISA) Bond

St. Paul Travelers Insurance Company

National Union Fire Arch Insurance

Company

NOTE 4 – CASH AND INVESTMENTS

Custodial Credit Risk - Deposits

At December 31, 2018, the carrying amount of the Association's deposits totaled \$12.1 million and the bank balance of \$13.0 million was covered by Federal Depository Insurance.

Investments

The Association's investments are as follows:

			Maturity			
	Fair Value	Under 1 Year	6-10 Years	6-10 Years	Over 10 Years	
Investment Type						
Debt Securities:						
Fixed Income\$	108,472,228	\$ 870,559	\$ 31,524,180	\$ 42,596,097	\$ 33,481,392	
Other Investments:						
Money Market Mutual Funds	3,448					
Domestic Equities	208,039,745					
International Equities	398,009,658					
Real Estate Funds	110,167,658					
Venture Capital Funds	21,304,419					
Hedge Funds	45,958,916					
Bank Loan	34,552,344	_				
Total Investments\$	926,508,416	_				

The Administration's annual money-weighted rate of return on pension plan investments was a loss of (-7.1%). The money–weighted rate of return expresses investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested, measured monthly.

Fair Market of Investments

The retiree pension defined benefit plan holds significant amounts of investments that are measured at fair value on a recurring basis. Because investing is a key part of the plan's activities, the plan shows greater disaggregation in its disclosures. The plan chooses a tabular format for disclosing the levels within the fair value hierarchy.

The Association categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles.

The Association has the following recurring fair value measurements as of December 31, 2018:

		Fair Value Measurements Using				g
		Quoted Prices in		Significant		Significant
		Active Markets for		Other		Unobservable
	December 31,	Identical Assets		Observable		Inputs
Investment Type	2018	(Level 1)		Inputs (Level 2)		(Level 3)
Investments by fair value level:					_	
Debt Securities						
Fixed Income\$	108,472,228	\$ -	\$	108,472,228 \$	\$	-
Other Investments						
Money Market Mutual Funds	3,448	3,448		-		-
Domestic Equities	208,039,745	208,039,745		-		-
International Equities	398,009,658	398,009,658		-		-
Real Estate Funds	110,167,658	-		-		110,167,658
Venture Capital Funds	21,304,419	-		-		21,304,419
Hedge Funds	45,958,916	-		-		45,958,916
Bank Loan	34,552,344			34,552,344	_	
Total Investments by fair value level\$	926,508,416	\$ 606,052,851	\$	143,024,572	\$	177,430,993

NOTE 5 – MEMBERSHIP

The following table represents the Association's membership at December 31, 2018:

Retirees and beneficiaries currently receiving benefits	4,104
Inactive members	1,808
Active members	5,747
-	
Total	11,659

NOTE 6 – ACTUARIAL VALUATION

Components of the net pension liability as of December 31, 2018 were as follows:

Total pension liability\$	1,669,196,814
The pension plan's fiduciary net position	936,639,806
The net pension liability\$	732,557,008
The pension plan's fiduciary net position as a percentage of the total pension liability	56.11%

The total pension liability was determined by an actuarial valuation as of January 1, 2019, using the following actuarial assumptions, applied to all periods included in the measurement date of December 31, 2018:

Valuation date	January 1, 2019
Actuarial cost method	Individual Entry Age Normal Cost Method.
Amortization method	Payments increase at 7.0% for the unfunded actuarial accrued liability, and level amortization of the 2003, and 2013 Early Retirement Incentives.
Remaining amortization period	Amortization of the unfunded actuarial accrued liability over 10 years, the 2003 ERI over one year, and the 2013 ERI over 9 years; all as of January 1, 2019.
Asset valuation method	Market value for GASB 68 and for the acuarial report market value with a five-year smoothing of asset returns greater than or less than the assumed rate of return, with a 20% corridor.
Projected salary increases	3.75% per year.
Cost of living adjustments	3.0% of the first \$14,000 of retirement income.
Rates of retirement	Varies based upon age for general employees, police and fire employees.
Rates of disability	For general employees, it was assumed that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

Mortality Rates.....

It is assumed that both pre-retirement mortality and beneficiary mortality is represented by the RP-2014 Blue Collar Mortality with Scale MP-2016, fully generational. Mortality for retired members for Group 1 and 2 is represented by the RP-2014 Blue Collar Mortality Table set forward five years for males and 3 years for females, fully generational. Mortality for retired members for Group 4 is represented by the RP-2014 Blue Collar Mortality Table set forward three years for males, and six years for females, fully generational. Mortality for disabled members for Group 1 and 2 is represented by the RP-2000 Mortality Table set forward six years. Mortality for disabled members for Group 4 is represented by the RP-2000 Mortality Table set forward two years. Generational adjusting is based on Scale MP-2016.

Investment rate of return/Discount rate.....

7.875% nominal rate, net of investment expense.

Investment policy: The pension plan's policy in regard to the allocation of invested assets is established by the Board. Plan assets are managed on a total return basis with a long-term objective of achieving a fully funded status for the benefits provided through the pension plan.

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 nominal 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 January 1, 2019 are summarized in the following table:

Asset Class	Long-Term Expected Nominal Rate of Return	Long-Term Expected Asset Allocation
Domestic equity	13.20%	22.00%
International developed equity	6.30%	14.00%
Emerging markets equity	8.00%	9.00%
Global equity	9.50%	10.00%
Domestic fixed income	3.40%	8.00%
Value-added fixed income	6.00%	11.00%
Hedge funds	3.10%	4.00%
Real estate	4.20%	11.00%
Private equity	9.20%	5.00%
Real assets	4.60%	5.00%
Cash	0.00%	1.00%
		100.00%

Discount rate: The discount rate used to measure the total pension liability was 7.875%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that contributions will be made at rates equal to the actuarially determined contribution rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future 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 position liability to changes in the discount rate. The following presents the net position liability, calculated using the discount rate of 7.875%, as well as what the net position liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.875%) or 1-percentage-point higher (8.875%) than the current rate:

		Current	
	1% Decrease	1% Increase	
	(6.875%)	(7.875%)	(8.875%)
Plymouth County Retirement Association's net	_		
pension liability as of December 31, 2018\$	905,753,273 \$	732,557,008 \$	584,902,368

Contributions: Governmental employers are required to pay an annual appropriation as established by PERAC. The total appropriation includes the amounts to pay the pension portion of each member's retirement allowance, an amount to amortize the actuarially determined unfunded liability to zero in accordance with the Association's funding schedule, and additional appropriations in accordance with adopted early retirement incentive programs.

NOTE 7 - PLYMOUTH COUNTY SHERIFF'S RETIRED EMPLOYEES

Section 10 of Chapter 61 of the Acts of 2009 related to the transfer of the sheriff's operations from County Government to the Commonwealth and required the Commonwealth to pay off the unfunded pension liability of the retired sheriff's employees. Section 11 of Chapter 34D of the Massachusetts General Laws provides a mechanism for allowing the County to retain additional deeds excise tax to satisfy the actuarial determined liability. The Commonwealth established a twelve-year amortization schedule for the FY2011 through FY2022 annual assessments. The Commonwealth withheld, in error, \$550,619 from each of the required amortization payments for the first four fiscal years. The Association and Commonwealth signed a settlement agreement where the Commonwealth agreed that it was in arrears \$2,202,476. The Commonwealth, County, PERAC and the Association established a ten-year straight-line payment schedule of \$220,247 in November 2014 to satisfy the liability. The required payment of \$220,247 was received in 2018. The five remaining payments totaling \$1,101,247, at year-end, has been recorded as a receivable.

NOTE 8 – COMMITMENTS AND CONTINGENCIES

There are no legal actions or claims pending that would materially affect the financial position at December 31, 2018.

NOTE 9 – IMPLEMENTATION OF GASB PRONOUNCEMENTS

During 2018, the following GASB pronouncements were implemented:

- The GASB issued Statement #85, *Omnibus 2017*. The financial statements and related notes were not impacted by the implementation of this pronouncement.
- The GASB issued Statement #86, Certain Debt Extinguishment Issues. The financial statements and related notes were not impacted by the implementation of this pronouncement.

