Maury Service Authority

Financial Report

Year Ended June 30, 2018

Maury Service Authority

Officers
At June 30, 2018

Chairperson
John Riester, Jr.

Vice-Chairperson	Secretary/Treasurer
John Higgins	George Graves

Board Members

John Riester, Jr.		Johnathan Goad
	George Graves	
John Higgins		Jimmy Carter

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Independent Auditors' Report

To the Board of Directors
Maury Service Authority
Lexington, Virginia

Report on the Financial Statements

We have audited the accompanying financial statements of the Maury Service Authority, as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Maury Service Authority, as of June 30, 2018, and the changes in financial position and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Change in Accounting Principles

As described in Note 11 to the financial statements, in 2018, Maury Service Authority adopted new accounting guidance, GASB Statement Nos. 68 *Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27,* 75 *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* 82 *Pension Issues – An Amendment of GASB Statements No. 67, No. 68, and No. 73* and 85 *Omnibus 2017*. Our opinion is not modified with respect to this matter.

Restatement of Beginning Balances

As described in Note 11 to the financial statements, in 2018, Maury Service Authority restated beginning balances to reflect the requirements of GASB Statement Nos. 68 and 75. In addition, beginning balances were restated to capitalize project costs expensed in a prior period. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 4-8 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Maury Service Authority's basic financial statements. The supporting schedules are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supporting schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supporting schedules are fairly stated in all material respects in relation to the basic financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated June 4, 2019, on our consideration of the Maury Service Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Maury Service Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Maury Service Authority's internal control over financial reporting and compliance.

Robinson Farmer Cox Associates

Charlottesville, Virginia
June 4, 2019

As management of the Maury Service Authority (the Authority), we offer readers of our financial statements this narrative and overview and analysis of the financial activities of the Authority for the fiscal year ended June 30, 2018.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the Authority's basic financial statements. Since the Authority is engaged only in business-type activities, its basic financial statements are comprised of only two components: 1) enterprise fund financial statements and 2) notes to financial statements. This report also contains other supplementary information in addition to the basic financial statements themselves.

Enterprise fund financial statements. The enterprise fund financial statements are designed to provide readers with a broad overview of the Authority's finances, in a manner similar to a private-sector business.

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

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

The basic enterprise fund financial statements can be found on pages 9 through 11 of this report.

Notes to financial statements. The notes provide additional information that is essential to a full understanding of the data provided in the financial statements. The notes to the financial statements can be found on pages 12 through 54 of this report.

Other information. In addition to the basic financial statements and accompanying notes, this report also presents certain required supplementary information for the schedules of pension and OPEB funding related to the Virginia Retirement System benefits. Other supplementary information presented includes budgetary comparison schedules.

Financial Highlights

- The assets and deferred outflows of resources of the Authority exceeded its liabilities at the close of the most recent fiscal year by $26,068,107 (net position). Of this amount $2,857,479 (unrestricted net position) may be used to meet the Authority's ongoing obligations to customers and creditors.

- The Authority's total net position increased by $741,017 during the year. This excludes $126,543 in restatements made as a result of implementing pension and OPEB accounting standards and capitalizing project costs previously expensed.

- The Authority's total long-term debt decreased by $1,705,976 during the current fiscal year due to principal payments on its indebtedness.

Financial Analysis

As noted earlier, net position may serve over time as a useful indicator of an Authority's financial position. In the case of the Authority, assets and deferred outflows of resources exceeded liabilities by $26,068,107 at the close of the most recent fiscal year.

By far the largest portion of the Authority's net position (88 percent) reflects its net investment in capital assets. The Authority uses these capital assets to provide services to its customers; consequently, these assets are not available for future spending. Although the Authority's investment in its capital assets is reported net of related debt, it should be noted that the resources needed to repay this debt must be provided from other sources, since the capital assets themselves cannot be used to liquidate these liabilities.

	Net Position	
	2018	**2017**
Assets:		
Current and other assets	$ 3,419,774	$ 3,345,126
Capital assets	34,675,520	35,657,148
Total Assets	$ 38,095,294	$ 39,002,274
Total Deferred Outflows of Resources	$ 136,782	$ 11,805
Liabilities:		
Long-term liabilities outstanding	$ 11,828,300	$ 13,492,680
Other liabilities	327,176	320,852
Total Liabilities	$ 12,155,476	$ 13,813,532
Total Deferred Inflows of Resources	$ 8,493	$ -
Net position:		
Net investment in capital assets	$ 22,904,888	$ 22,176,273
Restricted for debt service and bond covenants	305,740	298,938
Unrestricted	2,857,479	2,725,336
Total Net Position	$ 26,068,107	$ 25,200,547

Financial Analysis: (Continued)

At the end of the current fiscal year, the Authority is able to report positive balances in all categories of net position. The same situation held true for the prior fiscal year.

	Change in Net Position	
	2018	**2017**
Revenues:		
Sales - City of Lexington	$ 1,779,757	$ 1,803,768
Sales - Rockbridge County PSA	1,087,507	1,077,792
Contribution for debt service payments	1,444,279	1,444,279
Investment income	16,040	24,610
Other revenue	57,805	34,902
Total revenues	$ 4,385,388	$ 4,385,351
Expenses:		
Operating expenses (excluding depreciation)	$ 2,227,001	$ 2,093,201
Depreciation expense	1,154,712	1,139,134
Special projects and studies	86,212	93,716
Interest expense	176,446	201,807
Total expenses	$ 3,644,371	$ 3,527,858
Increase (decrease) in net position	$ 741,017	$ 857,493
Net position—July 1, as restated	25,327,090	24,343,054
Net position—June 30	$ 26,068,107	$ 25,200,547

The Authority's net position increased by $741,017 during the current year. Operating revenues increased by $8,607 and operating expenses (including depreciation) increased $149,378 over FY 2017 levels. Key elements of these changes are explained in greater detail under the Review of Operations section.

Capital Asset and Debt Administration

Capital Assets - The Authority's investment in capital assets as of June 30, 2018 amounted to $34,675,520 (net of accumulated depreciation). Investments in capital assets increased by approximately 3% during the year, due to the payment of bond principal. Below is a comparison of the items that make up capital assets as of June 30, 2018 with that of June 30, 2017.

