

***BARNSTABLE COUNTY RETIREMENT ASSOCIATION***

***FINANCIAL STATEMENTS***

***YEAR ENDED DECEMBER 31, 2017***

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# ***Financial Section***



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## **Independent Auditor's Report**

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

### **Report on the Financial Statements**

We have audited the accompanying financial statements of Barnstable County Retirement Association (BCRA) as of and for the year ended December 31, 2017, and the related notes to the financial statements, which collectively comprise the Barnstable County Retirement Associations' 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 Barnstable County Retirement Association as of December 31, 2017, 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 Returns 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 September 25, 2018, on our consideration of the Barnstable 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 Barnstable 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 Barnstable 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.

*Powers & Sullivan LLC*

September 25, 2018

## ***Management's Discussion and Analysis***

As management of the Barnstable County Retirement Association, we offer readers of these financial statements this narrative overview and analysis of the financial activities for the year ended December 31, 2017. 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 system compared to others.

### **Financial Highlights**

- The Association's assets exceeded its liabilities at the close of the most recent year by \$1.1 billion (net position).
- The Association's net position increased by \$161.3 million for the year ended December 31, 2017.
- Total investment income was \$166.2 million; investment expenses were \$5.4 million; and net investment income was \$160.8 million.
- Total contributions were \$91.3 million including \$59.2 million from employers, \$27.3 million from members, and \$4.8 million from other transfers in and settlements.
- Retirement benefits, refunds and transfers to other systems amounted to \$89.5 million.
- Administrative expenses were \$1.3 million.
- The Total Pension Liability is \$1.8 billion as of December 31, 2017 while the Net Pension Liability is \$680.4 million.
- The Plan fiduciary net position as a percentage of the total pension liability is 61.86%.

### ***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 Returns 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 \$1.1 billion at the close of 2017.

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 \$1.1 billion, cash and cash equivalents of \$2.5 million and accounts receivable of \$3.9 million.

In 2017, the Association’s contributions were \$91.3 million and net investment income was \$160.8 million while retirement benefit payments, refunds, transfers and administration expenses were \$90.8 million, which resulted in a current increase of \$161.3 million. In 2016, the Association’s contributions were \$87.6 million and net investment income was \$64.7 million while retirement benefit payments, refunds, transfers and administration expenses were \$83.1 million, which resulted in a prior year increase of \$69.2 million.

For both years, the current contributions fully supported the current expenses. Total contributions increased by \$3.7 million from 2016, while total deductions increased by \$7.7 million from 2016. The major difference in the change in net position when comparing the 2017 and 2016 results is net investment income. Net investment income was \$160.8 million and \$64.7 million in 2017 and 2016 respectively. The annual money weighted rate of return was 17.17% and 7.40% in 2017 and 2016 respectively. Fluctuations in the Association’s annual investment returns are expected.

The following tables present summarized financial information for the past two years:

	<u>2017</u>	<u>2016</u>
<b>Assets:</b>		
Cash and cash equivalents.....	\$ 2,459,946	\$ 1,824,611
Investments.....	1,097,123,904	937,995,441
Receivables.....	<u>3,910,288</u>	<u>2,368,212</u>
Total assets.....	<u>1,103,494,138</u>	<u>942,188,264</u>
<b>Liabilities:</b>		
Accounts payable.....	<u>323</u>	<u>25,545</u>
<b>Net Position Restricted for Pension Benefits.....</b>	<b>\$ <u>1,103,493,815</u></b>	<b>\$ <u>942,162,719</u></b>

	<u>2017</u>	<u>2016</u>
<b>Additions:</b>		
Contributions:		
Member contributions.....	\$ 27,339,086	\$ 26,411,361
Employer contributions.....	59,204,601	56,269,527
Other contributions.....	<u>4,753,312</u>	<u>4,900,585</u>
Total contributions.....	<u>91,296,999</u>	<u>87,581,473</u>
Net investment income (loss):		
Total investment income (loss).....	166,164,987	69,523,173
Less, investment expenses.....	<u>(5,352,824)</u>	<u>(4,844,967)</u>
Net investment income (loss).....	<u>160,812,163</u>	<u>64,678,206</u>
Total additions.....	<u>252,109,162</u>	<u>152,259,679</u>
<b>Deductions:</b>		
Administration.....	1,282,473	1,384,804
Retirement benefits, refunds and transfers.....	<u>89,495,593</u>	<u>81,714,247</u>
Total deductions.....	<u>90,778,066</u>	<u>83,099,051</u>
Net increase (decrease) in fiduciary net position.....	161,331,096	69,160,628
<b>Fiduciary net position at beginning of year.....</b>	<u>942,162,719</u>	<u>873,002,091</u>
<b>Fiduciary net position at end of year.....</b>	<u>\$ 1,103,493,815</u>	<u>\$ 942,162,719</u>

### ***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, 750 Attucks Lane, Hyannis, MA 02601.



## STATEMENT OF FIDUCIARY NET POSITION

DECEMBER 31, 2017

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<b>Assets</b>	
Cash and cash equivalents.....	\$ 2,459,946
Investments:	
Investments in Pension Reserve Investment Trust.....	1,093,385,971
Pooled real estate funds.....	<u>3,737,933</u>
Total investments.....	<u>1,097,123,904</u>
Receivables, net of allowance for uncollectibles:	
Member deductions.....	<u>3,910,288</u>
Total Assets.....	<u>1,103,494,138</u>
<b>Liabilities</b>	
Accounts payable.....	<u>323</u>
<b>Net Position Restricted for Pensions.....</b>	<b>\$ <u><u>1,103,493,815</u></u></b>

See notes to financial statements.

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION**

YEAR ENDED DECEMBER 31, 2017

**Additions:**

Contributions:

Employer pension appropriation.....	\$ 59,204,601
Member contributions.....	27,339,086
Transfers from other systems.....	1,481,792
3(8)c reimbursements from other systems.....	2,368,447
Workers compensation settlements.....	94,496
Federal grant reimbursements.....	87,636
State COLA reimbursements.....	526,289
Member makeup payments and redeposits.....	193,869
Interest not refunded.....	<u>783</u>

Total contributions..... 91,296,999

Net investment income (loss):

Investment income (loss).....	166,164,987
Less: investment expense.....	<u>(5,352,824)</u>

Net investment income (loss)..... 160,812,163

Total additions..... 252,109,162

**Deductions:**

Administration.....	1,282,473
Benefits and refunds.....	85,780,394
Transfers to other systems.....	1,718,253
3(8)c reimbursements to other systems.....	<u>1,996,946</u>

Total deductions..... 90,778,066

Net increase (decrease) in fiduciary net position..... 161,331,096

**Fiduciary net position at beginning of year..... 942,162,719**

**Fiduciary net position at end of year..... \$ 1,103,493,815**

See notes to financial statements.

**NOTE 1 – PLAN DESCRIPTION**

The Barnstable 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 Barnstable 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 25 hours per week. The Association has 50 participating employers.

Originally established in 1922, the Association is governed by a five member Board who establish the policies under which the Association operates. Board members also approve all 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 Group 1 or Group 2 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.

There are no minimum vesting requirements for individuals in Group 4.

Members in Groups 1 and 2, 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 in Groups 1 and 2, 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 (Group 1) or age 55 (Group 2).

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 2036.

Administrative expenses, which were previously appropriated from the governmental entities whose employees are members of the Association, are now 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 Barnstable County Retirement 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.

BCRA 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.

### Fair Value Measurements

The Retirement 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 Retirement Administration's financial instruments, see Note 4 – Cash and Investments.

