

ESSEX REGIONAL RETIREMENT SYSTEM

FINANCIAL STATEMENTS

YEAR ENDED DECEMBER 31, 2021

ESSEX REGIONAL RETIREMENT SYSTEM

FINANCIAL STATEMENTS

YEAR ENDED DECEMBER 31, 2021

TABLE OF CONTENTS

Financial Section	1
Independent Auditor's Report	3
Management's Discussion and Analysis.....	6
Financial Statements.....	9
Statement of Fiduciary Net Position	9
Statement of Changes in Fiduciary Net Position.....	10
Notes to Financial Statements.....	11
Required Supplementary Information	21
Schedule of Changes in the Net Pension Liability and Related Ratios.....	22
Schedule of Contributions	24
Schedule of Investment Returns	26
Notes to Required Supplementary Information	27
Audit of Specific Elements, Accounts and Items of Financial Statements	28
Independent Auditor's Report	29
Pension Plan Schedules	31
Schedule of Employer Allocations	31
Schedule of Pension Amounts by Employer	32
Notes to Schedule of Employer Allocations and Schedule of Pension Amounts by Employer.....	44
Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with <i>Government Auditing</i> <i>Standards</i>	47

Financial Section

This page left intentionally blank



Independent Auditor's Report

To the Honorable Essex Regional Retirement Board
Essex Regional Retirement System
Danvers, Massachusetts

Opinion

We have audited the accompanying financial statements of the Essex Regional Retirement System (ERRS) as of and for the year ended December 31, 2021, and the related notes to the financial statements, which collectively comprise the Essex Regional Retirement System's financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Essex Regional Retirement System as of December 31, 2021, and the changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

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. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the ERRS and to meet our ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management 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, and for 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.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the ERRS's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our

opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgement made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgement and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform auditing procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 ERRS's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgement, there are conditions or events, considered in the aggregate, that raise substantial doubt about the ERRS's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

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 is the responsibility of management and, 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 26, 2022, on our consideration of the Essex Regional Retirement System'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 effectiveness of ERRS's 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 Essex Regional Retirement System's internal control over financial reporting and compliance.

Restriction on Use

This report is intended solely for the information and use of Essex Regional Retirement System, 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 26, 2022

Management's Discussion and Analysis

As management of the Essex Regional Retirement System, we offer readers of these financial statements this narrative overview and analysis of the financial activities for the year ended December 31, 2021. The System 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 System's assets exceeded its liabilities at the close of the most recent year by \$705.5 million (net position).
- The System's net position increased by \$116.7 million for the year ended December 31, 2021.
- Total investment income was \$117.9 million; investment expenses were \$3.2 million; and net investment income was \$114.7 million.
- Total contributions were \$62.8 million including \$41.4 million from employers, \$15.7 million from members, and \$5.6 million from other contributions.
- Retirement benefits, refunds and transfers amounted to \$59.8 million.
- Administrative expenses were \$1.0 million.
- The total pension liability was \$1.1 billion as of December 31, 2021, while the net pension liability was \$347.2 million.
- The Plan fiduciary net position as a percentage of the total pension liability was 67.01%.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the System's 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 System'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 System's financial position. The System's assets exceeded liabilities by \$705.5 million at the close of 2021.

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 System's net position includes investments of \$696.8 million, cash of \$5.1 million, accounts receivable of \$4.0 million, and capital assets of \$133,000.

In 2021, the System's contributions totaled \$62.8 million while deductions totaled \$60.8 million, which resulted in a current surplus of \$2.0 million before investment income. For 2020, there was a \$2.7 million current surplus before investment income.

The main difference of the increase (decrease) in net position between years was the change in net investment income and accounts payable between years. In 2020, the System had net investment income of \$61.6 million, which increased to \$114.7 million in 2021. The annual money weighted rate of return was 19.69% and 12.14% in 2021, and 2020, respectively. Fluctuations in the System's annual investment returns are expected. Accounts payable decreased from \$1.4 million in 2020 to \$618,000 in 2021. This was due to the payment of a delayed bill accrued in the previous year for 3(8)c payments owed to the State.

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

	2021	2020
Statement of Fiduciary Net Position		
Assets:		
Cash and cash equivalents.....	\$ 5,084,935	\$ 3,833,543
Investments.....	696,841,064	582,083,062
Receivables.....	4,046,618	4,106,424
Capital assets, net of accumulated depreciation.....	133,203	144,461
Total assets.....	706,105,820	590,167,490
Liabilities:		
Accounts payable.....	618,482	1,365,043
Abandoned property.....	1,282	1,282
Total liabilities.....	619,764	1,366,325
Net Position Restricted for Pension Benefits.....	\$ 705,486,056	\$ 588,801,165

	2021	2020
Statement of Changes in Fiduciary Net Position		
Additions:		
Contributions:		
Member contributions.....	\$ 15,718,789	\$ 15,213,826
Employer contributions.....	41,415,403	38,624,587
Other contributions.....	5,646,014	5,632,862
Total contributions.....	<u>62,780,206</u>	<u>59,471,275</u>
Net investment income:		
Total investment income.....	117,906,141	64,090,663
Less, investment expenses.....	<u>(3,166,715)</u>	<u>(2,529,780)</u>
Net investment income.....	<u>114,739,426</u>	<u>61,560,883</u>
Total additions.....	<u>177,519,632</u>	<u>121,032,158</u>
Deductions:		
Administration.....	1,009,530	899,416
Retirement benefits, refunds and transfers.....	<u>59,825,211</u>	<u>55,894,499</u>
Total deductions.....	<u>60,834,741</u>	<u>56,793,915</u>
Net increase (decrease) in fiduciary net position.....	116,684,891	64,238,243
Fiduciary net position at beginning of year.....	<u>588,801,165</u>	<u>524,562,922</u>
Fiduciary net position at end of year.....	<u><u>\$ 705,486,056</u></u>	<u><u>\$ 588,801,165</u></u>

In 2016, the System recognized a contribution from Essex North Shore Agricultural and Technical School District (Essex Tech) as the successor agency to both the Essex Agricultural and Technical High School and the North Shore Vocational Regional School. Legislation requires Essex Tech to reimburse ERRS for the actuarially determined liability associated with the retired members from Essex Agricultural and Technical High School who remain with ERRS. Accordingly, in 2015, PERAC approved a funding schedule for Essex Tech to pay ERRS in equal annual payments of \$421,947 through 2033. The \$3 million present value of these payments has been recorded as an intergovernmental receivable at year-end.

Requests for Information

This financial report is designed to provide a general overview of the System's finances for all those with an interest in the System's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the System's Board, 491 Maple Street #202, Danvers, MA 01923.

STATEMENT OF FIDUCIARY NET POSITION

DECEMBER 31, 2021

Assets

CURRENT:

Cash and cash equivalents.....	\$	5,084,935
Investments:		
Investments in Pension Reserve Investment Trust.....		692,815,011
Pooled alternative investments.....		3,989,108
Pooled real estate funds.....		36,945
Total investments.....		696,841,064
Receivables, net of allowance for uncollectibles:		
Member contributions.....		1,000,889
Employer pension appropriation.....		33,464
Essex Agricultural and Technical High School.....		180,966
Total receivables.....		1,215,319
Total current assets.....		703,141,318

NONCURRENT:

Receivables, net of allowance for uncollectibles:		
Essex Agricultural and Technical High School.....		2,831,299
Capital assets, net of accumulated depreciation.....		133,203
Total noncurrent assets.....		2,964,502

Total Assets..... 706,105,820

Liabilities

Accounts payable.....	618,482
Other liabilities.....	1,282

Total Liabilities..... 619,764

Net Position Restricted for Pensions..... \$ 705,486,056

See notes to financial statements.

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

YEAR ENDED DECEMBER 31, 2021

Additions:

Contributions:

Employer pension appropriation.....	\$ 41,415,403
Member contributions.....	15,718,789
Transfers from other systems.....	2,565,667
3(8)(c) contributions from other systems.....	2,605,623
Workers' compensation settlements.....	8,500
Federal grant reimbursements.....	19,939
State COLA reimbursements.....	185,266
Members' makeup payments and redeposits.....	152,296
Interest not refunded.....	41,587
Retirement benefits - reimbursement of 91A overearnings.....	67,136

Total contributions..... 62,780,206

Net investment income:

Investment income.....	117,906,141
Less: investment expense.....	<u>(3,166,715)</u>

Net investment income..... 114,739,426

Total additions..... 177,519,632

Deductions:

Administration.....	1,009,530
Retirement benefits and refunds.....	53,996,548
Transfers to other systems.....	2,731,002
3(8)(c) transfer to other systems.....	3,086,403
Depreciation.....	<u>11,258</u>

Total deductions..... 60,834,741

Net increase (decrease) in fiduciary net position..... 116,684,891

Fiduciary net position at beginning of year..... 588,801,165

Fiduciary net position at end of year..... \$ 705,486,056

See notes to financial statements.

NOTE 1 – PLAN DESCRIPTION

Essex Regional Retirement System is a multiple-employer, cost-sharing, contributory defined benefit pension plan covering all employees of governmental member units deemed eligible by the Essex Regional 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 Plan is mandatory immediately upon the commencement of employment for all non-teaching permanent, full time employees. The Plan is administered by the Essex Regional Retirement System (the System). As of December 31, 2021, the System had 46 participating employers.

