



**DUKES COUNTY RETIREMENT SYSTEM**

**FINANCIAL REPORTING AND DISCLOSURES UNDER  
GASB 67 and GASB 68  
as of  
December 31, 2016**

Prepared by:

KMS Actuarial, LLC  
814 Elm Street, Suite 204  
Manchester, NH 03101



July 12, 2017

Dukes County Retirement Board  
9 Airport Road  
Dukes County Retirement System  
Suite 1  
Vineyard Haven, MA 02568

Dear Board Members:

We are pleased to present the enclosed report providing financial reporting and disclosures under Governmental Accounting Standards Board (GASB) Statement No. 67, Financial Reporting for Pension Plans (GASB 67), and GASB Statement No. 68, Accounting and Financial Reporting for Pensions (GASB 68) for the Dukes County Retirement System and participating employers. Results are based on liabilities developed in an actuarial valuation performed as of January 1, 2016 and rolled forward to the plan's measurement date of December 31, 2016.

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

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

Liabilities presented in this report are based on a long-term investment return rate of 7.75%, net of investment expense, compounded annually.

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

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

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

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

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

Respectfully submitted,



---

Linda L. Bournival, FSA  
Member, American Academy of Actuaries  
(603) 792-9494



---

David M. Mirabito, FSA  
Member, American Academy of Actuaries  
(978) 766-5532

---

## TABLE OF CONTENTS

<b>INTRODUCTION</b>	<b>1</b>
<b>SECTION 1 - PRINCIPAL VALUATION RESULTS</b>	<b>3</b>
Exhibit 1.1 - Plan Assets	
Exhibit 1.2 - Actuarial Liabilities	
<b>SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS</b>	<b>5</b>
Exhibit 2.1 - Plan Description	
Exhibit 2.2 - Net Pension Liability	
<b>SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION</b>	<b>9</b>
Exhibit 3.1 - Changes in Net Pension Liability and Related Ratios	
Exhibit 3.2 - Schedule of Employer Contributions	
Exhibit 3.3 - Investment Returns	
Exhibit 3.4 - Notes to Required Supplementary Information	
<b>SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68</b>	<b>13</b>
Exhibit 4.1 - Deferred Outflows and Inflows of Resources	
Exhibit 4.2 - Pension Expense	
Exhibit 4.3 - Proportionate Share of Contributions	
Exhibit 4.4 - Pension Amounts by Employer	
<b>SECTION 5 - GLOSSARY OF TERMS</b>	<b>19</b>
<b>Appendix A    CALCULATION OF MONEY-WEIGHTED RATE OF RETURN</b>	
<b>Appendix B    SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES and                   DEFERRED INFLOWS OF RESOURCES</b>	
<b>Appendix C    SCHEDULE OF PENSION AMOUNTS BY EMPLOYER</b>	
<b>Appendix D    CALCULATION OF SINGLE DISCOUNT RATE</b>	

---

## INTRODUCTION

### **GASB 67 and GASB 68**

In June 2012, the GASB approved two related Statements that significantly change the way pension plans and governments account and report pension liabilities. The Dukes County Retirement System implemented GASB Statement No. 67, Financial Reporting for Pension Plans for the fiscal year ending December 31, 2014.

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

GASB 67 and GASB 68 require projected benefit payments be discounted to their actuarial present value using the single rate that reflects:

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

The pension plan's fiduciary net position was projected to be available to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

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

### **Net Fiduciary Position**

Pension plan investments are reported at market value as of the measurement date. The fiduciary net position as of the current and prior measurement dates are shown in Exhibit 1.1.

---

## INTRODUCTION

### **Total Pension Liability**

The Total Pension Liability as of December 31, 2016 shown in this report is based on a roll-forward of liabilities determined as of the most recent valuation date, January 1, 2016. The Total Pension Liability as of the measurement date included changes to the mortality rates and mortality improvement rates. The Total Pension Liability is developed in Exhibit 1.2.

### **Benefit Changes**

All benefits remained the same from the prior measurement date.

### **Assumption Changes**

Some assumptions have changed since the prior measurement date, including the mortality rates which have been updated to reflect fully generational mortality improvement.

### **Pension Expense**

The Pension Expense for the fiscal year ending December 31, 2016 is \$7,324,002 and is developed in Exhibit 4.2. Pension Expense, as well as the Net Pension Liability and Deferred Outflows of Resources and Deferred Inflows of Resources, are developed for each member unit and is shown in Appendix C. Amounts by employer are developed using a proportionate share, the proportion of each employer's Total Pension Liability to the aggregate amount of employer Total Pension Liability, as shown in Exhibit 4.3.

