



**COUNTY OF DUKES COUNTY**  
PARTICIPANT IN THE DUKES COUNTY POOLED OPEB TRUST

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

**FINANCIAL REPORTING AND DISCLOSURES**  
**Governmental Accounting Standards Board**  
**Statements 74 and 75**

**Disclosures as of**  
**June 30, 2021**

KMS Actuarial, LLC  
52 Hunt Road  
Kingston, NH 03848

October, 2021





October 15, 2021

Ms. Ann Metcalf  
Treasurer  
County of Dukes County  
9 Airport Road, Suite 2  
Vineyard Haven, MA 02568

Dear Ann:

We are pleased to present the enclosed report of the July 1, 2020 actuarial valuation of the retiree health care benefits for the County of Dukes County, a Participant in the Dukes County Pooled OPEB Trust. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2021 under the following Governmental Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)
- ◆ GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75)

The Principal Valuation Results, including assets, liabilities and the development of future contributions, 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 75 are provided in Section 4. The Summary of Plan Provisions and Actuarial Assumptions and Methods are shown in Sections 5 and 6, respectively. Section 7 summarizes the demographic profile of active members and retired members, covered spouses and survivors. Finally, a Glossary of Terms is provided in Section 8.

Our calculations are based on member census data and other information provided by the County of Dukes County as well as health plan rates provided by the Trustees of the Dukes County Pooled OPEB Trust as of July 1, 2021. 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 discount rate of 2.27%, the rate that reflects a blended-rate of the long-term expected rate of return on OPEB plan assets and the municipal bond rate. The municipal bond rate of 2.16% is based on the Bond Buyer 20-Bond GO Index published on June 30, 2021. The long-term expected rate of return is 6.6%. The long-term expected rate of return is based on the target allocations provided in the Dukes County Pooled OPEB Trust's investment policy statement and long-term expected rates of return by asset class obtained from recent surveys of capital market expectations and other reliable sources.

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 other than those explicitly applicable to the postemployment benefit plans are consistent with those used by the Dukes County Retirement System's actuaries for the Retirement System pension valuations.

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 County of Dukes County and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

The expected claims, cost trend rates, and analysis of regulatory changes have been developed based on the expertise of the undersigned health and welfare actuary, Christopher E. Bean, ASA, MAAA. The undersigned credentialed actuaries are Members of the American Academy of Actuaries and together 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,



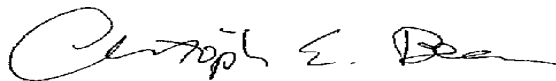
---

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



---

Amanda J. Makarevich, ASA  
Member, American Academy of Actuaries  
(603) 792-9494



---

Christopher E. Bean, ASA  
Member, American Academy of Actuaries  
(508) 628-9022

# TABLE OF CONTENTS

---

<b>EXECUTIVE SUMMARY</b>	<b>1</b>
<b>SECTION 1 PRINCIPAL VALUATION RESULTS</b>	<b>5</b>
Exhibit 1.1 - OPEB Trust Assets	
Exhibit 1.2 - Total OPEB Liability	
Exhibit 1.3 - Development of Actuarially Determined Employer Contributions	
<b>SECTION 2 NOTES TO THE FINANCIAL STATEMENTS</b>	<b>8</b>
Exhibit 2.1 - Plan Description	
Exhibit 2.2 - Net OPEB Liability	
<b>SECTION 3 SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION</b>	<b>12</b>
Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios	
Exhibit 3.2 - Investment Returns	
Exhibit 3.3 - Schedule of Employer Contributions	
<b>SECTION 4 EMPLOYER REPORTING AMOUNTS UNDER GASB 75</b>	<b>16</b>
Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources	
Exhibit 4.2 - OPEB Expense	
<b>SECTION 5 SUMMARY OF PLAN PROVISIONS</b>	<b>19</b>
<b>SECTION 6 ACTUARIAL ASSUMPTIONS AND METHODS</b>	<b>21</b>
<b>SECTION 7 PLAN MEMBER INFORMATION</b>	<b>26</b>
Exhibit 7.1 - Active Members by Age and Years of Service	
Exhibit 7.2 - Retired Members, Covered Spouses and Survivors	
<b>SECTION 8 GLOSSARY OF TERMS</b>	<b>28</b>
<b>SECTION 9 BREAKOUT OF RESULTS BY DEPARTMENT</b>	<b>31</b>
<b>Appendix A CALCULATION OF SINGLE DISCOUNT RATE</b>	
<b>Appendix B SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES and DEFERRED INFLOWS OF RESOURCES</b>	

## EXECUTIVE SUMMARY

---

### Purpose of Report

This report presents the results of the actuarial valuation of the County of Dukes County's retiree health care benefits as of July 1, 2020. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2021 under the following Governmental Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)
- ◆ GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75)

The results as of the measurement date are based on a roll forward of the liabilities developed in the most recent actuarial valuation.

### GASB Accounting Standards

In June 2015, the GASB approved two related Statements that significantly changed the way other postemployment benefits (OPEB) plans and governments account and report OPEB liabilities. GASB Statement No. 74 (GASB 74), *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, replaced the requirements of Statement No. 43 and GASB Statement No. 75 (GASB 75), *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, replaced the requirements of Statement No. 45.

The effective date for GASB 74 is for plan years beginning after June 15, 2016, which is the plan year ending June 30, 2017 for the County of Dukes County. The effective date for GASB 75 is for fiscal years beginning after June 15, 2017, which is the fiscal year ending June 30, 2018 for the County of Dukes County.

GASB 74 requires OPEB plans to present a statement of fiduciary net position (OPEB 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 authority under which benefit terms are established or may be amended. Finally, GASB 74 requires OPEB plans to present in required supplementary information the sources of the changes in the net OPEB liability and information about the actuarially determined contributions compared with the actual contributions made to the plan and related ratios.

GASB 74 and GASB 75 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 OPEB plan investments to the extent that the OPEB plan's assets are sufficient to pay benefits and OPEB 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.

GASB 75 establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources and OPEB expense by state and local governments.

## EXECUTIVE SUMMARY

### County of Dukes County Other Postemployment Benefits Program

The County of Dukes County administers the retiree health care benefits program - a single-employer defined benefit plan that is used to provide postemployment benefits other than pensions (OPEB) for all permanent full-time employees. The County provides health care benefits for retirees and their dependents. Benefits are provided through the Cape Cod Municipal Health Group, and the full cost of benefits is shared between the County and retirees.

### Summary of Principal Results

A summary of principal results from the current and prior measurement dates follows:

Disclosure Date	June 30, 2021	June 30, 2020	% Change
<b>Valuation Date</b>	<b>July 1, 2020</b>	<b>July 1, 2018</b>	
<b>Membership Data</b>			
Active Plan Members	36	36	0.0%
Inactive Plan Members (excludes covered spouses)	25	22	13.6%
Total Plan Members	61	58	5.2%
Covered Spouses	9	10	(10.0%)
Covered Payroll	\$2,704,362	\$2,808,207	(3.7%)
<b>Net OPEB Liability</b>			
Discount Rate	2.27%	2.26%	
Total OPEB Liability (TOL)	\$11,910,850	\$12,187,809	(2.3%)
Fiduciary Net Position (FNP)	\$1,681,323	\$1,222,654	37.5%
Net OPEB Liability	\$10,229,527	\$10,965,155	(6.7%)
FNP as % of TOL	14.1%	10.0%	41.0%
<b>OPEB Expense</b>			
OPEB Expense	\$1,651,623	\$1,381,089	19.6%
Deferred Outflows	\$3,596,597	\$4,248,443	
Deferred Inflows	\$1,367,139	\$0	
Recognition Period	6.35	6.14	

## EXECUTIVE SUMMARY

### Experience Gain and Loss

In developing the Total OPEB Liability, various assumptions are made regarding future premium rates, mortality, retirement, disability and turnover rates. A comparison of the results of the current and prior measurements is made to determine how closely actual experience relates to expected. For the current measurement period, the difference between expected and actual experience resulted in an actuarial gain of approximately \$1,390,000. The gain is mainly attributable to a lower than expected increase in medical premiums since the prior valuation.

### Changes of Assumptions

The discount rate changed from 2.26% as of June 30, 2020 to 2.27% as of June 30, 2021. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, and mortality tables and mortality improvement rates. A summary of the impact on the Total OPEB Liability (TOL) of each assumption change is provided below:

◆ Increase due to change in Inflation Assumption	60,000
◆ Increase due to change in Trend Assumption	202,000
◆ Increase due to change in Mortality Tables and Mortality Improvement Rates	125,000
◆ Decrease due to change in Discount Rate	(21,000)
Total	\$ 366,000

All of the assumptions used in this valuation are shown in Section 6, Actuarial Assumptions and Methods.

### Changes of Benefit Terms

All benefit terms are the same as those used in the prior measurement. A Summary of the Principal Plan Provisions is provided in Section 5.

### Total OPEB Liability

The Total OPEB Liability as of the current measurement date, June 30, 2021, is \$11,910,850. The Total OPEB Liability as of the prior measurement date, June 30, 2020, was \$12,187,809. During the current measurement period ending June 30, 2021, the Total OPEB Liability decreased by \$276,959, or -2.3%. The development of the Total OPEB Liability for the current measurement period is shown in Section 1, Exhibit 1.2.