	2018	2017
Land and land improvements	$ 910,971	$ 910,971
Utility plant in service	33,725,639	34,707,267
Construction in progress	38,910	38,910
Total net capital assets	$ 34,675,520	$ 35,657,148

Additional information on the Authority's capital assets is presented in Note 4 of the Notes to Financial Statements.

Long-term Debt - At the end of the current fiscal year, the Authority had $11,777,300 in bonds outstanding versus $13,492,680 last year, a decrease of 12.71%. The net decrease is due to the retirement of debt in excess of the issuance of bonds for the construction projects.

Additional information on the Authority's long-term liabilities is presented in Note 5 of the Notes to Financial Statements.

Review of Operations

Operating Revenues

Water sales revenues decreased by $2,200, or .17%, from the previous year. Water rates increased by 1.96% during fiscal year 2018 to $2.60, but were offset by a 12,930, or 2.60%, decrease in consumption.

Sewage treatment revenues decreased by $12,096 or .75%, from the previous year. The sewage treatment rate increased by 4.48% to $5.13 during fiscal year 2018. However, consumption decreased by 13,500 gallons or 4.09%.

Operating Expenses

Water operating expenses (excluding depreciation) increased by $13,733 in fiscal year 2018 over 2017 amounts. This represents a 1.95% increase over the previous year.

Sewer operating expenses (excluding depreciation) decreased by $120,067 in fiscal year 2018 over 2017 amounts. This represents an 8.65% increase over the previous year.

Review of Operations: (Continued)

Long-Term Issues

Water: Due to aged facility, infrastructure, and equipment, the water treatment and distribution systems will be evaluated through a facility assessment evaluation study in FY2019. The outcome of this study will help develop the path of improvements for the water treatment system.

Wastewater: Our calculations continue to show that based on past trends, the influent to the wastewater plant will remain stagnant, although this is highly dependent on the weather. The operating revenues will continue to fluctuate with the rainfall until our customers are able to significantly reduce the amount of infiltration and inflow into the sewer system.
Similarly, to the water system, due to aged facility, infrastructure, and equipment, the wastewater treatment and distribution systems will be evaluated through a facility assessment evaluation study in FY2019. The outcome of this study will help develop the path of improvements for the water treatment system.

Another issue facing the wastewater plant is the aging staff. In the next several years there is going to be a large exodus of experienced staff due to retirement. Attracting new younger staff members is proving to be a significant challenge.

Projects

Water: Due to a PSA project's proximity to our water looping piping, approximately 1/3 of the proposed Houston St. Waterline Replacement project will be conducted in FY2020. The remaining portion of the Houston St. Waterline Replacement project is expected to be completed in FY2021.

Wastewater: Some progress has been made to hire a contractor to replace the out-of-date software in the control room. MSA is working with a consultant to address our concerns about other aging control systems related to the treatment system.

Two other projects in the discussion stage at the plant are the construction of a sludge drying bed for waste from cleaning out the influent pump station and a second sludge storage tank to help with solids handling at the plant.

Requests for Information

This financial report is designed to provide a general overview of the Authority's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Executive Director at 130 Osage Lane, Lexington, VA 24450.

Financial Statements

MAURY SERVICE AUTHORITY

Statement of Net Position
As of June 30, 2018

		Water		Sewer		Total
ASSETS						
Current Assets:						
Cash and cash equivalents	$	616,883	$	1,444,718	$	2,061,601
Accounts receivable		340,597		458,686		799,283
Amounts due from other funds		-		121,935		121,935
Prepaid expenses		4,274		21,608		25,882
Total Current Assets	$	961,754	$	2,046,947	$	3,008,701
Noncurrent Assets:						
Restricted Assets:						
Cash and cash equivalents	$	305,740	$	-	$	305,740
Other Assets:						
Net pension asset	$	22,991	$	82,342	$	105,333
Capital Assets:						
Land and improvements	$	276,046	$	634,925	$	910,971
Construction in progress		38,910		-		38,910
Plant, lines and equipment		14,744,504		32,424,786		47,169,290
Total Capital Assets	$	15,059,460	$	33,059,711	$	48,119,171
Accumulated depreciation		4,195,761		9,247,890		13,443,651
Net Capital Assets	$	10,863,699	$	23,811,821	$	34,675,520
Total Noncurrent Assets	$	11,192,430	$	23,894,163	$	35,086,593
Total Assets	$	12,154,184	$	25,941,110	$	38,095,294
DEFERRED OUTFLOWS OF RESOURCES						
Deferred charge on refunding	$	6,668	$	-	$	6,668
Pension related items		22,859		53,579		76,438
OPEB related items		12,013		41,663		53,676
Total Deferred Outflows of Resources	$	41,540	$	95,242	$	136,782
LIABILITIES						
Current Liabilities:						
Accounts payable	$	27,490	$	62,114	$	89,604
Accrued payroll		13,536		23,369		36,905
Accrued interest payable		16,166		-		16,166
Amounts due to other funds		121,935		-		121,935
Compensated absences		21,961		40,605		62,566
Revenue bonds - current portion		316,919		323,009		639,928
Total Current Liabilities	$	518,007	$	449,097	$	967,104
Long-term Liabilities:						
Revenue bonds payable - net of current portion	$	7,261,270	$	3,876,102	$	11,137,372
Net OPEB Liability		11,132		39,868		51,000
Total Long-term Liabilities	$	7,272,402	$	3,915,970	$	11,188,372
Total Liabilities	$	7,790,409	$	4,365,067	$	12,155,476
DEFERRED INFLOWS OF RESOURCES						
Pension related items	$	544	$	1,949	$	2,493
OPEB related items		1,310		4,690		6,000
Total Deferred Inflows of Resources	$	1,854	$	6,639	$	8,493
NET POSITION						
Net investment in capital assets	$	3,292,178	$	19,612,710	$	22,904,888
Restricted for debt service and bond covenants		305,740		-		305,740
Unrestricted		805,543		2,051,936		2,857,479
Total Net Position	$	4,403,461	$	21,664,646	$	26,068,107

The accompanying notes to financial statements are an integral part of this statement.