The following GASB pronouncements will be implemented in the future:

- The GASB issued Statement #83, Certain Asset Retirement Obligations, which is required to be implemented in 2019.
- The GASB issued Statement #84, Fiduciary Activities, which is required to be implemented in 2019.
- The GASB issued Statement #87, Leases, which is required to be implemented in 2020.
- The GASB issued Statement #88, Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements, which is required to be implemented in 2019.
- The GASB issued Statement #89, Accounting for Interest Costs Incurred Before the End of a Construction Period, which is required to be implemented in 2020.
- The GASB issued Statement #90, Majority Equity Interests An Amendment of GASB Statements No. 14 and No. 61, which is required to be implemented in 2019.
- The GASB issued Statement #91, Conduit Debt Obligations, which is required to be implemented in 2021.

Management is currently assessing the impact the implementation of these pronouncements will have on the basic financial statements.

NOTE 10 - SUBSEQUENT EVENTS

Management has evaluated subsequent events through October 24, 2019, which is the date the financial statements were available to be issued.

Required Supplementary Information

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS

Total pension liability: Service cost		December 31, 2014 30,880,169 111,727,069	\$	December 31, 2015 32,038,175 115,962,263	\$	December 31, 2016 33,239,607 116,054,394 6,700,296 21,421,023	\$	December 31, 2017 26,807,632 119,404,812	\$	December 31, 2018 27,772,477 122,120,554 - 59,806,942
Changes in assumptions Benefit payments		(90,825,319)		(98,626,669)		(23,402,726) (100,786,029)		- (110,807,537)		19,750,049 (115,748,560)
Net change in total pension liability	-	51,781,919	-	49,373,769	-	53,226,565	•	35,404,907	-	113,701,462
Total pension liability - beginning	_	1,365,708,192	_	1,417,490,111	-	1,466,863,880		1,520,090,445	-	1,555,495,352
Total pension liability - ending (a)	\$ _	1,417,490,111	\$	1,466,863,880	\$	1,520,090,445	\$	1,555,495,352	\$	1,669,196,814
Plan fiduciary net position: Employer pension appropriation	-	56,266,944 24,889,464 2,910,328 32,962,502 (1,521,667) (91,939,449) 23,568,122 811,013,847 834,581,969	-	67,162,327 26,259,167 2,801,874 (1,710,419) (1,553,871) (94,903,555) (1,944,477) 834,581,969 832,637,492		66,393,381 25,501,976 7,357,214 57,204,478 (1,723,774) (100,786,030) 53,947,245 832,637,492 886,584,737		69,896,514 26,076,090 4,788,362 144,907,116 (1,737,836) (110,807,537) 133,122,709 886,584,737		72,811,482 27,326,242 6,940,373 (72,568,400) (1,828,777) (115,748,560) (83,067,640) 1,019,707,446 936,639,806
Net pension liability - ending (a)-(b)	\$	582,908,142	\$	634,226,388	\$	633,505,708	\$	535,787,906	\$	732,557,008
Plan fiduciary net position as a percentage of the total pension liability		58.88% 246,703,686	\$	56.76% 255,955,074	\$	58.32% 265,029,190	\$	65.56% 275,630,362	\$	56.11% 281,665,696
Net pension liability as a percentage of covered payroll		236.28%		247.79%		239.03%		194.39%		260.08%

Note: this schedule is intended to present information for 10 years.

Until a 10-year trend is compiled, information is presented for those years for which information is available.

See notes to required supplementary information.

SCHEDULE OF CONTRIBUTIONS

	December 31, 2014	_	December 31, 2015		December 31, 2016	_	December 31, 2017	-	December 31, 2018
Actuarially determined contribution\$	58,130,647	\$	62,772,260	\$	66,255,664	\$	68,534,029	\$	72,127,482
Contributions in relation to the actuarially determined contribution	(58,130,647)	_	(62,772,260)	· -	(66,393,381)	_	(69,896,514)	-	(72,811,482)
Contribution deficiency (excess)\$		\$ _	-	\$	(137,717)	\$ _	(1,362,485)	\$	(684,000)
Covered payroll\$	246,703,686	\$	255,955,074	\$	265,029,190	\$	275,630,362	\$	281,665,696
Contributions as a percentage of covered payroll	23.56%		24.52%		25.05%		25.36%		25.85%

Note: this schedule is intended to present information for 10 years.

Until a 10-year trend is compiled, information is presented for those years for which information is available.

See notes to required supplementary information.

SCHEDULE OF INVESTMENT RETURNS

Annual money-weighted rate of return,

	rate of return,
Year	net of investment expense
December 31, 2018	-7.10%
December 31, 2017	16.30%
December 31, 2016	7.40%
December 31, 2015	0.25%
December 24, 0044	4.700/
December 31, 2014	4.70%

Note: this schedule is intended to present information for 10 years. Until a 10-year trend is compiled, information is presented for those years for which information is available.

See notes to required supplementary information.

NOTE A – CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS

The Schedule of Changes in the Net Pension Liability and Related Ratios includes the detailed changes in the Association's total pension liability, changes in the Association's net position, and the ending net pension liability. It also demonstrates the plan's net position as a percentage of the total pension liability and the net pension liability as a percentage of covered payroll.

NOTE B - CONTRIBUTIONS

Governmental employers are required to pay an annual appropriation as established by PERAC. The total appropriation includes the amounts to pay the pension portion of each member's retirement allowance, an amount to amortize the actuarially determined unfunded liability to zero in accordance with the Association's funding schedule, and additional appropriations in accordance with adopted early retirement incentive programs. The total appropriations are payable on July 1 and January 1. Employers may choose to pay the entire appropriation in July at a discounted rate. Accordingly, actual employer contributions may be less than the "total appropriation". The pension fund appropriations are allocated amongst employers based on the actuarial valuation results. An employer may contribute more than the amount required which reduces their specific net pension liability.

NOTE C - MONEY-WEIGHTED RATE OF RETURN

The money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense. A money-weighted rate of return expresses investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested. Inputs to the money-weighted rate of return calculation are determined monthly.

NOTE D - CHANGES IN ASSUMPTIONS

The following changes in assumptions were included in the January 1, 2019 actuarial valuation:

The discount rate was reduced to 7.875%; it was previously 8.00%.

NOTE E – CHANGES IN PLAN PROVISIONS

None.

Audit of Specific Elements, Accounts and Items of Financial Statements

Powers & Sullivan, LLC

Certified Public Accountants



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Independent Auditor's Report

To the Honorable Plymouth Retirement Board Plymouth County Retirement Association Plymouth, Massachusetts

We have audited the accompanying schedule of employer allocations of the Plymouth County Retirement Association as of and for the year ended December 31, 2018, and the related notes. We have also audited the total for all entities of the rows titled net pension liability, total deferred outflows of resources, total deferred inflows of resources, total contributions and total pension expense included in the accompanying schedule of pension amounts by employer of the Plymouth County Retirement Association Pension Plan as of and for the year ended December 31, 2018, and the related notes.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the schedules that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedule of employer allocations and specified row totals included in the schedule of pension amounts by employer are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations and row totals titled net pension liability, total deferred outflows of resources, total deferred inflows of resources, total contributions and total pension expense for the total of all participating entities for the Plymouth County Retirement Association as of and for the year ended December 31, 2018, in accordance with accounting principles generally accepted in the United States of America.

Other Matter

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the Plymouth County Retirement Association as of and for the year ended December 31, 2018, and our report thereon, dated October 24, 2019, expressed an unmodified opinion on those financial statements.

Restriction on Use

This report is intended solely for the information and use of the Plymouth County Retirement Association management, the Plymouth County Retirement Association employers and their auditors and is not intended to be and should not be used by anyone other than these specified parties.