### Accounts Receivable

Accounts receivable consist of member deductions, pension fund appropriations, and federal grant reimbursements. These receivables are considered 100% collectible and therefore do not report an allowance for uncollectibles.

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 BCRA 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 BCRA 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	Mary T. Mclsaac	Term Expires:	Indefinite
Appointed Member	Leo G. Cakounes	Term Expires:	1/3/2019
Elected Member	Harold S. Brunelle	Term Expires:	1/6/2021
Elected Member	Robert F. Rolanti	Term Expires:	12/31/2019
Appointed Member	Judith C. Sprague	Term Expires:	Indefinite

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 three persons designated by 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: ) MACRS Blanket Policy
- Ex-Officio Member: ) \$50,000,000 Fiduciary Liability
- Elected Members: ) \$1,000,000 Fidelity (ERISA) Bond
- Appointed Members: ) St. Paul Travelers Insurance Company
- Staff Employees: ) National Union Fire Arch Insurance Company

**NOTE 4 – CASH AND INVESTMENTS**

Custodial Credit Risk - Deposits

At December 31, 2017, the carrying amount of the Association’s deposits totaled \$2,459,946; this is comprised of \$653,081 of cash deposited with banks along with \$1,806,865 in the PRIT cash fund. Of the \$653,081, the bank balance totaled \$2,333,004, which was covered by Federal Depository Insurance. The \$1,806,865 in the PRIT Cash Fund is uninsured and uncollateralized.

Investments

The Association’s investments are as follows:

<u>Investment Type</u>	<u>December 31, 2017</u>
PRIT Pooled Funds.....	\$ 1,093,385,971
Pooled Real Estate Funds.....	<u>3,737,933</u>
Total Investments.....	<u>\$ 1,097,123,904</u>

Approximately 99% of the Retirement Association’s investments are in Pension Reserve Investment Trust (PRIT), which meets the criteria of an external investment pool. This investment pool was established by the Treasurer of the Commonwealth of Massachusetts, who serves as Trustee. PRIT is administered by the Pension Reserves Investment Management Board. The fair values of the positions in each investment Pool are the same as the value of each Pool’s shares. The Administration does not have the ability to control any of the investment decisions relative to its funds in PRIT. PRIT investments are valued using the net asset value (NAV) method.

The remaining investments consist of two closed end real estate investments which are scheduled to mature during 2018. The fair value of the investments in pooled real estate funds are categorized in Level 3 of the Fair Value Hierarchy as pricing inputs are unobservable 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.

The Administration’s annual money-weighted rate of return on pension plan investments was 17.17%. The money-weighted rate of return expresses investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested, measured monthly.

**NOTE 5 – MEMBERSHIP**

The following table represents the Association’s membership at January 1, 2018:

Retirees and beneficiaries currently receiving benefits.....	3,122
Inactive members.....	730
Active members.....	<u>4,644</u>
 Total.....	 <u><u>8,496</u></u>

**NOTE 6 – ACTUARIAL VALUATION**

Components of the net pension liability as of December 31, 2017 were as follows:

Total pension liability.....	\$ 1,783,937,286
The pension plan's fiduciary net position.....	<u>(1,103,493,815)</u>
The net pension liability.....	<u>\$ 680,443,471</u>
 The pension plan's fiduciary net position as a percentage of the total pension liability.....	 61.86%

The total pension liability was determined by an actuarial valuation as of January 1, 2018, using the following actuarial assumptions, applied to all periods included in the measurement that was rolled back to December 31, 2017:

Valuation date.....	January 1, 2018
Actuarial cost method.....	Entry Age Normal Cost Method.
Amortization method.....	Appropriations increase at 5.28% per year
Remaining amortization period.....	17 years from July 1, 2018 for 2002 and 2003 Early Retirement Incentives, retiree sheriffs liability and remaining unfunded liability, and 4 years from July 1, 2018 for 2010 Early Retirement Incentive.
Asset valuation method.....	The net pension liability is calculated using the market value of assets. The Association also uses an actuarial value of assets that gradually reflects year-to-year changes in the market value of assets in determining contribution requirements.



Inflation rate.....	3.25%
Projected salary increases.....	Varies by length of service with ultimate rates of 4.00% for Group 1, 4.25% for Group 2 and 4.50% for Group 4.
Cost of living adjustments.....	3.0% of the first \$18,000 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 55% of all disabilities are accidental disability. For police and fire employees, 90% of all disabilities are assumed to be accidental disability.
Mortality Rates:	
Pre-Retirement.....	The RP-2014 Blue Collar Employee Mortality Table projected generationally with Scale MP-2017.
Healthy Retiree.....	The RP-2014 Blue Collar Healthy Annuitant Mortality Table projected generationally with Scale MP-2017.
Disabled Retiree.....	The RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year and projected generationally with Scale MP-2017.
Investment rate of return/Discount rate...	7.375%, net of pension plan investment expense, including inflation.

*Investment policy:* The pension plan's policy in regard to the allocation of invested assets is established by PRIT. 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 expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity.....	17.50%	6.15%
International developed markets equity.....	15.50%	7.11%
International emerging markets equity.....	6.00%	9.41%
Core fixed income.....	12.00%	1.68%
High-yield fixed income.....	10.00%	4.13%
Real estate.....	10.00%	4.90%
Commodities.....	4.00%	4.71%
Hedge fund, GTAA, Risk parity.....	13.00%	3.94%
Private equity.....	12.00%	10.28%
	100.00%	

*Discount rate:* The discount rate used to measure the total pension liability was 7.375%. 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 employer contributions will be made at rates equal to the actuarially determined contribution rate. For this purpose, only employer contributions that are intended to fund the service costs for future plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. 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 7.375%, as well as what the net position liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.375%) or 1-percentage-point higher (8.375%) than the current rate:

	1% Decrease (6.375%)	Current Discount Rate (7.375%)	1% Increase (8.375%)
Barnstable County Retirement Association's net pension liability as of December 31, 2017.....	\$ 892,516,460	\$ 680,443,471	\$ 502,131,729

*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 pension fund appropriations are allocated amongst employers based on covered payroll.

**NOTE 7 – COMMITMENTS AND CONTINGENCIES**

Various legal actions and claims are pending against the Association. Litigation is subject to many uncertainties, and the outcome of individual litigated matters is not always predictable. Although the amount of liability, if any, at December 31, 2017 cannot be ascertained, management believes any resulting liability should not materially affect the financial position at December 31, 2017.

**NOTE 8 – IMPLEMENTATION OF GASB PRONOUNCEMENTS**

During 2017, the following GASB pronouncements were implemented:

- GASB Statement #82, *Pension Issues – an amendment of GASB Statements #67, #68, and #73*. The financial statements and related notes were updated to be in compliance with 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 2020.
- The GASB issued Statement #85, *Omnibus 2017*, which is required to be implemented in 2018.
- The GASB issued Statement #86, *Certain Debt Extinguishment Issues*, which is required to be implemented in 2018.
- The GASB issued Statement #87, *Leases*, which is required to be implemented in 2021.
- 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 Cost Incurred before the End of a Construction Period*, which is required to be implemented in 2020.