Originally instituted in 1937, as part of Essex County government, the Board served as the regional retirement system for Essex County upon the abolition of county government in 1996 and the current system structure was created by special legislation in July 2010 (Chapter 34B, Section 19A of the Massachusetts General Laws). The System is governed by a five-member Board who establish the policies under which the System operates. Board members also approve all of the System's financial transactions, including the approval of retirement benefits to members. Board members are appointed or elected as specified by MGL Ch. 34B, Section 19A for terms ranging from 3 to 5 years.

The day-to-day operations of the System are managed by the Executive Director. The legislative body for the System is an Advisory Council consisting of full-time treasurers or other qualified officials of the member units. The Advisory Council meets twice annually and is responsible for supervising and certifying the procedures involved in the election of members to the retirement board.

As of December 31, 2021, the System had 2,039 retirees and beneficiaries, 3,118 active participants and 972 inactive participants with a vested right to retirement benefits or to receive a refund of their contributions.

The System is a Massachusetts Contributory Retirement System and is governed by Chapter 32 of the Massachusetts General Laws. The 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 System 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 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 system: 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.

Members become vested after ten years of creditable service. A superannuation retirement allowance may be received upon the completion of 20 years of service or upon reaching the age of 55 with 10 years of service if hired after 1978 and if classified in groups 1 or 2. A person who became a member on or after April 2, 2012, is eligible for a superannuation retirement allowance upon reaching the age of 60 with 10 years of service if in group 1, 50 years of age with 10 years of service if in group 2, and 55 years of age if hired prior to 1978 or if classified in group 4. Normal retirement for most employees occurs at age 65 (except for certain hazardous duty and public safety positions, whose normal retirement is at age 55).

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 11% of their gross regular compensation. The percentage rate is keyed to the date upon which an employee's membership commences. These deductions are deposited in the Annuity Savings Fund and earn interest at a rate determined by the Public Employee Retirement Administration Commission's (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 System and all costs are borne by the System.

The pension portion of any retirement benefit is paid from the Pension Fund of the System. The governmental unit employing the member must annually appropriate and contribute the amount of current-year pension assessment.

Administrative expenses, which were previously appropriated from the governmental entities whose employees are members of the System, 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 and who are not eligible to receive a retirement allowance or are under the age of 55 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 Essex Regional Retirement System (ERRS) 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.

ERRS 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 System 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 System's financial instruments see Note 4 – Cash and Investments.

Accounts Receivable

Accounts receivable consist of member deductions, employer pension appropriations, and future appropriations from Essex Technical High School for the unfunded actuarial liability for retirees from Essex Agricultural and Technical School, and pension fund appropriations.

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 ERRS 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 ERRS did not have any items that qualify for reporting in this category.

NOTE 3 – PLAN ADMINISTRATION

The System is administered by a five-person Board of Retirement. The first member shall be a chief executive or chief administrative officer of a member town, unit, or district belonging to the Essex Regional Retirement System for a term of 3 years. This member shall be chosen by weighted vote of the chief executive or chief administrative officers of member towns, units or districts belonging to the Essex Regional Retirement System. The second member shall be a member of the regional retirement board advisory council, and shall be elected by a majority of those present and voting at a public meeting of the council and shall serve for a term of 3 years. The third and fourth members shall be elected by the members in or retired from service of the Essex County Retirement System from among persons retired under the system and shall serve for a term of 3 years. The fifth member, who shall not be an employee, retiree or official of the retirement system, or of any of its constituent governmental units, shall be chosen by the other 4 members and shall serve for a term of 5 years.

First Member	Andrew Sheehan	Term Expires:	12/1/2023
Second Member	Kevin A. Merz	Term Expires:	12/1/2024
Third Member	Susan J. Yaskell	Term Expires:	12/1/2022
Fourth Member	H. Joseph Maney	Term Expires:	12/1/2022
Fifth Member	Vincent R. Malgeri	Term Expires:	12/12/2025

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 System. The Board must annually file a financial statement of condition for the System with PERAC.

The ERRS Advisory Council consists of the full-time treasurers, elected or appointed, for each town, unit or district within the System. The members of the Advisory Council elect the second member of the Board of Retirement as well as a Chair from among its members. The ERRS Advisory Council is required by statute to meet twice per year, typically in the spring and fall. All ERRS Advisory Council meetings are open, public meetings and are subject to the Commonwealth's Open Meeting Law.

The investment of the System's funds is the responsibility of the Board. Disability retirement allowances must be approved by the Retirement Board and are then submitted to the PERAC Actuary for verification prior to payment. Superannuation retirement allowances are not required to obtain PERAC's verification. All expenses incurred by the System must be approved by a majority vote of the Board. Payments shall be made only upon vouchers signed by two persons designated by the Board.

ERRS board members and employees are bonded by an authorized agent representing a company licensed to do

business in Massachusetts. The MACRS program for ERRS provides \$50,000,000 fiduciary protection for Trustees and employees, as well as a \$1,000,000 fidelity policy for crime coverage.

NOTE 4 – CASH AND INVESTMENTS

Custodial Credit Risk - Deposits

At December 31, 2021, the carrying amount of the System's deposits totaled \$5,084,935; this is comprised of \$3,084,658 of cash deposited with banks along with \$2,000,277 in the PRIT Cash Fund. Of the \$3,084,658, the bank balance totaled \$3,449,705, which was covered by Federal Deposit Insurance. The \$2,000,277 of the PRIT Cash Fund is uninsured and uncollateralized.

Investments

The System's investments are as follows:

<u>Investment Type</u>	<u>Fair Value</u>
<u>Other Investments:</u>	
PRIT Pooled Funds.....	\$ 692,815,011
Pooled Alternative Investments....	3,989,108
Pooled Real Estate Funds.....	36,945
Total Investments.....	<u>\$ 696,841,064</u>

Subsequent to year end, the market value of the PRIT investment declined by approximately (\$71.2 million). Please refer to Note 12 for further information on this matter.

Approximately 99% of the Retirement System's investments are in Pension Reserve Investment Trust (PRIT) Pooled Funds. 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.

Approximately 1% of the System's funds are invested in pooled alternative investments and pooled real estate funds. The fair values of assets in those funds are based on the quoted values obtained from each pool.

The Administration's annual money-weighted rate of return on pension plan investments was 19.69%. The money-weighted rate of return expresses investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested, measured monthly.

Fair Value of Investments

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

The System has the following recurring fair value measurements as of December 31, 2021:

Investment Type	12/31/21	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level				
Pooled Alternative Investments.....	\$ 3,989,108	\$ -	\$ -	\$ 3,989,108
Pooled Real Estate Funds.....	<u>36,945</u>	<u>-</u>	<u>-</u>	<u>36,945</u>
Total Investments by fair value level.....	<u>4,026,053</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 4,026,053</u>
Investments measured at the net asset value (NAV)				
PRIT Investments.....	<u>692,815,011</u>			
Total Investments.....	\$ 696,841,064			

Pooled Alternative Investments and Pooled Real Estate Funds classified in level 3 are valued using either a discounted cash flow or market comparable companies' technique.

PRIT Investments are valued using the net asset value (NAV) method. 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 (PRIM). The fair values of the positions in each investment Pool are the same as the value of each Pool's shares. The System does not have the ability to control any of the investment decisions relative to its funds in PRIT.

NOTE 5 – RECEIVABLES

At December 31, 2021, receivables for the System are as follows:

	Gross Amount	Allowance for Uncollectibles	Net Amount
Receivables:			
Member contributions.....	\$ 1,000,889	\$ -	\$ 1,000,889
Essex Agricultural and Technical High School.....	3,012,265	-	3,012,265
Employer pension appropriation.....	33,464	-	33,464
Total.....	\$ 4,046,618	\$ -	\$ 4,046,618

As more fully described in Note 9, the Essex Agricultural and Technical High School receivable consists of the present value of a stream of future payments to be received from Essex Technical High School (Essex Tech), as the successor agency of Essex Agricultural and Technical School from fiscal year 2017 through fiscal year 2033 for the unfunded actuarial liability for its retirees in the Essex Regional Retirement System.

NOTE 6 – CAPITAL ASSETS

Capital assets are depreciated on a straight-line basis. The estimated useful lives of capital assets are 33 years for buildings.