October 24, 2019

bower Allie CCC

SCHEDULE OF EMPLOYER ALLOCATIONS

FOR THE YEAR ENDED DECEMBER 31, 2018

			Contribution	
	Employer	Share of	In Excess of	
	Allocation	Net Pension	Annual	Net Pension
Employer	Percentage	Liability	Appropriation	Liability
Plymouth County	5.6096% \$	41,247,907 \$	(2,756,162) \$	38,491,745
Town of Abington	3.6047%	26,505,663	-	26,505,663
Town of Bridgewater	4.8845%	35,916,053	-	35,916,053
Bridgewater Housing Authority	0.1009%	741,608	-	741,608
Bridgewater/Raynham Regional School	2.3565%	17,327,991	-	17,327,991
Town of Carver	2.9003%	21,326,193	-	21,326,193
Carver/Marion/Wareham Regional Refuse	0.0707%	519,935	-	519,935
Town of Duxbury	5.1009%	37,507,527	-	37,507,527
Duxbury Housing Authority	0.0315%	231,982	-	231,982
Town of East Bridgewater	3.4820%	25,603,508	-	25,603,508
East Bridgewater Housing Authority	0.0577%	424,197	-	424,197
Town of Halifax	1.5759%	11,588,080	-	11,588,080
Town of Hanover	4.5302%	33,311,220	-	33,311,220
Town of Hanson	2.0749%	15,257,087	-	15,257,087
Town of Kingston	3.0535%	22,452,965	-	22,452,965
Kingston Housing Authority	0.0025%	18,412	-	18,412
Town of Lakeville	1.3856%	10,188,821	-	10,188,821
Town of Marion	1.4024%	10,311,809	-	10,311,809
Town of Marshfield	7.9850%	58,714,414	-	58,714,414
Marshfield Housing Authority	0.0420%	308,574	-	308,574
Town of Mattapoisett	1.5385%	11,312,647	-	11,312,647
Town of Middleborough	8.9504%	65,813,816	-	65,813,816
Middleborough Housing Authority	0.1498%	1,101,733	_	1,101,733
Town of Norwell	3.4712%	25,523,971	_	25,523,971
Norwell Housing Authority	0.0448%	329,194	_	329,194
Old Rochester Regional School	0.9329%	6,860,055	_	6,860,055
Onset Fire District	0.3226%	2,372,113	_	2,372,113
Town of Pembroke	4.4738%	32,896,598	-	32,896,598
Plymouth County Mosquito Control	0.3001%	2,206,412	-	2,206,412
Town of Plympton	0.6587%	4,843,648	-	4,843,648
Town of Rochester	1.0429%	7,668,680	_	7,668,680
Town of Rockland	5.3560%	39,383,272	_	39,383,272
Town of Scituate	6.5071%	47,847,320	-	47,847,320
Scituate Housing Authority	0.1514%	1,113,516	-	1,113,516
Silver Lake Regional School	0.9938%	7,307,819	_	7,307,819
South Shore Regional School	0.5058%	3,719,085	_	3,719,085
Town of Wareham	5.4705%	40,225,037	_	40,225,037
Wareham Fire District	1.0524%	7,738,643	_	7,738,643
Wareham Housing Authority	0.0400%	293,844	_	293,844
Town of West Bridgewater	2.7623%	20,311,361	_	20,311,361
Town of Whitman		19,555,024	_	19,555,024
	2.6594%		-	
Whitman/Hanson Regional School	1.6165%	11,886,343	-	11,886,343 828,509
Whitman Housing Authority	0.1127%	828,509	-	•
Abington Housing Authority	0.0543%	399,157	-	399,157
Pembroke Housing Authority	0.1308%	961,807	-	961,807
Hanson Housing Authority	0.0404%	296,790	-	296,790
Rockland Housing Authority	0.0840%	617,884	-	617,884
Halifax Housing Authority	0.0709%	521,408	-	521,408
Mattapoisett Housing Authority	0.0263%	193,687	-	193,687
Acushnet/Rochester/Marion Health District	0.0203%	149,500	-	149,500
West Bridgewater Housing Authority	0.0181%	133,298	-	133,298
South Shore Tri-Town Development	0.1626%	1,195,262	-	1,195,262
Carver Housing Authority	0.0274%	201,788		201,788
Total	100.00% \$	735,313,167 \$	(2,756,162) \$	732,557,005

See notes to schedule of employer allocations and schedule of pension amounts by employer.

	_	Plymouth County	_	Town of Abington		Town of Bridgewater
Net Pension Liability Beginning net pension liability	\$	23,399,390	\$	19,513,320	\$	25,974,816
Ending net pension liability	\$	38,491,745	\$	26,505,663	\$	35,916,053
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	. \$	4,207,705	\$	2,047,881	\$	2,581,834
Net difference between projected and actual investment earnings on pension plan investments		5,098,425		3,594,748		4,532,024
Changes of assumptions		834,471		588,361		741,767
Changes in proportion and differences between employer contributions and proportionate share of contributions	. <u> </u>	3,741,172	_	291,162	_	218,493
Total Deferred Outflows of Resources	\$_	13,881,773	\$_	6,522,152	\$	8,074,118
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	412,496	\$	290,838	\$	366,671
Changes in proportion and differences between employer contributions and proportionate share of contributions		1,693,082	_	228,429		352,507
Total Deferred Inflows of Resources	\$_	2,105,578	\$_	519,267	\$	719,178
Pension Expense Proportionate share of plan pension expense	\$	5,178,838	\$	2,548,513	\$	4,641,155
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions		1,701,513	_	63,006		(602)
Total Employer Pension Expense	\$ _	6,880,351	\$ _	2,611,519	\$	4,640,553
Contributions Statutory required contribution	. \$	3,310,510	\$	2,620,527	\$	3,550,969
Contribution in relation to statutory required contribution	_					(3,550,969)
Contribution deficiency/(excess)	\$ _	(684,000)	\$ _	-	\$	<u>-</u>
Contributions as a percentage of covered payroll		86.13%		26.41%		26.29%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense June 30, 2020	-	3,607,157 2,728,515 3,034,673 2,405,850 11,776,195	_	1,793,711 1,303,961 1,297,496 1,607,717 6,002,885		2,277,373 1,643,475 1,631,222 1,802,870 7,354,940
<u>Discount Rate Sensitivity</u> 1% decrease (6.875%)	\$	47,463,781	\$	35,128,503	\$	44,287,722
Current discount rate (7.875%)	\$	38,491,745	\$	26,505,663	\$	35,916,053
1% increase (8.875%)	\$	30,650,376	\$	22,684,704	\$	28,599,392
Covered Payroll	\$	3,843,717	\$	9,922,438	\$	13,505,950
See notes to schedule of employer allocations and schedule of pension amounts by employer.						(continued)

		Bridgewater Housing Authority		Bridgewater/ Raynham Regional School	-	Town of Carver		Carver/Marion Wareham Regional Refuse
Net Pension Liability	•		•	40 700 700	•	45.050.440	•	407 470
Beginning net pension liability	\$	619,641	\$	12,798,569	\$	15,652,446	\$	437,470
Ending net pension liability	\$	741,608	\$	17,327,991	\$	21,326,193	\$	519,935
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	\$	53,311	\$	1,245,628	\$	1,533,040	\$	37,376
Net difference between projected and actual investment earnings on pension plan investments		93,579		2,186,513		2,691,022		65,607
Changes of assumptions		15,316		357,872		440,446		10,738
Changes in proportion and differences between employer contributions and proportionate share of contributions		70,341		157,596	-	345,399		33,073
Total Deferred Outflows of Resources	\$	232,547	\$	3,947,609	\$	5,009,907	\$	146,794
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	7,571	\$	176,904	\$	217,722	\$	5,308
Changes in proportion and differences between employer contributions and proportionate share of contributions		45,383		91,970		99,337		43,819
Total Deferred Inflows of Resources	\$	52,954	\$	268,874	\$	317,059	\$	49,127
Pension Expense Proportionate share of plan pension expense	\$	95,615	\$	2,238,626	\$	2,755,367	\$	67,078
in proportion and differences between employer contributions and proportionate share of contributions		2,800		40,572		188,435		(19,619)
Total Employer Pension Expense	\$	98,415	\$	2,279,198	\$	2,943,802	\$	47,459
Contributions Statutory required contribution	\$	73,324	\$	1,713,192	\$	2,108,507	\$	51,427
Contribution in relation to statutory required contribution		(73,324)		(1,713,192)		(2,108,507)		(51,427)
Contribution deficiency/(excess)	\$	-	\$		\$	-	\$	
Contributions as a percentage of covered payroll		30.27%		25.24%		29.00%		113.40%
Deferred (Inflows)/Outflows Recognized in								
Future Pension Expense June 30, 2020	\$	72,723 46,846 27,921 32,103	\$	1,212,685 847,175 765,485 853,390	\$	1,604,140 1,082,253 950,050 1,056,405	\$	30,112 25,893 19,345 22,317
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense	\$	179,593	\$	3,678,735	\$	4,692,848	\$	97,667
Discount Rate Sensitivity 1% decrease (6.875%)	\$	914,469	\$	21,366,971	\$	26,297,112	\$	641,127
Current discount rate (7.875%)	\$	741,608	\$	17,327,991	\$	21,326,193	\$	519,935
1% increase (8.875%)	\$	590,531	\$	13,798,009	\$	16,981,714	\$	414,017
Covered Payroll	\$	242,261	\$	6,786,878	\$	7,271,380	\$	45,349
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(continued)