### Fiduciary Net Position

The Fiduciary Net Position is equal to the market value of assets and as of the current measurement date, June 30, 2021, is \$1,681,323. The Fiduciary Net Position as of the prior measurement date, June 30, 2020, was \$1,222,654. During the plan years ended June 30, 2021 and June 30, 2020, the actual rates of return were 30.26% and 4.56%, respectively. The expected long-term rate of return is 6.60%. The Fiduciary Net Position is shown in Section 1, Exhibit 1.1.

### Employer Future Period Contributions

The County will seek to make a minimum contribution of \$59,000 annually. As the COVID economic recovery continues, there is a possibility that the County may make additional contributions to OPEB.

## EXECUTIVE SUMMARY

---

### Discount Rate

As of the June 30, 2021 measurement date, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 9 periods of projected future benefit payments and, the 2.16% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 2.27%.

### OPEB Expense

The OPEB Expense for the current measurement period ending June 30, 2021, is \$1,651,623. Benefit changes are recognized immediately, and experience gains and losses and assumption changes developed in this valuation are recognized over 6.35 years. Investment gains and losses are recognized over 5 years. The OPEB Expense for the prior measurement period was \$1,381,089. The development of the OPEB expense for the current measurement period is shown in Section 4, Exhibit 4.2.

### COVID-19 Pandemic

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

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.1 - OPEB Trust Assets

The Dukes County Pooled OPEB Trust has established an irrevocable trust pursuant to Chapter 149 of the Acts of 2010 for the purpose of accumulating assets to prefund the OPEB liabilities. Plan assets segregated and restricted in an OPEB trust must be dedicated to providing plan benefits to retirees and beneficiaries in accordance with the terms of the plan and must be legally protected from creditors of the employer. Further, employer contributions to the trust must be irrevocable. Asset information for the current and prior fiscal years was provided by the Trustees and is presented below:

Fiscal Year Ended June 30	2021	2020
<b>Trust Fund Composition at Fiscal Year-End</b>		
Fixed Income	\$343,864	\$227,008
Cash & Equivalents	6,633	51,693
Large Cap Equity	598,968	416,371
Mid Cap Equity	168,862	116,711
Small Cap Equity	167,439	116,405
International Equity	246,974	175,869
Real Estate	148,583	118,597
Total Market Value of Assets	\$1,681,323	\$1,222,654
<b>Asset Activity</b>		
Market value, beginning of year	\$1,222,654	\$1,074,817
Employer Premiums	283,395	303,108
OPEB Trust Contributions	84,871	98,840
Benefit Payments	(283,395)	(303,108)
Administrative Expenses	-	-
Investment Return	373,798	48,997
Market value, end of year	\$1,681,323	\$1,222,654
<b>Money-Weighted Rate of Return</b>	30.26%	4.56%
<b>(Gain) / Loss on OPEB Plan Investments</b>		
Projected earnings	\$86,513	\$80,611
Actual earnings	373,798	48,997
(Gain) / Loss on OPEB plan investments	(\$287,285)	\$31,614

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.2 - Total OPEB Liability

The Total OPEB 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 OPEB liability as of the June 30, 2021 measurement date was developed from an actuarial valuation as of July 1, 2020 and rolled forward to the OPEB plan's fiscal year-end.

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

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

The development of the Total OPEB Liability from the beginning of the measurement period, June 30, 2020 to the end of the measurement period, June 30, 2021 is shown below:

Measurement Date	June 30, 2021
1. Total OPEB Liability, beginning of year:	
a. Actives	\$5,899,473
b. Retirees, Covered Spouses and Survivors	6,288,336
c. Total OPEB Liability at 2.26% (a. + b.)	\$12,187,809
2. Service Cost	\$741,178
3. Expected Benefit Payments	
a. Current retirees	(\$264,736)
b. Future retirees	(18,659)
c. Total (a. + b.)	(\$283,395)
4. Interest [2.26% x (1.c. + 2. + .5 x 3.c)]	\$288,993
5. Changes of benefit terms	\$0
6. Differences between expected and actual experience	(\$1,389,686)
7. Changes of assumptions or other inputs	\$365,951
8. Total OPEB Liability, end of year (1.c. + 2. + 3.c. + 4. + 5. + 6. + 7.)	
a. Actives	\$5,160,310
b. Retirees, Covered Spouses and Survivors	6,750,540
c. Total OPEB Liability at 2.27% (a. + b.)	\$11,910,850

## SECTION 1 - PRINCIPAL VALUATION RESULTS

### Exhibit 1.3 - Development of Actuarially Determined Employer Contributions

The County will seek to make a minimum contribution of \$59,000 annually. As the COVID economic recovery continues, there is a possibility that the County may make additional contributions to OPEB.

The Actuarially Determined Employer Contribution (ADEC) equals the Normal Cost plus a provision for amortizing the Unfunded Actuarial Accrued Liability. We have assumed increasing dollar amortization over an amortization period of 30 years.

Fiscal Year Ending	June 30, 2021	June 30, 2022
<b>Discount Rate</b>	<b>2.26%</b>	<b>2.27%</b>
<b>1. Normal Cost</b>	<b>\$741,178</b>	<b>\$708,275</b>
<b>2. Unfunded Actuarial Accrued Liability</b>		
a. Actuarial Accrued Liability	\$12,187,809	\$11,910,850
b. Actuarial Value of Plan Assets	\$1,222,654	\$1,681,323
c. Unfunded Actuarial Accrued Liability (a. - b.)	\$10,965,155	\$10,229,527
<b>3. Amortization of Unfunded Actuarial Accrued Liability</b>		
a. Unfunded Actuarial Accrued Liability	\$10,965,155	\$10,229,527
b. Amortization Period in years	30	30
c. Payroll Growth Rate	3.5%	3.5%
d. Amortization Factor	35.92	35.87
e. Amortization Amount (3.a. / 3.d.)	\$305,266	\$285,183
<b>4. Interest on 1. and 3.e.</b>	<b>\$23,650</b>	<b>\$22,551</b>
<b>5. Actuarially Determined Employer Contribution (1. + 3.e. + 4.)</b>	<b>\$1,070,094</b>	<b>\$1,016,009</b>
<b>6. Actual Employer Contribution to OPEB Trust</b>	<b>\$84,871</b>	<b>TBD</b>
<b>7. Expected Benefit Payments</b>	<b>\$283,395</b>	
<b>8. Total Contribution (6. + 7.)</b>	<b>\$368,266</b>	

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.1 - Plan Description

#### Plan Administration

The County of Dukes County administers the retiree health care benefits program - a single-employer defined benefit plan that is used to provide postemployment benefits other than pensions (OPEB) for all permanent full-time employees.

#### Plan Membership

At June 30, 2021, OPEB plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments <sup>1</sup>	25
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	36
	<u>61</u>

<sup>1</sup>Per paragraph 34a of GASB 74 and further clarified by Question 4.67 of the 2017-2 GASB 74 Implementation Guide, the total shown for inactive plan members or beneficiaries currently receiving benefit payments does not include covered spouses or other dependents.

#### Benefits Provided

The County provides health care benefits for retirees and their dependents. Benefits are provided through the Cape Cod Municipal Health Group, and the full cost of benefits is shared between the County and retirees.

#### Employer Future Period Contributions

The County will seek to make a minimum contribution of \$59,000 annually. As the COVID economic recovery continues, there is a possibility that the County may make additional contributions to OPEB.

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net OPEB Liability

The components of the net OPEB liability at June 30, 2021, were as follows:

Total OPEB liability	\$ 11,910,850
Fiduciary net position	(1,681,323)
Net OPEB liability	\$ 10,229,527

Fiduciary net position as a percentage of the total OPEB liability 14.12%

#### Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of July 1, 2020, rolled forward to the measurement date and using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.2% per year, based on current economic data, analyses from economists and other experts, and professional judgment.
Discount rate	2.27 percent, net of investment expenses, including inflation.
Healthcare cost trend rate	7 percent for 2020, decreasing 0.4 percent per year to 5.4 percent, then grading down to an ultimate trend rate of 4 percent, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical inflation rate is reached in 2075.
Pre-Retirement Mortality - General and Public Safety employees	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2018.
Post-Retirement Mortality - General and Public Safety employees	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2018.

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net OPEB Liability

#### Long-Term Expected Rate of Return

The long-term expected rate of return on OPEB 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 OPEB 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 provided in the investment policy statement and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2021 are summarized in the following table:

<b>Asset Class</b>	<b>Target Allocation<sup>1</sup></b>	<b>Long-Term Expected Real Rates of Return<sup>2</sup></b>
Large Cap Equity	35%	5.34%
Mid Cap Equity	10%	5.34%
Small Cap Equity	10%	5.34%
International Equity	15%	6.10%
Real Estate	10%	4.40%
Fixed Income	20%	1.62%
<b>Total</b>	<b>100%</b>	

<sup>1</sup> provided in the Dukes County Pooled OPEB Trust's investment policy statement.

<sup>2</sup> Obtained from recent surveys on capital market expectations and other reliable sources.

#### Discount Rate

The discount rate used to measure the total OPEB liability was 2.27%. The projection of cash flows used to determine the discount rate assumed that contributions from the County will be made in accordance with the plan's funding policy. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 9 periods of projected future benefit payments and, the 2.16% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability.

## SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

### Exhibit 2.2 - Net OPEB Liability

#### Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability calculated using the current discount rate of 2.27 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (1.27 percent) or 1-percentage point higher (3.27 percent) than the current rate:

	<b>1% Decrease (1.27%)</b>	<b>Assumed Discount Rate (2.27%)</b>	<b>1% Increase (3.27%)</b>
Total OPEB Liability	\$ 14,327,644	\$ 11,910,850	\$ 10,048,891
Fiduciary Net Position	(1,681,323)	(1,681,323)	(1,681,323)
Net OPEB Liability	\$ 12,646,321	\$ 10,229,527	\$ 8,367,568

#### Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the net OPEB liability calculated using the current healthcare cost trend rates as well as what the net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage point lower (6% year 1 decreasing to 3%) or 1-percentage point higher (8% year 1 decreasing to 5%) than the current healthcare cost trend rates:

	<b>1% Decrease 6% Year 1 Decreasing to 3%</b>	<b>Assumed Healthcare Cost Trend Rates 7% Year 1 Decreasing to 4%</b>	<b>1% Increase 8% Year 1 Decreasing to 5%</b>
Total OPEB Liability	\$ 9,819,654	\$ 11,910,850	\$ 14,698,511
Fiduciary Net Position	(1,681,323)	(1,681,323)	(1,681,323)
Net OPEB Liability	\$ 8,138,331	\$ 10,229,527	\$ 13,017,188

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

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

Fiscal Year Ended June 30	2021	2020	2019	2018	2017
<b>Total OPEB Liability</b>					
Service cost	\$ 741,178	\$ 507,923	\$ 330,289	\$ 301,243	\$ 342,568
Interest	288,993	364,938	328,781	313,794	285,191
Changes of benefit terms	-	(337,801)	-	(8,833)	-
Differences between expected and actual experience	(1,389,686)	-	349,306	-	-
Changes of assumptions	365,951	2,733,808	2,331,407	190,641	(576,049)
Benefit payments	(283,395)	(303,108)	(318,349)	(255,164)	(236,184)
<b>Net change in total OPEB liability</b>	<b>\$ (276,959)</b>	<b>\$ 2,965,760</b>	<b>\$ 3,021,434</b>	<b>\$ 541,681</b>	<b>\$ (184,474)</b>
<b>Total OPEB liability—beginning</b>	<b>\$ 12,187,809</b>	<b>\$ 9,222,049</b>	<b>\$ 6,200,615</b>	<b>\$ 5,658,934</b>	<b>\$ 5,843,408</b>
<b>Total OPEB liability—ending (a)</b>	<b>\$ 11,910,850</b>	<b>\$ 12,187,809</b>	<b>\$ 9,222,049</b>	<b>\$ 6,200,615</b>	<b>\$ 5,658,934</b>
<b>Plan Fiduciary Net Position</b>					
Contributions—employer	\$ 368,266	\$ 401,948	\$ 533,300	\$ 375,164	\$ 386,184
Net investment income	373,798	48,997	44,971	33,657	25,782
Benefit payments	(283,395)	(303,108)	(318,349)	(255,164)	(236,184)
Administrative expenses	-	-	-	-	-
Other	-	-	-	-	-
<b>Net change in plan fiduciary net position</b>	<b>\$ 458,669</b>	<b>\$ 147,837</b>	<b>\$ 259,922</b>	<b>\$ 153,657</b>	<b>\$ 175,782</b>
<b>Plan fiduciary net position—beginning</b>	<b>\$ 1,222,654</b>	<b>\$ 1,074,817</b>	<b>\$ 814,895</b>	<b>\$ 661,238</b>	<b>\$ 485,456</b>
<b>Plan fiduciary net position—ending (b)</b>	<b>\$ 1,681,323</b>	<b>\$ 1,222,654</b>	<b>\$ 1,074,817</b>	<b>\$ 814,895</b>	<b>\$ 661,238</b>
<b>Net OPEB liability—ending (a) – (b)</b>	<b>\$ 10,229,527</b>	<b>\$ 10,965,155</b>	<b>\$ 8,147,232</b>	<b>\$ 5,385,720</b>	<b>\$ 4,997,696</b>
Plan fiduciary net position as a percentage of the total OPEB liability	14.12%	10.03%	11.65%	13.14%	11.68%
Covered payroll	\$ 2,704,362	\$ 2,808,207	\$ 2,658,800	\$ 2,395,994	\$ 2,162,273
Net OPEB liability as a percentage of covered payroll	378.26%	390.47%	306.43%	224.78%	231.13%
<b>Discount Rate</b>	<b>2.27%</b>	<b>2.26%</b>	<b>3.81%</b>	<b>5.16%</b>	<b>5.38%</b>

#### Changes of Benefit Terms

All benefit terms are the same as those used in the prior measurement.

#### Changes of Assumptions

The discount rate changed from 2.26% as of June 30, 2020 to 2.27% as of June 30, 2021. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, and mortality tables and mortality improvement rates.

**SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION**

**Exhibit 3.2 - Investment Returns**

Fiscal Year Ended June 30	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Annual money-weighted rate of return, net of investment expenses	30.26%	4.56%	4.74%	4.42%	4.14%					

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of OPEB 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 OPEB plan investments to the ending fair value of OPEB plan investments.

Note: Only 5 years are presented here, beginning with the year of implementation; 10 years of information will be required.

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.2 - Investment Returns

#### 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 - July 1, 2020	\$ 1,222,654	12	1.00	\$ 1,592,611
Monthly net external cash flows:				
July	1,160	11	0.92	1,478
August	-	10	0.83	-
September	-	9	0.75	-
October	12,293	8	0.67	14,662
November	-	7	0.58	-
December	-	6	0.50	-
January	-	5	0.42	-
February	12,528	4	0.33	13,682
March	-	3	0.25	-
April	-	2	0.17	-
May	-	1	0.08	-
June	58,890	0	0.00	58,890
Ending value - June 30, 2021				\$ 1,681,323
Money-weighted rate of return:				30.26%

## SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

### Exhibit 3.3 - Schedule of Employer Contributions

Fiscal Year Ended June 30	2021	2020	2019	2018	2017
Actuarially determined contribution	\$ 1,070,094	\$ 821,556	\$ 582,825	\$ 528,620	\$ 379,403
Contributions in relation to the actuarially determined contribution	<u>368,266</u>	<u>401,948</u>	<u>533,300</u>	<u>375,164</u>	<u>386,184</u>
Contribution deficiency (excess)	<u>\$ 701,828</u>	<u>\$ 419,608</u>	<u>\$ 49,525</u>	<u>\$ 153,456</u>	<u>\$ (6,781)</u>
Covered payroll	\$ 2,704,362	\$ 2,808,207	\$ 2,658,800	\$ 2,395,994	\$ 2,162,273
Contributions as a percentage of covered payroll	13.62%	14.31%	20.06%	15.66%	17.86%
Discount rate	2.26%	3.81%	5.16%	5.38%	7.50%
Inflation	2.20%	2.40%	2.60%	3.00%	3.00%

#### Notes to Schedule

#### Valuation Date

Actuarially determined contributions are determined as of July 1, one year prior to the end of the fiscal year in which contributions are reported.

#### Methods and Assumptions as of Current Measurement Date

Actuarial cost method	Entry Age Normal.
Amortization method	Increasing at 3.5% over 30 years on an open amortization period for partial pre-funding.
Amortization period	30 years.
Asset valuation method	Market value.
Healthcare cost trend rates	7 percent for 2020, decreasing 0.4 percent per year to 5.4 percent, then grading down to an ultimate trend rate of 4 percent, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical inflation rate is reached in 2075.

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

### Exhibit 4.1 - Deferred Outflows 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 OPEB Expense over the average expected remaining service life of all active and inactive participants.

				Balances at June 30, 2021	
	Experience Losses	Experience Gains	Amounts Recognized in OPEB Expense through June 30, 2021	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2018	\$ -	\$ -	\$ -	\$ -	\$ -
2019	349,306	-	170,670	178,636	-
2020	-	-	-	-	-
2021	-	1,389,686	(218,848)	-	1,170,838
Total				<u>\$ 178,636</u>	<u>\$ 1,170,838</u>

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

				Balances at June 30, 2021	
	Increases in the Total OPEB Liability	Decreases in the Total OPEB Liability	Amounts Recognized in OPEB Expense through June 30, 2021	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2018	\$ 190,641	\$ -	\$ 116,600	\$ 74,041	\$ -
2019	2,331,407	-	1,139,124	1,192,283	-
2020	2,733,808	-	890,492	1,843,316	-
2021	365,951	-	57,630	308,321	-
Total				<u>\$ 3,417,961</u>	<u>\$ -</u>

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

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

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

					Balances at June 30, 2021	
Year	Investment Earnings Less Than Projected  (a)	Investment Earnings Greater Than Projected  (b)	Amounts Recognized in OPEB Expense through June 30, 2021  (c)	Deferred Outflows of Resources  (a) - (c)	Deferred Inflows of Resources  (b) - (c)	
2018	\$ 20,436	\$ -	\$ 16,348	\$ 4,088	\$ -	
2019	26,179	-	15,708	10,471	-	
2020	31,614	-	12,646	18,968	-	
2021	-	287,285	(57,457)	-	229,828	
Subtotal				<u>\$ 33,527</u>	<u>\$ 229,828</u>	
Net				<u>\$ -</u>	<u>\$ 196,301</u>	

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources will be recognized in OPEB expense as follows:

Year ended June 30		
2022	\$	707,966
2023	\$	703,877
2024	\$	685,232
2025	\$	287,696
2026	\$	(98,886)
Thereafter		(56,427)
Deferred Outflows	\$	3,596,597
Deferred Inflows	\$	1,367,139

## SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

### Exhibit 4.2 - OPEB Expense

The OPEB Expense and deferred outflows and inflows of resources primarily result from changes in the components of the net OPEB liability (NOL). Most changes in the NOL are included in the OPEB Expense in the period of the change, including service cost, interest on total OPEB liability, changes in benefit terms and projected earnings on the OPEB plan's investments. Other changes in the net OPEB liability are included in OPEB Expense over the current and future periods. These include the effects on the total OPEB liability of changes of economic and demographic assumptions and differences between expected and actual experience. In addition, the effect on the net OPEB liability of differences between the projected earnings on OPEB plan investments and actual experience with regard to those earnings are included in OPEB expense over the current and future periods. The OPEB Expense for the reporting period ending June 30, 2021 is presented below:

#### Fiscal Year Ended June 30, 2021

Measurement Date	6/30/2021
1. Service cost	\$ 741,178
2. Interest on the total OPEB liability	
a. Total OPEB liability, beginning of year	12,187,809
b. Service cost, beginning of year	741,178
c. Benefit payments	(283,395)
d. Interest on total OPEB liability = 2.26% times (a. + b. + .5 times c.)	288,993
3. Differences between expected and actual experience	(161,958)
4. Changes of benefit terms	-
5. Changes of assumptions	911,734
6. Projected earnings on OPEB plan investments	
a. Plan fiduciary net position, beginning of year	1,222,654
b. Contributions - Employer	368,266
c. Benefit payments	(283,395)
d. Administrative expenses and other	-
e. Total projected earnings	(86,513)
7. Differences between projected and actual earnings on OPEB plan investments	(41,811)
8. OPEB plan administrative expenses	-
9. Other changes in fiduciary net position	-
<b>10. Total OPEB Expense</b>	<b>\$ 1,651,623</b>

## SECTION 5 - SUMMARY OF PLAN PROVISIONS

**Eligibility for Postemployment Benefits** Employees of the County and their dependents are eligible for postemployment medical and life insurance based on the eligibility requirements under the Dukes County Retirement System.

**Retirement Eligibility** General employees hired before April 2, 2012: retire after attaining age 55 with 10 or more years of service or any age with 20 or more years of service.

General employees hired after April 1, 2012: retire after attaining age 60 with 10 or more years of service.

Public Safety employees hired before April 2, 2012: retire after attaining age 55 or any age with 20 or more years of service.

Public Safety employees hired after April 1, 2012: retire after attaining age 55.

**Ordinary Disability Eligibility** Any member who is unable to perform his or her duties due to a non-occupational disability and has ten or more years of creditable service.

**Accidental Disability Eligibility** Any member who is unable to perform his or her duties due to a job-related disability.

**Medical Premiums** The total monthly premiums by plan are shown below:

<b>Non-Medicare Plans - July 1, 2021</b>	<b>Individual</b>	<b>Family</b>
Blue Care Elect PPO	\$1,155.00	\$2,892.00
Blue Cross Network Blue HMO	\$884.00	\$2,372.00
HPHC PPO	\$954.00	\$2,523.00
HPHC EPO HMO	\$869.00	\$2,325.00
Blue Care Elect HD PPO	\$963.00	\$2,415.00
<b>Medicare Plans - January 1, 2021</b>		
Medex	\$376.00	
HPHC Medicare Enhance	\$374.00	

**Participant Contributions** Retired employees contribute 10% of the health plan premium.

## SECTION 5 - SUMMARY OF PLAN PROVISIONS

---

<b>Continuation of Coverage to Spouse After Death of Retiree</b>	Surviving spouse may continue coverage for lifetime by paying the required medical premium.
<b>Medicare Penalty Reimbursement</b>	The County reimburses the Medicare late-enrollment penalty, if applicable, based on information provided in the retiree data.
<b>Dental Coverage</b>	Dental coverage is not offered to retirees.
<b>Life Insurance Coverage</b>	Retirees are eligible for a \$5,000 life insurance benefit. The total monthly cost is \$4.65. Retirees contribute \$1.00 towards the monthly premiums.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

---

<b>Valuation Date</b>	July 1, 2020
<b>Disclosure Date</b>	June 30, 2021
<b>GASB 75 Reporting Date</b>	June 30, 2021
<b>Long-Term Expected Rate of Return</b>	<p>6.6%, compounded annually, net of fees.</p> <p>A long-term assumption based on capital market expectations by asset class, historical returns and professional judgment. A building block approach was used that considered the target asset allocation, expected returns by asset class and risk analysis to determine a long-term expected average annual rate of return.</p>
<b>Municipal Bond Rate</b>	2.16%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2021.
<b>Discount Rate (GASB)</b>	<p>2.27%, compounded annually, for the measurement as of June 30, 2021.</p> <p>2.26%, compounded annually, for the measurement as of June 30, 2020.</p> <p>The single rate that reflects the long-term expected rate of return on OPEB plan investments to the extent that the OPEB plan's assets, which are expected to be invested using a strategy to achieve that return, are sufficient to pay benefits, and a tax-exempt, high-quality municipal bond rate to the extent that the conditions for use of the long-term expected rate of return are not met.</p>
<b>Discount Rate (ADEC)</b>	2.26%, compounded annually, for development of the Actuarially Determined Contribution (ADEC) as of June 30, 2021.
<b>Amortization Method</b>	Increasing at 3.5% over 30 years on an open amortization period for partial pre-funding.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

### Medical Trend Rates

Year	Trend
1	7.00%
2	6.60%
3	6.20%
4	5.80%
5	5.40%
Ultimate	4.00%

Trend rates after year 5 grade down to the ultimate rate of 4 percent utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate trend rate is reached in 2075.

Health care trend assumptions begin at current levels and grade down over a period of years to a lower level equal to some real rate plus inflation. The principal components of health trend are medical inflation, deductible erosion, cost shifting, utilization, technology and catastrophic claims. The overall effect of these components are expected to decline year by year.

### Dental Trend Rates

Not applicable (no dental coverage).

### Inflation

2.2% per year, based on current economic data, analyses from economists and other experts, and professional judgment.

### Payroll Growth

3.5% per year.

### Participation Rates

Medical - 85% of eligible retired employees will elect to participate.

Dental - Not offered to retired employees.

Life - 70% of eligible retirees will elect to participate.

Medicare - all retired employees are assumed to enroll in Medicare at age 65.

### Dependent Status

Male spouses are assumed to be three years older and female spouses are assumed to be three years younger than the retired employee.

60% of employees are assumed to retire with a covered spouse.

For current retirees, the actual census information is used.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

### Medical Per Capita Costs

The following annual per capita costs are for the fiscal year beginning July 1, 2020 and are applicable to retirees, survivors and spouses. Annual costs for current and future retirees are based on the blended curves shown below, developed using the plan coverages elected by current retirees and survivors and premium rates currently in effect. Future years' costs are based on the first year cost adjusted with trend.

Age	Medicare-Eligible		Medicare-Ineligible	
	Male	Female	Male	Female
Under 20	\$4,895	\$5,747	\$4,895	\$5,747
20-24	3,857	6,119	3,857	6,119
25-29	4,014	9,026	4,014	9,026
30-34	5,042	11,405	5,042	11,405
35-39	6,324	11,748	6,324	11,748
40-44	7,881	12,032	7,881	12,032
45-49	9,947	13,207	9,947	13,207
50-54	13,109	15,537	13,109	15,537
55-59	17,035	17,965	17,035	17,965
60-64	21,861	21,382	21,861	21,382
65-69	3,727	3,630	27,275	25,630
70-74	4,467	4,282	32,679	30,222
75-79	5,275	4,968	38,602	35,097
80-84	6,063	5,698	44,369	40,237
85-89	6,754	6,369	50,781	45,935
90-94	7,352	6,798	50,781	45,935
95+	7,815	6,574	50,781	45,935

### Retiree Contributions

Annual per capita participant contributions for the fiscal year beginning July 1, 2020 are as follows:

Plan	Contribution
Non-Medicare	\$ 1,506
Medicare	442

### Actuarial Cost Method

Entry Age Normal. The costs of each employee's postemployment benefits are allocated as a level basis over the earnings of the employee between the employee's date of hire and the assumed exit ages.

### Employee Data

Employee and retiree data were compiled and submitted by the County as of May 31, 2021. We made reasonable adjustments for missing or invalid data.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

### Post-Retirement Mortality

Post-retirement mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2018.

### Pre-Retirement Mortality

Pre-retirement mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2018.

### Turnover Rates

Turnover rates for General and Public Safety employees are as follows:

General Employees		Public Safety	
Service	Rate	Service	Rate
0	15.00%	0	1.50%
1	12.00%	1	1.50%
2	10.00%	2	1.50%
3	9.00%	3	1.50%
4	8.00%	4	1.50%
5	7.60%	5	1.50%
10	5.40%	10	1.50%
15	3.30%	15	0.00%
20	2.00%	20	0.00%
25	1.00%	25	0.00%
30	0.00%	30	0.00%

### Disability Rates

Disability rates for General and Public Safety employees are as follows:

General Employees		Public Safety	
Age	Rate	Age	Rate
25	0.02%	25	0.20%
30	0.03%	30	0.30%
35	0.06%	35	0.30%
40	0.10%	40	0.30%
45	0.15%	45	1.00%
50	0.19%	50	1.25%
55	0.24%	55	1.20%
60	0.28%	60	0.85%

55% of the General employee disabilities are job-related.

90% of the Public Safety employee disabilities are job-related.

## SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

---

### Retirement Rates

Retirement rates for General and Public Safety employees are as follows:

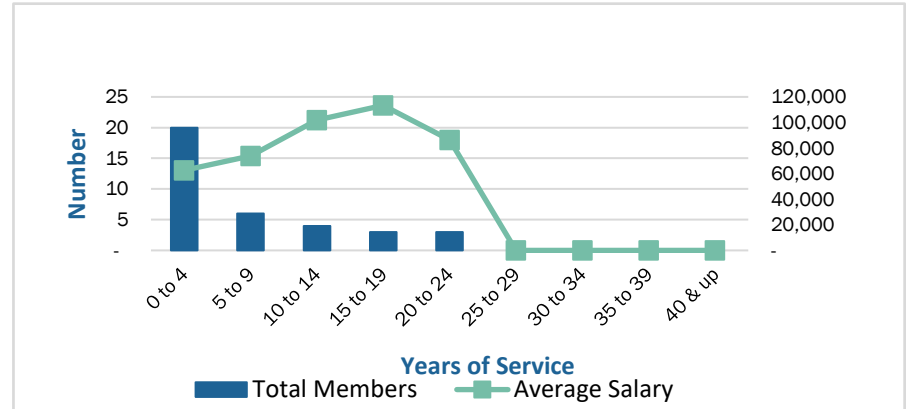
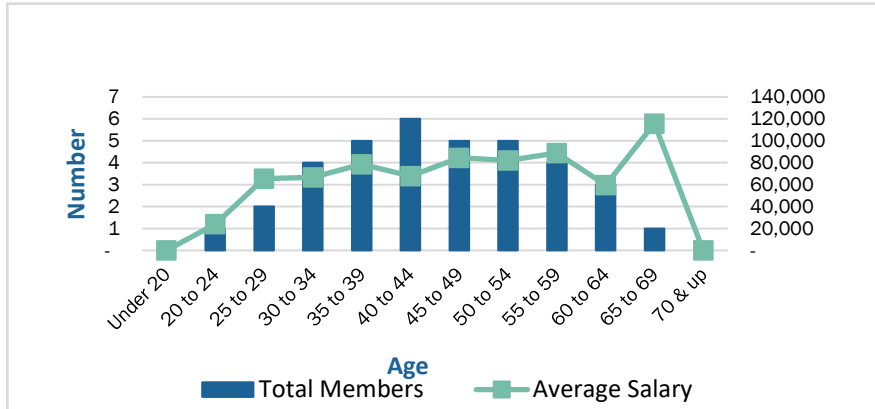
General Employees			Public Safety	
Age	Male	Female	Age	All
45	0.00%	0.00%	45	1.00%
50	1.00%	1.50%	50	2.00%
55	2.00%	5.50%	55	15.00%
60	12.00%	5.00%	60	20.00%
62	30.00%	15.00%	62	25.00%
65	40.00%	15.00%	65	100.00%
69	30.00%	20.00%		
70	100.00%	100.00%		

## SECTION 7 - PLAN MEMBER INFORMATION

### Exhibit 7.1 - Active Members by Age and Years of Service as of July 1, 2020

Age	Years of Service									Total	Total Salary	Average Salary
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up			
Under 20	-	-	-	-	-	-	-	-	-	-	-	-
20 to 24	1	-	-	-	-	-	-	-	-	1	23,943	23,943
25 to 29	2	-	-	-	-	-	-	-	-	2	131,036	65,518
30 to 34	3	1	-	-	-	-	-	-	-	4	266,595	66,649
35 to 39	4	-	1	-	-	-	-	-	-	5	393,432	78,686
40 to 44	4	1	1	-	-	-	-	-	-	6	406,668	67,778
45 to 49	1	2	1	-	1	-	-	-	-	5	422,110	84,422
50 to 54	2	2	-	1	-	-	-	-	-	5	410,749	82,150
55 to 59	2	-	1	-	1	-	-	-	-	4	355,477	88,869
60 to 64	1	-	-	1	1	-	-	-	-	3	178,616	59,539
65 to 69	-	-	-	1	-	-	-	-	-	1	115,736	115,736
70 & up	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>20</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>36</b>	<b>2,704,362</b>	<b>75,121</b>
<b>Total Salary</b>	<b>1,254,269</b>	<b>443,028</b>	<b>407,977</b>	<b>340,136</b>	<b>258,952</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>			
<b>Average Salary</b>	<b>62,713</b>	<b>73,838</b>	<b>101,994</b>	<b>113,379</b>	<b>86,317</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>			

Average Age: 45.3      Average Service: 7.3



## SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.2 - Retired Members, Covered Spouses and Survivors as of July 1, 2020

Age	Non-Medicare Plans					Medicare Plans		Total
	Blue Care Elect PPO	Blue Cross Network Blue HMO	HPHC PPO	HPHC EPO HMO	Blue Care Elect HD PPO	Medex	HPHC Medicare Enhance	
Under 40	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0
45 to 49	1	0	0	0	0	0	0	1
50 to 54	0	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0
60 to 64	2	0	0	0	0	1	0	3
65 to 69	1	0	0	0	0	10	0	11
70 to 74	0	0	0	0	0	3	1	4
75 to 79	0	0	0	0	0	2	0	2
80 to 84	0	0	0	0	0	1	0	1
85 to 89	1	0	0	0	0	0	0	1
90+	0	0	0	0	0	1	0	1
<b>Total</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>1</b>	<b>24</b>
<b>Covered Spouses</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>9</b>

Average Age: 70.2

In addition, there is 1 retiree that is not covered under any medical plan but is covered under a life insurance policy which the County contributes to.

## SECTION 8 - GLOSSARY OF TERMS

---

**Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting OPEB costs, such as mortality, withdrawal, disability and retirement; changes in compensation and OPEB benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and 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 OPEB 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 OPEB 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 governmental entity that is applicable to future reporting periods. Under GASB 75, deferred inflows of resources are made up of experience gains, assumption changes reducing the Total OPEB Liability and investment gains that are recognized in future reporting periods.

**Deferred Outflow of Resources** – Consumption of resources by a governmental entity that is applicable to future reporting periods. Under GASB 75, deferred outflows of resources are made up of experience losses, assumption changes increasing the Total OPEB Liability and investment losses that are recognized in future reporting periods.

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

- (1) a long-term expected rate of return on OPEB plan investments *to the extent that the OPEB plan's assets are sufficient to pay benefits and OPEB 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.*

**Employer Future Period Contributions** – Contributions made by the employer, generally to an outside trust fund, to pay for future OPEB costs. These are costs in addition to the employer contributions made during the year to pay for ongoing premiums.

## SECTION 8 - GLOSSARY OF TERMS

---

**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.

**Explicit Subsidy** – The difference between (a) the blended rates based on combined active and retired member experience and (b) actual cash contributions made by the employer.

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

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

**GASB** – Governmental Accounting Standards Board.

**Health Cost Trend Rate** – The rate of change in per capita health claims cost over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

**Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group and (b) the blended rates based on combined active and retired member experience.

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

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

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

**Net OPEB Liability** – The liability of the employer for benefits provided through an OPEB plan. It is calculated as the Total OPEB Liability less the Fiduciary Net Position.

**OPEB** – Other Postemployment Benefits including medical, dental, vision, hearing and life insurance benefits.

**Pay-As-You-Go** – A method of financing an OPEB plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

**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.

## SECTION 8 - GLOSSARY OF TERMS

---

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

**Substantive Plan** – The terms of an OPEB plan as understood by the employer and plan members.

**Total OPEB 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.

## SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	County of Duke's County	Martha's Vineyard Airport	Senior Services	Dukes County Contributory Ret. System	Vineyard Health Care Access Program	Registry of Deeds	Total
<b>Summary of Member Data Used in Valuation</b>							
Active Members	8	19	0	2	3	4	36
Average Age	47.4	44.4	-	46.4	48.6	42.6	45.3
Average Service	5.4	7.5	-	10.7	9.0	7.3	7.3
Covered Payroll	395,894	1,609,064	-	189,285	215,698	294,421	2,704,362
Retired Members and Survivors	11	9	1	2	0	2	25
Average Age	71.8	67.9	64.5	76.2	-	68.8	70.2
Covered Spouses	4	4	1	0	0	0	9
Expected Benefit Payments	99,368	121,169	6,517	47,753	3,420	5,168	283,395
OPEB Trust contributions	19,887	56,890	2,216	2,000	1,878	2,000	84,871
Total Employer Contributions	119,255	178,059	8,733	49,753	5,298	7,168	368,266
<b>Beginning Net OPEB Liability - June 30, 2020</b>							
Total OPEB Liability*	3,208,074	6,466,227	357,550	1,038,119	303,002	814,837	12,187,809
Fiduciary Net Position*	568,577	162,384	80,967	0	68,524	342,202	1,222,654
Net OPEB Liability*	2,639,497	6,303,843	276,583	1,038,119	234,478	472,635	10,965,155
Total OPEB Liability, beginning of year	3,208,074	6,466,227	357,550	1,038,119	303,002	814,837	12,187,809
Service cost	107,873	529,410	0	22,073	37,773	44,049	741,178
Interest	73,818	156,732	8,007	23,421	7,663	19,352	288,993
Changes of benefit terms	0	0	0	0	0	0	0
Differences between expected and actual experience	(276,341)	(740,973)	(42,297)	(127,460)	(52,207)	(150,408)	(1,389,686)
Changes of assumptions	105,776	169,215	12,765	32,935	14,858	30,402	365,951
Benefit payments	(99,368)	(121,169)	(6,517)	(47,753)	(3,420)	(5,168)	(283,395)
Net change in total OPEB liability	(88,242)	(6,785)	(28,042)	(96,784)	4,667	(61,773)	(276,959)
Total OPEB Liability, end of year	3,119,832	6,459,442	329,508	941,335	307,669	753,064	11,910,850
<b>Ending Net OPEB Liability - June 30, 2021</b>							
Total OPEB Liability	3,119,832	6,459,442	329,508	941,335	307,669	753,064	11,910,850
Fiduciary Net Position	763,486	268,409	107,996	2,000	91,402	448,030	1,681,323
Net OPEB Liability	2,356,346	6,191,033	221,512	939,335	216,267	305,034	10,229,527
* The County entries have been adjusted to reflect addition of Registry of Deeds unit based on information provided by the County.							
<b>Actuarially Determined Employer Contribution</b>							
Normal Cost	107,873	529,410	0	22,073	37,773	44,049	741,178
Amortization Payment	73,483	175,496	7,700	28,901	6,528	13,158	305,266
Interest	4,099	15,931	174	1,152	1,001	1,293	23,650
Actuarially Determined Employer Contribution	185,455	720,837	7,874	52,126	45,302	58,500	1,070,094

## SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	County of Duke's County	Martha's Vineyard Airport	Senior Services	Dukes County Contributory Ret. System	Vineyard Health Care Access Program	Registry of Deeds	Total
<b>Total Deferred Outflows of Resources</b>							
Differences between Expected and Actual Experience	47,021	94,775	5,241	15,216	4,441	11,943	178,636
Changes in Assumptions	899,675	1,813,395	100,272	291,131	84,974	228,514	3,417,961
Differences between Expected and Actual Earnings on OPEB Plan Investments	0	0	0	0	0	0	0
<b>Total Deferred Outflows of Resources</b>	<b>946,696</b>	<b>1,908,170</b>	<b>105,512</b>	<b>306,347</b>	<b>89,415</b>	<b>240,457</b>	<b>3,596,597</b>
<b>Total Deferred Inflows of Resources</b>							
Differences between Expected and Actual Experience	308,188	621,187	34,349	99,728	29,108	78,278	1,170,838
Changes in Assumptions	0	0	0	0	0	0	0
Differences between Expected and Actual Earnings on OPEB Plan Investments	91,287	26,071	13,000	0	11,002	54,942	196,301
<b>Total Deferred Inflows of Resources</b>	<b>399,475</b>	<b>647,258</b>	<b>47,348</b>	<b>99,728</b>	<b>40,110</b>	<b>133,220</b>	<b>1,367,139</b>
<b>Total OPEB Expense (Income)</b>	<b>724,823</b>	<b>982,208</b>	<b>32,860</b>	<b>143,394</b>	<b>36,009</b>	<b>(267,670)</b>	<b>1,651,623</b>
<b>Sensitivity of the Net OPEB Liability to Changes in the Discount Rate</b>							
Current Discount Rate: 2.27%	2,356,346	6,191,033	221,512	939,335	216,267	305,034	10,229,527
1% Decrease in the Discount Rate: 1.27%	2,989,382	7,501,699	288,371	1,130,338	278,695	457,836	12,646,321
1% Increase in the Discount Rate: 3.27%	1,868,639	5,181,263	170,002	792,181	168,171	187,312	8,367,568
<b>Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates</b>							
Current Trend Rates	2,356,346	6,191,033	221,512	939,335	216,267	305,034	10,229,527
1% Decrease in Trend Rates	1,808,595	5,056,944	163,660	774,064	162,249	172,818	8,138,331
1% Increase in Trend Rates	3,086,523	7,702,826	298,631	1,159,649	288,275	481,284	13,017,188
<b>Deferred Outflows of Resources and Deferred Inflows of Resources recognized in OPEB Expense</b>							
2022	173,770	400,404	18,470	65,612	15,657	34,053	707,966
2023	172,767	398,092	18,363	65,233	15,566	33,856	703,877
2024	168,190	387,546	17,877	63,505	15,154	32,960	685,232
2025	70,615	162,712	7,506	26,663	6,362	13,838	287,696
2026	(24,272)	(55,927)	(2,580)	(9,164)	(2,187)	(4,756)	(98,886)
Thereafter	(13,850)	(31,914)	(1,472)	(5,229)	(1,248)	(2,714)	(56,427)

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Under GASB 74 and GASB 75, a series of projections and calculations are used to determine the discount rate for the purpose of the measurement of the Total OPEB Liability. The discount rate is the single rate that reflects (1) the long-term expected rate of return on OPEB plan investments that are expected to be used to finance the payment of benefits, to the extent that the OPEB plan's fiduciary net position is projected to be sufficient to make projected benefit payments and OPEB 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.

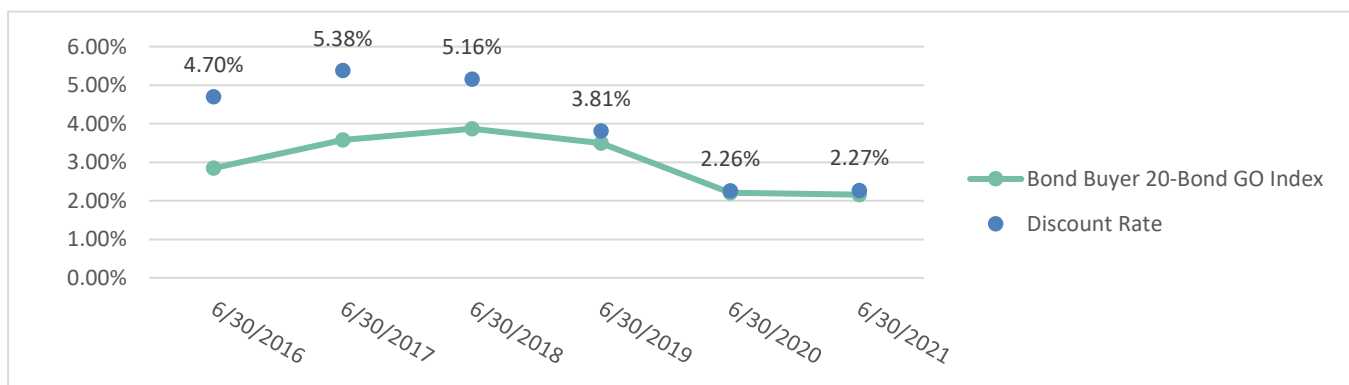
Projected cash flows into and out of the OPEB plan are assumed to be contributions to the OPEB plan, benefit payments, OPEB plan administrative expenses and OPEB plan investment earnings. These projected cash flows are used to project the OPEB plan's fiduciary net position at the beginning of each period. The OPEB 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 OPEB plan's fiduciary net position is expected to always be invested using a strategy to achieve the long-term expected rate of return on OPEB plan investments.

The benefit payments that are projected to occur in a period are discounted using the long-term expected rate of return on OPEB plan investments if the amount of the OPEB 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 OPEB plan's fiduciary net position, they are discounted using a municipal bond rate as required by GASB 74.

For purposes of this valuation, liabilities are based on a discount rate of 2.27%, a long-term investment return rate of 6.6% and a municipal bond rate of 2.16%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2021. The OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 9 periods of projected future benefit payments and, the 2.16% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 2.27%.

Below are the historical Bond Buyer 20-Bond GO Indices and the County's discount rate used in disclosures since the implementation of GASB 74 and GASB 75:



# APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

## Table 1: Projection of Contributions

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Contributions Related to Payroll of Future Employees (f) = (b) * 25.30%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2021	2,704,362	-	2,704,362	283,395	84,871	-	368,266
2022	2,532,721	266,294	2,799,015	313,230	59,000	67,384	304,846
2023	2,387,737	509,244	2,896,981	322,663	59,000	128,861	252,802
2024	2,260,546	737,829	2,998,375	331,428	59,000	186,704	203,724
2025	2,145,991	957,327	3,103,318	338,845	59,000	242,246	155,599
2026	2,007,442	1,204,492	3,211,934	371,705	59,000	304,790	125,915
2027	1,901,117	1,423,235	3,324,352	427,751	59,000	360,142	126,609
2028	1,746,002	1,694,702	3,440,704	477,262	59,000	428,835	107,427
2029	1,643,144	1,917,985	3,561,129	500,485	59,000	485,336	74,149
2030	1,544,113	2,141,656	3,685,769	537,363	59,000	541,934	54,429
2031	1,440,958	2,373,813	3,814,771	540,457	59,000	600,680	-
2032	1,332,502	2,615,786	3,948,288	591,630	59,000	661,910	-
2033	1,234,369	2,852,109	4,086,478	595,590	59,000	721,711	-
2034	1,159,990	3,069,515	4,229,505	600,727	59,000	776,724	-
2035	1,073,047	3,304,491	4,377,538	625,340	59,000	836,183	-
2036	1,016,841	3,513,911	4,530,752	666,129	59,000	889,176	-
2037	959,734	3,729,594	4,689,328	618,449	59,000	943,753	-
2038	878,175	3,975,279	4,853,454	629,366	59,000	1,005,923	-
2039	844,653	4,178,672	5,023,325	666,661	59,000	1,057,390	-
2040	793,673	4,405,468	5,199,141	583,612	59,000	1,114,780	-
2041	752,266	4,628,845	5,381,111	592,548	59,000	1,171,304	-
2042	715,531	4,853,919	5,569,450	636,213	59,000	1,228,258	-
2043	672,145	5,092,236	5,764,381	624,493	59,000	1,288,562	-
2044	620,023	5,346,111	5,966,134	639,817	59,000	1,352,804	-
2045	573,749	5,601,200	6,174,949	685,382	59,000	1,417,353	-
2046	516,759	5,874,313	6,391,072	690,841	59,000	1,486,463	-
2047	453,837	6,160,923	6,614,760	655,295	59,000	1,558,988	-
2048	406,483	6,439,794	6,846,277	667,778	59,000	1,629,555	-
2049	375,217	6,710,680	7,085,897	673,520	59,000	1,698,101	-
2050	345,981	6,987,922	7,333,903	640,945	59,000	1,768,255	-
2051	324,508	7,266,082	7,590,590	681,819	59,000	1,838,642	-
2052	282,836	7,573,425	7,856,261	699,927	59,000	1,916,414	-
2053	243,674	7,887,556	8,131,230	730,092	59,000	1,995,903	-
2054	207,909	8,207,914	8,415,823	761,882	59,000	2,076,968	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