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.1 - Plan Assets

Asset information was provided by the Dukes County Retirement System. The Trust Fund Composition, Asset Activity and the Computed Rate of Return for the current and prior fiscal years are as follows:

<b>Fiscal Year Ended December 31</b>	<b>2016</b>	<b>2015</b>
<b>Trust Fund Composition at Fiscal Year-End</b>		
Fixed Income Securities	\$ 13,431,898	\$ 12,925,671
Equities	30,909,981	28,430,271
Pooled Domestic Equity Funds	16,235,301	13,891,469
PRIT Pooled International Equity Funds	3,760,950	3,701,476
PRIT Pooled Real Estate Funds	11,232,911	10,473,908
PRIT Core Fund	51,144,165	47,534,126
Cash	5,025,170	4,104,081
Receivables	502,836	894,353
Payables	(95,869)	(110,845)
Total Market Value of Assets	<b>\$ 132,147,343</b>	<b>\$ 121,844,510</b>
<b>Asset Activity</b>		
Market value as of beginning of year	\$ 121,844,510	\$ 115,193,525
Contributions - employer	5,986,402	5,777,664
Contributions - member	3,575,601	3,545,293
Net investment income	8,990,151	4,613,029
Benefit payments, including refunds of member contributions	(7,895,706)	(6,961,135)
Administrative expenses	(353,615)	(323,866)
Other	-	-
Market Value as of end of year	<b>\$ 132,147,343</b>	<b>\$ 121,844,510</b>
<b>Money-Weighted Rate of Return</b>	7.30%	4.95%
<b>(Gain) / Loss on Pension Plan Investments</b>		
Projected earnings	\$ 9,493,816	\$ 9,006,469
Actual earnings	8,990,151	4,613,029
(Gain) / Loss on pension plan investments	<b>\$ 503,665</b>	<b>\$ 4,393,440</b>

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.2 - Actuarial Liabilities

The **Total Pension Liability**, developed using the Entry Age Normal funding method, is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service. The Total Pension Liability as of January 1, 2016, the date of the most recent actuarial valuation, is presented below, recognizing the change in actuarial assumptions, along with the Total Pension Liability as of January 1, 2014:

<u>Valuation Date:</u>	<u>January 1, 2016</u>	<u>January 1, 2014</u>
Discount Rate	7.75%	7.75%
Actives	\$ 93,889,828	\$ 83,234,388
Retired and Disabled Members and Beneficiaries	71,992,519	57,008,078
Inactive Members	1,790,199	1,325,950
Total Pension Liability	\$ 167,672,546	\$ 141,568,416

The **Service Cost** is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Only active employees who have not reached Normal Retirement Age incur a Service Cost. Below is the Service Cost from the two most recent actuarial valuations and using a 7.75% discount rate:

Service Cost, beginning of year	\$ 5,203,131	\$ 4,664,483
---------------------------------	--------------	--------------

The Total Pension Liability was determined from the use of update procedures to roll forward to the pension plan's most recent fiscal year-end, or measurement date, December 31, 2016, amounts from an actuarial valuation as of January 1, 2016. Changes in the Total Pension Liability between the prior and current measurement dates recognize the change in the actuarial assumptions.

<u>Measurement Date:</u>	<u>December 31, 2016</u>	<u>December 31, 2015</u>
Discount Rate	7.75%	7.75%
Actives	\$ 106,772,663	\$ 107,466,633
Retired and Disabled Members and Beneficiaries	69,370,275	52,137,856
Inactive Members	1,928,939	1,539,436
Total Pension Liability	\$ 178,071,877	\$ 161,143,925
Service Cost		\$ 5,415,494

The Total Pension Liability increased due to the changes in assumptions, as shown below:

<u>Change in Total Pension Liability:</u>		
Assumption changes	\$ 6,062,453	\$ -
Benefit change	\$ -	\$ -



---

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.1 - Plan Description

*Plan administration:*

The Dukes County Retirement System (the "System") is a cost-sharing, multiple-employer defined benefit pension plan that provides pensions for eligible employees of 15 participating employers. The System is a member of the Massachusetts Contributory Retirement System and is governed by Chapter 32 of the Massachusetts General Laws. The System does not have the authority to amend benefit provisions.

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

*Plan membership:*

At December 31, 2016, pension plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefits	300
Inactive plan members entitled to but not yet receiving benefits	189
Active plan members	671
	<u>1,160</u>

*Benefits provided:*

The System provides retirement, disability and death benefits. Retirement benefits are determined as a percentage of the member's final 3-year (5-year for members hired after April 1, 2012) final average compensation times the member's years of service. The percentage is based on the age of the member at retirement and his or her Group classification. Cost-of-living adjustments of 3% of the first \$14,000 of the annual retirement allowance are provided at the discretion of the System's Retirement Board. A summary of the benefits is outlined in the January 1, 2016 actuarial valuation report.

*Contributions:*

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

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

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

---

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net Pension Liability

The components of the Net Pension Liability at December 31, 2016, were as follows:

Total Pension Liability	\$ 178,071,877
Fiduciary Net Position	(132,147,343)
Net Pension Liability	<u>\$ 45,924,534</u>

Fiduciary Net Position as a percentage of the Total Pension Liability 74.21%

*Actuarial assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2016, rolled forward to the measurement date of December 31, 2016 using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3% per year
Salary increases	Group 1: 6% - 4.25%, based on service Group 4: 7% - 4.75%, based on service
Investment rate of return	7.75%, net of pension plan investment expense, including inflation

Mortality rates were based on the RP-2000 Mortality Table (base year 2009) with full generational mortality improvement using Scale BB. For disabled lives, the mortality rates were based on the RP-2000 Mortality Table (base year 2012) with full generational mortality improvement using Scale BB.