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

**NOTE 9 – SUBSEQUENT EVENTS**

Management has evaluated subsequent events through September 25, 2018, 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**

	December 31, 2014	December 31, 2015	December 31, 2016	December 31, 2017
<b>Total pension liability:</b>				
Service cost.....	\$ 36,820,342	\$ 38,962,546	\$ 42,095,884	\$ 41,043,966
Interest.....	105,040,822	110,695,407	116,551,753	125,242,091
Changes in benefit terms.....	-	-	23,494,437	-
Differences between expected and actual experience.....	-	-	(10,802,611)	(3,055,533)
Changes in assumptions.....	-	-	50,013,040	61,743,785
Benefit payments.....	<u>(69,038,553)</u>	<u>(73,639,192)</u>	<u>(79,260,605)</u>	<u>(85,780,394)</u>
Net change in total pension liability.....	72,822,611	76,018,761	142,091,898	139,193,915
Total pension liability - beginning.....	<u>1,353,810,101</u>	<u>1,426,632,712</u>	<u>1,502,651,473</u>	<u>1,644,743,371</u>
Total pension liability - ending (a).....	<u>\$ 1,426,632,712</u>	<u>\$ 1,502,651,473</u>	<u>\$ 1,644,743,371</u>	<u>\$ 1,783,937,286</u>
<b>Plan fiduciary net position:</b>				
Employer pension appropriation.....	\$ 51,562,171	\$ 53,626,350	\$ 56,269,527	\$ 59,204,601
Member contributions.....	24,847,689	25,867,837	26,411,361	27,339,086
Other contributions.....	3,779,205	3,575,730	4,900,585	4,753,312
Net investment income (loss).....	60,614,682	5,470,561	64,678,206	160,812,163
Administrative expenses.....	(1,210,998)	(1,288,422)	(1,384,804)	(1,282,473)
Retirement benefits and refunds.....	(69,038,553)	(73,639,192)	(79,260,605)	(85,780,394)
Other retirement deductions.....	<u>(2,469,197)</u>	<u>(2,680,065)</u>	<u>(2,453,642)</u>	<u>(3,715,199)</u>
Net increase (decrease) in fiduciary net position.....	68,084,999	10,932,799	69,160,628	161,331,096
Fiduciary net position - beginning of year.....	<u>793,984,293</u>	<u>862,069,292</u>	<u>873,002,091</u>	<u>942,162,719</u>
Fiduciary net position - end of year (b).....	<u>\$ 862,069,292</u>	<u>\$ 873,002,091</u>	<u>\$ 942,162,719</u>	<u>\$ 1,103,493,815</u>
<b>Net pension liability - ending (a)-(b).....</b>	<u>\$ 564,563,420</u>	<u>\$ 629,649,382</u>	<u>\$ 702,580,652</u>	<u>\$ 680,443,471</u>
Plan fiduciary net position as a percentage of the total pension liability.....	60.43%	58.10%	57.28%	61.86%
Covered payroll.....	\$ 253,920,107	\$ 264,076,910	\$ 269,672,807	\$ 271,510,348
Net pension liability as a percentage of covered payroll.....	222.34%	238.43%	260.53%	250.61%

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
Actuarially determined contribution.....	\$ 51,562,171	\$ 53,626,350	\$ 56,269,527	\$ 59,204,601
Contributions in relation to the actuarially determined contribution.....	<u>(51,562,171)</u>	<u>(53,626,350)</u>	<u>(56,269,527)</u>	<u>(59,204,601)</u>
Contribution deficiency (excess).....	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered payroll.....	\$ 253,920,107	\$ 264,076,910	\$ 269,672,807	\$ 271,510,348
Contributions as a percentage of covered payroll.....	20.31%	20.31%	20.87%	21.81%

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**

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<u>Year</u>	<u>Annual money-weighted rate of return, net of investment expense</u>
December 31, 2017.....	17.17%
December 31, 2016.....	7.40%
December 31, 2015.....	0.57%
December 31, 2014.....	7.58%

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 Associations total pension liability, changes in the Associations 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 covered payroll.

**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 ACTUARIAL ASSUMPTIONS AND PLAN PROVISIONS**Changes in Assumptions

The following assumption changes were reflected in the January 1, 2018 actuarial valuation:

- The mortality tables for non-disabled participants were changed from the RP-2000 Employee and Healthy Annuitant Mortality Tables projected generationally using Scale BB2D from 2009 to the RP-2014 Blue Collar Employee and Healthy Annuitant Mortality Tables projected generationally using Scale MP-2017.
- The mortality tables for disabled participants were changed from the RP-2000 Healthy Annuitant Mortality Table projected generationally using Scale BB2D from 2015 to the RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward 1 year projected generationally using Scale MP-2017.
- The long-term salary increase assumption was lowered by 0.25%, to 4.00% for Group 1 participants, 4.25% for Group 2 participants, and 4.50% for Group 4 participants.
- The investment rate of return and discount rate assumption were lowered from 7.625% to 7.375%.

Changes in Plan Provisions

The following plan provision change was reflected in the January 1, 2018 actuarial valuation:

- The Cost of Living Adjustment Base was increased from \$15,000 to \$16,000 as of July 1, 2015, to \$17,000 as of July 1, 2016, and to \$18,000 as of July 1, 2017.



# ***Audit of Specific Elements, Accounts and Items of Financial Statements***



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## **Independent Auditor's Report**

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

We have audited the accompanying schedule of employer allocations of the Barnstable County Retirement Association (BCRA) as of and for the year ended December 31, 2017, 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 BCRA Pension Plan as of and for the year ended December 31, 2017, 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 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 Barnstable County Retirement Association as of and for the year ended December 31, 2017, 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 Barnstable County Retirement Association as of and for the year ended December 31, 2017, and our report thereon, dated September 25, 2018, expressed an unmodified opinion on those financial statements.

## **Restriction on Use**

This report is intended solely for the information and use of the Barnstable County Retirement Association management, the Barnstable 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.