MAURY SERVICE AUTHORITY

Statement of Revenues, Expenses and Changes in Net Position
Year Ended June 30, 2018

	Water	Sewer	Total
Operating Revenue:			
Sales:			
Lexington	$ 662,997	$ 1,116,760	$ 1,779,757
Rockbridge County Service Authority	597,163	490,344	1,087,507
Miscellaneous revenue	-	57,805	57,805
Total Operating Revenue	$ 1,260,160	$ 1,664,909	$ 2,925,069
Operating Expenses:			
Personnel and benefits	$ 301,912	$ 672,273	$ 974,185
Electricity	145,914	256,183	402,097
Chemicals	66,205	98,533	164,738
Insurance	52,399	10,663	63,062
Maintenance	56,242	185,216	241,458
Professional fees	39,472	155,069	194,541
Other expenses	56,049	130,871	186,920
Depreciation	371,945	782,767	1,154,712
Total Operating Expenses	$ 1,090,138	$ 2,291,575	$ 3,381,713
Operating Income (loss)	$ 170,022	$ (626,666)	$ (456,644)
Nonoperating Revenues (Expenses):			
Contribution for debt service payments	$ 35,618	$ 1,408,661	$ 1,444,279
Interest income	8,182	7,858	16,040
Special projects and studies	-	(86,212)	(86,212)
Interest expense	(166,050)	(10,396)	(176,446)
Total Nonoperating Revenues (Expenses)	$ (122,250)	$ 1,319,911	$ 1,197,661
Change in net position	$ 47,772	$ 693,245	$ 741,017
Net position, beginning of year, as restated	4,355,689	20,971,401	25,327,090
Net position, end of year	$ 4,403,461	$ 21,664,646	$ 26,068,107

The accompanying notes to financial statements are an integral part of this statement.

MAURY SERVICE AUTHORITY

Statement of Cash Flows
Year Ended June 30, 2018

	Water	Sewer	Total
Cash Flows from Operating Activities:			
Receipts from customers and users	$ 1,221,655	$ 1,653,919	$ 2,875,574
Payments to suppliers	(388,852)	(921,883)	(1,310,735)
Payments to and for employees	(315,172)	(746,418)	(1,061,590)
Net Cash Provided by (Used for) Operating Activities	$ 517,631	$ (14,382)	$ 503,249
Cash Flows from Noncapital Financing Activities:			
Contribution for debt service payments	$ 35,618	$ 1,408,661	$ 1,444,279
Interfund loans	(46,856)	46,856	-
Net Cash Provided By (Used for) Noncapital Financing Activities	$ (11,238)	$ 1,455,517	$ 1,444,279
Cash Flows from Capital and Related Financing Activities:			
Purchase and construction of assets	$ (16,841)	$ (101,372)	$ (118,213)
Principal payments on bonds	(309,008)	(1,396,968)	(1,705,976)
Interest paid on indebtedness	(172,630)	(11,694)	(184,324)
Net Cash Provided by (Used for) Capital and Related Financing Activities	$ (498,479)	$ (1,510,034)	$ (2,008,513)
Cash Flows from Investing Activities:			
Interest income	$ 8,182	$ 7,858	$ 16,040
Net Cash Provided by (Used for) Investing Activities	$ 8,182	$ 7,858	$ 16,040
Increase (decrease) in cash and cash equivalents	$ 16,096	$ (61,041)	$ (44,945)
Cash and cash equivalents at beginning of year	906,527	1,505,759	2,412,286
Cash and cash equivalents at end of year	$ 922,623	$ 1,444,718	$ 2,367,341
Reconciliation of operating income (loss) to net cash provided by (used for) operating activities:			
Operating income (loss)	$ 170,022	$ (626,666)	$ (456,644)
Adjustments to reconcile operating income (loss) to net cash provided by (used for) operating activities:			
Depreciation	371,945	782,767	1,154,712
Payments for special projects and studies	-	(86,212)	(86,212)
(Increase) decrease in accounts receivable	(38,505)	(10,990)	(49,495)
(Increase) decrease in prepaid expenses	603	(12,224)	(11,621)
(Increase) decrease in net pension asset	(22,991)	(82,342)	(105,333)
(Increase) decrease in pension deferred outflows	(7,917)	(66)	(7,983)
(Increase) decrease in OPEB deferred outflows	(11,311)	(39,147)	(50,458)
Increase (decrease) in accounts payable	26,826	13,088	39,914
Increase (decrease) in accrued payroll	5,031	3,952	8,983
Increase (decrease) in compensated absences	10,942	(3,049)	7,893
Increase (decrease) in net OPEB liability	11,132	39,868	51,000
Increase (decrease) in pension deferred inflows	544	1,949	2,493
Increase (decrease) in OPEB deferred inflows	1,310	4,690	6,000
Net Cash Provided by (Used for) Operating Activities	$ 517,631	$ (14,382)	$ 503,249

The accompanying notes to financial statements are an integral part of this statement.

Note 1—Formation of the Maury Service Authority:

The Maury Service Authority was formed on August 7, 1970 as a political subdivision of the Commonwealth of Virginia by the Cities of Buena Vista and Lexington and the County of Rockbridge pursuant to the Virginia Water and Sewer Authorities Act (1950 as amended). The Authority is governed by a Board of Directors appointed by the founding localities. The Authority is responsible for acquiring, financing, constructing, and maintaining facilities for the improvement, treatment, storage and transmission of potable water. The Authority also provides wastewater treatment services to the participating jurisdictions.

Financial Reporting Entity - The Authority's financial statements include all of its funds and accounts. There are no potential component units which should be included in the reporting entity. The Authority is construed as a joint venture between the localities listed above.

Note 2—Summary of Significant Accounting Policies:

A. Basis of Accounting - The Maury Service Authority operates as enterprise funds and its financial statements are prepared on the accrual basis of accounting. Under this method, revenues are recognized when earned, and expenses are recorded as liabilities when incurred, without regard to receipt or payment of cash. The Authority accrues revenue for services rendered but not yet billed at the end of the fiscal year.

   The Authority distinguishes operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with the Authority's principal ongoing operations. The principal operating revenues of the Authority are charges to customers for sales and services. Operating expenses include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

B. Allowance for Doubtful Accounts - The Authority bills the City of Lexington and the Rockbridge County Public Service Authority for substantially all of its services and consequently no provision for doubtful accounts is considered necessary.