	-	Town of Duxbury	Duxbury Housing Authority	Town of East Bridgewater		East Bridgewater Housing Authority
Net Pension Liability Beginning net pension liability	\$	26,793,727	\$ 199,915	\$ 19,102,197	\$	321,650
Ending net pension liability	\$	37,507,527	\$ 231,982	\$ 25,603,508	\$	424,197
Deferred Outflows of Resources						
Differences between expected and actual experience	\$	2,696,238	16,676	\$ 1,840,515	\$	30,494
Net difference between projected and actual investment earnings on pension plan investments		4,732,844	29,272	3,230,750		53,526
Changes of assumptions		774,636	4,791	528,784		8,761
Changes in proportion and differences between employer contributions and proportionate share of contributions	_	687,524	15,652	145,184	•	31,418
Total Deferred Outflows of Resources	\$	8,891,242	\$ 66,391	\$ 5,745,233	\$	124,199
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	382,919	\$ 2,368	\$ 261,389	\$	4,331
Changes in proportion and differences between employer contributions and proportionate share of contributions	_	543,778	27,253	272,720		6,665
Total Deferred Inflows of Resources	\$	926,697	\$ 29,621	\$ 534,109	\$	10,996
Pension Expense Proportionate share of plan pension expense	\$	4,847,498	\$ 29,883	\$ 3,307,395	\$	54,783
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions	_	265,251	(14,418)	(144,468)		16,096
Total Employer Pension Expense	\$	5,112,749	\$ 15,465	\$ 3,162,927	\$	70,879
Contributions Statutory required contribution	\$	3,708,285	\$ 22,939	\$ 2,531,361	\$	41,911
Contribution in relation to statutory required contribution	-	(3,708,285)	(22,939)	(2,531,361)		(41,911)
Contribution deficiency/(excess)	\$	-	\$ -	\$ -	\$	
Contributions as a percentage of covered payroll		20.84%	48.81%	23.24%		18.70%
<u>Deferred (Inflows)/Outflows Recognized in</u> <u>Future Pension Expense</u>						
June 30, 2020		2,553,557	\$ 9,012	\$ 1,638,763	\$	47,145
June 30, 2021		1,777,493	10,126	1,207,590		27,606
June 30, 2022		1,730,301	7,964	1,115,593		18,074
June 30, 2023 Total Deferred (Inflows)/Outflows Recognized in	-	1,903,194	9,668	1,249,178		20,378
Future Pension Expense	\$	7,964,545	\$ 36,770	\$ 5,211,124	\$	113,203
Discount Rate Sensitivity 1% decrease (6.875%)	\$	46,250,152	\$ 286,055	\$ 31,571,427	\$	523,073
Current discount rate (7.875%)	\$	37,507,527	\$ 231,982	\$ 25,603,508	\$	424,197
1% increase (8.875%)	\$	29,866,658	\$ 184,724	\$ 20,387,674	\$	337,781
Covered Payroll	\$	17,792,029	\$ 46,995	\$ 10,891,412	\$	224,175
See notes to schedule of employer allocations and schedule of pension amounts by employer.						(continued)

	_	Town of Halifax	-	Town of Hanover	-	Town of Hanson	-	Town of Kingston
Net Pension Liability Beginning net pension liability	\$	8,888,119	\$	24,148,907	\$	11,552,942	\$	16,687,404
Ending net pension liability	\$	11,588,080	\$	33,311,220	\$	15,257,087	\$	22,452,965
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	\$	833,012	\$	2,394,586	\$	1,096,760	\$	1,614,038
Net difference between projected and actual investment earnings on pension plan investments		1,462,230		4,203,338		1,925,197		2,833,201
Changes of assumptions		239,326		687,970		315,102		463,717
Changes in proportion and differences between employer contributions and proportionate share of contributions	_	175,704		234,861	-	149,422	_	65,397
Total Deferred Outflows of Resources	\$ _	2,710,272	\$	7,520,755	\$_	3,486,481	\$_	4,976,353
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	118,304	\$	340,077	\$	155,761	\$	229,225
Changes in proportion and differences between employer contributions and proportionate share of contributions	_	326,559		298,382	=	356,365	-	185,858
Total Deferred Inflows of Resources	\$ _	444,863	\$	638,459	\$_	512,126	\$_	415,083
Pension Expense Proportionate share of plan pension expense	\$	1,496,452	\$	4,304,440	\$	1,970,499	\$	2,900,557
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions	_	(176,354)		30,067	_	(212,574)	_	(116,105)
Total Employer Pension Expense	\$ _	1,320,098	\$	4,334,507	\$_	1,757,925	\$_	2,784,452
Contributions Statutory required contribution				3,293,420	\$	1,508,408	\$	2,219,898
Contribution in relation to statutory required contribution Contribution deficiency/(excess)				(3,293,420)	<u>-</u>	(1,508,408)	¢	(2,219,898)
Contributions as a percentage of covered payroll			Ψ	20.49%	Ψ =	25.91%	Ψ =	23.04%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense								
June 30, 2020	\$	697,267 532,330 485,363 550,449	\$	2,158,601 1,546,881 1,508,261 1,668,553	\$	896,430 692,914 651,088 733,923	\$	1,430,555 1,047,823 983,475 1,099,417
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense	\$ _	2,265,409	\$	6,882,296	\$_	2,974,355	\$_	4,561,270
Discount Rate Sensitivity 1% decrease (6.875%)	\$	14,289,145	\$	41,075,729	\$	18,813,360	\$	27,686,523
Current discount rate (7.875%)	\$	11,588,080	\$	33,311,220	\$	15,257,087	\$	22,452,965
1% increase (8.875%)	\$	9,227,408	\$	26,525,205	\$	12,148,980	\$	17,878,945
Covered Payroll	\$	5,064,885	\$	16,072,154	\$	5,822,446	\$	9,636,972
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(continued)