The capital assets owned by the System consist of two condominiums in Danvers, Massachusetts that were purchased for the administrative offices of the System. Both units were purchased in fiscal year 2000 for a total of \$375,250. Total capital asset activity for the year ended December 31, 2021, was as follows:

	Beginning Balance	Increases	Decreases	Ending Balance
<u>Capital assets being depreciated:</u>				
Buildings.....	\$ 375,250	\$ -	\$ -	\$ 375,250
<u>Less accumulated depreciation for:</u>				
Buildings.....	(230,789)	(11,258)	-	(242,047)
Total governmental activities capital assets, net.....	\$ 144,461	\$ (11,258)	\$ -	\$ 133,203

NOTE 7 – MEMBERSHIP

The following table represents the System's membership at December 31, 2021:

Active members.....	3,118
Inactive members entitled to a return of contributions.....	972
Retired, Beneficiary, and Survivor.....	2,039
Total.....	6,129

NOTE 8 – ACTUARIAL VALUATION

The total pension liability was determined by an actuarial valuation as of January 1, 2022, using the following actuarial assumptions, applied to all periods included in the measurement that was rolled back to December 31, 2021:

Valuation date.....	January 1, 2022
Interest on employee contributions.....	3.50%
Salary increases.....	Based on years of service, ranging from 7.50% at 0 years of service decreasing to 3.75% after 5 years of service.
Net investment return/Discount rate.....	7.00% (previously 7.30%)

Mortality Rates:

Pre-Retirement.....	RP-2014 Employee Mortality Table projected generationally with Scale MP-2021.
Healthy Retiree.....	RP-2014 Healthy Annuitant Mortality Table projected generationally with Scale MP-2021.
Disabled Retiree.....	RP-2014 Healthy Annuitant Mortality Table set forward two years projected generationally with Scale MP-2021.

Components of the net pension liability as of December 31, 2021, were as follows:

Total pension liability.....	\$	1,052,734,165
The pension plan's fiduciary net position.....		<u>(705,486,056)</u>
The net pension liability.....	\$	<u>347,248,109</u>
The pension plan's fiduciary net position as a percentage of the total pension liability.....		67.01%

Investment Policy

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

The long-term expected rate of return on pension plan investments was determined using a building-block method in which 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 expected future real rates of return by the target asset allocation percentage, adding expected inflation. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expense, used in the derivation of the long-term investment rate of return assumption are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Long-Term Expected Asset Allocation
Domestic equity.....	6.11%	22.00%
International developed markets equity.....	6.49%	11.50%
International emerging markets equity.....	8.12%	4.50%
Core fixed income.....	0.38%	15.00%
High-yield fixed income.....	2.48%	8.00%
Private Equity.....	9.93%	15.00%
Real estate.....	3.72%	10.00%
Timberland.....	3.44%	4.00%
Hedge funds, PCS.....	2.63%	10.00%
Total Fund Expected Return/Total.....		<u>100.00%</u>

Discount Rate

The discount rates used to measure the total pension liability was 7.00% as of December 31, 2021, and 7.30% as of December 31, 2020. 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 rates. For this purpose, only employer contributions that are intended to fund benefits for the current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service cost for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the plan fiduciary net position was projected to be available to make all projected future benefit payments for 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 as of both December 31, 2021, and December 31, 2020.

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

The following presents the net pension liability, calculated using the discount rate of 7.00%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate.

	1.0% Decrease (6.00%)	Current Discount Rate (7.00%)	1.0% Increase (8.00%)
Essex Regional Retirement System's net pension liability as of December 31, 2021.... \$	\$ 469,607,671	\$ 347,248,109	\$ 244,494,736

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 system'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 9 – ESSEX AGRICULTURAL AND TECHNICAL HIGH SCHOOL

Chapter 463 of the Acts of 2004 created the Essex North Shore Agricultural and Technical School District (Essex Tech). This legislation established Essex Tech as the successor agency to both the Essex Agricultural and Technical High School and the North Shore Vocational Regional School. Prior to July 1, 2014, the non-teacher employees of the Essex Agricultural and Technical High School were members of ERRS. The legislation required that all active and inactive members be transferred to the Salem Contributory Retirement System. Accordingly, as of June 30, 2015, all active and inactive members of ERRS have been transferred to the Salem Contributory Retirement System. Essex Tech, as the successor agency, is required to reimburse ERRS for the actuarially determined liability associated with the retired members from Essex Agricultural and Technical High School who remain with ERRS. Accordingly, PERAC approved a funding schedule that requires Essex Tech to pay ERRS equal annual assessments of \$421,947 through 2033. The \$3,012,265 present value of these payments has been recorded as a receivable by ERRS as of December 31, 2021.

NOTE 10 – COMMITMENTS AND CONTINGENCIES

Various legal actions and claims are pending against the System. 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, 2021 cannot be ascertained, management believes any resulting liability should not materially affect the financial position at December 31, 2021.

NOTE 11 – IMPLEMENTATION OF NEW GASB PRONOUNCEMENTS

There were no GASB pronouncements required to be implemented in 2021 that impacted the System's financial statements.

None of the issued GASB statements that are required to be implemented in future years are anticipated to impact the System's financial statements.

NOTE 12 – SUBSEQUENT EVENTS

Management has evaluated subsequent events through September 26, 2022, which is the date the financial statements were available to be issued.

The System carries its investments at fair (market) value in accordance with Generally Accepted Accounting Principles (GAAP). Market value adjustments are recorded monthly. Subsequent to year end, the System's investments of \$692,815,011 in PRIT have declined in value by approximately (\$71.2 million). The market value decline is consistent with the recent trends in the overall financial securities market.

In accordance with GAAP, the System has not recorded the losses in its financial statements as the impairments were not known as of December 31, 2021. The System has recorded the losses associated with the investment during 2022.

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
Total pension liability:				
Service cost.....	\$ 10,581,511	\$ 14,484,797	\$ 15,597,356	\$ 16,877,715
Interest.....	54,243,222	56,453,975	57,096,460	60,670,085
Changes in benefit terms.....	-	-	4,350,523	-
Differences between expected and actual experience...	-	-	(8,590,424)	(49,644)
Changes in assumptions.....	-	-	20,216,699	23,073,540
Benefit payments.....	(38,353,266)	(39,994,008)	(42,130,566)	(44,959,784)
Net change in total pension liability.....	26,471,467	30,944,764	46,540,048	55,611,912
Total pension liability - beginning.....	684,261,436	710,732,903	741,677,667	788,217,715
Total pension liability - ending (a).....	<u>\$ 710,732,903</u>	<u>\$ 741,677,667</u>	<u>\$ 788,217,715</u>	<u>\$ 843,829,627</u>
Plan fiduciary net position:				
Employer pension appropriation.....	\$ 26,066,222	\$ 27,893,676	\$ 29,420,144	\$ 31,239,783
Member contributions.....	12,168,827	12,491,708	12,864,434	13,077,844
Other contributions.....	3,940,038	7,805,125	4,208,413	3,575,613
Net investment income (loss).....	29,322,861	4,103,832	26,406,996	66,258,516
Administrative expenses.....	(922,351)	(934,672)	(961,143)	(981,979)
Retirement benefits and refunds.....	(38,353,266)	(39,994,008)	(42,130,565)	(44,959,784)
Other retirement deductions.....	(5,728,996)	(4,483,236)	(5,202,784)	(3,650,033)
Depreciation.....	(14,374)	(14,374)	(14,374)	(15,554)
Net increase (decrease) in fiduciary net position.....	26,478,961	6,868,051	24,591,121	64,544,406
Fiduciary net position - beginning of year.....	344,991,750	371,470,711	378,338,762	402,929,883
Fiduciary net position - end of year (b).....	<u>\$ 371,470,711</u>	<u>\$ 378,338,762</u>	<u>\$ 402,929,883</u>	<u>\$ 467,474,289</u>
Net pension liability - ending (a)-(b).....	<u>\$ 339,262,192</u>	<u>\$ 363,338,905</u>	<u>\$ 385,287,832</u>	<u>\$ 376,355,338</u>
Plan fiduciary net position as a percentage of the total pension liability.....	52.27%	51.01%	51.12%	55.40%
Covered payroll.....	\$ 123,190,220	\$ 128,258,043	\$ 133,089,526	\$ 130,743,710
Net pension liability as a percentage of covered payroll.....	275.40%	283.29%	289.50%	287.86%

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.

(Continued)

	December 31, 2018	December 31, 2019	December 31, 2020	December 31, 2021
\$	17,892,023	\$ 18,590,358	\$ 22,061,390	\$ 21,796,254
	62,939,560	65,501,353	68,779,712	71,591,950
	-	(2,382,236)	-	10,455,851
	-	72,274	-	(13,281,669)
	-	35,268,329	-	30,447,273
	<u>(46,458,490)</u>	<u>(49,373,946)</u>	<u>(50,998,900)</u>	<u>(53,996,548)</u>
	34,373,093	67,676,132	39,842,202	67,013,111
	<u>843,829,627</u>	<u>878,202,720</u>	<u>945,878,852</u>	<u>985,721,054</u>
\$	<u>878,202,720</u>	<u>945,878,852</u>	<u>985,721,054</u>	<u>1,052,734,165</u>
\$	33,969,088	\$ 36,090,030	\$ 38,624,587	\$ 41,415,403
	13,636,998	14,270,165	15,213,826	15,718,789
	4,291,824	3,590,760	5,632,862	5,646,014
	(10,723,393)	71,119,136	61,560,883	114,739,426
	(955,252)	(990,011)	(899,416)	(1,009,530)
	(46,458,490)	(49,373,946)	(50,998,900)	(53,996,548)
	(5,489,442)	(5,869,056)	(4,884,341)	(5,817,405)
	<u>(8,520)</u>	<u>(11,258)</u>	<u>(11,258)</u>	<u>(11,258)</u>
	(11,737,187)	68,825,820	64,238,243	116,684,891
	<u>467,474,289</u>	<u>455,737,102</u>	<u>524,562,922</u>	<u>588,801,165</u>
\$	<u>455,737,102</u>	<u>524,562,922</u>	<u>588,801,165</u>	<u>705,486,056</u>
\$	<u>422,465,618</u>	<u>421,315,930</u>	<u>396,919,889</u>	<u>347,248,109</u>
	51.89%	55.46%	59.73%	67.01%
\$	136,111,184	\$ 144,695,269	\$ 150,467,625	\$ 153,979,506
	310.38%	291.17%	263.79%	225.52%

(Concluded)

SCHEDULE OF CONTRIBUTIONS

	December 31, 2014	December 31, 2015	December 31, 2016	December 31, 2017
Actuarially determined contribution.....	\$ 26,066,222	\$ 32,050,432	\$ 29,420,338	\$ 31,614,412
Contributions in relation to the actuarially determined contribution.....	<u>(26,066,222)</u>	<u>(32,123,557)</u>	<u>(29,463,314)</u>	<u>(31,663,092)</u>
Contribution deficiency (excess).....	\$ <u>-</u>	\$ <u>(73,125)</u>	\$ <u>(42,976)</u>	\$ <u>(48,680)</u>
Covered payroll.....	\$ 123,190,220	\$ 128,258,043	\$ 133,089,526	\$ 130,743,710
Contributions as a percentage of covered payroll.....	21.16%	25.05%	22.14%	24.22%

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.