C. Basic Financial Statements:

   The Authority's financial statements are prepared in accordance with Governmental Accounting Standards Board (GASB) Statement No. 34, *Basic Financial Statements – and Management's Discussion and Analysis–For State and Local Governments*. As a result, the financial statements include a Management Discussion and Analysis (MD&A) section, providing an analysis of the Authority's overall financial position and results of operations.

Note 2—Summary of Significant Accounting Policies: (Continued)

C. Basic Financial Statements: (Continued)

Since the Authority is only engaged in business-type activities, it is only required to present the financial statements required for enterprise funds. For the Authority, the basic financial statements and required supplementary information consist of:

- Management's Discussion and Analysis
- Enterprise fund financial statements
  - Statement of Net Position
  - Statement of Revenues, Expenses, and Changes in Net Position
  - Statement of Cash Flows
  - Notes to Financial Statements
- Required supplementary information
  - Pension and OPEB Funding Information

D. Capital Assets:

Capital assets, which include property, plant, equipment, and infrastructure assets (e.g., roads, bridges, sidewalks, and similar items), are reported in the financial statements. Capital assets are defined by the Authority as assets with an initial, individual cost of more than $7,000 (amount not rounded) and an estimated useful life in excess of one year. Such assets are recorded at historical cost or estimated historical cost if purchased or constructed. Donated capital assets are recorded at acquisition value at the date of donation.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend its useful life are not capitalized. Major outlays for capital assets and improvements are capitalized as projects are constructed.

Property, plant, equipment, and infrastructure are depreciated using the straight-line method over the following estimated useful lives:

Assets	Years
Water and Sewage treatment plant and equipment	10 to 50
Machinery and equipment	3 to 25
Office furniture and fixtures	10
Automobiles	5 to 10

Note 2—Summary of Significant Accounting Policies: (Continued)

E. Interest on Indebtedness: Interest incurred during the construction phase of capital assets is included as part of the capitalized value of the assets constructed. Other interest costs of the Authority are treated as nonoperating expenses. Capitalized interest for the year ended June 30, 2018 was $0.

F. Cash and Cash Equivalents: The Authority's cash and cash equivalents consist of demand deposits, certificates of deposit, overnight repurchase agreements and short-term U.S. Governmental obligations, with an original maturity of three months or less from the date of acquisition, all of which are readily convertible to known amounts of cash.

G. Budgets and Budgetary Accounting: A budget is prepared for informational, fiscal planning purposes, and to provide the basis for setting wholesale rates. None of the participating entities are required to approve the budgets. The budgets are adopted as planning documents and are not legal controls over expenses.

The budgets are adopted on an appropriation basis. Principally, the appropriation basis of budgeting provides for a full accrual basis of accounting, capital expenditures, and bond principal payments but does not provide for depreciation of utility plant assets and amortization. A review of the budgetary comparison schedules presented herein will disclose how accurately the Authority was able to forecast its revenues and expenditures.

H. Inventory: Consumption of materials and supplies is recorded as an expense when used. No inventory amounts are recorded as an asset, as available inventories are not significant.

I. Use of Estimates: The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

J. Deferred Outflows/Inflows of Resources: In addition to assets, the statement of financial position when applicable will report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense) until then. The Authority has multiple items that qualify for reporting in this category. The first is the deferred charge on refunding reported in the statement of net position. A deferred charge on refunding results from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt. Other deferred outflows are comprised of certain items related to the measurement of the net pension asset and net OPEB liability and contributions to the pension and OPEB plans made during the current year and subsequent to the net pension asset and net OPEB liability measurement date. For more detailed information on these items, reference the related notes.

Note 2—Summary of Significant Accounting Policies: (Continued)

J. Deferred Outflows/Inflows of Resources: (Continued)

In addition to liabilities, the statement of financial position when applicable will report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The Authority also has items that qualify for reporting in this category. Certain items related to the measurement of the net pension asset and net OPEB liability are reported as deferred inflows of resources. For more detailed information on these items, reference the related notes.

K. Long-term Obligations: Bond premiums and discounts are deferred and amortized over the life of the bonds. Bonds payable are reported net of the applicable bond premium or discount.

L. Net Position: Net position is the difference between (a) assets and deferred outflows of resources and (b) liabilities and deferred inflows of resources. Net investment in capital assets represents capital assets, less accumulated depreciation, less any outstanding debt related to the acquisition, construction or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position.

M. Net Position Flow Assumption: Sometimes the Authority will fund outlays for a particular purpose from both restricted (e.g., restricted bond or grant proceeds) and unrestricted resources. In order to calculate the amounts to report as restricted – net position and unrestricted – net position in the financial statements, a flow assumption must be made about the order in which the resources are considered to be applied. It is the Authority's policy to consider restricted – net position to have been depleted before unrestricted – net position is applied.

N. Pensions: For purposes of measuring the net pension asset, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Authority's Retirement Plan and the additions to/deductions from the Authority's Retirement Plan's net fiduciary position have been determined on the same basis as they were reported by the Virginia Retirement System (VRS). For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Note 2—Summary of Significant Accounting Policies: (Continued)

O. Other Postemployment Benefits (OPEB) - Group Life Insurance: The Virginia Retirement System (VRS) Group Life Insurance (GLI) Program provides coverage to state employees, teachers, and employees of participating political subdivisions. The GLI Program was established pursuant to §51.1-500 et seq. of the Code of Virginia, as amended, and which provides the authority under which benefit terms are established or may be amended. The GLI Program is a defined benefit plan that provides a basic group life insurance benefit for employees of participating employers. For purposes of measuring the net GLI Program OPEB liability, deferred outflows of resources and deferred inflows of resources related to the GLI OPEB, and GLI OPEB expense, information about the fiduciary net position of the VRS GLI Program OPEB and the additions to/deductions from the VRS GLI OPEB's net fiduciary position have been determined on the same basis as they were reported by VRS. In addition, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Note 3—Deposits and Investments:

Deposits

Deposits with banks are covered by the Federal Deposit Insurance Corporation (FDIC) and collateralized in accordance with the Virginia Security for Public Deposits Act (the "Act") Section 2.2-4400 et. seq. of the Code of Virginia. Under the Act, banks and savings institutions holding public deposits in excess of the amount insured by the FDIC must pledge collateral to the Commonwealth of Virginia Treasury Board. Financial institutions may choose between two collateralization methodologies and depending upon that choice, will pledge collateral that ranges in the amounts from 50% to 130% of excess deposits. Accordingly, all deposits are considered fully collateralized.