	_	Kingston Housing Authority	•	Town of Lakeville	_	Town of Marion	_	Town of Marshfield
Net Pension Liability								
Beginning net pension liability	\$	37,747	\$	7,749,171	\$	7,657,010	\$	43,582,541
Ending net pension liability	\$	18,412	\$	10,188,821	\$	10,311,809	\$	58,714,414
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	\$	1,323	\$	732,426	\$	741,267	\$	4,220,702
Net difference between projected and actual investment earnings on pension plan investments		2,322		1,285,664		1,301,182		7,408,809
Changes of assumptions		380		210,428		212,968		1,212,617
Changes in proportion and differences between employer contributions and proportionate								
share of contributions	-	13,289		118,416	-	18,014	-	355,871
Total Deferred Outflows of Resources	\$ _	17,314	\$	2,346,934	\$	2,273,431	\$ _	13,197,999
Deferred Inflows of Resources								
Changes of assumptions	\$	188	\$	104,019	\$	105,275	\$	599,422
Changes in proportion and differences between employer contributions and proportionate								
share of contributions	_	19,893		230,138		85,976	_	406,330
Total Deferred Inflows of Resources	\$_	20,081	\$	334,157	\$	191,251	\$	1,005,752
Pension Expense								
Proportionate share of plan pension expense	\$	2,299	\$	1,315,873	\$	1,332,158	\$	7,584,906
Net amortization of deferred amounts from changes in proportion and differences between employer		(0.405)		(405.707)		(00,000)		(04.007)
contributions and proportionate share of contributions	_	(9,425)	,	(125,737)	-	(60,929)	-	(94,227)
Total Employer Pension Expense	\$ _	(7,126)	\$	1,190,136	\$	1,271,229	\$	7,490,679
Contributions Statutory required contribution	\$	1,834	\$	1,007,318	\$	1,019,533	\$	5,804,983
Contribution in relation to statutory required contribution	_	(1,834)		(1,007,318)	-	(1,019,533)	-	(5,804,983)
Contribution deficiency/(excess)	\$_	-	\$		\$		\$	
Contributions as a percentage of covered payroll		N/A		23.60%		22.34%		25.99%
Deferred (Inflows)/Outflows Recognized in								
Future Pension Expense	¢	(4 606)	Φ	624 642	Φ.	647 402	Φ.	2 026 624
June 30, 2020	Ф	(1,606) 536	Ф	624,642 468,056	Ф	647,493 477,101	Ф	3,936,624 2,800,929
June 30, 2022		(1,119)		432,052		452,242		2,576,325
June 30, 2023	_	(578)		488,027	_	505,344	_	2,878,369
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense	\$	(2,767)	\$	2,012,777	\$	2,082,180	\$	12,192,247
	-	, , ,			•			
Discount Rate Sensitivity 1% decrease (6.875%)	\$	22,703	\$	12,563,732	\$	12,715,386	\$	72,400,150
Current discount rate (7.875%)	\$	18,412	\$	10,188,821	\$	10,311,809	\$	58,714,414
1% increase (8.875%)	\$	14,661	\$	8,113,199	\$	8,211,132	\$	46,753,371
Covered Payroll	\$	-	\$	4,268,584	\$	4,562,725	\$	22,333,198
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(continued)

FOR THE YEAR ENDED DECEMBER 31, 2018

	_	Marshfield Housing Authority	-	Town of Mattapoisett		Town of Middleborough		Middleborough Housing Authority
Net Pension Liability								
Beginning net pension liability	\$	268,310	\$	8,677,987	\$	48,732,595	\$	836,225
Ending net pension liability	\$	308,574	\$	11,312,647	\$	65,813,816	\$	1,101,733
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	\$	22,182	\$	813,212	\$	4,731,044	\$	79,198
Net difference between projected and actual investment earnings on pension plan investments		38,936		1,427,472		8,304,639		139,022
Changes of assumptions		6,373		233,638		1,359,240		22,754
Changes in proportion and differences between employer contributions and proportionate								
share of contributions	-	22,245		171,865		39,865		20,375
Total Deferred Outflows of Resources	\$ _	89,736	\$	2,646,187	\$	14,434,788	\$	261,349
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	3,150	\$	115,492	\$	671,900	\$	11,248
Changes in proportion and differences between employer contributions and proportionate								
share of contributions	-	33,100		425,410		633,547		37,380
Total Deferred Inflows of Resources	\$_	36,250	\$	540,902	\$	1,305,447	\$	48,628
Pension Expense Proportionate share of plan pension expense	\$	39,784	\$	1,460,893	\$	8,502,357	\$	142,243
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions		(15,358)		(249,222)		(475,688)		(20,052)
Total Employer Pension Expense	\$	24,426	\$	1,211,671	\$	8,026,669	\$	122,191
	-						•	
Contributions Statutory required contribution	\$	30,517	\$	1,118,486	\$	6,506,872	\$	108,892
Contribution in relation to statutory required contribution	_	(30,517)		(1,118,486)		(6,506,872)		(108,892)
Contribution deficiency/(excess)	\$_		\$		\$		\$	
Contributions as a percentage of covered payroll		15.75%		20.36%		27.34%		26.22%
Deferred (Inflows)/Outflows Recognized in								
Future Pension Expense	¢.	16 575	¢.	602 679	Ф	4 009 217	¢.	60 550
June 30, 2020 June 30, 2021	-	16,575 13,859	Ф	603,678 490,628	Ф	4,008,217 2,989,843	Ф	60,550 50,952
June 30, 2022		10,342		473,684		2,897,518		48,340
June 30, 2023		12,710		537,295		3,233,763		52,879
Total Deferred (Inflows)/Outflows Recognized in	-							
Future Pension Expense	\$_	53,486	\$	2,105,285	\$	13,129,341	\$	212,721
Discount Rate Sensitivity 1% decrease (6.875%)	Ф	380,499	\$	13,949,511	\$	81,154,351	\$	1,358,536
` ,								
Current discount rate (7.875%)		308,574		11,312,647		65,813,816		1,101,733
1% increase (8.875%)		245,712		9,008,084		52,406,515		877,293
Covered Payroll	\$	193,801	\$	5,493,964	\$	23,802,868	\$	415,320
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(continued)

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	-	Town of Norwell	-	Norwell Housing Authority		Old Rochester Regional School	-	Onset Fire District
Net Pension Liability	•	40.007.000	•	=	•	4 000 050	•	4 050 400
Beginning net pension liability	\$	19,037,029	\$	209,594	\$	4,802,058	\$	1,952,482
Ending net pension liability	\$	25,523,971	\$	329,194	\$	6,860,055	\$	2,372,113
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	\$	1,834,798	\$	23,664	\$	493,137	\$	170,520
Net difference between projected and actual investment earnings on pension plan investments		3,220,711		41,539		865,627		299,323
Changes of assumptions		527,142		6,799		141,679		48,991
Changes in proportion and differences between employer contributions and proportionate share of contributions	-	207,183	<u>-</u> 1	26,428		214,935	_	108,967
Total Deferred Outflows of Resources	\$	5,789,834	\$	98,430	\$	1,715,378	\$_	627,801
Deferred Inflows of Resources Changes of assumptions	\$	260,577	\$	3,361	\$	70,035	\$	24,217
Changes in proportion and differences between employer contributions and proportionate share of contributions	-	245,429	•	19,299		154,804	-	194,457
Total Deferred Inflows of Resources	\$	506,006	\$	22,660	\$	224,839	\$	218,674
Pension Expense Proportionate share of plan pension expense	\$	3,297,108	\$	42,585	\$	886,820	\$	306,088
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions	_	(74,118)	<u>.</u>	11,523		91,080	=	(100,780)
Total Employer Pension Expense	\$	3,222,990	\$	54,108	\$	977,900	\$_	205,308
Contributions Statutory required contribution	\$	2,523,519	\$	32,577	\$	678,267	\$	234,534
Contribution in relation to statutory required contribution	_	(2,523,519)		(32,577)		(678,267)	_	(234,534)
Contribution deficiency/(excess)	\$		\$		\$	-	\$	-
Contributions as a percentage of covered payroll		23.58%		21.88%		22.91%		27.59%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense								
June 30, 2020		1,702,621	\$	24,576	\$	482,609	\$	114,405
June 30, 2021 June 30, 2022		1,222,957		15,729		329,359 324,421		101,608 88,625
June 30, 2023		1,112,590 1,245,660		17,189 18,276		354,150		104,489
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense	-	5,283,828	•		Φ.	1,490,539	\$	409,127
i uture i erision Expense	Ψ	3,203,020	Φ	75,770	Φ	1,430,333	Φ=	403,127
Discount Rate Sensitivity 1% decrease (6.875%)	\$	31,473,351	\$	405,926	\$	8,459,065	\$	2,925,029
Current discount rate (7.875%)	\$	25,523,971	\$	329,194	\$	6,860,055	\$	2,372,113
1% increase (8.875%)	\$	20,324,340	\$	262,132	\$	5,462,555	\$	1,888,877
Covered Payroll	\$	10,700,440	\$	148,908	\$	2,960,708	\$	849,951
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(continued)