(Continued)

<u>December 31,</u> <u>2018</u>	<u>December 31,</u> <u>2019</u>	<u>December 31,</u> <u>2020</u>	<u>December 31,</u> <u>2021</u>
\$ 33,969,088	\$ 36,150,577	\$ 38,624,587	\$ 41,415,403
<u>(33,993,920)</u>	<u>(36,174,754)</u>	<u>(38,646,497)</u>	<u>(41,435,342)</u>
\$ <u>(24,832)</u>	\$ <u>(24,177)</u>	\$ <u>(21,910)</u>	\$ <u>(19,939)</u>
\$ 136,111,184	\$ 144,695,269	\$ 150,467,625	\$ 153,979,506
24.98%	25.00%	25.68%	26.91%

(Concluded)

SCHEDULE OF INVESTMENT RETURNS

<u>Year</u>	<u>Annual money-weighted rate of return, net of investment expense</u>
December 31, 2021.....	19.69%
December 31, 2020.....	12.14%
December 31, 2019.....	16.13%
December 31, 2018.....	-2.43%
December 31, 2017.....	17.11%
December 31, 2016.....	7.80%
December 31, 2015.....	1.04%
December 31, 2014.....	8.48%

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 System's total pension liability, changes in the System's net position, and the ending net pension liability. It also demonstrates the plan's net position as a percentage of the total pension liability and the net pension liability as a percentage of covered payroll.

NOTE B – CONTRIBUTIONS

Governmental employers are required to pay an annual appropriation as established by PERAC. The total appropriation includes the amounts to pay the pension portion of each member's retirement allowance, an amount to amortize the actuarially determined unfunded liability to zero in accordance with the system'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*Actuarial Assumptions.*

The following changes were reflected in the January 1, 2022, valuation:

- The net investment return assumption decreased from 7.30% to 7.00%.
- The mortality assumption was revised to update the mortality improvement projection scale from MP-2019 to MP-2021 and to change the age set forward for disabled participates from two years to one year.
- The administrative expense assumption increased from \$1,000,000 for calendar year 2020 to \$1,150,000 for calendar year 2022.

Plan Provisions.

The System increased the COLA base from \$14,000 to \$16,000.

Audit of Specific Elements, Accounts and Items of Financial Statements

Independent Auditor's Report

To the Honorable Essex Regional Retirement Board
Essex Regional Retirement System
Danvers, Massachusetts

Report on the Audit of the Schedule of Employer Allocations and Schedule of Pension Amounts by Employer

Opinion

We have audited the accompanying schedule of employer allocations of the Essex Regional Retirement System (ERRS) as of and for the year ended December 31, 2021, 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 pension amounts by employer of the ERRS Pension Plan as of and for the year ended December 31, 2021, and the related notes.

In our opinion, the accompanying schedule of employer allocations and schedule of pension amounts by employer 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 ERRS as of and for the year ended December 31, 2021, in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Schedules section of our report.

We are required to be independent of the ERRS and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Responsibilities of Management for the Schedules

Management is responsible for the preparation and fair presentation of the schedules in accordance with accounting principles generally accepted in the United States of America and for 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 Responsibilities for the Audit of the Schedules

Our objectives are to obtain reasonable assurance about whether the schedule of employer allocations and the specified row totals included in the schedule of pension amounts by employer as a whole are free from material

misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with general accepted auditing standards, will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgement made by a reasonable user based on the schedules.

In performing an audit in accordance with generally accepted auditing standards, we:

- Exercise professional judgement and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the schedules, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the schedules.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purposes of expressing an opinion on the effectiveness of the ERRS's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the schedules.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Other Matter

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the Essex Regional Retirement System as of and for the year ended December 31, 2021, and our report thereon, dated September 26, 2022, expressed an unmodified opinion on those financial statements.

Restriction on Use

This report is intended solely for the information and use of the Essex Regional Retirement System management, the Essex Regional Retirement System 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 26, 2022

SCHEDULE OF EMPLOYER ALLOCATIONS

FOR THE YEAR ENDED DECEMBER 31, 2021

Employer	2022 Pension Fund Appropriation	Current Direct E.R.I./CRAB Appropriation	FY2022 Total Appropriation	Remaining Direct E.R.I./CRAB Liability	Allocated Net Pension Liability	Share of Net Pension Liability including E.R.I.	Percent of Total Net Pension Liability including E.R.I.
Retirement Board.....	\$ 115,887	\$ -	\$ 115,887	\$ -	\$ 971,087	\$ 971,087	0.280%
Town of Boxford.....	1,523,087	-	1,523,087	-	12,762,825	12,762,825	3.675%
Town of Essex.....	691,183	-	691,183	-	5,791,821	5,791,821	1.668%
Town of Georgetown.....	2,127,355	-	2,127,355	-	17,826,335	17,826,335	5.134%
Town of Groveland.....	931,235	8,994	940,229	52,825	7,803,355	7,856,180	2.262%
Town of Hamilton.....	1,163,009	-	1,163,009	-	9,745,523	9,745,523	2.807%
Town of Ipswich.....	4,453,373	-	4,453,373	-	37,317,381	37,317,381	10.747%
Town of Lynnfield.....	3,149,644	-	3,149,644	-	26,392,684	26,392,684	7.601%
Town of Manchester-by-the-Sea.....	1,461,004	-	1,461,004	-	12,242,595	12,242,595	3.526%
Town of Merrimac.....	1,018,150	-	1,018,150	-	8,531,666	8,531,666	2.457%
Town of Middleton.....	2,280,491	-	2,280,491	-	19,109,550	19,109,550	5.503%
Town of Nahant.....	885,708	-	885,708	-	7,421,858	7,421,858	2.137%
Town of Newbury.....	885,708	-	885,708	-	7,421,858	7,421,858	2.137%
Town of North Andover.....	6,286,872	-	6,286,872	-	52,681,327	52,681,327	15.171%
Town of Rockport.....	2,032,162	-	2,032,162	-	17,028,658	17,028,658	4.904%
Town of Rowley.....	1,191,981	-	1,191,981	-	9,988,296	9,988,296	2.876%
Town of Salisbury.....	1,845,915	-	1,845,915	-	15,467,987	15,467,987	4.454%
Town of Topsfield.....	1,432,033	-	1,432,033	-	11,999,831	11,999,831	3.456%
Town of Wenham.....	881,569	-	881,569	-	7,387,175	7,387,175	2.127%
Town of West Newbury.....	811,209	-	811,209	-	6,797,588	6,797,588	1.958%
East Essex Veterans District.....	37,250	-	37,250	-	312,139	312,139	0.090%
Byfield Water District.....	28,972	-	28,972	-	242,773	242,773	0.070%
Lynnfield Center Water District.....	173,831	-	173,831	-	1,456,630	1,456,630	0.419%
Lynnfield Water District.....	99,332	-	99,332	-	832,360	832,360	0.240%
NE Massachusetts Mosquito Control District.....	206,941	-	206,941	-	1,734,078	1,734,078	0.499%
Hamilton-Wenham Regional School.....	1,076,094	-	1,076,094	-	9,017,212	9,017,212	2.597%
Manchester-Essex Regional School.....	579,435	18,904	598,339	174,253	4,855,420	5,029,673	1.448%
Masconomet Regional School.....	831,903	-	831,903	-	6,970,995	6,970,995	2.007%
Pentucket Regional School.....	1,142,315	-	1,142,315	-	9,572,116	9,572,116	2.757%
Triton Regional School.....	1,332,701	-	1,332,701	-	11,167,470	11,167,470	3.216%
Essex Housing Authority.....	20,694	-	20,694	-	173,407	173,407	0.050%
Georgetown Housing Authority.....	70,360	-	70,360	-	589,587	589,587	0.170%
Groveland Housing Authority.....	20,694	-	20,694	-	173,407	173,407	0.050%
Hamilton Housing Authority.....	16,555	-	16,555	-	138,724	138,724	0.040%
Ipswich Housing Authority.....	182,108	-	182,108	-	1,525,988	1,525,988	0.439%
Lynnfield Housing Authority.....	16,555	-	16,555	-	138,724	138,724	0.040%
Manchester Housing Authority.....	33,111	-	33,111	-	277,456	277,456	0.080%
Merrimac Housing Authority.....	12,417	-	12,417	-	104,049	104,049	0.030%
Middleton Housing Authority.....	20,694	-	20,694	-	173,407	173,407	0.050%
Nahant Housing Authority.....	12,417	9,684	22,101	56,881	104,049	160,930	0.046%
North Andover Housing Authority.....	157,275	-	157,275	-	1,317,898	1,317,898	0.380%
Rockport Housing Authority.....	66,221	-	66,221	-	554,904	554,904	0.160%
Rowley Housing Authority.....	16,555	16,092	32,647	148,329	138,724	287,053	0.083%
Salisbury Housing Authority.....	16,555	-	16,555	-	138,724	138,724	0.040%
Topsfield Housing Authority.....	16,555	-	16,555	-	138,724	138,724	0.040%
Wenham Housing Authority.....	33,111	-	33,111	-	277,456	277,456	0.080%
Total.....	\$ 41,388,226	\$ 53,674	\$ 41,441,900	\$ 432,288	\$ 346,815,821	\$ 347,248,109	100.000%