---

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net Pension Liability

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2016 (see the discussion of the pension plan's investment policy) are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rates of Return<sup>1</sup></u>
Domestic Equity	40%	6.60%
International Equity	15%	3.70%
Private Equity	5%	11.10%
Hedge Funds	3%	2.00%
Real Estate	10%	7.00%
Timber	3%	4.40%
Fixed Income	25%	2.40%
Total	100%	

<sup>1</sup> Provided by Dahab Associates, Inc. (inclusive of fees). Inflation of 3% is added to the long-term expected real rates of return to approximate the long-term expected rate of return.

#### *Discount rate:*

The discount rate used to measure the Total Pension Liability is 7.75%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rates and that contributions from participating employers will be made in accordance with Sections 22D and 22F of Chapter 32 of the Massachusetts General Laws. Based on those assumptions, the pension plan's Fiduciary Net Position was projected to be available to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

---

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net Pension Liability

*Sensitivity of the Net Pension Liability to changes in the discount rate:*

The following presents the Net Pension Liability calculated using the discount rate of 7.75%, as well as what the Net Pension Liability would be if it were calculated using a discount rate 1-percentage point lower (6.75%) or 1-percentage point higher (8.75%) than the current rate:

	<b>1% Decrease (6.75%)</b>	<b>Current Discount Rate (7.75%)</b>	<b>1% Increase (8.75%)</b>
	<hr/>	<hr/>	<hr/>
Net Pension Liability	\$ 66,938,612	\$ 45,924,533	\$ 28,152,230

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.1 - Changes in Net Pension Liability and Related Ratios

Fiscal Year Ended December 31	2016	2015	2014
<b>Total Pension Liability</b>			
Service cost	\$ 5,415,494	\$ 5,025,980	\$ 5,025,980
Interest	12,602,395	11,840,742	10,735,504
Changes of benefit terms	-	-	-
Differences between expected and actual experience	743,316	-	-
Changes of assumptions	6,062,453	-	-
Benefit payments, including refunds of member contributions	(7,895,706)	(6,961,135)	(6,091,562)
<b>Net change in Total Pension Liability</b>	<b>\$ 16,927,952</b>	<b>\$ 9,905,587</b>	<b>\$ 9,669,922</b>
<b>Total Pension Liability—beginning</b>	<b>161,143,925</b>	<b>151,238,338</b>	<b>141,568,416</b>
<b>Total Pension Liability—ending (a)</b>	<b>\$ 178,071,877</b>	<b>\$ 161,143,925</b>	<b>\$ 151,238,338</b>
<b>Fiduciary Net Position</b>			
Contributions—employer	\$ 5,986,402	\$ 5,777,664	\$ 5,601,553
Contributions—member	3,575,601	3,545,293	3,745,783
Net investment income	8,990,151	4,613,029	8,571,007
Benefit payments, including refunds of member contributions	(7,895,706)	(6,961,135)	(6,091,562)
Administrative expenses	(353,615)	(323,866)	(322,017)
Other	-	-	-
<b>Net change in Fiduciary Net Position</b>	<b>\$ 10,302,833</b>	<b>\$ 6,650,985</b>	<b>\$ 11,504,764</b>
<b>Fiduciary Net Position—beginning</b>	<b>121,844,510</b>	<b>115,193,525</b>	<b>103,688,761</b>
<b>Fiduciary Net Position—ending (b)</b>	<b>\$ 132,147,343</b>	<b>\$ 121,844,510</b>	<b>\$ 115,193,525</b>
<b>Net Pension Liability—ending (a) – (b)</b>	<b>\$ 45,924,534</b>	<b>\$ 39,299,415</b>	<b>\$ 36,044,813</b>
Fiduciary Net Position as a percentage of the Total Pension Liability	74.21%	75.61%	76.17%
Covered Payroll <sup>1</sup>	\$ 37,993,450	\$ 36,254,368	\$ 34,859,969
Net Pension Liability as a percentage of Covered Payroll	120.87%	108.40%	103.40%

<sup>1</sup> Covered Payroll for 2016 is the valuation payroll from the January 1, 2016 funding valuation.

---

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.2 - Schedule of Employer Contributions

<b>Fiscal Year Ended December 31</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Actuarially Determined Contribution	\$ 5,986,402	\$ 5,777,664	\$ 5,601,553
Contributions in relation to the Actuarially Determined Contribution	5,986,402	5,777,664	5,601,553
Contribution deficiency (excess)	\$ -	\$ -	\$ -
Covered Payroll	\$ 37,993,450	\$ 36,254,368	\$ 34,859,969
Contributions as a percentage of Covered Payroll	15.76%	15.94%	16.07%

The contribution shown above, \$5,986,402, represents the actual contributions made by member units of the Dukes County Retirement System for the 2017 fiscal year.