*Powers & Sullivan LLC*

September 25, 2018

**SCHEDULE OF EMPLOYER ALLOCATIONS**

FOR THE YEAR ENDED DECEMBER 31, 2017

Employer	FY2018	Direct	FY2018	Share of	Percent of
	Pension	Appropriation	Total	Net Pension	Total Net
	Fund	E.R.I.,		Liability	Pension Liability
	Appropriation	Sheriff and	Appropriation		
		Hospital			
Barnstable County.....	\$ 2,864,261	\$ 121,429	\$ 2,985,690	\$ 33,423,155	4.912%
Barnstable County Hospital.....	-	7,944	7,944	98,671	0.015%
Barnstable County Retired Sheriffs.....	-	1,431,018	1,431,018	21,125,831	3.105%
Town of Barnstable.....	8,952,267	212,824	9,165,091	102,598,144	15.078%
Barnstable Fire District.....	417,463	4,466	421,929	4,723,263	0.694%
Barnstable Housing Authority.....	179,741	4,010	183,751	2,056,991	0.302%
Town of Bourne.....	3,531,043	82,936	3,613,979	40,456,504	5.946%
Bourne Housing Authority.....	63,779	-	63,779	713,971	0.105%
Bourne Recreation Authority.....	98,568	17,651	116,219	1,301,008	0.191%
Bourne Water District.....	133,356	5,117	138,473	1,550,129	0.228%
Town of Brewster.....	2,220,672	17,523	2,238,195	25,055,360	3.682%
Brewster Housing Authority.....	11,596	-	11,596	129,811	0.019%
Buzzards Bay Water District.....	69,577	-	69,577	778,876	0.114%
Cape Cod Mosquito Control District.....	260,915	2,800	263,715	2,952,144	0.434%
Cape Cod Regional Technical High School.....	411,665	-	411,665	4,608,363	0.677%
Centerville/Osterville/Marstons Mills Fire District.....	1,333,563	5,113	1,338,676	14,985,740	2.202%
Town of Chatham.....	1,861,190	101,140	1,962,330	21,967,203	3.228%
Chatham Housing Authority.....	34,789	-	34,789	389,444	0.057%
Cotuit Fire District.....	284,107	-	284,107	3,180,421	0.467%
Town of Dennis.....	3,154,167	-	3,154,167	35,309,162	5.189%
Dennis Housing Authority.....	69,577	2,674	72,251	808,810	0.119%
Dennis Water District.....	260,915	-	260,915	2,920,800	0.429%
Dennis/Yarmouth Regional School District.....	1,240,793	-	1,240,793	13,889,994	2.041%
Town of Eastham.....	1,490,112	24,589	1,514,701	16,956,243	2.492%
Town of Harwich.....	2,730,905	-	2,730,905	30,570,977	4.493%
Hyannis Fire District.....	1,107,437	1,766	1,109,203	12,416,917	1.825%
Town of Mashpee.....	2,806,280	39,248	2,845,528	31,854,119	4.681%
Mashpee Housing Authority.....	52,183	-	52,183	584,160	0.086%
Mashpee Water District.....	156,549	4,450	160,999	1,802,295	0.265%
Town of Nantucket.....	5,769,110	123,587	5,892,697	65,965,497	9.694%
Nantucket Housing Authority.....	23,192	-	23,192	259,622	0.038%
County of Nantucket.....	202,933	-	202,933	2,271,723	0.334%
Nantucket Regional Transit Authority.....	34,789	-	34,789	389,444	0.057%
Nauset Regional School District.....	881,311	-	881,311	9,865,791	1.450%
North Sagamore Water District.....	52,183	-	52,183	584,160	0.086%
Town of Orleans.....	2,006,143	-	2,006,143	22,457,666	3.300%
Orleans Housing Authority.....	46,385	-	46,385	519,255	0.076%
Ground Water Protection District.....	-	-	-	-	0.000%
Town of Provincetown.....	1,623,468	-	1,623,468	18,173,830	2.671%
Town of Sandwich.....	3,693,390	-	3,693,390	41,345,467	6.076%
Sandwich Housing Authority.....	28,991	-	28,991	324,538	0.048%
Sandwich Water District.....	185,539	-	185,539	2,077,007	0.305%
Town of Truro.....	1,049,456	14,328	1,063,784	11,908,476	1.750%
Veterans District.....	57,981	4,291	62,272	697,101	0.102%
Town of Wellfleet.....	1,153,822	15,007	1,168,829	13,084,397	1.923%
Town of Yarmouth.....	4,081,863	97,766	4,179,629	46,788,644	6.876%
Yarmouth Housing Authority.....	34,789	4,305	39,094	437,636	0.064%
West Barnstable Fire District.....	127,558	-	127,558	1,427,942	0.210%
Cape Cod Regional Transit Authority.....	185,539	-	185,539	2,077,007	0.305%
Monomoy Regional School District.....	933,494	-	933,494	10,449,951	1.536%
Provincetown Housing.....	11,596	-	11,596	129,811	0.019%
<b>Total.....</b>	<b>\$ 57,981,002</b>	<b>\$ 2,345,982</b>	<b>\$ 60,326,984</b>	<b>\$ 680,443,471</b>	<b>100.000%</b>