Investments

Statutes authorize the Authority to invest in obligations of the United States or agencies thereof, obligations of the Commonwealth of Virginia or political subdivisions thereof, obligations of the International Bank for Reconstruction and Development (World Bank), the Asian Development Bank, the African Development Bank, "prime quality" commercial paper and certain corporate notes, banker's acceptances, repurchase agreements and the State Treasurer's Local Government Investment Pool (LGIP).

The Authority does not have a formal investment policy.

Note 4—Capital Assets:

Details of changes in capital assets for the year ended June 30, 2018 are as follows:

	Beginning Balance	Increases	Decreases	Ending Balance
WATER:				
Capital assets not being depreciated:				
Land and improvements	$ 276,046	$ -	$ -	$ 276,046
Construction in progress	38,910	-	-	38,910
Total capital assets not being depreciated	$ 314,956	$ -	$ -	$ 314,956
Capital assets being depreciated:				
Water plant and lines	$ 14,538,358	$ 16,841	$ -	$ 14,555,199
Equipment	189,305	-	-	189,305
Total capital assets being depreciated	$ 14,727,663	$ 16,841	$ -	$ 14,744,504
Accumulated depreciation:				
Water plant and lines	$ (3,739,797)	$ (355,616)	$ -	$ (4,095,413)
Equipment	(84,020)	(16,328)	-	(100,348)
Total accumulated depreciation	$ (3,823,817)	$ (371,944)	$ -	$ (4,195,761)
Total capital assets, being depreciated, net	$ 10,903,846	$ (355,103)	$ -	$ 10,548,743
Total water capital assets, net	$ 11,218,802	$ (355,103)	$ -	$ 10,863,699

Note 4—Capital Assets: (Continued)

	Restated Beginning Balance	Increases	Decreases	Ending Balance
SEWER:				
Capital assets not being depreciated:				
Land and improvements	$ 634,925	$ -	$ -	$ 634,925
Total capital assets not being depreciated	$ 634,925	$ -	$ -	$ 634,925
Capital assets being depreciated:				
Sewer treatment plant	$ 28,661,192	$ -	$ -	$ 28,661,192
Equipment	3,662,222	101,372	-	3,763,594
Total capital assets being depreciated	$ 32,323,414	$ 101,372	$ -	$ 32,424,786
Accumulated depreciation:				
Sewer treatment plant	$ (7,358,844)	$ (576,862)	$ -	$ (7,935,706)
Equipment	(1,106,279)	(205,905)	-	(1,312,184)
Total accumulated depreciation	$ (8,465,123)	$ (782,767)	$ -	$ (9,247,890)
Total capital assets, being depreciated, net	$ 23,858,291	$ (681,395)	$ -	$ 23,176,896
Total sewer capital assets, net	$ 24,493,216	$ (681,395)	$ -	$ 23,811,821
Total capital assets, net	$ 35,712,018	$ (1,036,498)	$ -	$ 34,675,520

Note 5—Long-term Liabilities:

A. Changes in Long-term Liabilities:

The following is a summary of long-term liabilities transactions for the year ended June 30, 2018:

	Beginning Balance	Issuances/ Additions	Retirements/ Reductions	Ending Balance	Due Within One Year
Water Revenue Bonds	$ 7,874,988	$ -	$ 309,008	$ 7,565,980	$ 316,919
Add:					
Issuance premiums	21,613	-	9,404	12,209	-
Total Water Revenue Bonds	$ 7,896,601	$ -	$ 318,412	$ 7,578,189	$ 316,919
Net OPEB Liability	-	13,097	1,965	11,132	-
Total Water Long-term Liabilities	$ 7,896,601	$ 13,097	$ 320,377	$ 7,589,321	$ 316,919
Sewer Revenue Bonds	$ 5,596,079	$ -	$ 1,396,968	$ 4,199,111	$ 323,009
Net OPEB Liability	-	46,903	7,035	39,868	-
Total Sewer Long-term Liabilities	$ 5,596,079	$ 46,903	$ 1,404,003	$ 4,238,979	$ 323,009
Totals	$ 13,492,680	$ 60,000	$ 1,724,380	$ 11,828,300	$ 639,928

Note 5—Long-term Liabilities: (Continued)

B. Details of Long-term Liabilities:

Water Revenue Bonds:	
$1,660,000 Water System Revenue Refunding Bond, Series 2009, issued through the Virginia Resources Authority dated June 17, 2009 bearing interest at rates ranging from 1.125% to 3.759% due in semi-annual installments of interest through April 1, 2021. Principal is payable annually on April 1. Face amounts of bonds outstanding $530,000 plus unamortized issuance premium of $12,209.	$ 542,209
$7,598,000 Water Revenue Bond, Series 2012, issued through Rural Development dated June 5, 2012 bearing interest at 2%. Payments of interest only are due on June 5, 2013 and 2014. Beginning July 5, 2014, monthly payments of combined principal and interest of $23,858 are due through June 5, 2052.	7,035,980
Total Water Revenue Bonds	$ 7,578,189
Net OPEB Liability	11,132
Total Water Long-term Liabilities	$ 7,589,321
Sewer Revenue Bonds:	
$6,543,947 Sewer Revenue bond, Series 2009, dated May 7, 2009 due in semi-annual installments of principal of $163,599 commencing on December 1, 2011 through June 1, 2031. No interest.	$ 4,199,111
Net OPEB Liability	39,868
Total Sewer Long-term Liabilities	$ 4,238,979
Total Long-Term Liabilities	$ 11,828,300

Note 5—Long-term Liabilities: (Continued)

C. Annual Amortization of Long-term Liabilities:

The annual requirements to amortize all long-term debt outstanding as of June 30, 2018 are as follows:

Year Ending June 30,	Water Revenue Bonds Principal	Water Revenue Bonds Interest	Sewer Revenue Bonds Principal	Sewer Revenue Bonds Interest
2019	$ 316,919	$ 161,134	$ 323,009	$ -
2020	324,884	149,578	323,009	-
2021	337,909	137,852	323,009	-
2022	155,996	130,300	323,009	-
2023	159,144	127,152	323,009	-
2024	162,357	123,939	323,009	-
2025	165,634	120,662	323,009	-
2026	168,977	117,319	323,008	-
2027	172,388	113,908	323,008	-
2028	175,867	110,429	323,008	-
2029	179,417	106,879	323,008	-
2030	183,038	103,258	323,008	-
2031	186,733	99,563	323,008	-
2032	190,502	95,794	-	-
2033	194,347	91,949	-	-
2034	198,270	88,026	-	-
2035	202,272	84,024	-	-
2036	206,355	79,941	-	-
2037	210,520	75,776	-	-
2038	214,769	71,527	-	-
2039	219,104	67,192	-	-
2040	223,526	62,770	-	-
2041	228,038	58,258	-	-
2042	232,641	53,655	-	-
2043	237,337	48,959	-	-
2044	242,127	44,169	-	-
2045	247,014	39,282	-	-
2046	252,000	34,296	-	-
2047	257,087	29,209	-	-
2048	262,276	24,020	-	-
2049	267,569	18,726	-	-
2050	272,970	13,326	-	-
2051	278,480	7,816	-	-
2052	239,513	2,230	-	-
Total	$ 7,565,980	$ 2,692,918	$ 4,199,111	$ -

In the year ended June 30, 2018 the City of Lexington and County of Rockbridge each contributed one-half of the Sewer Revenue Bond debt payment.

Note 6—Interfund Balances:

Amounts reported as due to and from other funds totaled $121,935 at June 30, 2018. This balance represents water fund expenses that were paid for by the sewer fund.

Note 7—Concentration of Revenue:

The Maury Service Authority receives substantially all its revenues from the City of Lexington and the Rockbridge County Public Service Authority. For the year ended June 30, 2018, the Water Fund had sales of $662,997 and $597,163 with the City of Lexington and Rockbridge County Service Authority, respectively, while the Sewer Fund had sales of $1,116,760 and $490,344 with the City and Authority, respectively. As of June 30, 2018, the Water Fund had receivables from the City and Authority of $172,835 and $167,762, respectively and the Sewer Fund had receivables from the City and Authority of $301,618 and $157,068, respectively.

Note 8—Risk Management:

The Authority is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The Authority joined together with other local governments in the Commonwealth to form the Virginia Municipal League Self Insurance Risk Pool, a public entity risk pool currently operating as a common risk management and insurance program for member governments. The Authority pays an annual premium to the pool for its workers' compensation, general liability, automobile liability, property, crime and public official's insurance coverages. The Agreement for Formation of the pool provides that the pool will be self-sustaining through member premiums. Settled claims have not exceeded pool coverage in any of the past three fiscal years.

Note 9—Pension Plan:

Plan Description

All full-time, salaried permanent employees of the Authority are automatically covered by a VRS Retirement Plan upon employment. This is an agent multiple-employer plan administered by the Virginia Retirement System (the System) along with plans for other employer groups in the Commonwealth of Virginia. Members earn one month of service credit for each month they are employed and for which they and their employer pay contributions to VRS. Members are eligible to purchase prior service, based on specific criteria as defined in the Code of Virginia, as amended. Eligible prior service that may be purchased includes prior public service, active military service, certain periods of leave, and previously refunded service.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

The System administers three different benefit structures for covered employees – Plan 1, Plan 2, and Hybrid. Each of these benefit structures has different eligibility criteria. The specific information for each plan and the eligibility for covered groups within each plan are set out in the table below:

RETIREMENT PLAN PROVISIONS		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
About Plan 1 Plan 1 is a defined benefit plan. The retirement benefit is based on a member's age, creditable service and average final compensation at retirement using a formula.	**About Plan 2** Plan 2 is a defined benefit plan. The retirement benefit is based on a member's age, creditable service and average final compensation at retirement using a formula.	**About the Hybrid Retirement Plan** The Hybrid Retirement Plan combines the features of a defined benefit plan and a defined contribution plan. • The defined benefit is based on a member's age, creditable service and average final compensation at retirement using a formula. • The benefit from the defined contribution component of the plan depends on the member and employer contributions made to the plan and the investment performance of those contributions. • In addition to the monthly benefit payment payable from the defined benefit plan at retirement, a member may start receiving distributions from the balance in the defined contribution account, reflecting the contributions, investment gains or losses, and any required fees.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Eligible Members Employees are in Plan 1 if their membership date is before July 1, 2010, and they were vested as of January 1, 2013, and they have not taken a refund. **Hybrid Opt-In Election** VRS non-hazardous duty covered Plan 1 members were allowed to make an irrevocable decision to opt into the Hybrid Retirement Plan during a special election window held January 1 through April 30, 2014. The Hybrid Retirement Plan's effective date for eligible Plan 1 members who opted in was July 1, 2014. If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.	**Eligible Members** Employees are in Plan 2 if their membership date is on or after July 1, 2010, or their membership date is before July 1, 2010, and they were not vested as of January 1, 2013. **Hybrid Opt-In Election** Eligible Plan 2 members were allowed to make an irrevocable decision to opt into the Hybrid Retirement Plan during a special election window held January 1 through April 30, 2014. The Hybrid Retirement Plan's effective date for eligible Plan 2 members who opted in was July 1, 2014. If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.	**Eligible Members** Employees are in the Hybrid Retirement Plan if their membership date is on or after January 1, 2014. This includes: • Political subdivision employees* • Members in Plan 1 or Plan 2 who elected to opt into the plan during the election window held January 1-April 30, 2014; the plan's effective date for opt-in members was July 1, 2014. ***Non-Eligible Members** Some employees are not eligible to participate in the Hybrid Retirement Plan. They include: • Political subdivision employees who are covered by enhanced benefits for hazardous duty employees.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Hybrid Opt-In Election (Cont.) Members who were eligible for an optional retirement plan (ORP) and had prior service under Plan 1 were not eligible to elect the Hybrid Retirement Plan and remain as Plan 1 or ORP.	**Hybrid Opt-In Election (Cont.)** Members who were eligible for an optional retirement plan (ORP) and have prior service under Plan 2 were not eligible to elect the Hybrid Retirement Plan and remain as Plan 2 or ORP.	***Non-Eligible Members (Cont.)** Those employees eligible for an optional retirement plan (ORP) must elect the ORP plan or the Hybrid Retirement Plan. If these members have prior service under Plan 1 or Plan 2, they are not eligible to elect the Hybrid Retirement Plan and must select Plan 1 or Plan 2 (as applicable) or ORP.
Retirement Contributions Employees contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction. Member contributions are tax-deferred until they are withdrawn as part of a retirement benefit or as a refund. The employer makes a separate actuarially determined contribution to VRS for all covered employees. VRS invests both member and employer contributions to provide funding for the future benefit payment.	**Retirement Contributions** Employees contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction.	**Retirement Contributions** A member's retirement benefit is funded through mandatory and voluntary contributions made by the member and the employer to both the defined benefit and the defined contribution components of the plan. Mandatory contributions are based on a percentage of the employee's creditable compensation and are required from both the member and the employer. Additionally, members may choose to make voluntary contributions to the defined contribution component of the plan, and the employer is required to match those voluntary contributions according to specified percentages.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Creditable Service Creditable service includes active service. Members earn creditable service for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional creditable service the member was granted. A member's total creditable service is one of the factors used to determine their eligibility for retirement and to calculate their retirement benefit. It also may count toward eligibility for the health insurance credit in retirement, if the employer offers the health insurance credit.	**Creditable Service** Same as Plan 1.	**Creditable Service** **Defined Benefit Component:** Under the defined benefit component of the plan, creditable service includes active service. Members earn creditable service for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional creditable service the member was granted. A member's total creditable service is one of the factors used to determine their eligibility for retirement and to calculate their retirement benefit. It also may count toward eligibility for the health insurance credit in retirement, if the employer offers the health insurance credit. **Defined Contribution Component:** Under the defined contribution component, creditable service is used to determine vesting for the employer contribution portion of the plan.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Vesting Vesting is the minimum length of service a member needs to qualify for a future retirement benefit. Members become vested when they have at least five years (60 months) of creditable service. Vesting means members are eligible to qualify for retirement if they meet the age and service requirements for their plan. Members also must be vested to receive a full refund of their member contribution account balance if they leave employment and request a refund. Members are always 100% vested in the contributions that they make.	**Vesting** Same as Plan 1.	**Vesting** **Defined Benefit Component:** Defined benefit vesting is the minimum length of service a member needs to qualify for a future retirement benefit. Members are vested under the defined benefit component of the Hybrid Retirement Plan when they reach five years (60 months) of creditable service. Plan 1 or Plan 2 members with at least five years (60 months) of creditable service who opted into the Hybrid Retirement Plan remain vested in the defined benefit component. **Defined Contribution Component:** Defined contribution vesting refers to the minimum length of service a member needs to be eligible to withdraw the employer contributions from the defined contribution component of the plan. Members are always 100% vested in the contributions that they make.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Vesting (Cont.)	**Vesting (Cont.)**	**Vesting (Cont.)** **<u>Defined Contribution Component:</u> (Cont.)** Upon retirement or leaving covered employment, a member is eligible to withdraw a percentage of employer contributions to the defined contribution component of the plan, based on service. • After two years, a member is 50% vested and may withdraw 50% of employer contributions. • After three years, a member is 75% vested and may withdraw 75% of employer contributions. • After four or more years, a member is 100% vested and may withdraw 100% of employer contributions. Distribution is not required by law until age 70½.
Calculating the Benefit The Basic Benefit is calculated based on a formula using the member's average final compensation, a retirement multiplier and total service credit at retirement. It is one of the benefit payout options available to a member at retirement.	**Calculating the Benefit** See definition under Plan 1.	**Calculating the Benefit** **<u>Defined Benefit Component:</u>** See definition under Plan 1. **<u>Defined Contribution Component:</u>** The benefit is based on contributions made by the member and any matching contributions made by the employer, plus net investment earnings on those contributions.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Calculating the Benefit (Cont.) An early retirement reduction factor is applied to the Basic Benefit if the member retires with a reduced retirement benefit or selects a benefit payout option other than the Basic Benefit.	**Calculating the Benefit (Cont.)**	**Calculating the Benefit (Cont.)**
Average Final Compensation A member's average final compensation is the average of the 36 consecutive months of highest compensation as a covered employee.	**Average Final Compensation** A member's average final compensation is the average of their 60 consecutive months of highest compensation as a covered employee.	**Average Final Compensation** Same as Plan 2. It is used in the retirement formula for the defined benefit component of the plan.
Service Retirement Multiplier **VRS:** The retirement multiplier is a factor used in the formula to determine a final retirement benefit. The retirement multiplier for non-hazardous duty members is 1.70%. **Sheriffs and regional jail superintendents:** The retirement multiplier for sheriffs and regional jail superintendents is 1.85%. **Political subdivision hazardous duty employees:** The retirement multiplier of eligible political subdivision hazardous duty employees other than sheriffs and regional jail superintendents is 1.70% or 1.85% as elected by the employer.	**Service Retirement Multiplier** **VRS:** Same as Plan 1 for service earned, purchased or granted prior to January 1, 2013. For non-hazardous duty members the retirement multiplier is 1.65% for creditable service earned, purchased or granted on or after January 1, 2013. **Sheriffs and regional jail superintendents:** Same as Plan 1. **Political subdivision hazardous duty employees:** Same as Plan 1.	**Service Retirement Multiplier** **Defined Benefit Component:** **VRS:** The retirement multiplier for the defined benefit component is 1.00%. For members who opted into the Hybrid Retirement Plan from Plan 1 or Plan 2, the applicable multipliers for those plans will be used to calculate the retirement benefit for service credited in those plans. **Sheriffs and regional jail superintendents:** Not applicable. **Political subdivision hazardous duty employees:** Not applicable. **Defined Contribution Component:** Not applicable.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Normal Retirement Age **VRS:** Age 65. **Political subdivisions hazardous duty employees:** Age 60.	**Normal Retirement Age** **VRS:** Normal Social Security retirement age. **Political subdivisions hazardous duty employees:** Same as Plan 1.	**Normal Retirement Age** **Defined Benefit Component:** **VRS:** Same as Plan 2. **Political subdivisions hazardous duty employees:** Not applicable. **Defined Contribution Component:** Members are eligible to receive distributions upon leaving employment, subject to restrictions.
Earliest Unreduced Retirement Eligibility **VRS:** Age 65 with at least five years (60 months) of creditable service or at age 50 with at least 30 years of creditable service. **Political subdivisions hazardous duty employees:** Age 60 with at least five years of creditable service or age 50 with at least 25 years of creditable service.	**Earliest Unreduced Retirement Eligibility** **VRS:** Normal Social Security retirement age with at least five years (60 months) of creditable service or when their age and service equal 90. **Political subdivisions hazardous duty employees:** Same as Plan 1.	**Earliest Unreduced Retirement Eligibility** **Defined Benefit Component:** **VRS:** Normal Social Security retirement age and have at least five years (60 months) of creditable service or when their age and service equal 90. **Political subdivisions hazardous duty employees:** Not applicable. **Defined Contribution Component:** Members are eligible to receive distributions upon leaving employment, subject to restrictions.
Earliest Reduced Retirement Eligibility **VRS:** Age 55 with at least five years (60 months) of creditable service or age 50 with at least 10 years of creditable service.	**Earliest Reduced Retirement Eligibility** **VRS:** Age 60 with at least five years (60 months) of creditable service.	**Earliest Reduced Retirement Eligibility** **Defined Benefit Component:** **VRS:** Age 60 with at least five years (60 months) of creditable service.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Earliest Reduced Retirement Eligibility (Cont.) **Political subdivisions hazardous duty employees:** 50 with at least five years of creditable service.	**Earliest Reduced Retirement Eligibility (Cont.)** **Political subdivisions hazardous duty employees:** Same as Plan 1.	**Earliest Reduced Retirement Eligibility (Cont.)** **Political subdivisions hazardous duty employees:** Not applicable. **<u>Defined Contribution Component:</u>** Members are eligible to receive distributions upon leaving employment, subject to restrictions.
Cost-of-Living Adjustment (COLA) in Retirement The Cost-of-Living Adjustment (COLA) matches the first 3% increase in the Consumer Price Index for all Urban Consumers (CPI-U) and half of any additional increase (up to 4%) up to a maximum COLA of 5%. **<u>Eligibility:</u>** For members who retire with an unreduced benefit or with a reduced benefit with at least 20 years of creditable service, the COLA will go into effect on July 1 after one full calendar year from the retirement date. For members who retire with a reduced benefit and who have less than 20 years of creditable service, the COLA will go into effect on July 1 after one calendar year following the unreduced retirement eligibility date.	**Cost-of-Living Adjustment (COLA) in Retirement** The Cost-of-Living Adjustment (COLA) matches the first 2% increase in the CPI-U and half of any additional increase (up to 2%), for a maximum COLA of 3%. **<u>Eligibility:</u>** Same as Plan 1.	**Cost-of-Living Adjustment (COLA) in Retirement** **<u>Defined Benefit Component:</u>** Same as Plan 2. **<u>Defined Contribution Component:</u>** Not applicable. **<u>Eligibility:</u>** Same as Plan 1 and Plan 2.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Cost-of-Living Adjustment (COLA) in Retirement (Cont.) **Exceptions to COLA Effective Dates:** The COLA is effective July 1 following one full calendar year (January 1 to December 31) under any of the following circumstances: • The member is within five years of qualifying for an unreduced retirement benefit as of January 1, 2013. • The member retires on disability. • The member retires directly from short-term or long-term disability under the Virginia Sickness and Disability Program (VSDP). • The member is involuntarily separated from employment for causes other than job performance or misconduct and is eligible to retire under the Workforce Transition Act or the Transitional Benefits Program. • The member dies in service and the member's survivor or beneficiary is eligible for a monthly death-in-service benefit. The COLA will go into effect on July 1 following one full calendar year (January 1 to December 31) from the date the monthly benefit begins.	**Cost-of-Living Adjustment (COLA) in Retirement (Cont.)** **Exceptions to COLA Effective Dates:** Same as Plan 1.	**Cost-of-Living Adjustment (COLA) in Retirement (Cont.)** **Exceptions to COLA Effective Dates:** Same as Plan 1 and Plan 2.