---

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.3 - Investment Returns

<b>Fiscal Year Ended December 31</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Annual money-weighted rate of return, net of investment expense	7.30%	4.95%	8.13%

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

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

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.4 - Notes to the Required Supplementary Information

*Changes of benefit terms:*

None.

*Changes of assumptions:*

The mortality rates and mortality improvement scale were updated.

*Methods and assumptions used in calculations of Actuarially Determined Contributions:*

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

Actuarial cost method	Entry Age Normal
Amortization method	<p>UAAL: Increasing dollar amount at 4.5% to reduce the Unfunded Actuarial Accrued Liability to zero on or before June 30, 2030. The annual increase in appropriation is further limited to 5% per year for FY2018 and FY2019 and 5.32% for FY2020 and beyond.</p> <p>2002 &amp; 2003 ERI: Increasing dollar amount to reduce the Unfunded Actuarial Accrued Liability attributable to the ERIs to zero on or before June 30, 2028.</p>
Asset valuation method	<p>The Actuarial Value of Assets is the market value of assets as of the valuation date reduced by the sum of:</p> <ul style="list-style-type: none"> <li>a) 80% of gains and losses of the prior year,</li> <li>b) 60% of gains and losses of the second prior year,</li> <li>c) 40% of gains and losses of the third prior year and</li> <li>d) 20% of gains and losses of the fourth prior year.</li> </ul> <p>Investment gains and losses are determined by the excess or deficiency of the expected return over the actual return on the market value. The actuarial valuation of assets is further constrained to be not less than 80% or more than 120% of market value.</p>
Inflation	3% per year
Salary increases	<p>Group 1: 6% - 4.25%, based on service</p> <p>Group 4: 7% - 4.75%, based on service</p>
Payroll growth	4% per year
Investment rate of return	7.75%, net of pension plan investment expense, including inflation.

Dukes County Retirement System  
 Financial Reporting and Disclosures as of December 31, 2016



## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

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

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

Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense through December 31, 2016 (c)	Balances at December 31, 2016	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2016	\$ 743,316	\$ -	\$ 123,066	\$ 620,250	\$ -
				<u>\$ 620,250</u>	<u>\$ -</u>

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

Year	Increases in the Total Pension Liability (a)	Decreases in the Total Pension Liability (b)	Amounts Recognized in Pension Expense through December 31, 2016 (c)	Balances at December 31, 2016	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2016	\$ 6,062,453	\$ -	\$ 1,003,717	\$ 5,058,736	\$ -
				<u>\$ 5,058,736</u>	<u>\$ -</u>

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

Year	Investment Earnings Less Than Projected (a)	Investment Earnings Greater Than Projected (b)	Amounts Recognized in Pension Expense through December 31, 2016 (c)	Balances at December 31, 2016	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2014	\$ -	\$ 421,445	\$ (252,867)	\$ -	\$ 168,578
2015	\$ 4,393,440	\$ -	\$ 1,757,376	\$ 2,636,064	\$ -
2016	\$ 503,665	\$ -	\$ 100,733	\$ 402,932	\$ -
				<u>\$ 2,870,418</u>	<u>\$ -</u>

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

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

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

			Balances at December 31, 2016		
Year	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (Outflows) (a)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (Inflows) (b)	Amounts Recognized in Pension Expense through December 31, 2016 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2015	\$ 254,447	\$ 254,447	\$ 82,612	\$ 171,835	\$ 171,835
2016	\$ 650,393	\$ 650,393	\$ 107,678	\$ 542,715	\$ 542,715
				<u>\$ 714,550</u>	<u>\$ 714,550</u>

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

Year ended December 31		
2017	\$	2,021,915
2018	\$	2,021,915
2019	\$	2,106,204
2020	\$	1,227,515
2021	\$	1,126,783
Thereafter	\$	45,071

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

### Exhibit 4.2 - Pension Expense

Fiscal Year Ended December 31		<u>2016</u>
1. Service cost		\$ 5,415,494
2. Interest on the total pension liability		
a. Total Pension Liability, beginning of year	161,143,925	
b. Service cost, beginning of year	5,415,494	
c. Benefit payments, including refunds of employee contributions	<u>(7,895,706)</u>	
d. Interest on Total Pension Liability		12,602,395
3. Differences between expected and actual experience		123,066
4. Changes of benefit terms		-
5. Changes of assumptions		1,003,717
6. Employee contributions		(3,575,601)
7. Projected earnings on pension plan investments		
a. Fiduciary Net Position, beginning of year	121,844,510	
b. Employer contributions	5,986,402	
c. Employee contributions	3,575,601	
d. Benefit payments, including refunds of employee contributions	<u>(7,895,706)</u>	
e. Administrative expenses and other	<u>(353,615)</u>	
f. Total projected earnings		(9,493,816)
8. Differences between projected and actual earnings on plan investments		895,132
9. Pension plan administrative expenses		353,615
10. Other changes in Fiduciary Net Position		<u>-</u>
<b>11. Total Pension Expense</b>		<b><u><u>\$ 7,324,002</u></u></b>

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

### Exhibit 4.3 - Proportionate Share of Contributions

The basis of an employer's allocation of the collective pension amount is based on the allocation of the Total Pension Liability as of the beginning of the measurement period. The schedule of employer allocations for 2016 and 2015, based on the Total Pension Liability as of January 1, 2016 and January 1, 2015, respectively, shows the proportionate relationship of each employer to all employers and each employer's allocation percentage.