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, 2021

	Retirement Board	Town of Boxford	Town of Essex	Town of Georgetown
Net Pension Liability				
Beginning net pension liability.....	\$ 1,308,329	\$ 14,629,494	\$ 6,620,942	\$ 20,378,214
Ending net pension liability.....	\$ 971,087	\$ 12,762,825	\$ 5,791,821	\$ 17,826,335
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 80	\$ 1,063	\$ 482	\$ 1,485
Changes of assumptions.....	107,569	1,413,756	641,568	1,974,648
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	7,285	73,161	29,898	621,957
Total Deferred Outflows of Resources.....	\$ 114,934	\$ 1,487,980	\$ 671,948	\$ 2,598,090
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 29,713	\$ 390,526	\$ 177,222	\$ 545,463
Net difference between projected and actual investment earnings on pension plan investments.....	215,267	2,829,178	1,283,893	3,951,622
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	245,706	241,938	207,642	192,112
Total Deferred Inflows of Resources.....	\$ 490,686	\$ 3,461,642	\$ 1,668,757	\$ 4,689,197
Pension Expense				
Proportionate share of plan pension expense.....	\$ 105,151	\$ 1,381,802	\$ 627,059	\$ 1,930,016
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(67,017)	(2,847)	(46,500)	37,563
Total Employer Pension Expense.....	\$ 38,134	\$ 1,378,955	\$ 580,559	\$ 1,967,579
Contributions				
Statutory required contribution.....	\$ 115,887	\$ 1,523,087	\$ 691,183	\$ 2,127,355
Contribution in relation to statutory required contribution.....	(115,887)	(1,524,647)	(691,183)	(2,127,355)
Contribution deficiency/(excess).....	\$ -	\$ (1,560)	\$ -	\$ -
Contributions as a percentage of covered payroll.....	23.07%	30.83%	27.65%	27.03%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ (90,364)	\$ (270,848)	\$ (191,372)	\$ (327,828)
June 30, 2024.....	(123,219)	(680,127)	(307,045)	(606,556)
June 30, 2025.....	(91,660)	(613,676)	(316,268)	(596,172)
June 30, 2026.....	(70,509)	(409,011)	(182,124)	(560,551)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (375,752)	\$ (1,973,662)	\$ (996,809)	\$ (2,091,107)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 1,313,267	\$ 17,260,052	\$ 7,832,681	\$ 24,107,789
Current discount rate (7.00%).....	\$ 971,087	\$ 12,762,825	\$ 5,791,821	\$ 17,826,335
1% increase (8.00%).....	\$ 683,731	\$ 8,986,207	\$ 4,077,977	\$ 12,551,387
Covered Payroll.....	\$ 502,341	\$ 4,945,675	\$ 2,499,630	\$ 7,871,378
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, 2021

	Town of Groveland	Town of Hamilton	Town of Ipswich	Town of Lynnfield
Net Pension Liability				
Beginning net pension liability.....	\$ 9,018,305	\$ 10,823,445	\$ 41,588,999	\$ 30,725,902
Ending net pension liability.....	\$ 7,856,180	\$ 9,745,523	\$ 37,317,381	\$ 26,392,684
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 654	\$ 811	\$ 3,107	\$ 2,197
Changes of assumptions.....	870,240	1,079,525	4,133,698	2,923,554
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	89,395	416,038	1,221,986	151,372
Total Deferred Outflows of Resources.....	\$ 960,289	\$ 1,496,374	\$ 5,358,791	\$ 3,077,123
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 240,389	\$ 298,200	\$ 1,141,863	\$ 807,581
Net difference between projected and actual investment earnings on pension plan investments.....	1,741,506	2,160,323	8,272,270	5,850,555
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	30,404	69,952	42,948	1,133,003
Total Deferred Inflows of Resources.....	\$ 2,012,299	\$ 2,528,475	\$ 9,457,081	\$ 7,791,139
Pension Expense				
Proportionate share of plan pension expense.....	\$ 850,575	\$ 1,055,130	\$ 4,040,267	\$ 2,857,481
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	55,141	62,516	251,806	(234,807)
Total Employer Pension Expense.....	\$ 905,716	\$ 1,117,646	\$ 4,292,073	\$ 2,622,674
Contributions				
Statutory required contribution.....	\$ 940,229	\$ 1,163,009	\$ 4,453,373	\$ 3,149,644
Contribution in relation to statutory required contribution.....	(940,229)	(1,163,009)	(4,459,405)	(3,149,644)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ (6,032)	\$ -
Contributions as a percentage of covered payroll.....	26.67%	27.82%	27.63%	26.79%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ (124,169)	\$ 9,284	\$ (374,569)	\$ (785,029)
June 30, 2024.....	(329,361)	(408,332)	(1,314,397)	(1,631,469)
June 30, 2025.....	(344,418)	(390,560)	(1,452,937)	(1,355,671)
June 30, 2026.....	(254,062)	(242,493)	(956,387)	(941,847)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (1,052,010)	\$ (1,032,101)	\$ (4,098,290)	\$ (4,714,016)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 10,624,456	\$ 13,179,546	\$ 50,466,879	\$ 35,692,655
Current discount rate (7.00%).....	\$ 7,856,180	\$ 9,745,523	\$ 37,317,381	\$ 26,392,684
1% increase (8.00%).....	\$ 5,531,476	\$ 6,861,748	\$ 26,274,882	\$ 18,582,887
Covered Payroll.....	\$ 3,525,739	\$ 4,180,611	\$ 16,142,143	\$ 11,757,462
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, 2021

	Town of Manchester- by-the-Sea	Town of Merrimac	Town of Middleton	Town of Nahant
Net Pension Liability				
Beginning net pension liability.....	\$ 13,677,990	\$ 10,228,754	\$ 20,893,613	\$ 9,118,653
Ending net pension liability.....	\$ 12,242,595	\$ 8,531,666	\$ 19,109,550	\$ 7,421,858
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 1,019	\$ 710	\$ 1,591	\$ 618
Changes of assumptions.....	1,356,129	945,064	2,116,791	822,129
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	349,782	397,894	1,232,495	-
Total Deferred Outflows of Resources.....	\$ 1,706,930	\$ 1,343,668	\$ 3,350,877	\$ 822,747
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 374,607	\$ 261,058	\$ 584,727	\$ 227,099
Net difference between projected and actual investment earnings on pension plan investments.....	2,713,857	1,891,243	4,236,078	1,645,228
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	119,431	450,306	245,293	965,398
Total Deferred Inflows of Resources.....	\$ 3,207,895	\$ 2,602,607	\$ 5,066,098	\$ 2,837,725
Pension Expense				
Proportionate share of plan pension expense.....	\$ 1,325,466	\$ 923,703	\$ 2,068,947	\$ 803,549
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	58,281	11,372	348,011	(67,548)
Total Employer Pension Expense.....	\$ 1,383,747	\$ 935,075	\$ 2,416,958	\$ 736,001
Contributions				
Statutory required contribution.....	\$ 1,461,004	\$ 1,018,150	\$ 2,280,491	\$ 885,708
Contribution in relation to statutory required contribution.....	(1,461,004)	(1,018,150)	(2,282,051)	(885,708)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ (1,560)	\$ -
Contributions as a percentage of covered payroll.....	27.86%	25.68%	25.52%	31.09%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ (121,903)	\$ (159,664)	\$ (154,663)	\$ (453,642)
June 30, 2024.....	(539,213)	(318,448)	(642,944)	(626,815)
June 30, 2025.....	(518,837)	(416,611)	(508,896)	(573,225)
June 30, 2026.....	(321,012)	(364,216)	(408,718)	(361,296)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (1,500,965)	\$ (1,258,939)	\$ (1,715,221)	\$ (2,014,978)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 16,556,509	\$ 11,537,963	\$ 25,843,168	\$ 10,037,093
Current discount rate (7.00%).....	\$ 12,242,595	\$ 8,531,666	\$ 19,109,550	\$ 7,421,858
1% increase (8.00%).....	\$ 8,619,917	\$ 6,007,081	\$ 13,454,888	\$ 5,225,673
Covered Payroll.....	\$ 5,244,692	\$ 3,964,240	\$ 8,941,922	\$ 2,848,792
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, 2021