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

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Barnstable County	Barnstable County Hospital	Barnstable County Retired Sheriffs	Town of Barnstable
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 36,191,018	\$ 115,799	\$ 21,978,311	\$ 103,876,895
Ending net pension liability.....	\$ 33,423,155	\$ 98,671	\$ 21,125,831	\$ 102,598,144
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	4,165,110	12,296	2,632,649	12,785,526
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	830,233	-	7,614	1,677,542
Total Deferred Outflows of Resources.....	\$ 4,995,343	\$ 12,296	\$ 2,640,263	\$ 14,463,068
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 478,819	\$ 1,414	\$ 302,648	\$ 1,469,820
Net difference between projected and actual investment earnings on pension plan investments.....	2,181,327	6,440	1,378,755	6,695,959
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	1,255,678	19,953	1,175,461	917,399
Total Deferred Inflows of Resources.....	\$ 3,915,824	\$ 27,807	\$ 2,856,864	\$ 9,083,178
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 3,886,770	\$ 11,476	\$ 2,456,714	\$ 11,931,102
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	11,786	(4,558)	(284,576)	60,695
Total Employer Pension Expense.....	\$ 3,898,556	\$ 6,918	\$ 2,172,138	\$ 11,991,797
<b>Contributions</b>				
Statutory required contribution.....	\$ 2,932,885	\$ 7,799	\$ 1,404,973	\$ 9,003,460
Contribution in relation to statutory required contribution....	(2,932,885)	(7,799)	(1,404,973)	(9,003,460)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.87%	N/A	N/A	21.48%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 586,900	\$ (2,860)	\$ 78,937	\$ 1,826,108
June 30, 2020.....	575,027	(2,895)	71,433	1,789,660
June 30, 2021.....	(29,648)	(4,678)	(310,747)	(66,497)
June 30, 2022.....	(285,502)	(4,280)	(262,580)	37,494
June 30, 2023.....	232,742	(798)	206,356	1,793,125
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 1,079,519	\$ (15,511)	\$ (216,601)	\$ 5,379,890
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 43,840,105	\$ 129,424	\$ 27,710,092	\$ 134,574,784
Current discount rate (7.375%).....	\$ 33,423,155	\$ 98,671	\$ 21,125,831	\$ 102,598,144
1% increase (8.375%).....	\$ 24,664,540	\$ 72,814	\$ 15,589,759	\$ 75,712,071
Covered Payroll.....	\$ 13,412,612	\$ -	\$ -	\$ 41,921,199
See notes to schedule of employer allocations and schedule of pension amounts by employer.				(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Barnstable Fire District	Barnstable Housing Authority	Town of Bourne	Bourne Housing Authority
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 4,807,406	\$ 2,391,232	\$ 42,164,706	\$ 870,559
Ending net pension liability.....	\$ 4,723,263	\$ 2,056,991	\$ 40,456,504	\$ 713,971
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....	-	-	-	-
Changes of assumptions.....	588,601	256,338	5,041,589	88,973
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	240,694	196,812	361,515	2,488
Total Deferred Outflows of Resources.....	\$ 829,295	\$ 453,150	\$ 5,403,104	\$ 91,461
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 67,665	\$ 29,468	\$ 579,579	\$ 10,228
Net difference between projected and actual investment earnings on pension plan investments.....	308,259	134,248	2,640,349	46,596
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	-	225,978	1,062,031	136,164
Total Deferred Inflows of Resources.....	\$ 375,924	\$ 389,694	\$ 4,281,959	\$ 192,988
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 549,261	239,205	\$ 4,704,669	\$ 83,031
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	66,546	355	(130,820)	(28,385)
Total Employer Pension Expense.....	\$ 615,807	\$ 239,560	\$ 4,573,849	\$ 54,646
<b>Contributions</b>				
Statutory required contribution.....	\$ 414,249	\$ 187,041	\$ 3,511,643	\$ 62,618
Contribution in relation to statutory required contribution.....	(414,249)	(187,041)	(3,511,643)	(62,618)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.19%	22.22%	21.24%	20.97%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 147,819	\$ 35,750	\$ 565,317	\$ (16,100)
June 30, 2020.....	146,142	35,019	550,946	(16,353)
June 30, 2021.....	60,686	(2,199)	(180,982)	(29,274)
June 30, 2022.....	19,991	3,963	(334,847)	(30,201)
June 30, 2023.....	78,733	(9,077)	520,711	(9,599)
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 453,371	\$ 63,456	\$ 1,121,145	\$ (101,527)
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 6,195,358	\$ 2,698,095	\$ 53,065,531	\$ 936,491
Current discount rate (7.375%).....	\$ 4,723,263	\$ 2,056,991	\$ 40,456,504	\$ 713,971
1% increase (8.375%).....	\$ 3,485,522	\$ 1,517,954	\$ 29,854,785	\$ 526,872
Covered Payroll.....	\$ 1,954,875	\$ 841,682	\$ 16,534,981	\$ 298,661
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Bourne Recreation Authority	Bourne Water District	Town of Brewster	Brewster Housing Authority
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 1,347,104	\$ 1,466,779	\$ 24,381,943	\$ 133,933
Ending net pension liability.....	\$ 1,301,008	\$ 1,550,129	\$ 25,055,360	\$ 129,811
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	162,128	193,174	3,122,337	16,176
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	36,317	156,320	1,141,145	695
Total Deferred Outflows of Resources.....	\$ 198,445	\$ 349,494	\$ 4,263,482	\$ 16,871
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 18,638	\$ 22,207	\$ 358,942	\$ 1,860
Net difference between projected and actual investment earnings on pension plan investments.....	84,909	101,168	1,635,210	8,472
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	76,926	146,833	557,835	53,707
Total Deferred Inflows of Resources.....	\$ 180,473	\$ 270,208	\$ 2,551,987	\$ 64,039
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 151,298	\$ 180,260	\$ 2,913,679	\$ 15,100
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(7,460)	1,924	85,803	(17,732)
Total Employer Pension Expense.....	\$ 143,838	\$ 182,184	\$ 2,999,482	\$ (2,632)
<b>Contributions</b>				
Statutory required contribution.....	\$ 116,219	\$ 135,952	\$ 2,197,453	\$ 11,596
Contribution in relation to statutory required contribution.....	(116,219)	(135,952)	(2,197,453)	(11,596)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	25.18%	21.77%	21.13%	21.35%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 14,927	\$ 28,597	\$ 516,932	\$ (15,498)
June 30, 2020.....	14,464	28,047	508,032	(15,544)
June 30, 2021.....	(9,075)	1	54,742	(17,890)
June 30, 2022.....	(20,959)	(19,782)	46,800	(157)
June 30, 2023.....	18,615	42,423	584,989	1,921
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 17,972	\$ 79,286	\$ 1,711,495	\$ (47,168)
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 1,706,491	\$ 2,033,260	\$ 32,864,331	\$ 170,265
Current discount rate (7.375%).....	\$ 1,301,008	\$ 1,550,129	\$ 25,055,360	\$ 129,811
1% increase (8.375%).....	\$ 960,076	\$ 1,143,916	\$ 18,489,546	\$ 95,792
Covered Payroll.....	\$ 461,568	\$ 624,474	\$ 10,398,846	\$ 54,302
See notes to schedule of employer allocations and schedule of pension amounts by employer.				(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Buzzards Bay Water District	Cape Cod Mosquito Control District	Cape Cod Regional Technical High School	Centerville/ Osterville/ Martsons Mills Fire District
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 736,626	\$ 3,247,484	\$ 5,156,391	\$ 15,529,637
Ending net pension liability.....	\$ 778,876	\$ 2,952,144	\$ 4,608,363	\$ 14,985,740
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	97,062	367,889	574,283	1,867,486
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	53,755	152,278	85,438	49,126
Total Deferred Outflows of Resources.....	\$ 150,817	\$ 520,167	\$ 659,721	\$ 1,916,612
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 11,158	\$ 42,292	\$ 66,019	\$ 214,685
Net difference between projected and actual investment earnings on pension plan investments.....	50,833	192,669	300,760	978,029
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	36,557	148,914	515,764	210,009
Total Deferred Inflows of Resources.....	\$ 98,548	\$ 383,875	\$ 882,543	\$ 1,402,723
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 90,577	\$ 343,302	\$ 535,906	\$ 1,742,688
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	1,760	8,302	(86,046)	(40,506)
Total Employer Pension Expense.....	\$ 92,337	\$ 351,604	\$ 449,860	\$ 1,702,182
<b>Contributions</b>				
Statutory required contribution.....	\$ 69,577	\$ 258,915	\$ 404,171	\$ 1,338,676
Contribution in relation to statutory required contribution.....	(69,577)	(258,915)	(404,171)	(1,338,676)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.35%	21.19%	20.97%	21.44%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 15,162	\$ 59,100	\$ (6,750)	\$ 217,354
June 30, 2020.....	14,885	58,051	(8,387)	212,031
June 30, 2021.....	793	4,640	(91,757)	(59,087)
June 30, 2022.....	(153)	1,569	(123,114)	(68,883)
June 30, 2023.....	21,582	12,932	7,186	212,474
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 52,269	\$ 136,292	\$ (222,822)	\$ 513,889
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 1,021,628	\$ 3,872,236	\$ 6,044,648	\$ 19,656,327
Current discount rate (7.375%).....	\$ 778,876	\$ 2,952,144	\$ 4,608,363	\$ 14,985,740
1% increase (8.375%).....	\$ 574,770	\$ 2,178,529	\$ 3,400,732	\$ 11,058,693
Covered Payroll.....	\$ 325,812	\$ 1,221,797	\$ 1,927,723	\$ 6,244,738
See notes to schedule of employer allocations and schedule of pension amounts by employer.				(continued)