Entity	2016		2015	
	Total Pension Liability	Proportionate Share of Total Pension Liability <sup>1</sup>	Total Pension Liability	Proportionate Share of Total Pension Liability <sup>2</sup>
Up-Island	5,057,927	3.016550%	4,340,540	2.870000%
Dukes County	12,662,835	7.552122%	12,183,761	8.056000%
Tisbury	29,916,414	17.842166%	27,318,181	18.063000%
Edgartown	41,474,512	24.735422%	36,924,840	24.415000%
Oak Bluffs	28,888,278	17.228985%	26,832,706	17.742000%
West Tisbury	11,918,062	7.107939%	10,681,964	7.063000%
Chilmark	8,667,844	5.169507%	7,980,847	5.277000%
Aquinnah	3,726,258	2.222342%	3,180,542	2.103000%
Gosnold	724,876	0.432316%	673,011	0.445000%
MV Transit Authority	1,146,518	0.683784%	1,029,933	0.681000%
MV Regional School	13,435,175	8.012746%	11,819,276	7.815000%
MV Landbank	2,548,625	1.520001%	2,124,899	1.405000%
MV Refuse	2,117,235	1.262720%	1,778,563	1.176000%
MV Commission	3,443,343	2.053612%	3,179,030	2.102000%
OB Water Dept	1,944,644	1.159787%	1,190,246	0.787000%
<b>Total</b>	<b>167,672,546</b>	<b>100.000000%</b>	<b>151,238,339</b>	<b>100.000000%</b>

<sup>1</sup> Total Pension Liability as of January 1, 2016.

<sup>2</sup> Total Pension Liability as of January 1, 2015.

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

### Exhibit 4.4 - Pension Amounts by Employer

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

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

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

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

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

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

For 2016:

- ◆ Net Pension Liability, Deferred Outflows of Resources, Deferred Inflows of Resources and Pension Expense are allocated to each employer based on its proportionate share of Total Pension Liability shown in Exhibit 4.3.
- ◆ The difference between expected and actual experience is amortized over the average of the expected future service lives of all participants, with the first amortized amount recognized in Pension Expense in 2016.
- ◆ Net difference between projected and actual investment earnings (loss on pension plan investments for 2016) is amortized over 5 years, with the first amortized amount recognized in pension expense in 2016. Similar Deferred Outflows of Resources and Deferred Inflows of Resources were established during prior years, with the first amortized amount recognized in Pension Expense in 2014.
- ◆ The increase in Total Pension Liability as a result of changes in assumptions (mortality rates) is amortized over the average of the expected future service lives of all participants, with the first amortized amount recognized in Pension Expense in 2016.

Dukes County Retirement System  
Financial Reporting and Disclosures as of December 31, 2016

---

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 68

### Exhibit 4.4 - Pension Amounts by Employer

For 2016 (continued):

- ◆ The net effect of the difference in the employer's proportionate shares of the collective employer contribution and the actual employer contribution is amortized over the average expected remaining service lives of all members, with the first amortized amount recognized in pension expense in 2016.
  
- ◆ The net effect of the change in the employer's proportionate shares of the collective Net Pension Liability, collective Deferred Outflows and Deferred Inflows is amortized over the average expected remaining service lives of all members, with the first amortized amount recognized in Pension Expense in 2016.
  
- ◆ No adjustments have been made for employer contributions made subsequent to the measurement date as defined in paragraph 57 of GASB 68.

---

## SECTION 5 - GLOSSARY OF TERMS

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

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

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

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

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

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

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

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

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

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

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

---

## SECTION 5 - GLOSSARY OF TERMS

**GASB** – Governmental Accounting Standards Board.

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

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

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

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

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

**Total Pension Liability** – The portion of the actuarial present value of projected benefit amounts that is attributed to past periods of employee service.

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



## APPENDIX A - CALCULATION OF MONEY-WEIGHTED RATE OF RETURN

	Plan Investments/ Net External Cash Flows (a)	Periods Invested (b)	Period Weight (c)=(b)÷12	(d)=(a) x (1+r <sub>mw</sub> ) <sup>(c)</sup>
Beginning value - January 1, 2016	\$ 121,844,510	12	1.00	\$ 130,740,256
Monthly net external cash flows:				
January	50,267	11	0.92	53,621
February	(553,766)	10	0.83	(587,258)
March	(383,607)	9	0.75	(404,426)
April	(469,190)	8	0.67	(491,758)
May	(324,003)	7	0.58	(337,599)
June	(251,280)	6	0.50	(260,291)
July	5,498,055	5	0.42	5,661,877
August	(536,392)	4	0.33	(549,140)
September	(1,025,823)	3	0.25	(1,044,054)
October	82,175	2	0.17	83,146
November	(372,977)	1	0.08	(375,174)
December	(341,857)	0	0.00	(341,857)
Ending value - December 31, 2016				\$ 132,147,343
Money-weighted rate of return				7.30%

Note: Beginning and ending values are based on amounts reported in the System's 2016 Annual Statement and monthly cash flows are based on amounts provided by the Retirement System.