	Town of Newbury	Town of North Andover	Town of Rockport	Town of Rowley
Net Pension Liability				
Beginning net pension liability.....	\$ 8,365,376	\$ 60,262,421	\$ 19,426,699	\$ 10,902,738
Ending net pension liability.....	\$ 7,421,858	\$ 52,681,327	\$ 17,028,658	\$ 9,988,296
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 618	\$ 4,386	\$ 1,418	\$ 832
Changes of assumptions.....	822,129	5,835,583	1,886,288	1,106,417
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	272,116	363,680	30,672	461,644
Total Deferred Outflows of Resources.....	\$ 1,094,863	\$ 6,203,649	\$ 1,918,378	\$ 1,568,893
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 227,099	\$ 1,611,979	\$ 521,055	\$ 305,629
Net difference between projected and actual investment earnings on pension plan investments.....	1,645,228	11,678,048	3,774,800	2,214,139
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	4,692	1,205,116	871,175	77,346
Total Deferred Inflows of Resources.....	\$ 1,877,019	\$ 14,495,143	\$ 5,167,030	\$ 2,597,114
Pension Expense				
Proportionate share of plan pension expense.....	\$ 803,547	\$ 5,703,698	\$ 1,843,653	\$ 1,081,414
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	130,647	32,607	(396,670)	31,350
Total Employer Pension Expense.....	\$ 934,194	\$ 5,736,305	\$ 1,446,983	\$ 1,112,764
Contributions				
Statutory required contribution.....	\$ 885,708	\$ 6,286,872	\$ 2,032,162	\$ 1,191,981
Contribution in relation to statutory required contribution.....	(885,708)	(6,295,153)	(2,032,162)	(1,191,981)
Contribution deficiency/(excess).....	\$ -	\$ (8,281)	\$ -	\$ -
Contributions as a percentage of covered payroll.....	26.29%	25.25%	25.85%	25.87%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ 32,260	\$ (1,164,918)	\$ (823,623)	\$ (94,175)
June 30, 2024.....	(294,920)	(2,705,169)	(1,045,107)	(386,221)
June 30, 2025.....	(310,099)	(2,758,500)	(852,450)	(337,673)
June 30, 2026.....	(209,397)	(1,662,907)	(527,472)	(210,152)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (782,156)	\$ (8,291,494)	\$ (3,248,652)	\$ (1,028,221)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 10,037,093	\$ 71,244,608	\$ 23,029,034	\$ 13,507,865
Current discount rate (7.00%).....	\$ 7,421,858	\$ 52,681,327	\$ 17,028,658	\$ 9,988,296
1% increase (8.00%).....	\$ 5,225,673	\$ 37,092,519	\$ 11,989,748	\$ 7,032,683
Covered Payroll.....	\$ 3,369,398	\$ 24,926,550	\$ 7,860,783	\$ 4,608,198
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, 2021

	Town of Salisbury	Town of Topsfield	Town of Wenham	Town of West Newbury
Net Pension Liability				
Beginning net pension liability.....	\$ 17,642,614	\$ 14,034,803	\$ 8,444,668	\$ 7,572,446
Ending net pension liability.....	\$ 15,467,987	\$ 11,999,831	\$ 7,387,175	\$ 6,797,588
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 1,288	\$ 999	\$ 615	\$ 566
Changes of assumptions.....	1,713,410	1,329,238	818,288	752,978
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	813,938	394,423	19,071	243,483
Total Deferred Outflows of Resources.....	\$ 2,528,636	\$ 1,724,660	\$ 837,974	\$ 997,027
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 473,300	\$ 367,179	\$ 226,038	\$ 207,997
Net difference between projected and actual investment earnings on pension plan investments.....	3,428,841	2,660,043	1,637,540	1,506,844
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	-	291,301	39,468	147,792
Total Deferred Inflows of Resources.....	\$ 3,902,141	\$ 3,318,523	\$ 1,903,046	\$ 1,862,633
Pension Expense				
Proportionate share of plan pension expense.....	\$ 1,674,688	\$ 1,299,194	\$ 799,793	\$ 735,961
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	593,594	(43,149)	58,730	56,323
Total Employer Pension Expense.....	\$ 2,268,282	\$ 1,256,045	\$ 858,523	\$ 792,284
Contributions				
Statutory required contribution.....	\$ 1,845,915	\$ 1,432,033	\$ 881,569	\$ 778,764
Contribution in relation to statutory required contribution.....	(1,845,915)	(1,434,539)	(881,569)	(778,764)
Contribution deficiency/(excess).....	\$ -	\$ (2,506)	\$ -	\$ -
Contributions as a percentage of covered payroll.....	26.81%	27.29%	30.04%	27.54%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ 227,404	\$ (186,773)	\$ (160,604)	\$ (38,079)
June 30, 2024.....	(473,875)	(466,242)	(347,569)	(327,170)
June 30, 2025.....	(648,636)	(500,056)	(324,608)	(320,090)
June 30, 2026.....	(478,398)	(440,792)	(232,291)	(180,267)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (1,373,505)	\$ (1,593,863)	\$ (1,065,072)	\$ (865,606)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 20,918,430	\$ 16,228,203	\$ 9,990,188	\$ 9,192,849
Current discount rate (7.00%).....	\$ 15,467,987	\$ 11,999,831	\$ 7,387,175	\$ 6,797,588
1% increase (8.00%).....	\$ 10,890,891	\$ 8,448,989	\$ 5,201,253	\$ 4,786,130
Covered Payroll.....	\$ 6,885,294	\$ 5,256,907	\$ 2,934,836	\$ 2,827,350
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, 2021

	East Essex Veterans District	Byfield Water District	Lynnfield Center Water District	Lynnfield Water District
Net Pension Liability				
Beginning net pension liability.....	\$ 396,465	\$ 277,520	\$ 1,308,328	\$ 911,863
Ending net pension liability.....	\$ 312,139	\$ 242,773	\$ 1,456,630	\$ 832,360
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 26	\$ 20	\$ 121	\$ 69
Changes of assumptions.....	34,576	26,892	161,353	92,202
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	23,583	-	404,643	62,366
Total Deferred Outflows of Resources.....	\$ 58,185	\$ 26,912	\$ 566,117	\$ 154,637
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 9,551	\$ 7,429	\$ 44,571	\$ 25,469
Net difference between projected and actual investment earnings on pension plan investments.....	69,193	53,816	322,896	184,512
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	39,379	203	-	532
Total Deferred Inflows of Resources.....	\$ 118,123	\$ 61,448	\$ 367,467	\$ 210,513
Pension Expense				
Proportionate share of plan pension expense.....	\$ 33,798	\$ 26,289	\$ 157,709	\$ 90,126
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	2,276	(5,352)	126,560	9,978
Total Employer Pension Expense.....	\$ 36,074	\$ 20,937	\$ 284,269	\$ 100,104
Contributions				
Statutory required contribution.....	\$ 37,250	\$ 28,972	\$ 173,831	\$ 99,332
Contribution in relation to statutory required contribution.....	(37,250)	(28,972)	(173,831)	(99,332)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	44.61%	26.15%	24.00%	28.55%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ (13,566)	\$ (4,795)	\$ 89,987	\$ 6,836
June 30, 2024.....	(14,444)	(11,180)	44,328	(15,064)
June 30, 2025.....	(14,118)	(10,928)	38,186	(29,468)
June 30, 2026.....	(17,810)	(7,633)	26,149	(18,180)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (59,938)	\$ (34,536)	\$ 198,650	\$ (55,876)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 422,127	\$ 328,319	\$ 1,969,902	\$ 1,125,658
Current discount rate (7.00%).....	\$ 312,139	\$ 242,773	\$ 1,456,630	\$ 832,360
1% increase (8.00%).....	\$ 219,775	\$ 170,935	\$ 1,025,602	\$ 586,058
Covered Payroll.....	\$ 83,494	\$ 110,791	\$ 724,229	\$ 347,936
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, 2021