**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Town of Chatham	Chatham Housing Authority	Cotuit Fire District	Town of Dennis
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 22,730,937	\$ 401,799	\$ 3,013,475	\$ 35,826,921
Ending net pension liability.....	\$ 21,967,203	\$ 389,444	\$ 3,180,421	\$ 35,309,162
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	2,737,499	48,532	396,336	4,400,141
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	154,814	2,104	280,582	909,562
Total Deferred Outflows of Resources.....	\$ 2,892,313	\$ 50,636	\$ 676,918	\$ 5,309,703
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 314,702	\$ 5,579	\$ 45,563	\$ 505,838
Net difference between projected and actual investment earnings on pension plan investments.....	1,433,667	25,417	207,567	2,304,415
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	329,548	52	134,630	608,166
Total Deferred Inflows of Resources.....	\$ 2,077,917	\$ 31,048	\$ 387,760	\$ 3,418,419
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 2,554,554	\$ 45,287	\$ 369,850	\$ 4,106,084
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(66,548)	493	15,155	84,891
Total Employer Pension Expense.....	\$ 2,488,006	\$ 45,780	\$ 385,005	\$ 4,190,975
<b>Contributions</b>				
Statutory required contribution.....	\$ 1,933,226	\$ 34,789	\$ 278,935	\$ 3,096,752
Contribution in relation to statutory required contribution.....	(1,933,226)	(34,789)	(278,935)	(3,096,752)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	22.18%	21.36%	20.97%	20.97%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 311,443	\$ 7,194	\$ 69,881	\$ 692,458
June 30, 2020.....	303,640	7,056	68,751	679,915
June 30, 2021.....	(93,785)	10	11,211	41,118
June 30, 2022.....	(18,526)	(463)	52,883	(127,401)
June 30, 2023.....	311,624	5,791	86,432	605,194
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 814,396	\$ 19,588	\$ 289,158	\$ 1,891,284
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 28,813,698	\$ 510,823	\$ 4,171,658	\$ 46,313,929
Current discount rate (7.375%).....	\$ 21,967,203	\$ 389,444	\$ 3,180,421	\$ 35,309,162
1% increase (8.375%).....	\$ 16,210,650	\$ 287,390	\$ 2,346,984	\$ 26,056,318
Covered Payroll.....	\$ 8,715,482	\$ 162,906	\$ 1,330,401	\$ 14,770,163
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Dennis Housing Authority	Dennis Water District	Dennis/Yarmouth Regional School District	Town of Eastham
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 768,232	\$ 2,946,514	\$ 14,665,600	\$ 17,835,831
Ending net pension liability.....	\$ 808,810	\$ 2,920,800	\$ 13,889,994	\$ 16,956,243
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	100,792	363,982	1,730,937	2,113,045
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	80,833	55,177	244,097	357,914
Total Deferred Outflows of Resources.....	\$ 181,625	\$ 419,159	\$ 1,975,034	\$ 2,470,959
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 11,587	\$ 41,843	\$ 198,988	\$ 242,915
Net difference between projected and actual investment earnings on pension plan investments.....	52,786	190,623	906,516	1,106,632
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	-	173,061	646,570	456,742
Total Deferred Inflows of Resources.....	\$ 64,373	\$ 405,527	\$ 1,752,074	\$ 1,806,289
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 94,056	\$ 339,666	\$ 1,615,259	\$ 1,971,837
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	19,978	(34,332)	(122,256)	(30,113)
Total Employer Pension Expense.....	\$ 114,034	\$ 305,334	\$ 1,493,003	\$ 1,941,724
<b>Contributions</b>				
Statutory required contribution.....	\$ 72,251	\$ 256,166	\$ 1,218,207	\$ 1,487,129
Contribution in relation to statutory required contribution.....	(72,251)	(256,166)	(1,218,207)	(1,487,129)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	22.18%	20.97%	20.97%	21.31%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 33,895	\$ 15,926	\$ 116,750	\$ 261,654
June 30, 2020.....	33,608	14,889	111,816	255,631
June 30, 2021.....	18,972	(37,950)	(139,477)	(51,133)
June 30, 2022.....	8,863	(31,848)	(18,730)	2,176
June 30, 2023.....	21,914	52,615	152,601	196,342
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 117,252	\$ 13,632	\$ 222,960	\$ 664,670
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 1,060,890	\$ 3,831,118	\$ 18,219,072	\$ 22,240,975
Current discount rate (7.375%).....	\$ 808,810	\$ 2,920,800	\$ 13,889,994	\$ 16,956,243
1% increase (8.375%).....	\$ 596,859	\$ 2,155,395	\$ 10,250,090	\$ 12,512,821
Covered Payroll.....	\$ 325,812	\$ 1,221,797	\$ 5,810,321	\$ 6,977,816
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Town of Harwich	Hyannis Fire District	Town of Mashpee	Mashpee Housing Authority
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 31,340,183	\$ 12,878,386	\$ 34,148,007	\$ 602,693
Ending net pension liability.....	\$ 30,570,977	\$ 12,416,917	\$ 31,854,119	\$ 584,160
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	3,809,679	1,547,365	3,969,581	72,797
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	1,101,624	241,234	456,274	66,660
Total Deferred Outflows of Resources.....	\$ 4,911,303	\$ 1,788,599	\$ 4,425,855	\$ 139,457
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 437,959	\$ 177,884	\$ 456,341	\$ 8,369
Net difference between projected and actual investment earnings on pension plan investments.....	1,995,183	810,377	2,078,926	38,125
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	84,719	98,021	962,454	-
Total Deferred Inflows of Resources.....	\$ 2,517,861	\$ 1,086,282	\$ 3,497,721	\$ 46,494
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 3,555,089	\$ 1,443,962	\$ 3,704,303	\$ 67,934
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	238,687	33,349	(81,466)	18,871
Total Employer Pension Expense.....	\$ 3,793,776	\$ 1,477,311	\$ 3,622,837	\$ 86,805
<b>Contributions</b>				
Statutory required contribution.....	\$ 2,681,194	\$ 1,089,012	\$ 2,793,731	\$ 52,183
Contribution in relation to statutory required contribution.....	(2,681,194)	(1,089,012)	(2,793,731)	(52,183)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	20.97%	21.00%	21.26%	21.36%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 764,724	\$ 247,008	\$ 466,650	\$ 28,923
June 30, 2020.....	753,864	242,597	455,334	28,715
June 30, 2021.....	200,790	17,958	(120,957)	18,145
June 30, 2022.....	198,040	23,684	(145,871)	8,501
June 30, 2023.....	476,024	171,070	272,978	8,679
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 2,393,442	\$ 702,317	\$ 928,134	\$ 92,963
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 40,098,997	\$ 16,286,881	\$ 41,782,051	\$ 766,225
Current discount rate (7.375%).....	\$ 30,570,977	\$ 12,416,917	\$ 31,854,119	\$ 584,160
1% increase (8.375%).....	\$ 22,559,784	\$ 9,163,035	\$ 23,506,674	\$ 431,080
Covered Payroll.....	\$ 12,788,137	\$ 5,185,848	\$ 13,141,101	\$ 244,359
See notes to schedule of employer allocations and schedule of pension amounts by employer.				(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Mashpee Water District	Town of Nantucket	Nantucket Housing Authority	County of Nantucket
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 1,994,615	\$ 69,565,696	\$ 267,866	\$ 2,008,983
Ending net pension liability.....	\$ 1,802,295	\$ 65,965,497	\$ 259,622	\$ 2,271,723
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	224,598	8,220,457	32,354	283,096
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	30,401	1,583,006	1,402	254,000
Total Deferred Outflows of Resources.....	\$ 254,999	\$ 9,803,463	\$ 33,756	\$ 537,096
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 25,820	\$ 945,020	\$ 3,719	\$ 32,545
Net difference between projected and actual investment earnings on pension plan investments.....	117,625	4,305,169	16,944	148,262
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	99,887	1,086,522	40	217,126
Total Deferred Inflows of Resources.....	\$ 243,332	\$ 6,336,711	\$ 20,703	\$ 397,933
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 209,584	\$ 7,671,099	\$ 30,189	\$ 264,176
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(10,078)	182,137	330	(12,336)
Total Employer Pension Expense.....	\$ 199,506	\$ 7,853,236	\$ 30,519	\$ 251,840
<b>Contributions</b>				
Statutory required contribution.....	\$ 158,068	\$ 5,785,432	\$ 23,192	\$ 199,239
Contribution in relation to statutory required contribution.....	(158,068)	(5,785,432)	(23,192)	(199,239)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.56%	21.42%	21.35%	20.97%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 20,934	\$ 1,317,209	\$ 4,797	\$ 26,754
June 30, 2020.....	20,294	1,293,775	4,705	25,947
June 30, 2021.....	(12,312)	100,355	4	(15,152)
June 30, 2022.....	(23,348)	18,238	(308)	18,441
June 30, 2023.....	6,099	737,175	3,855	83,173
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 11,667	\$ 3,466,752	\$ 13,053	\$ 139,163
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 2,364,017	\$ 86,524,883	\$ 340,540	\$ 2,979,747
Current discount rate (7.375%).....	\$ 1,802,295	\$ 65,965,497	\$ 259,622	\$ 2,271,723
1% increase (8.375%).....	\$ 1,330,001	\$ 48,679,090	\$ 191,588	\$ 1,676,412
Covered Payroll.....	\$ 733,078	\$ 27,015,280	\$ 108,604	\$ 950,286
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Nantucket Regional Transit Authority	Nauset Regional School District	North Sagamore Water District	Town of Orleans
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 401,799	\$ 10,044,928	\$ 602,693	\$ 22,098,852
Ending net pension liability.....	\$ 389,444	\$ 9,865,791	\$ 584,160	\$ 22,457,666
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	48,532	1,229,450	72,797	2,798,619
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	2,104	556,023	27,791	970,395
Total Deferred Outflows of Resources.....	\$ 50,636	\$ 1,785,473	\$ 100,588	\$ 3,769,014
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 5,579	\$ 141,337	\$ 8,369	\$ 321,728
Net difference between projected and actual investment earnings on pension plan investments.....	25,417	643,881	38,125	1,465,676
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	52	253,712	36,509	210,034
Total Deferred Inflows of Resources.....	\$ 31,048	\$ 1,038,930	\$ 83,003	\$ 1,997,438
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 45,287	\$ 1,147,292	\$ 67,934	\$ 2,611,590
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	493	105,050	33	160,282
Total Employer Pension Expense.....	\$ 45,780	\$ 1,252,342	\$ 67,967	\$ 2,771,872
<b>Contributions</b>				
Statutory required contribution.....	\$ 34,789	\$ 884,280	\$ 51,233	\$ 1,969,625
Contribution in relation to statutory required contribution.....	(34,789)	(884,280)	(51,233)	(1,969,625)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.36%	21.43%	20.97%	20.97%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 7,194	\$ 274,811	\$ 10,085	\$ 546,712
June 30, 2020.....	7,056	271,307	9,877	538,735
June 30, 2021.....	10	92,819	(691)	132,442
June 30, 2022.....	(463)	(59,508)	(10,210)	65,932
June 30, 2023.....	5,791	167,114	8,524	487,755
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 19,588	\$ 746,543	\$ 17,585	\$ 1,771,576
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 510,823	\$ 12,940,650	\$ 766,225	\$ 29,457,024
Current discount rate (7.375%).....	\$ 389,444	\$ 9,865,791	\$ 584,160	\$ 22,457,666
1% increase (8.375%).....	\$ 287,390	\$ 7,280,438	\$ 431,080	\$ 16,572,587
Covered Payroll.....	\$ 162,906	\$ 4,126,957	\$ 244,359	\$ 9,394,258
See notes to schedule of employer allocations and schedule of pension amounts by employer.				(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Orleans Housing Authority	Ground Water Protection District	Town of Provincetown	Town of Sandwich
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 535,732	\$ 937,531	\$ 18,951,432	\$ 41,586,017
Ending net pension liability.....	\$ 519,255	\$ -	\$ 18,173,830	\$ 41,345,467
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	64,708	-	2,264,777	5,152,370
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	2,802	1,362	471,737	1,486,326
Total Deferred Outflows of Resources.....	\$ 67,510	\$ 1,362	\$ 2,736,514	\$ 6,638,696
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 7,439	\$ -	\$ 260,358	\$ 592,314
Net difference between projected and actual investment earnings on pension plan investments.....	33,889	-	1,186,096	2,698,369
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	74	1,362	410,243	-
Total Deferred Inflows of Resources.....	\$ 41,402	\$ 1,362	\$ 1,856,697	\$ 3,290,683
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 60,386	\$ (735,649)	\$ 2,113,430	\$ 4,808,047
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	658	(148,814)	(271)	352,145
Total Employer Pension Expense.....	\$ 61,044	\$ (884,463)	\$ 2,113,159	\$ 5,160,192
<b>Contributions</b>				
Statutory required contribution.....	\$ 46,385	\$ -	\$ 1,593,916	\$ 3,626,159
Contribution in relation to statutory required contribution.....	(46,385)	-	(1,593,916)	(3,626,159)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.36%	N/A	20.97%	20.97%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 9,593	\$ -	\$ 312,447	\$ 1,063,579
June 30, 2020.....	9,408	-	305,991	1,048,892
June 30, 2021.....	12	-	(22,805)	300,887
June 30, 2022.....	(620)	-	49,066	171,346
June 30, 2023.....	7,715	-	235,118	763,309
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 26,108	\$ -	\$ 879,817	\$ 3,348,013
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 681,088	\$ -	\$ 23,838,044	\$ 54,231,558
Current discount rate (7.375%).....	\$ 519,255	\$ -	\$ 18,173,830	\$ 41,345,467
1% increase (8.375%).....	\$ 383,182	\$ -	\$ 13,411,336	\$ 30,510,794
Covered Payroll.....	\$ 217,208	\$ -	\$ 7,602,290	\$ 17,295,209