**Table 1: Projection of Contributions**

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Contributions Related to Payroll of Future Employees (f) = (b) * 25.30%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2055	180,712	8,529,665	8,710,377	798,962	59,000	2,158,385	-
2056	149,411	8,865,829	9,015,240	746,487	59,000	2,243,449	-
2057	120,059	9,210,714	9,330,773	777,975	59,000	2,330,721	-
2058	99,149	9,558,201	9,657,350	790,653	59,000	2,418,650	-
2059	82,093	9,913,264	9,995,357	756,139	59,000	2,508,497	-
2060	66,828	10,278,366	10,345,194	708,970	59,000	2,600,884	-
2061	40,564	10,666,712	10,707,276	693,255	59,000	2,699,153	-
2062	26,539	11,055,492	11,082,031	698,658	59,000	2,797,532	-
2063	22,140	11,447,762	11,469,902	639,571	59,000	2,896,794	-
2064	18,106	11,853,243	11,871,349	617,376	59,000	2,999,398	-
2065	14,353	12,272,493	12,286,846	619,290	59,000	3,105,487	-
2066	11,637	12,705,249	12,716,886	616,790	59,000	3,214,994	-
2067	3,301	13,158,676	13,161,977	607,922	59,000	3,329,731	-
2068	2,508	13,620,138	13,622,646	597,546	59,000	3,446,501	-
2069	2,033	14,097,406	14,099,439	583,774	59,000	3,567,271	-
2070	-	14,592,919	14,592,919	572,429	59,000	3,692,658	-
2071	-	15,103,671	15,103,671	560,240	59,000	3,821,901	-
2072	-	15,632,299	15,632,299	542,443	59,000	3,955,668	-
2073	-	16,179,429	16,179,429	525,838	59,000	4,094,116	-
2074	-	16,745,709	16,745,709	506,329	59,000	4,237,410	-
2075	-	17,331,809	17,331,809	492,057	59,000	4,385,719	-
2076	-	17,938,422	17,938,422	475,931	59,000	4,539,219	-
2077	-	18,566,267	18,566,267	454,262	59,000	4,698,092	-
2078	-	19,216,086	19,216,086	435,994	59,000	4,862,525	-
2079	-	19,888,649	19,888,649	417,654	59,000	5,032,714	-
2080	-	20,584,752	20,584,752	398,692	59,000	5,208,859	-
2081	-	21,305,218	21,305,218	383,294	59,000	5,391,169	-
2082	-	22,050,901	22,050,901	359,457	59,000	5,579,860	-
2083	-	22,822,683	22,822,683	342,749	59,000	5,775,155	-
2084	-	23,621,477	23,621,477	324,169	59,000	5,977,285	-
2085	-	24,448,229	24,448,229	306,597	59,000	6,186,491	-
2086	-	25,303,917	25,303,917	288,184	59,000	6,403,018	-
2087	-	26,189,554	26,189,554	266,212	59,000	6,627,123	-
2088	-	27,106,188	27,106,188	247,561	59,000	6,859,072	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

**Table 1: Projection of Contributions**

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Contributions Related to Payroll of Future Employees (f) = (b) * 25.30%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2089	-	28,054,905	28,054,905	226,532	59,000	7,099,140	-
2090	-	29,036,827	29,036,827	208,246	59,000	7,347,610	-
2091	-	30,053,116	30,053,116	187,757	59,000	7,604,776	-
2092	-	31,104,975	31,104,975	168,158	59,000	7,870,944	-
2093	-	32,193,649	32,193,649	148,111	59,000	8,146,427	-
2094	-	33,320,427	33,320,427	129,593	59,000	8,431,552	-
2095	-	34,486,642	34,486,642	112,508	59,000	8,726,656	-
2096	-	35,693,674	35,693,674	96,460	59,000	9,032,089	-
2097	-	36,942,953	36,942,953	81,526	59,000	9,348,212	-
2098	-	38,235,956	38,235,956	67,818	59,000	9,675,399	-
2099	-	39,574,214	39,574,214	55,471	59,000	10,014,038	-
2100	-	40,959,311	40,959,311	44,561	59,000	10,364,529	-
2101	-	42,392,887	42,392,887	35,079	59,000	10,727,288	-
2102	-	43,876,638	43,876,638	27,021	59,000	11,102,743	-
2103	-	45,412,320	45,412,320	20,344	59,000	11,491,339	-
2104	-	47,001,751	47,001,751	14,950	59,000	11,893,536	-
2105	-	48,646,812	48,646,812	10,688	59,000	12,309,809	-
2106	-	50,349,450	50,349,450	7,419	59,000	12,740,653	-
2107	-	52,111,681	52,111,681	4,999	59,000	13,186,576	-
2108	-	53,935,590	53,935,590	3,264	59,000	13,648,106	-
2109	-	55,823,336	55,823,336	2,056	59,000	14,125,790	-
2110	-	57,777,153	57,777,153	1,246	59,000	14,620,192	-
2111	-	59,799,353	59,799,353	726	59,000	15,131,899	-
2112	-	61,892,330	61,892,330	406	59,000	15,661,515	-
2113	-	64,058,562	64,058,562	221	59,000	16,209,668	-
2114	-	66,300,612	66,300,612	116	59,000	16,777,007	-
2115	-	68,621,133	68,621,133	58	59,000	17,364,202	-
2116	-	71,022,873	71,022,873	29	59,000	17,971,949	-
2117	-	73,508,674	73,508,674	14	59,000	18,600,968	-
2118	-	76,081,478	76,081,478	7	59,000	19,252,002	-
2119	-	78,744,330	78,744,330	2	59,000	19,925,822	-
2120	-	81,500,382	81,500,382	-	59,000	20,623,226	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) +(e)
2021	1,222,654	368,266	283,395	-	373,798	1,681,323
2022	1,681,323	304,846	313,230	-	110,691	1,783,630
2023	1,783,630	252,802	322,663	-	115,414	1,829,183
2024	1,829,183	203,724	331,428	-	116,512	1,817,991
2025	1,817,991	155,599	338,845	-	113,940	1,748,685
2026	1,748,685	125,915	371,705	-	107,302	1,610,197
2027	1,610,197	126,609	427,751	-	96,335	1,405,390
2028	1,405,390	107,427	477,262	-	80,551	1,116,106
2029	1,116,106	74,149	500,485	-	59,594	749,364
2030	749,364	54,429	537,363	-	33,521	299,951
2031	299,951	-	540,457	-	1,962	-
2032	-	-	591,630	-	-	-
2033	-	-	595,590	-	-	-
2034	-	-	600,727	-	-	-
2035	-	-	625,340	-	-	-
2036	-	-	666,129	-	-	-
2037	-	-	618,449	-	-	-
2038	-	-	629,366	-	-	-
2039	-	-	666,661	-	-	-
2040	-	-	583,612	-	-	-
2041	-	-	592,548	-	-	-
2042	-	-	636,213	-	-	-
2043	-	-	624,493	-	-	-
2044	-	-	639,817	-	-	-
2045	-	-	685,382	-	-	-
2046	-	-	690,841	-	-	-
2047	-	-	655,295	-	-	-
2048	-	-	667,778	-	-	-
2049	-	-	673,520	-	-	-
2050	-	-	640,945	-	-	-
2051	-	-	681,819	-	-	-
2052	-	-	699,927	-	-	-
2053	-	-	730,092	-	-	-
2054	-	-	761,882	-	-	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2055	-	-	798,962	-	-	-
2056	-	-	746,487	-	-	-
2057	-	-	777,975	-	-	-
2058	-	-	790,653	-	-	-
2059	-	-	756,139	-	-	-
2060	-	-	708,970	-	-	-
2061	-	-	693,255	-	-	-
2062	-	-	698,658	-	-	-
2063	-	-	639,571	-	-	-
2064	-	-	617,376	-	-	-
2065	-	-	619,290	-	-	-
2066	-	-	616,790	-	-	-
2067	-	-	607,922	-	-	-
2068	-	-	597,546	-	-	-
2069	-	-	583,774	-	-	-
2070	-	-	572,429	-	-	-
2071	-	-	560,240	-	-	-
2072	-	-	542,443	-	-	-
2073	-	-	525,838	-	-	-
2074	-	-	506,329	-	-	-
2075	-	-	492,057	-	-	-
2076	-	-	475,931	-	-	-
2077	-	-	454,262	-	-	-
2078	-	-	435,994	-	-	-
2079	-	-	417,654	-	-	-
2080	-	-	398,692	-	-	-
2081	-	-	383,294	-	-	-
2082	-	-	359,457	-	-	-
2083	-	-	342,749	-	-	-
2084	-	-	324,169	-	-	-
2085	-	-	306,597	-	-	-
2086	-	-	288,184	-	-	-
2087	-	-	266,212	-	-	-
2088	-	-	247,561	-	-	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2089	-	-	226,532	-	-	-
2090	-	-	208,246	-	-	-
2091	-	-	187,757	-	-	-
2092	-	-	168,158	-	-	-
2093	-	-	148,111	-	-	-
2094	-	-	129,593	-	-	-
2095	-	-	112,508	-	-	-
2096	-	-	96,460	-	-	-
2097	-	-	81,526	-	-	-
2098	-	-	67,818	-	-	-
2099	-	-	55,471	-	-	-
2100	-	-	44,561	-	-	-
2101	-	-	35,079	-	-	-
2102	-	-	27,021	-	-	-
2103	-	-	20,344	-	-	-
2104	-	-	14,950	-	-	-
2105	-	-	10,688	-	-	-
2106	-	-	7,419	-	-	-
2107	-	-	4,999	-	-	-
2108	-	-	3,264	-	-	-
2109	-	-	2,056	-	-	-
2110	-	-	1,246	-	-	-
2111	-	-	726	-	-	-
2112	-	-	406	-	-	-
2113	-	-	221	-	-	-
2114	-	-	116	-	-	-
2115	-	-	58	-	-	-
2116	-	-	29	-	-	-
2117	-	-	14	-	-	-
2118	-	-	7	-	-	-
2119	-	-	2	-	-	-
2120	-	-	-	-	-	-