	-	Town of Pembroke	•	Plymouth County Mosquito Control	•	Town of Plympton	-	Town of Rochester
Net Pension Liability	Φ.	04 670 600	•	4 000 440	Φ.	2.024.400	•	E 440 007
Beginning net pension liability		24,672,623	Ъ	1,603,410	ъ	3,834,420	\$	5,443,207
Ending net pension liability	\$	32,896,598	\$	2,206,412	\$	4,843,648	\$	7,668,680
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	\$	2,364,781	\$	158,608	\$	348,187	\$	551,264
Net difference between projected and actual investment earnings on pension plan investments		4,151,020		278,413		611,190		967,663
Changes of assumptions		679,407		45,569		100,035		158,380
Changes in proportion and differences between employer contributions and proportionate share of contributions	_	516,079	<u> </u>	23,177		337,827	_	300,137
Total Deferred Outflows of Resources	\$_	7,711,287	\$	505,767	\$	1,397,239	\$	1,977,444
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	335,844	\$	22,525	\$	49,449	\$	78,290
Changes in proportion and differences between employer contributions and proportionate share of contributions	_	385,019		17,731		171,375	_	124,321
Total Deferred Inflows of Resources	\$	720,863	\$	40,256	\$	220,824	\$	202,611
Pension Expense Proportionate share of plan pension expense	\$	4,249,186	\$	285,083	\$	625,276	\$	991,192
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions	_	8,062	<u>.</u>	8,024	<u>.</u>	57,814	_	166,060
Total Employer Pension Expense	\$ _	4,257,248	\$	293,107	\$	683,090	\$ _	1,157,252
Contributions Statutory required contribution	\$	3,252,447	\$	218,123	\$	478,880	\$	758,181
Contribution in relation to statutory required contribution	_	(3,252,447)		(218,123)		(478,880)	_	(758,181)
Contribution deficiency/(excess)	\$_	-	\$		\$	-	\$	_
Contributions as a percentage of covered payroll	_	25.10%		26.73%		23.55%	-	24.95%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense								
June 30, 2020	\$	2,335,750	\$	150,084	\$	456,042	\$	624,577
June 30, 2021 June 30, 2022		1,634,657 1,422,959		105,564 99,582		297,946 199,691		402,401
June 30, 2023		1,597,058		110,281		222,736		356,585 391,270
Total Deferred (Inflows)/Outflows Recognized in	-	.,,	•		•		-	***,=:*
Future Pension Expense	\$ _	6,990,424	\$	465,511	\$	1,176,415	\$	1,774,833
Discount Rate Sensitivity 1% decrease (6.875%)	\$	40,564,462	\$	2,720,704	\$	5,972,654	\$	9,456,172
Current discount rate (7.875%)	\$	32,896,598	\$	2,206,412	\$	4,843,648	\$	7,668,680
1% increase (8.875%)	\$	26,195,047	\$	1,756,931	\$	3,856,921	\$	6,106,450
Covered Payroll	\$	12,960,237	\$	815,928	\$	2,033,653	\$	3,038,290
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(continued)

	_	Town of Rockland	-	Town of Scituate		Scituate Housing Authority	_	Silver Lake Regional School
Net Pension Liability								
Beginning net pension liability	\$	29,499,523	\$	35,785,407	\$	720,298	\$	5,299,427
Ending net pension liability	\$	39,383,272	\$	47,847,320	\$	1,113,516	\$	7,307,819
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	\$	2,831,077	\$	3,439,518	\$	80,046	\$	525,325
Net difference between projected and actual investment earnings on pension plan investments		4,969,531		6,037,558		140,508		922,130
Changes of assumptions		813,375		988,181		22,997		150,927
Changes in proportion and differences between employer contributions and proportionate								
share of contributions	-	209,073		361,784		124,911	-	27,610
Total Deferred Outflows of Resources	\$_	8,823,056	\$	10,827,041	\$	368,462	\$	1,625,992
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	402,068	\$	488,479	\$	11,368	\$	74,607
Changes in proportion and differences between employer contributions and proportionate								
share of contributions	_	714,705		504,613		48,134	-	355,597
Total Deferred Inflows of Resources	\$_	1,116,773	\$	993,092	\$	59,502	\$	430,204
Pension Expense Proportionate share of plan pension expense	\$	5,087,111	\$	6,180,513	\$	144,104	\$	944,255
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions		(457,892)		(204,661)		73,141		(220,205)
Total Employer Pension Expense	\$	4,629,219	\$	5,975,852	\$	217,245	\$	724,050
	=		•				-	
Contributions Statutory required contribution	\$	3,893,717	\$	4,730,553	\$	110,121	\$	722,524
Contribution in relation to statutory required contribution	_	(3,893,717)		(4,730,553)		(110,121)	_	(722,524)
Contribution deficiency/(excess)	\$_	-	\$		\$	-	\$	
Contributions as a percentage of covered payroll		25.85%		25.66%		51.52%		19.04%
Deferred (Inflows)/Outflows Recognized in								
Future Pension Expense June 30, 2020	Φ.	2,317,494	Φ	3,153,393	¢	120,720	¢	246,588
June 30, 2021	Ψ	1,767,811	Ψ	2,273,740	Ψ	68,248	Ψ	252,521
June 30, 2022		1,706,659		2,077,758		58,871		330,731
June 30, 2023	_	1,914,319		2,329,058		61,121	_	365,948
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense	\$	7,706,283	\$	9,833,949	\$	308,960	\$	1,195,788
	=						-	
Discount Rate Sensitivity 1% decrease (6.875%)	\$	48,563,114	\$	59,000,047	\$	1,373,066	\$	9,011,197
Current discount rate (7.875%)	\$	39,383,272	\$	47,847,320	\$	1,113,516	\$	7,307,819
1% increase (8.875%)	\$	31,360,284	\$	38,100,074	\$	886,676	\$	5,819,102
Covered Payroll	\$	15,062,375	\$	18,435,372	\$	213,764	\$	3,794,468
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(continued)

	_	South Shore Regional School	_	Town of Wareham		Wareham Fire District	_	Wareham Housing Authority
Net Pension Liability								
Beginning net pension liability	\$	2,690,095	\$	29,313,050	\$	5,631,293	\$	190,237
Ending net pension liability	\$	3,719,085	\$	40,225,037	\$	7,738,643	\$	293,844
Deferred Outflows of Resources								
Differences between expected and actual experience	\$	267,347	\$	2,891,588	\$	556,295	\$	21,123
Net difference between projected and actual investment earnings on pension plan investments		469,287		5,075,749		976,491		37,079
Changes of assumptions		76,810		830.760		159.825		6,069
·		,		,.		,		5,555
Changes in proportion and differences between employer contributions and proportionate								
share of contributions	_	42,367	_	341,885		173,752	_	16,073
Total Deferred Outflows of Resources	\$	855,811	\$	9,139,982	\$	1,866,363	\$_	80,344
	-		•					
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	37,968	\$	410,661	\$	79,005	\$	3,000
Changes in proportion and differences between								
employer contributions and proportionate								
share of contributions	-	35,883	_	263,677		61,962	_	14,441
Total Deferred Inflows of Resources	\$	73,851	\$	674,338	\$	140,967	\$ _	17,441
Pension Expense	¢	480 500	¢	E 107 E2E	¢.	1.000.177	¢	27.064
Proportionate share of plan pension expense	Ф	480,590	Ф	5,197,535	Ф	1,000,177	Ф	37,964
Net amortization of deferred amounts from changes								
in proportion and differences between employer contributions and proportionate share of contributions		14,330		119,470		91,193		5,242
Total Employer Pension Expense	_		•	5,317,005	\$	1,091,370	\$	43,206
	Ψ=	,	. Ψ		Ψ	.,,	Ψ=	,
Contributions								
Statutory required contribution	\$	367,693	\$	3,976,952	\$	765,127	\$	29,054
Contribution in relation to statutory required contribution	-	(367,693)	-	(3,976,952)		(765,127)	_	(29,054)
Contribution deficiency/(excess)	\$_	-	\$		\$	-	\$	
Contributions as a percentage of covered payroll		20.21%		27.50%		24.98%		33.15%
Deferred (Inflows)/Outflows Recognized in								
Future Pension Expense								
June 30, 2020	\$	250,350	\$	2,731,774	\$	591,685	\$	17,777
June 30, 2021		176,083		1,919,335		398,987		13,484
June 30, 2022		168,866		1,809,027		348,668		15,519
June 30, 2023 Total Deferred (Inflows)/Outflows Recognized in	-	186,661		2,005,508		386,056	-	16,123
Future Pension Expense	\$	781,960	\$	8,465,644	\$	1,725,396	\$ _	62,903
Discount Rate Sensitivity								
1% decrease (6.875%)	\$	4,585,966	\$	49,601,086	\$	9,542,443	\$	362,337
Current discount rate (7.875%)	\$	3,719,085	\$	40,225,037	\$	7,738,643	\$	293,844
1% increase (8.875%)	\$	2,961,450	\$	32,030,569	\$	6,162,161	\$	233,984
Covered Payroll	\$	1,819,022	\$	14,460,244	\$	3,062,815	\$	87,650
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(continued)