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

(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Sandwich Housing Authority	Sandwich Water District	Town of Truro	Veterans District
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 334,826	\$ 2,142,916	\$ 12,290,256	\$ 653,400
Ending net pension liability.....	\$ 324,538	\$ 2,077,007	\$ 11,908,476	\$ 697,101
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	40,443	258,831	1,484,005	86,871
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	2,906	3,750	34,105	78,075
Total Deferred Outflows of Resources.....	\$ 43,349	\$ 262,581	\$ 1,518,110	\$ 164,946
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 4,649	\$ 29,755	\$ 170,601	\$ 9,987
Net difference between projected and actual investment earnings on pension plan investments.....	21,181	135,554	777,194	45,496
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	44	220,130	191,370	36,771
Total Deferred Inflows of Resources.....	\$ 25,874	\$ 385,439	\$ 1,139,165	\$ 92,254
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 37,743	241,532	1,384,833	81,066
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	644	(54,179)	(53,642)	10,154
Total Employer Pension Expense.....	\$ 38,387	\$ 187,353	\$ 1,331,191	\$ 91,220
<b>Contributions</b>				
Statutory required contribution.....	\$ 30,372	\$ 182,162	\$ 1,063,784	\$ 61,138
Contribution in relation to statutory required contribution.....	(30,372)	(182,162)	(1,063,784)	(61,138)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	22.37%	20.97%	21.65%	22.52%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 6,228	\$ (18,440)	\$ 151,268	\$ 22,149
June 30, 2020.....	6,113	(19,178)	147,038	21,901
June 30, 2021.....	241	(56,754)	(68,405)	9,290
June 30, 2022.....	(160)	(58,789)	(27,338)	(652)
June 30, 2023.....	5,053	30,303	176,382	20,004
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 17,475	\$ (122,858)	\$ 378,945	\$ 72,692
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 425,686	\$ 2,724,344	\$ 15,619,975	\$ 914,365
Current discount rate (7.375%).....	\$ 324,538	\$ 2,077,007	\$ 11,908,476	\$ 697,101
1% increase (8.375%).....	\$ 239,492	\$ 1,532,722	\$ 8,787,832	\$ 514,424
Covered Payroll.....	\$ 135,755	\$ 868,833	\$ 4,914,337	\$ 271,510
See notes to schedule of employer allocations and schedule of pension amounts by employer.				

(continued)