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

**Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period**

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 2.27%
2022	1,681,323	313,230	313,230	-	303,378	-	309,731
2023	1,783,630	322,663	322,663	-	293,166	-	311,969
2024	1,829,183	331,428	331,428	-	282,486	-	313,324
2025	1,817,991	338,845	338,845	-	270,926	-	313,219
2026	1,748,685	371,705	371,705	-	278,799	-	335,960
2027	1,610,197	427,751	427,751	-	300,972	-	378,026
2028	1,405,390	477,262	477,262	-	315,018	-	412,410
2029	1,116,106	500,485	500,485	-	309,893	-	422,869
2030	749,364	537,363	537,363	-	312,127	-	443,940
2031	299,951	540,457	-	540,457	-	441,157	436,576
2032	-	591,630	-	591,630	-	472,717	467,294
2033	-	595,590	-	595,590	-	465,819	459,970
2034	-	600,727	-	600,727	-	459,903	453,629
2035	-	625,340	-	625,340	-	468,624	461,724
2036	-	666,129	-	666,129	-	488,636	480,913
2037	-	618,449	-	618,449	-	444,069	436,570
2038	-	629,366	-	629,366	-	442,353	434,405
2039	-	666,661	-	666,661	-	458,659	449,923
2040	-	583,612	-	583,612	-	393,032	385,123
2041	-	592,548	-	592,548	-	390,613	382,332
2042	-	636,213	-	636,213	-	410,530	401,386
2043	-	624,493	-	624,493	-	394,447	385,238
2044	-	639,817	-	639,817	-	395,581	385,922
2045	-	685,382	-	685,382	-	414,793	404,220
2046	-	690,841	-	690,841	-	409,257	398,387
2047	-	655,295	-	655,295	-	379,992	369,493
2048	-	667,778	-	667,778	-	379,043	368,165
2049	-	673,520	-	673,520	-	374,219	363,081
2050	-	640,945	-	640,945	-	348,591	337,843
2051	-	681,819	-	681,819	-	362,980	351,403
2052	-	699,927	-	699,927	-	364,742	352,721
2053	-	730,092	-	730,092	-	372,417	359,748
2054	-	761,882	-	761,882	-	380,416	367,071
2055	-	798,962	-	798,962	-	390,496	376,383

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

**Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period**

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 2.27%
2056	-	746,487	-	746,487	-	357,134	343,850
2057	-	777,975	-	777,975	-	364,329	350,392
2058	-	790,653	-	790,653	-	362,438	348,190
2059	-	756,139	-	756,139	-	339,288	325,592
2060	-	708,970	-	708,970	-	311,397	298,498
2061	-	693,255	-	693,255	-	298,056	285,397
2062	-	698,658	-	698,658	-	294,028	281,230
2063	-	639,571	-	639,571	-	263,471	251,726
2064	-	617,376	-	617,376	-	248,950	237,592
2065	-	619,290	-	619,290	-	244,442	233,033
2066	-	616,790	-	616,790	-	238,308	226,936
2067	-	607,922	-	607,922	-	229,915	218,703
2068	-	597,546	-	597,546	-	221,213	210,194
2069	-	583,774	-	583,774	-	211,545	200,787
2070	-	572,429	-	572,429	-	203,048	192,511
2071	-	560,240	-	560,240	-	194,523	184,225
2072	-	542,443	-	542,443	-	184,361	174,410
2073	-	525,838	-	525,838	-	174,939	165,314
2074	-	506,329	-	506,329	-	164,887	155,644
2075	-	492,057	-	492,057	-	156,851	147,897
2076	-	475,931	-	475,931	-	148,503	139,871
2077	-	454,262	-	454,262	-	138,745	130,537
2078	-	435,994	-	435,994	-	130,350	122,504
2079	-	417,654	-	417,654	-	122,227	114,743
2080	-	398,692	-	398,692	-	114,210	107,100
2081	-	383,294	-	383,294	-	107,478	100,676
2082	-	359,457	-	359,457	-	98,663	92,317
2083	-	342,749	-	342,749	-	92,088	86,070
2084	-	324,169	-	324,169	-	85,254	79,596
2085	-	306,597	-	306,597	-	78,928	73,609
2086	-	288,184	-	288,184	-	72,619	67,651
2087	-	266,212	-	266,212	-	65,664	61,105
2088	-	247,561	-	247,561	-	59,773	55,561
2089	-	226,532	-	226,532	-	53,539	49,712

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

**Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period**

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 2.27%
2090	-	208,246	-	208,246	-	48,177	44,684
2091	-	187,757	-	187,757	-	42,518	39,392
2092	-	168,158	-	168,158	-	37,275	34,496
2093	-	148,111	-	148,111	-	32,137	29,709
2094	-	129,593	-	129,593	-	27,524	25,417
2095	-	112,508	-	112,508	-	23,390	21,576
2096	-	96,460	-	96,460	-	19,630	18,087
2097	-	81,526	-	81,526	-	16,240	14,947
2098	-	67,818	-	67,818	-	13,224	12,158
2099	-	55,471	-	55,471	-	10,588	9,723
2100	-	44,561	-	44,561	-	8,325	7,637
2101	-	35,079	-	35,079	-	6,415	5,879
2102	-	27,021	-	27,021	-	4,837	4,428
2103	-	20,344	-	20,344	-	3,565	3,260
2104	-	14,950	-	14,950	-	2,564	2,342
2105	-	10,688	-	10,688	-	1,794	1,637
2106	-	7,419	-	7,419	-	1,219	1,111
2107	-	4,999	-	4,999	-	804	732
2108	-	3,264	-	3,264	-	514	467
2109	-	2,056	-	2,056	-	317	288
2110	-	1,246	-	1,246	-	188	171
2111	-	726	-	726	-	107	97
2112	-	406	-	406	-	59	53
2113	-	221	-	221	-	31	28
2114	-	116	-	116	-	16	15
2115	-	58	-	58	-	8	7
2116	-	29	-	29	-	4	3
2117	-	14	-	14	-	2	2

## APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

**Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period**

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 2.27%
2118	-	7	-	7	-	1	1
2119	-	2	-	2	-	-	-
2120	-	-	-	-	-	-	-

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

Year	Differences between Expected and Actual Experience	Recognition Period (Years)										
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2018	-	6.54	-	-	-	-	-	-	-	-	-	-
2019	349,306	6.14	56,890	56,890	56,890	56,890	7,966	-	-	-	-	-
2020	-	6.14	-	-	-	-	-	-	-	-	-	-
2021	(1,389,686)	6.35	(218,848)	(218,848)	(218,848)	(218,848)	(218,848)	(218,848)	(76,598)	-	-	-
Net Increase (Decrease) in OPEB Expense			(161,958)	(161,958)	(161,958)	(161,958)	(210,882)	(218,848)	(76,598)	-	-	-

Year	Changes of Assumptions	Recognition Period (Years)										
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2018	190,641	6.54	29,150	29,150	29,150	15,741	-	-	-	-	-	-
2019	2,331,407	6.14	379,708	379,708	379,708	379,708	53,159	-	-	-	-	-
2020	2,733,808	6.14	445,246	445,246	445,246	445,246	445,246	62,332	-	-	-	-
2021	365,951	6.35	57,630	57,630	57,630	57,630	57,630	57,630	20,171	-	-	-
Net Increase (Decrease) in OPEB Expense			911,734	911,734	911,734	898,325	556,035	119,962	20,171	-	-	-

Year	Differences between Projected and Actual Earnings on OPEB Plan Investments	Recognition Period (Years)										
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2018	20,436	5	4,087	4,088	-	-	-	-	-	-	-	-
2019	26,179	5	5,236	5,236	5,235	-	-	-	-	-	-	-
2020	31,614	5	6,323	6,323	6,323	6,322	-	-	-	-	-	-
2021	(287,285)	5	(57,457)	(57,457)	(57,457)	(57,457)	(57,457)	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			(41,811)	(41,810)	(45,899)	(51,135)	(57,457)	-	-	-	-	-