		Town of West Bridgewater	Town of Whitman	_	Whitman/ Hanson Regional School	_	Whitman Housing Authority
Net Pension Liability Beginning net pension liability	\$	14,579,742	\$ 14,781,808	\$	8,777,677	\$	523,179
Ending net pension liability	\$	20,311,361	\$ 19,555,024	\$	11,886,343	\$	828,509
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	\$	1,460,088	\$ 1,405,718	\$	854,454	\$	59,557
Net difference between projected and actual investment earnings on pension plan investments		2,562,965	2,467,528		1,499,865		104,544
Changes of assumptions		419,487	403,866		245,486		17,111
Changes in proportion and differences between employer contributions and proportionate share of contributions		234,772	177,181	_	<u>-</u>	_	50,327
Total Deferred Outflows of Resources	\$	4,677,312	\$ 4,454,293	\$	2,599,805	\$	231,539
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	207,361	\$ 199,639	\$	121,349	\$	8,459
Changes in proportion and differences between employer contributions and proportionate share of contributions		274,104	444,782	_	258,476	_	51,235
Total Deferred Inflows of Resources	\$	481,465	\$ 644,421	\$_	379,825	\$_	59,694
Pension Expense Proportionate share of plan pension expense	\$	2,624,910	\$ 2,525,651	\$	1,535,640	\$	107,185
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions		42,777	(263,338)	_	(188,858)	_	15,097
Total Employer Pension Expense	\$	2,667,687	\$ 2,262,313	\$ _	1,346,782	\$	122,282
Contributions Statutory required contribution	\$	2,008,165	\$ 1,933,377	\$	1,175,190	\$	81,932
Contribution in relation to statutory required contribution		(2,008,165)	(1,933,377)	-	(1,175,190)	-	(81,932)
Contribution deficiency/(excess)	\$	-	\$ 	\$_		\$	-
Contributions as a percentage of covered payroll		23.40%	25.64%		25.70%		27.82%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense June 30, 2020	·	1,301,601 936,616 931,317	\$ 1,152,396 878,713 836,515	\$	614,982 494,308 525,196	\$	46,848 33,887 44,842
June 30, 2023 Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense	•	1,026,313 4,195,847	\$ 942,248 3,809,872	\$	2,219,980	\$	46,268 171,845
Discount Rate Sensitivity 1% decrease (6.875%)	•	25,045,733	24,113,102	-	14,656,930	\$	1,021,626
Current discount rate (7.875%)	\$	20,311,361	\$ 19,555,024	\$	11,886,343	\$	828,509
1% increase (8.875%)	\$	16,173,619	\$ 15,571,360	\$	9,464,910	\$	659,729
Covered Payroll	\$	8,581,947	\$ 7,539,224	\$	4,572,893	\$	294,553
See notes to schedule of employer allocations and schedule of pension amounts by employer.							(continued)

	_	Abington Housing Authority	Pembroke Housing Authority		Hanson Housing Authority	_	Rockland Housing Authority
Net Pension Liability							
Beginning net pension liability	\$	276,376	\$ 599,102	\$	228,413	\$	386,281
Ending net pension liability	\$	399,157	\$ 961,807	\$	296,790	\$	617,884
Deferred Outflows of Resources							
Differences between expected and actual experience	\$	28,694	\$ 69,139	\$	21,334	\$	44,417
Net difference between projected and actual investment earnings on pension plan investments		50,368	121,364		37,451		77,968
investment earnings on pension plan investments		30,300	121,304		37,431		77,900
Changes of assumptions		8,244	19,864		6,130		12,761
Changes in proportion and differences between							
employer contributions and proportionate share of contributions		12,539	61 560		11 225		E4 097
Share of contributions	-	12,539	 61,568		11,335	-	54,987
Total Deferred Outflows of Resources	\$ _	99,845	\$ 271,935	\$	76,250	\$ _	190,133
Deferred Inflows of Resources							
Changes of assumptions	\$	4,075	\$ 9,819	\$	3,030	\$	6,308
Changes in proportion and differences between							
employer contributions and proportionate							
share of contributions	_	7,943	59,578		6,665	-	33,959
Total Deferred Inflows of Resources	\$ _	12,018	\$ 69,397	\$	9,695	\$_	40,267
Pension Expense							
Proportionate share of plan pension expense	\$	51,618	\$ 124,495	\$	38,350	\$	79,986
Net amortization of deferred amounts from changes							
in proportion and differences between employer contributions and proportionate share of contributions		5,800	20,589		1,098		27,086
	_			•	-	_	
Total Employer Pension Expense	\$ _	57,418	\$ 145,084	\$	39,448	\$ _	107,072
Contributions							
Statutory required contribution	\$	39,490	\$ 95,075	\$	29,357	\$	61,080
Contribution in relation to statutory required contribution	_	(39,490)	 (95,075)		(29,357)	_	(61,080)
Contribution deficiency/(excess)	\$_	-	\$ -	\$	-	\$	
Contributions as a percentage of covered payroll		37.12%	25.23%		52.15%		44.52%
Deferred (Inflows)/Outflows Recognized in							
Future Pension Expense							
June 30, 2020	\$	27,743	\$ 55,247	\$	23,689	\$	49,737
June 30, 2021		19,667	40,329		16,080		31,619
June 30, 2022		19,622	52,748		12,738		33,768
June 30, 2023 Total Deferred (Inflows)/Outflows Recognized in	_	20,795	 54,214		14,048	_	34,742
Future Pension Expense	\$_	87,827	\$ 202,538	\$	66,555	\$ _	149,866
Discount Rate Sensitivity							
1% decrease (6.875%)	\$	492,197	\$ 1,185,994	\$	365,969	\$	761,906
Current discount rate (7.875%)	\$	399,157	\$ 961,807	\$	296,790	\$	617,884
1% increase (8.875%)	\$	317,843	\$ 765,872	\$	236,330	\$	492,011
Covered Payroll	\$	106,394	\$ 376,778	\$	56,294	\$	137,209
See notes to schedule of employer allocations and schedule		-,	-, -				,
of pension amounts by employer.							(continued)