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

Year	Differences between Expected and Actual Experience	Recognition Period (Years)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
2016	\$ 743,316	6.04	-	-	123,066	123,066	123,066	123,066	123,066	123,066	4,920	-
Net Increase (Decrease) in Pension Expense			-	-	123,066	123,066	123,066	123,066	123,066	123,066	4,920	-

Year	Changes of Assumptions	Recognition Period (Years)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
2016	\$ 6,062,453	6.04	-	-	1,003,717	1,003,717	1,003,717	1,003,717	1,003,717	1,003,717	40,151	-
Net Increase (Decrease) in Pension Expense			-	-	1,003,717	1,003,717	1,003,717	1,003,717	1,003,717	1,003,717	40,151	-

Year	Differences between Projected and Actual Earnings on Pension Plan Investments	Recognition Period (Years)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
2014	\$ (421,445)	5	(84,289)	(84,289)	(84,289)	(84,289)	(84,289)	-	-	-	-	-
2015	\$ 4,393,440	5	-	878,688	878,688	878,688	878,688	878,688	-	-	-	-
2016	\$ 503,665	5	-	-	100,733	100,733	100,733	100,733	100,732	-	-	-
Net Increase (Decrease) in Pension Expense			(84,289)	794,399	895,132	895,132	895,132	979,421	100,732	-	-	-

Dukes County Retirement System  
 Financial Reporting and Disclosures as of December 31, 2016

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	Up-Island
◆ Current Proportionate Share		3.016550%
◆ Prior Proportionate Share		2.870000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 1,127,893</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 1,385,337</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 18,710
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	86,588
◆ Changes of Assumptions	5,058,736	152,599
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	86,879
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 344,776</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	-
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ -</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 220,932
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	18,492
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 239,424</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 1,805,478
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 1,385,337
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 2,019,237
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 849,226
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 79,482
◆ 2018	\$ 2,021,915	\$ 79,484
◆ 2019	\$ 2,106,204	\$ 82,025
◆ 2020	\$ 1,227,515	\$ 55,521
◆ 2021	\$ 1,126,783	\$ 46,451
◆ Thereafter	\$ 45,071	\$ 1,813

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	Dukes County
◆ Current Proportionate Share		7.552122%
◆ Prior Proportionate Share		8.056000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 3,165,961</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 3,468,277</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 46,842
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	216,777
◆ Changes of Assumptions	5,058,736	382,042
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	-
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 645,661</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 220,993
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 220,993</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 553,118
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(46,233)
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 506,885</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 2,044,480
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 3,468,277
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 5,055,286
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 2,126,091
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 106,462
◆ 2018	\$ 2,021,915	\$ 106,464
◆ 2019	\$ 2,106,204	\$ 112,829
◆ 2020	\$ 1,227,515	\$ 46,469
◆ 2021	\$ 1,126,783	\$ 50,343
◆ Thereafter	\$ 45,071	\$ 2,101

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	Tisbury
◆ Current Proportionate Share		17.842166%
◆ Prior Proportionate Share		18.063000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 7,098,653</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 8,193,932</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 110,666
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	512,145
◆ Changes of Assumptions	5,058,736	902,588
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	3,974
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 1,529,373</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 90,682
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 90,682</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 1,306,761
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(18,223)
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 1,288,538</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 6,204,138
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 8,193,931
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 11,943,298
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 5,022,968
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 342,530
◆ 2018	\$ 2,021,915	\$ 342,533
◆ 2019	\$ 2,106,204	\$ 357,569
◆ 2020	\$ 1,227,515	\$ 200,792
◆ 2021	\$ 1,126,783	\$ 187,720
◆ Thereafter	\$ 45,071	\$ 7,547

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	Edgartown
◆ Current Proportionate Share		24.735422%
◆ Prior Proportionate Share		24.415000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 9,594,953</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 11,359,626</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 153,421
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	710,011
◆ Changes of Assumptions	5,058,736	1,251,298
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	96,355
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 2,211,085</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 143,371
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 143,371</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 1,811,621
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(12,217)
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 1,799,404</u>
<b><i>Covered Payroll:</i></b>	<b>\$ 37,993,450</b>	<b>\$ 8,029,000</b>
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 11,359,627
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 16,557,548
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 6,963,573
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 487,910
◆ 2018	\$ 2,021,915	\$ 487,909
◆ 2019	\$ 2,106,204	\$ 508,756
◆ 2020	\$ 1,227,515	\$ 291,413
◆ 2021	\$ 1,126,783	\$ 280,404
◆ Thereafter	\$ 45,071	\$ 11,322