	NE MA Mosquito Control District	Hamilton- Wenham Regional School	Manchester- Essex Regional School	Masconomet Regional School
Net Pension Liability				
Beginning net pension liability.....	\$ 2,140,898	\$ 10,783,804	\$ 5,930,022	\$ 7,691,391
Ending net pension liability.....	\$ 1,734,078	\$ 9,017,212	\$ 5,029,673	\$ 6,970,995
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 144	\$ 751	\$ 419	\$ 580
Changes of assumptions.....	192,086	998,849	557,144	772,187
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	259,354	-	296,856	422,755
Total Deferred Outflows of Resources.....	\$ 451,584	\$ 999,600	\$ 854,419	\$ 1,195,522
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 53,061	\$ 275,915	\$ 153,901	\$ 213,303
Net difference between projected and actual investment earnings on pension plan investments.....	384,399	1,998,876	1,114,945	1,545,284
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	312,488	443,124	489,083	4,314
Total Deferred Inflows of Resources.....	\$ 749,948	\$ 2,717,915	\$ 1,757,929	\$ 1,762,901
Pension Expense				
Proportionate share of plan pension expense.....	\$ 187,747	\$ 976,272	\$ 544,546	\$ 754,726
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(13,534)	(193,628)	(209,046)	184,224
Total Employer Pension Expense.....	\$ 174,213	\$ 782,644	\$ 335,500	\$ 938,950
Contributions				
Statutory required contribution.....	\$ 206,941	\$ 1,076,094	\$ 598,339	\$ 831,903
Contribution in relation to statutory required contribution.....	(206,941)	(1,076,094)	(598,339)	(831,903)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	32.46%	28.52%	25.42%	29.42%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ (56,199)	\$ (325,525)	\$ (281,697)	\$ 88,157
June 30, 2024.....	(13,849)	(511,359)	(263,778)	(234,502)
June 30, 2025.....	(141,809)	(501,947)	(163,133)	(257,793)
June 30, 2026.....	(86,507)	(379,484)	(194,902)	(163,241)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (298,364)	\$ (1,718,315)	\$ (903,510)	\$ (567,379)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 2,345,114	\$ 12,194,600	\$ 6,801,975	\$ 9,427,359
Current discount rate (7.00%).....	\$ 1,734,078	\$ 9,017,212	\$ 5,029,673	\$ 6,970,995
1% increase (8.00%).....	\$ 1,220,951	\$ 6,348,950	\$ 3,541,354	\$ 4,908,224
Covered Payroll.....	\$ 637,576	\$ 3,772,971	\$ 2,353,356	\$ 2,827,461
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, 2021

	Pentucket Regional School	Triton Regional School	Essex Housing Authority	Georgetown Housing Authority
Net Pension Liability				
Beginning net pension liability.....	\$ 12,250,717	\$ 12,290,359	\$ 158,586	\$ 872,222
Ending net pension liability.....	\$ 9,572,116	\$ 11,167,470	\$ 173,407	\$ 589,587
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 797	\$ 930	\$ 14	\$ 49
Changes of assumptions.....	1,060,316	1,237,036	19,209	65,309
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	183,561	542,622	32,007	126,993
Total Deferred Outflows of Resources.....	\$ 1,244,674	\$ 1,780,588	\$ 51,230	\$ 192,351
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 292,894	\$ 341,710	\$ 5,306	\$ 18,041
Net difference between projected and actual investment earnings on pension plan investments.....	2,121,883	2,475,531	38,440	130,696
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	1,257,277	340,263	104	159,002
Total Deferred Inflows of Resources.....	\$ 3,672,054	\$ 3,157,504	\$ 43,850	\$ 307,739
Pension Expense				
Proportionate share of plan pension expense.....	\$ 1,036,346	\$ 1,209,083	\$ 18,770	\$ 63,833
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(624,564)	(108,734)	15,179	9,097
Total Employer Pension Expense.....	\$ 411,782	\$ 1,100,349	\$ 33,949	\$ 72,930
Contributions				
Statutory required contribution.....	\$ 1,142,315	\$ 1,332,701	\$ 20,694	\$ 71,610
Contribution in relation to statutory required contribution.....	(1,142,315)	(1,332,701)	(20,694)	(71,610)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	26.67%	25.31%	19.82%	37.30%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ (559,173)	\$ (384,807)	\$ 4,627	\$ (3,874)
June 30, 2024.....	(671,895)	(385,734)	17	(26,932)
June 30, 2025.....	(631,492)	(351,149)	195	(26,319)
June 30, 2026.....	(564,820)	(255,226)	2,541	(58,263)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (2,427,380)	\$ (1,376,916)	\$ 7,380	\$ (115,388)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 12,945,036	\$ 15,102,543	\$ 234,510	\$ 797,339
Current discount rate (7.00%).....	\$ 9,572,116	\$ 11,167,470	\$ 173,407	\$ 589,587
1% increase (8.00%).....	\$ 6,739,654	\$ 7,862,930	\$ 122,095	\$ 415,124
Covered Payroll.....	\$ 4,283,494	\$ 5,264,910	\$ 104,413	\$ 191,989
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, 2021

	Groveland Housing Authority	Hamilton Housing Authority	Ipswich Housing Authority	Lynnfield Housing Authority
Net Pension Liability				
Beginning net pension liability.....	\$ 237,879	\$ 198,237	\$ 1,585,858	\$ 198,237
Ending net pension liability.....	\$ 173,407	\$ 138,724	\$ 1,525,988	\$ 138,724
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 14	\$ 12	\$ 127	\$ 12
Changes of assumptions.....	19,209	15,367	169,036	15,367
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	-	276	274,841	22,770
Total Deferred Outflows of Resources.....	\$ 19,223	\$ 15,655	\$ 444,004	\$ 38,149
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 5,306	\$ 4,245	\$ 46,693	\$ 4,245
Net difference between projected and actual investment earnings on pension plan investments.....	38,440	30,751	338,271	30,751
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	55,957	31,756	29,770	103,515
Total Deferred Inflows of Resources.....	\$ 99,703	\$ 66,752	\$ 414,734	\$ 138,511
Pension Expense				
Proportionate share of plan pension expense.....	\$ 18,772	\$ 15,014	\$ 165,209	\$ 15,014
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(31,634)	5,262	75,657	(23,957)
Total Employer Pension Expense.....	\$ (12,862)	\$ 20,276	\$ 240,866	\$ (8,943)
Contributions				
Statutory required contribution.....	\$ 20,694	\$ 16,849	\$ 185,344	\$ 16,555
Contribution in relation to statutory required contribution.....	(20,694)	(16,849)	(185,344)	(16,555)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	14.47%	25.34%	34.11%	25.95%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ (19,365)	\$ (10,483)	\$ 36,760	\$ (19,488)
June 30, 2024.....	(23,925)	(14,198)	(4,262)	(30,465)
June 30, 2025.....	(23,742)	(14,117)	12,131	(38,052)
June 30, 2026.....	(13,448)	(12,299)	(15,359)	(12,357)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (80,480)	\$ (51,097)	\$ 29,270	\$ (100,362)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 234,510	\$ 187,606	\$ 2,063,699	\$ 187,606
Current discount rate (7.00%).....	\$ 173,407	\$ 138,724	\$ 1,525,988	\$ 138,724
1% increase (8.00%).....	\$ 122,095	\$ 97,675	\$ 1,074,436	\$ 97,675
Covered Payroll.....	\$ 143,036	\$ 66,503	\$ 543,411	\$ 63,800
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, 2021

	Manchester Housing Authority	Merrimac Housing Authority	Middleton Housing Authority	Nahant Housing Authority
Net Pension Liability				
Beginning net pension liability.....	\$ 317,172	\$ 118,934	\$ 198,237	\$ 181,653
Ending net pension liability.....	\$ 277,456	\$ 104,049	\$ 173,407	\$ 160,930
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 23	\$ 9	\$ 14	\$ 13
Changes of assumptions.....	30,734	11,526	19,209	17,826
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	7,320	29,919	102	19,158
Total Deferred Outflows of Resources.....	\$ 38,077	\$ 41,454	\$ 19,325	\$ 36,997
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 8,490	\$ 3,184	\$ 5,306	\$ 4,924
Net difference between projected and actual investment earnings on pension plan investments.....	61,505	23,065	38,440	35,674
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	225	77	41	-
Total Deferred Inflows of Resources.....	\$ 70,220	\$ 26,326	\$ 43,787	\$ 40,598
Pension Expense				
Proportionate share of plan pension expense.....	\$ 30,041	\$ 11,270	\$ 18,769	\$ 17,422
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	81	22,268	(1,306)	(6,774)
Total Employer Pension Expense.....	\$ 30,122	\$ 33,538	\$ 17,463	\$ 10,648
Contributions				
Statutory required contribution.....	\$ 33,111	\$ 12,417	\$ 20,694	\$ 22,101
Contribution in relation to statutory required contribution.....	(33,111)	(12,417)	(20,694)	(22,101)
Contribution deficiency/(excess).....	\$ -	\$ -	\$ -	\$ -
Contributions as a percentage of covered payroll.....	59.90%	23.34%	28.74%	49.88%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ 1,848	\$ 20,243	\$ (3,356)	\$ 11,761
June 30, 2024.....	(12,778)	2,842	(7,916)	(5,579)
June 30, 2025.....	(12,489)	(4,685)	(7,736)	(5,769)
June 30, 2026.....	(8,724)	(3,272)	(5,454)	(4,014)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	\$ (32,143)	\$ 15,128	\$ (24,462)	\$ (3,601)
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 375,223	\$ 140,713	\$ 234,510	\$ 217,637
Current discount rate (7.00%).....	\$ 277,456	\$ 104,049	\$ 173,407	\$ 160,930
1% increase (8.00%).....	\$ 195,355	\$ 73,260	\$ 122,095	\$ 113,310
Covered Payroll.....	\$ 55,278	\$ 53,205	\$ 72,008	\$ 44,306
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, 2021