		Halifax Housing Authority		Mattapoisett Housing Authority		Acushnet/ Rochester/ Marion Health District		West Bridgewater Housing Authority
Net Pension Liability								
Beginning net pension liability	\$	194,000	\$	149,802	\$	102,377	\$	84,096
Ending net pension liability	\$	521,408	\$	193,687	\$	149,500	\$	133,298
<u>Deferred Outflows of Resources</u>								
Differences between expected and actual experience	\$	37,481	\$	13,923	\$	10,747	\$	9,582
Net difference between projected and actual investment earnings on pension plan investments		65,794		24,440		18,865		16,821
Changes of assumptions		10,769		4,000		3,088		2,753
Changes in properties and differences between								
Changes in proportion and differences between employer contributions and proportionate								
share of contributions		149,319		5,021		4,126		10,867
Total Deferred Outflows of Resources	\$	263,363	\$	47,384	\$	36,826	\$	40,023
Deferred Inflows of Resources								
Changes of assumptions	\$	5,323	\$	1,978	\$	1,526	\$	1,361
Changes in proportion and differences between								
employer contributions and proportionate		105 100		0.000		40.004		7 000
share of contributions		105,160	•	9,666		12,361		7,086
Total Deferred Inflows of Resources	\$	110,483	\$	11,644	\$	13,887	\$	8,447
Pension Expense								
Proportionate share of plan pension expense	\$	67,702	\$	24,986	\$	19,320	\$	17,202
Net amortization of deferred amounts from changes								
in proportion and differences between employer contributions and proportionate share of contributions		65,848		(5,646)		(5,166)		5,266
		-	•			(3,100)		3,200
Total Employer Pension Expense	\$	133,550	\$	19,340	\$	14,154	\$	22,468
Contributions								
Statutory required contribution	\$	51,545	\$	19,137	\$	14,796	\$	13,186
Contribution in relation to statutory required contribution		(51,545)		(19,137)		(14,796)		(13,186)
Contribution deficiency/(excess)	\$	_	\$	-	\$	-	\$	_
			•		·			
Contributions as a percentage of covered payroll		149.37%		36.71%		19.23%		23.83%
Deferred (Inflows)/Outflows Recognized in								
Future Pension Expense June 30, 2020	Ф	48,847	Ф	9,310	\$	2,732	¢	10,338
June 30, 2021	-	27,433	Φ	9,043	φ	4,880	Φ	6,582
June 30, 2022		39,157		8,261		7,466		7,203
June 30, 2023		37,443		9,126		7,861		7,453
Total Deferred (Inflows)/Outflows Recognized in	ď	152,880	¢	35,740	¢.	22,939	•	21 576
Future Pension Expense	Ф	132,000	Ф	33,740	\$	22,939	Φ	31,576
Discount Rate Sensitivity	¢	640.040	¢	220 022	¢	10/10/17	¢	164 260
1% decrease (6.875%)		642,943		238,833	\$	184,347		164,368
Current discount rate (7.875%)	\$	521,408	\$	193,687	\$	149,500	\$	133,298
1% increase (8.875%)	\$	415,189	\$	154,230	\$	119,044	\$	106,143
Covered Payroll	\$	34,509	\$	52,124	\$	76,957	\$	55,331
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(continued)

		South Shore Tri-Town Development		Carver Housing Authority		Plymouth County Retirement Association		Totals
Net Pension Liability	•	040.500	•	440.075	•		•	505 707 000
Beginning net pension liability	Ъ	646,526	Þ	142,275	\$	-	\$	535,787,906
Ending net pension liability	\$	1,195,262	\$	201,788	\$	-	\$	732,557,005
<u>Deferred Outflows of Resources</u> Differences between expected and actual experience	\$	85,922	\$	14,506	\$	-	\$	54,243,288
Net difference between projected and actual investment earnings on pension plan investments		150,822		25,461		-		92,928,397
Changes of assumptions		24,686		4,167		-		15,209,814
Changes in proportion and differences between employer contributions and proportionate share of contributions		238,595		3,174				11,168,337
Total Deferred Outflows of Resources	\$	500,025	\$	47,308	\$		\$	173,549,836
<u>Deferred Inflows of Resources</u> Changes of assumptions	\$	12,202	\$	2,060	\$	-	\$	7,518,522
Changes in proportion and differences between employer contributions and proportionate share of contributions		129,933		12,061				11,168,337
Total Deferred Inflows of Resources	\$	142,135	\$	14,121	\$		\$	18,686,859
Pension Expense Proportionate share of plan pension expense Net amortization of deferred amounts from changes	\$	154,893	\$	25,776	\$	195,995	\$	94,166,508
in proportion and differences between employer contributions and proportionate share of contributions		124,070		(5,868)				
Total Employer Pension Expense	\$	278,963	\$	19,908	\$	195,995	\$	94,166,508
<u>Contributions</u> Statutory required contribution	\$	118,161	\$	19,928	\$	195,995	\$	72,127,482
Contribution in relation to statutory required contribution		(118,161)		(19,928)		(195,995)		(72,811,482)
Contribution deficiency/(excess)	\$		\$		\$		\$	(684,000)
Contributions as a percentage of covered payroll		31.45%		N/A		N/A		25.61%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense								
June 30, 2020		140,324	\$	5,947	\$	-	\$	48,735,590
June 30, 2021		72,273		6,848		-		35,371,493
June 30, 2022 June 30, 2023		71,886 73,407		9,765 10,627		-		33,853,920 36,901,974
Total Deferred (Inflows)/Outflows Recognized in		73,407		10,027				30,901,974
Future Pension Expense	\$	357,890	\$	33,187	\$		\$	154,862,977
Discount Rate Sensitivity 1% decrease (6.875%)	\$	1,473,866	\$	248,823	\$	-	\$	905,753,273
Current discount rate (7.875%)	\$	1,195,262	\$	201,788	\$	-	\$	732,557,005
1% increase (8.875%)	\$	951,769	\$	160,681	\$	-	\$	584,902,368
Covered Payroll	\$	375,662	\$	-	\$	722,495	\$	281,665,696
See notes to schedule of employer allocations and schedule of pension amounts by employer.								(concluded)

NOTE I - Schedule of Employer Allocations

Governmental Accounting Standards Board (GASB) Statement #68 requires employers participating in a costsharing pension plan to recognize pension liabilities as employees provide services to the government and earn their pension benefits. Employers participating in cost-sharing plans are required to recognize their proportionate share of the plan's collective pension amounts for all benefits provided through the plan including the net pension liability, deferred outflows of resources, deferred inflows of resources, pension expense, and contributions.

GASB Statement #68 requires the allocation of the collective pension amounts be consistent with the manner in which contributions to the plan are determined. As permissible under GASB Statement #68, The Schedule of Employer Allocations is used to demonstrate the allocation of the Association's collective pension amounts.

Massachusetts General Law (MGL) Chapter 32 Section 22 Paragraph 7c dictates that Massachusetts cost sharing defined benefit pension plans allocate the annual required pension fund appropriation to employer units based on their proportionate share of the aggregate of the annual rates of regular compensation of all members in service of the Association. The Public Employee Retirement Administration Commission (PERAC) approves each Association's proportionate share of the annual required contribution. PERAC can accept alternative allocation methodologies and as such, the Association has elected to use an actuarial based allocation methodology. Accordingly, each member unit's proportionate share of the total pension liability is calculated based on each member unit's actual current employees, retirees and inactive participants. The liability of the Association is allocated to each member unit. Each member's share of the Association's net position at year-end is calculated by first segregating the historical excess contributions of each individual member unit. Investment income is applied to each excess contribution utilizing the Association's money-weighted rate of return of each year since the excess contribution was received. The Association's net position, less the excess contributions net of investment income, is then allocated to the member unit's based on their proportionate share of the total pension liability. The excess contributions net of investment income are then assigned to the appropriate member unit. The difference between the total pension liability and the net position is reported as the net pension liability.

The Plymouth County Hospital was operated by Plymouth County from the early 1900s to 1992, when it was closed and all employees were terminated. The remaining retirement allowances due from the Plymouth County Retirement Association to the former employees of the Plymouth County Hospital were actuarially determined and are included with the County's liability. Plymouth County continues to pay for the retirement obligations related to previously retired Hospital employees.

When a member unit accepts an Early Retirement Incentive Program (E.R.I. or ERIP), PERAC completes an analysis of the costs and liabilities attributable to the additional benefits payable in accordance with the ERIP. The accrued liability for the members who accept the ERIP as retirees including the ERIP less the accrued liability for the members as active employees excluding the ERIP represents the increase in accrued liability due to the ERIP. The net increase is amortized for each member unit accepting the ERIP, and is separately identified in the Association's funding schedule. All Early Retirement Incentive Programs are being amortized using a straight-line basis.

NOTE II - Schedule of Pension Amounts by Employer

The Schedule of Pension Amounts by Employer presents the net pension liability, the various categories of deferred outflows of resources and deferred inflows of resources, contributions and pension expense for all participating employers including differences between expected and actual economic experience; differences between projected and actual investment earnings, net; and changes of assumptions.