**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Town of Wellfleet	Town of Yarmouth	Yarmouth Housing Authority	West Barnstable Fire District
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 13,034,923	\$ 49,192,133	\$ 519,649	\$ 1,473,251
Ending net pension liability.....	\$ 13,084,397	\$ 46,788,644	\$ 437,636	\$ 1,427,942
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	1,630,545	5,830,685	54,537	177,947
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	487,913	293,692	2,931	83,545
Total Deferred Outflows of Resources.....	\$ 2,118,458	\$ 6,124,377	\$ 57,468	\$ 261,492
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 187,447	\$ 670,293	\$ 6,270	\$ 20,457
Net difference between projected and actual investment earnings on pension plan investments.....	853,940	3,053,612	28,562	93,193
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	78,994	1,465,842	50,674	-
Total Deferred Inflows of Resources.....	\$ 1,120,381	\$ 5,189,747	\$ 85,506	\$ 113,650
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 1,521,580	\$ 5,441,030	\$ 50,895	\$ 166,049
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	77,754	(240,618)	(9,326)	27,539
Total Employer Pension Expense.....	\$ 1,599,334	\$ 5,200,412	\$ 41,569	\$ 193,588
<b>Contributions</b>				
Statutory required contribution.....	\$ 1,150,399	\$ 4,106,672	\$ 39,094	\$ 125,236
Contribution in relation to statutory required contribution.....	(1,150,399)	(4,106,672)	(39,094)	(125,236)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	21.29%	21.48%	24.00%	20.97%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 302,898	\$ 564,477	\$ (1,796)	\$ 52,110
June 30, 2020.....	298,250	547,856	(1,951)	51,602
June 30, 2021.....	61,534	(298,622)	(9,871)	25,764
June 30, 2022.....	74,590	(424,901)	(10,743)	(2,468)
June 30, 2023.....	260,805	545,820	(3,677)	20,834
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 998,077	\$ 934,630	\$ (28,038)	\$ 147,842
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 17,162,395	\$ 61,371,208	\$ 574,031	\$ 1,872,990
Current discount rate (7.375%).....	\$ 13,084,397	\$ 46,788,644	\$ 437,636	\$ 1,427,942
1% increase (8.375%).....	\$ 9,655,601	\$ 34,527,577	\$ 322,951	\$ 1,053,749
Covered Payroll.....	\$ 5,403,056	\$ 19,114,328	\$ 162,906	\$ 597,323

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

(continued)



**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER**

FOR THE YEAR ENDED DECEMBER 31, 2017

	Cape Cod Regional Transit Authority	Monomoy Regional School District	Provincetown Housing Authority	Totals
<b>Net Pension Liability</b>				
Beginning net pension liability.....	\$ 1,674,157	\$ 10,580,661	\$ 133,933	\$ 702,580,650
Ending net pension liability.....	\$ 2,077,007	\$ 10,449,951	\$ 129,811	\$ 680,443,471
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience.....	\$ -	\$ -	\$ -	\$ -
Net difference between projected and actual investment earnings on pension plan investments.....				
Changes of assumptions.....	258,831	1,302,247	16,176	84,795,179
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	355,130	168,404	74,030	15,914,677
Total Deferred Outflows of Resources.....	\$ 613,961	\$ 1,470,651	\$ 90,206	\$ 100,709,856
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience.....	\$ 29,755	\$ 149,706	\$ 1,860	\$ 9,748,018
Net difference between projected and actual investment earnings on pension plan investments.....	135,554	682,005	8,472	44,408,433
Changes of assumptions.....	-	-	-	-
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	290,855	495,615	-	15,179,028
Total Deferred Inflows of Resources.....	\$ 456,164	\$ 1,327,326	\$ 10,332	\$ 69,335,479
<b>Pension Expense</b>				
Proportionate share of plan pension expense.....	\$ 241,536	\$ 1,215,221	\$ 15,100	\$ 78,392,869
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(10,362)	(109,884)	18,494	-
Total Employer Pension Expense.....	\$ 231,174	\$ 1,105,337	\$ 33,594	\$ 78,392,869
<b>Contributions</b>				
Statutory required contribution.....	\$ 182,162	\$ 916,502	\$ 11,596	\$ 59,292,237
Contribution in relation to statutory required contribution.....	(182,162)	(916,502)	(11,596)	(59,292,237)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	20.97%	20.97%	21.35%	21.84%
<b>Deferred Outflows/(Inflows) Recognized in Future Pension Expense</b>				
June 30, 2019.....	\$ 25,377	\$ 69,929	\$ 20,728	\$ 11,857,244
June 30, 2020.....	24,639	66,217	20,682	11,615,530
June 30, 2021.....	(12,938)	(122,837)	18,333	(694,766)
June 30, 2022.....	20,363	(52,460)	18,210	(1,325,115)
June 30, 2023.....	100,356	182,476	1,921	9,921,484
Total Deferred Outflows/(Inflows) Recognized in Future Pension Expense.....	\$ 157,797	\$ 143,325	\$ 79,874	\$ 31,374,377
<b>Discount Rate Sensitivity</b>				
1% decrease (6.375%).....	\$ 2,724,344	\$ 13,706,875	\$ 170,265	\$ 892,516,460
Current discount rate (7.375%).....	\$ 2,077,007	\$ 10,449,951	\$ 129,811	\$ 680,443,471
1% increase (8.375%).....	\$ 1,532,722	\$ 7,711,518	\$ 95,792	\$ 502,131,729
Covered Payroll.....	\$ 868,833	\$ 4,371,317	\$ 54,302	\$ 271,510,348
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 cost-sharing 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, contributions and pension expense.

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 Barnstable County Retirement 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 who are employees of any government unit at the close of business on the September 30th immediately preceding the fiscal year. Accordingly, the proportionate aggregate rates of regular compensation as of the close of business on September 30, 2016 were applied to allocate the Association's December 31, 2017 pension fund appropriation by member unit.

The Barnstable County Hospital was operated by Barnstable County from the late 1800s to 1995, when it was closed and all employees were terminated. The remaining payments due from the Barnstable County Retirement Association to the former employees of the Barnstable County Hospital were actuarially determined and are separately identified in the Association's funding schedule. Barnstable County continues to pay for the retirement obligations related to previously retired Hospital employees.

In 2012, the Barnstable County Sheriff's functions were taken over by the Commonwealth of Massachusetts. Barnstable County continues to pay for the retirement obligations related to previously retired Sheriff's employees. These liabilities are actuarially determined and are separately identified in the Association's funding schedule.

As of December 31, 2016, the Ground Water Protection District was dissolved and is no longer a member unit of the Association. Accordingly, the Association has not reported a net pension liability or related deferred outflows of resources or deferred inflows of resources for the Ground Water Protection District as of December 31, 2017. The effect of the change in proportion from the dissolution of the Ground Water Protection District is included in deferred inflows and deferred outflows of the remaining member units.

When a member unit accepts an Early Retirement Incentive Program (E.R.I. or ERIP), PERAC complete 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. The 2003 ERIP amortization is occurring over 25 years, increasing 4.5% per year. The 2010 ERIP amortization is occurring over a 10 year, straight-line basis.

The allocation percentage of the total net pension liability is a blended rate of the following three items. (1) The proportionate share of active employer's covered payroll is applied to the fiscal year 2018 pension fund appropriation calculated by the actuary. (2) ERI is a direct charge calculated by PERAC for only the employers that accepted the ERI. (3) The direct amortization of the actuarial determined net pension liability for Barnstable County Sheriff and Barnstable County Hospital since they no longer have active covered payroll.

**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.

Changes in Assumptions

The following assumption changes were reflected in the January 1, 2018 actuarial valuation:

- The mortality tables for non-disabled participants were changed from the RP-2000 Employee and Healthy Annuitant Mortality Tables projected generationally using Scale BB2D from 2009 to the RP-2014 Blue Collar Employee and Healthy Annuitant Mortality Tables projected generationally using Scale MP-2017.
- The mortality tables for disabled participants were changed from the RP-2000 Healthy Annuitant Mortality Table projected generationally using Scale BB2D from 2015 to the RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward 1 year projected generationally using Scale MP-2017.
- The long-term salary increase assumption was lowered by 0.25%, to 4.00% for Group 1 participants, 4.25% for Group 2 participants, and 4.50% for Group 4 participants.
- The investment rate of return and discount rate assumption were lowered from 7.625% to 7.375%.

Changes in Plan Provisions

The following plan provision change was reflected in the January 1, 2018 actuarial valuation:

- The Cost of Living Adjustment Base was increased from \$15,000 to \$16,000 as of July 1, 2015, to \$17,000 as of July 1, 2016, and to \$18,000 as of July 1, 2017.