	North Andover Housing Authority	Rockport Housing Authority	Rowley Housing Authority	Salisbury Housing Authority
Net Pension Liability				
Beginning net pension liability.....	\$ 1,546,206	\$ 673,985	\$ 312,916	\$ 158,586
Ending net pension liability.....	\$ 1,317,898	\$ 554,904	\$ 287,053	\$ 138,724
Deferred Outflows of Resources				
Differences between expected and actual experience.....	\$ 110	\$ 46	\$ 24	\$ 12
Changes of assumptions.....	145,985	61,467	31,797	15,367
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	530	116,789	114,950	224
Total Deferred Outflows of Resources.....	<u>\$ 146,625</u>	<u>\$ 178,302</u>	<u>\$ 146,771</u>	<u>\$ 15,603</u>
Deferred Inflows of Resources				
Differences between expected and actual experience.....	\$ 40,326	\$ 16,979	\$ 8,783	\$ 4,245
Net difference between projected and actual investment earnings on pension plan investments.....	292,143	123,007	63,632	30,751
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	111,894	39,226	-	93,677
Total Deferred Inflows of Resources.....	<u>\$ 444,363</u>	<u>\$ 179,212</u>	<u>\$ 72,415</u>	<u>\$ 128,673</u>
Pension Expense				
Proportionate share of plan pension expense.....	\$ 142,683	\$ 60,080	\$ 31,075	\$ 15,015
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(47,771)	(29,121)	40,609	(41,035)
Total Employer Pension Expense.....	<u>\$ 94,912</u>	<u>\$ 30,959</u>	<u>\$ 71,684</u>	<u>\$ (26,020)</u>
Contributions				
Statutory required contribution.....	\$ 157,275	\$ 66,221	\$ 33,227	\$ 16,849
Contribution in relation to statutory required contribution.....	(157,275)	(66,221)	(33,227)	(16,849)
Contribution deficiency/(excess).....	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Contributions as a percentage of covered payroll.....	25.34%	30.33%	56.06%	29.53%
Deferred (Inflows)/Outflows Recognized in Future Pension Expense				
June 30, 2023.....	\$ (64,996)	\$ 20,562	\$ 35,031	\$ (41,206)
June 30, 2024.....	(92,172)	13,150	24,281	(37,626)
June 30, 2025.....	(91,134)	(9,178)	21,204	(29,934)
June 30, 2026.....	(49,436)	(25,444)	(6,160)	(4,304)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	<u>\$ (297,738)</u>	<u>\$ (910)</u>	<u>\$ 74,356</u>	<u>\$ (113,070)</u>
Discount Rate Sensitivity				
1% decrease (6.00%).....	\$ 1,782,285	\$ 750,435	\$ 388,202	\$ 187,606
Current discount rate (7.00%).....	\$ 1,317,898	\$ 554,904	\$ 287,053	\$ 138,724
1% increase (8.00%).....	\$ 927,922	\$ 390,704	\$ 202,112	\$ 97,675
Covered Payroll.....	\$ 620,673	\$ 218,344	\$ 59,272	\$ 57,055
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, 2021

	Topsfield Housing Authority	Wenham Housing Authority	Totals
<u>Net Pension Liability</u>			
Beginning net pension liability.....	\$ 198,237	\$ 317,172	\$ 396,919,889
Ending net pension liability.....	\$ 138,724	\$ 277,456	\$ 347,248,109
<u>Deferred Outflows of Resources</u>			
Differences between expected and actual experience.....	\$ 12	\$ 23	\$ 28,910
Changes of assumptions.....	15,367	30,734	38,465,152
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	276	-	10,132,185
Total Deferred Outflows of Resources.....	<u>\$ 15,655</u>	<u>\$ 30,757</u>	<u>\$ 48,626,247</u>
<u>Deferred Inflows of Resources</u>			
Differences between expected and actual experience.....	\$ 4,245	\$ 8,490	\$ 10,625,336
Net difference between projected and actual investment earnings on pension plan investments.....	30,751	61,505	76,975,660
Changes in proportion and differences between employer contributions and proportionate share of contributions.....	31,756	7,499	10,132,185
Total Deferred Inflows of Resources.....	<u>\$ 66,752</u>	<u>\$ 77,494</u>	<u>\$ 97,733,181</u>
<u>Pension Expense</u>			
Proportionate share of plan pension expense.....	\$ 15,014	\$ 30,041	\$ 37,595,758
Net amortization of deferred amounts from changes in proportion and differences between employer contributions and proportionate share of contributions.....	(25,314)	1,176	-
Total Employer Pension Expense.....	<u>\$ (10,300)</u>	<u>\$ 31,217</u>	<u>\$ 37,595,758</u>
<u>Contributions</u>			
Statutory required contribution.....	\$ 16,849	\$ 33,111	\$ 41,415,403
Contribution in relation to statutory required contribution.....	(16,849)	(33,111)	(41,435,342)
Contribution deficiency/(excess).....	<u>-</u>	<u>-</u>	<u>\$ (19,939)</u>
Contributions as a percentage of covered payroll.....	25.50%	27.60%	26.91%
<u>Deferred (Inflows)/Outflows Recognized in Future Pension Expense</u>			
June 30, 2023.....	\$ (10,482)	\$ (12,748)	\$ (6,749,223)
June 30, 2024.....	(14,198)	(12,776)	(15,894,213)
June 30, 2025.....	(14,118)	(12,489)	(15,550,926)
June 30, 2026.....	(12,299)	(8,724)	(10,912,572)
Total Deferred (Inflows)/Outflows Recognized in Future Pension Expense.....	<u>\$ (51,097)</u>	<u>\$ (46,737)</u>	<u>\$ (49,106,934)</u>
<u>Discount Rate Sensitivity</u>			
1% decrease (6.00%).....	\$ 187,606	\$ 375,223	\$ 469,607,671
Current discount rate (7.00%).....	\$ 138,724	\$ 277,456	\$ 347,248,109
1% increase (8.00%).....	\$ 97,675	\$ 195,355	\$ 244,494,736
Covered Payroll.....	\$ 66,076	\$ 119,978	\$ 153,979,506
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 Essex Regional Retirement System'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 System 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, 2020, were applied to allocate the System's fiscal year 2022 pension fund appropriation by member unit.

When a member unit accepts an Early Retirement Incentive Program (E.R.I.), PERAC completes an analysis of the costs and liabilities attributable to the additional benefits payable in accordance with the E.R.I. The accrued liability for the members who accept the E.R.I as retirees including the E.R.I less the accrued liability for the members as active employees excluding the E.R.I represents the increase in accrued liability due to the E.R.I. The net increase is amortized for each member unit accepting the E.R.I, and is separately identified in the System's funding schedule. The 2002 E.R.I amortization is straight line for Nahant Housing which is increasing at 4.5% per year ending in 2028. The 2003 E.R.I amortization is straight line for Groveland which is increasing at 4.5% per year ending in 2028.

Members of the Manchester-Essex Regional School District and the Rowley Housing Authority have been awarded years of credited service in addition to those which they received as contributing members of the System. This is a result of a decision by the Contributory Retirement Appeal Board (CRAB), as described in an order and memorandum, dated May 27, 2015, by the State Appeals Board, regarding a similar arrangement between the Merrimack Valley Regional Transit Authority and the Lawrence Retirement System. The effect of the decision grants additional service to members affected and requires reimbursement from the individual employers of each of the members.

The allocation percentage of the total net pension liability is a blended rate of the following items. (1) The proportionate share of active employer's covered payroll is applied to the fiscal year 2021 pension fund appropriation calculated by the actuary. (2) Current Direct E.R.I. and CRAB appropriation is a direct current charge calculated by PERAC for only the employers that accepted the E.R.I and/or those employers effected by the CRAB decision. This direct charge backed out of the total pension fund appropriation to calculate the percentage to be allocated (3) Remaining Direct E.R.I. and CRAB liability is the future E.R.I. and/or CRAB liability associated directly to those employers that accepted the E.R.I and/or those effected by the CRAB decision. This direct liability is added back to those employers once the non- E.R.I and non-CRAB liability has been allocated.

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.

NOTE III – CHANGES IN ACTUARIAL ASSUMPTIONS AND PLAN PROVISIONS

Actuarial Assumptions.

The following changes were reflected in the January 1, 2022, valuation:

- The net investment return assumption decreased from 7.30% to 7.00%.
- The mortality assumption was revised to update the mortality improvement projection scale from MP-2019 to MP-2021 and to change the age set forward for disabled participates from two years to one year.
- The administrative expense assumption increased from \$1,000,000 for calendar year 2020 to \$1,150,000 for calendar year 2022.

Plan Provisions.

The System increased the COLA base from \$14,000 to \$16,000.

This page intentionally left blank.

REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

Independent Auditor's Report

To the Honorable Essex Regional Retirement Board
Essex Regional Retirement System
Danvers, Massachusetts

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to the financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Essex Regional Retirement System, as of and for the year ended December 31, 2021, and the related notes to the financial statements, which collectively comprise the Essex Regional Retirement System's financial statements, and have issued our report thereon dated September 26, 2022.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Essex Regional Retirement System's internal control over financial reporting (internal control) as a basis for designing the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Essex Regional Retirement System's internal control. Accordingly, we do not express an opinion on the effectiveness of Essex Regional Retirement System's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that have not been identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Essex Regional Retirement System's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws,

regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Powers & Sullivan LLC

September 26, 2022