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	Oak Bluffs
◆ Current Proportionate Share		17.228985%
◆ Prior Proportionate Share		17.742000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 6,972,502</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 7,912,331</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 106,863
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	494,544
◆ Changes of Assumptions	5,058,736	871,569
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	12,460
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 1,485,436</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 154,269
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 154,269</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 1,261,851
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(28,056)
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 1,233,795</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 6,471,406
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 7,912,331
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 11,532,844
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 4,850,344
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 320,300
◆ 2018	\$ 2,021,915	\$ 320,301
◆ 2019	\$ 2,106,204	\$ 334,823
◆ 2020	\$ 1,227,515	\$ 183,432
◆ 2021	\$ 1,126,783	\$ 165,687
◆ Thereafter	\$ 45,071	\$ 6,624

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	West Tisbury
◆ Current Proportionate Share		7.107939%
◆ Prior Proportionate Share		7.063000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 2,775,718</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 3,264,288</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 44,087
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	204,028
◆ Changes of Assumptions	5,058,736	359,572
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	13,513
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 621,200</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 23,217
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 23,217</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 520,586
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(2,763)
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 517,823</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 2,527,447
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 3,264,288
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 4,757,956
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 2,001,043
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 140,954
◆ 2018	\$ 2,021,915	\$ 140,953
◆ 2019	\$ 2,106,204	\$ 146,947
◆ 2020	\$ 1,227,515	\$ 84,488
◆ 2021	\$ 1,126,783	\$ 81,356
◆ Thereafter	\$ 45,071	\$ 3,285



## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	Chilmark
◆ Current Proportionate Share		5.169507%
◆ Prior Proportionate Share		5.277000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 2,073,830</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 2,374,072</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 32,064
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	148,386
◆ Changes of Assumptions	5,058,736	261,512
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	39,333
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 481,295</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 32,324
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 32,324</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 378,615
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	2,028
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 380,643</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 2,136,675
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 2,374,072
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 3,460,396
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 1,455,332
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 106,551
◆ 2018	\$ 2,021,915	\$ 106,551
◆ 2019	\$ 2,106,204	\$ 110,910
◆ 2020	\$ 1,227,515	\$ 65,484
◆ 2021	\$ 1,126,783	\$ 57,210
◆ Thereafter	\$ 45,071	\$ 2,265

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	Aquinnah
◆ Current Proportionate Share		2.222342%
◆ Prior Proportionate Share		2.103000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 826,467</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 1,020,600</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 13,784
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	63,791
◆ Changes of Assumptions	5,058,736	112,422
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	56,977
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 246,974</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	-
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ -</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 162,764
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	11,758
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 174,522</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 1,064,498
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 1,020,600
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 1,487,605
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 625,639
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 56,694
◆ 2018	\$ 2,021,915	\$ 56,692
◆ 2019	\$ 2,106,204	\$ 58,565
◆ 2020	\$ 1,227,515	\$ 39,038
◆ 2021	\$ 1,126,783	\$ 34,617
◆ Thereafter	\$ 45,071	\$ 1,368

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	Gosnold
◆ Current Proportionate Share		0.432316%
◆ Prior Proportionate Share		0.445000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 174,882</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 198,539</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 2,681
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	12,409
◆ Changes of Assumptions	5,058,736	21,870
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	472
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 37,432</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 5,692
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 5,692</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 31,663
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(1,115)
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 30,548</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 131,627
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 198,539
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 289,387
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 121,707
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 7,627
◆ 2018	\$ 2,021,915	\$ 7,626
◆ 2019	\$ 2,106,204	\$ 7,991
◆ 2020	\$ 1,227,515	\$ 4,192
◆ 2021	\$ 1,126,783	\$ 4,135
◆ Thereafter	\$ 45,071	\$ 169

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	MV Transit Authority
◆ Current Proportionate Share		0.683784%
◆ Prior Proportionate Share		0.681000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 267,629</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 314,025</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 4,241
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	19,627
◆ Changes of Assumptions	5,058,736	34,591
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	29,390
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 87,849</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	-
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ -</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 50,080
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	6,629
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 56,709</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 574,843
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 314,025
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 457,716
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 192,500
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 20,456
◆ 2018	\$ 2,021,915	\$ 20,454
◆ 2019	\$ 2,106,204	\$ 21,029
◆ 2020	\$ 1,227,515	\$ 15,023
◆ 2021	\$ 1,126,783	\$ 10,497
◆ Thereafter	\$ 45,071	\$ 390

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	MV Regional School
◆ Current Proportionate Share		8.012746%
◆ Prior Proportionate Share		7.815000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 3,071,249</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 3,679,816</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 49,699
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	229,999
◆ Changes of Assumptions	5,058,736	405,344
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	179,148
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 864,190</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	-
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ -</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 586,854
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	38,708
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 625,562</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 4,352,501
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 3,679,816
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 5,363,621
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 2,255,767
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 200,720
◆ 2018	\$ 2,021,915	\$ 200,719
◆ 2019	\$ 2,106,204	\$ 207,474
◆ 2020	\$ 1,227,515	\$ 137,065
◆ 2021	\$ 1,126,783	\$ 113,777
◆ Thereafter	\$ 45,071	\$ 4,435

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	MV Landbank
◆ Current Proportionate Share		1.520001%
◆ Prior Proportionate Share		1.405000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 552,157</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 698,054</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 9,428
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	43,630
◆ Changes of Assumptions	5,058,736	76,893
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	39,748
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 169,699</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 11,599
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 11,599</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 111,325
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	5,802
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 117,127</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 683,842
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 698,054
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 1,017,468
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 427,914
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 36,534
◆ 2018	\$ 2,021,915	\$ 36,536
◆ 2019	\$ 2,106,204	\$ 37,817
◆ 2020	\$ 1,227,515	\$ 24,459
◆ 2021	\$ 1,126,783	\$ 21,887
◆ Thereafter	\$ 45,071	\$ 867

Dukes County Retirement System  
Financial Reporting and Disclosures as of December 31, 2016

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	MV Refuse
◆ Current Proportionate Share		1.262720%
◆ Prior Proportionate Share		1.176000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 462,161</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 579,898</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 7,832
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	36,245
◆ Changes of Assumptions	5,058,736	63,878
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	33,573
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 141,528</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	-
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ -</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 92,482
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	6,972
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 99,454</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 590,392
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 579,898
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 845,247
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 355,484
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 32,504
◆ 2018	\$ 2,021,915	\$ 32,502
◆ 2019	\$ 2,106,204	\$ 33,568
◆ 2020	\$ 1,227,515	\$ 22,473
◆ 2021	\$ 1,126,783	\$ 19,704
◆ Thereafter	\$ 45,071	\$ 777

## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	MV Commission
◆ Current Proportionate Share		2.053612%
◆ Prior Proportionate Share		2.102000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 826,074</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 943,112</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 12,738
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	58,947
◆ Changes of Assumptions	5,058,736	103,887
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	5,308
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 180,880</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 14,552
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 14,552</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 150,407
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	(1,760)
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 148,647</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 797,322
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 943,112
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 1,374,659
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 578,137
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 39,762
◆ 2018	\$ 2,021,915	\$ 39,762
◆ 2019	\$ 2,106,204	\$ 41,495
◆ 2020	\$ 1,227,515	\$ 23,449
◆ 2021	\$ 1,126,783	\$ 21,021
◆ Thereafter	\$ 45,071	\$ 839



## APPENDIX C - SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Pension Amounts as of December 31, 2016	Dukes County Retirement System	OB Water Dept
◆ Current Proportionate Share		1.159787%
◆ Prior Proportionate Share		0.787000%
<b><i>Beginning Net Pension Liability</i></b>	<b>\$ 39,299,415</b>	<b>\$ 309,286</b>
<b><i>Ending Net Pension Liability</i></b>	<b>\$ 45,924,534</b>	<b>\$ 532,627</b>
<b><i>Total Deferred Outflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ 620,250	\$ 7,194
◆ Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	2,870,418	33,291
◆ Changes of Assumptions	5,058,736	58,671
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	117,418
◆ Total Deferred Outflows of Resources	<u>\$ 9,263,954</u>	<u>\$ 216,574</u>
<b><i>Total Deferred Inflows of Resources:</i></b>		
◆ Differences Between Expected and Actual Experience	\$ -	\$ -
◆ Changes of Assumptions	-	-
◆ Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	714,550	\$ 17,849
◆ Total Deferred Inflows of Resources	<u>\$ 714,550</u>	<u>\$ 17,849</u>
<b><i>Employer Pension Expense:</i></b>		
◆ Proportionate Share of Plan Pension Expense	\$ 7,324,002	\$ 84,943
◆ Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	-	19,978
◆ Total Employer Pension Expense	<u>\$ 7,324,002</u>	<u>\$ 104,921</u>
<b><i>Covered Payroll:</i></b>	\$ 37,993,450	\$ 579,801
<b><i>Sensitivity of the Net Pension Liability to changes in the discount rate:</i></b>		
◆ Current discount rate: 7.75%	\$ 45,924,533	\$ 532,627
◆ 1% decrease in the discount rate: 6.75%	\$ 66,938,612	\$ 776,345
◆ 1% increase in the discount rate: 8.75%	\$ 28,152,230	\$ 326,506
<b><i>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in Pension Expense:</i></b>		
◆ 2017	\$ 2,021,915	\$ 43,429
◆ 2018	\$ 2,021,915	\$ 43,429
◆ 2019	\$ 2,106,204	\$ 44,406
◆ 2020	\$ 1,227,515	\$ 34,217
◆ 2021	\$ 1,126,783	\$ 31,974
◆ Thereafter	\$ 45,071	\$ 1,270

---

## APPENDIX D - CALCULATION OF SINGLE DISCOUNT RATE

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

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

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

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

For purposes of this valuation, the long-term expected rate of return on pension plan investments is 7.75%; the municipal bond rate is 3.57%, based on the December 2016 Bond Buyer Index as published by the Federal Reserve. For each period, the pension plan's Fiduciary Net Position is projected to be sufficient to make the benefit payments in that period, therefore, the resulting single discount rate is based solely on the long-term expected rate of return of 7.75%.