Note 9—Pension Plan: (Continued)

Plan Description (Continued)

RETIREMENT PLAN PROVISIONS (CONTINUED)		
PLAN 1	**PLAN 2**	**HYBRID RETIREMENT PLAN**
Disability Coverage Members who are eligible to be considered for disability retirement and retire on disability, the retirement multiplier is 1.7% on all service, regardless of when it was earned, purchased or granted.	**Disability Coverage** Members who are eligible to be considered for disability retirement and retire on disability, the retirement multiplier is 1.65% on all service, regardless of when it was earned, purchased or granted.	**Disability Coverage** Employees of political subdivisions (including Plan 1 and Plan2 opt-ins) participate in the Virginia Local Disability Program (VLDP) unless their local governing body provides an employer-paid comparable program for its members. Hybrid members (including Plan 1 and Plan 2 opt-ins) covered under VLDP are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.
Purchase of Prior Service Members may be eligible to purchase service from previous public employment, active duty military service, an eligible period of leave or VRS refunded service as creditable service in their plan. Prior creditable service counts toward vesting, eligibility for retirement and the health insurance credit. Only active members are eligible to purchase prior service. Members also may be eligible to purchase periods of leave without pay.	**Purchase of Prior Service** Same as Plan 1.	**Purchase of Prior Service** **Defined Benefit Component:** Same as Plan 1, with the following exceptions: • Hybrid Retirement Plan members are ineligible for ported service. **Defined Contribution Component:** Not applicable.

Pension Plan Data

Information about the VRS Political Subdivision Retirement Plan is also available in the separately issued VRS 2017 Comprehensive Annual Financial Report (CAFR). A copy of the 2017 VRS CAFR may be downloaded from the VRS website at http://www.varetire.org/Pdf/Publications/2017-annual-report.pdf, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA 23218-2500.

Note 9—Pension Plan: (Continued)

Employees Covered by Benefit Terms

As of the June 30, 2016 actuarial valuation, the following employees were covered by the benefit terms of the pension plan:

	Number
Inactive members or their beneficiaries currently receiving benefits	-
Inactive members:	
Vested inactive members	-
Non-vested inactive members	-
Inactive members active elsewhere in VRS	-
Total inactive members	-
Active members	-
Total covered employees	-

Contributions

The contribution requirement for active employees is governed by §51.1-145 of the Code of Virginia, as amended, but may be impacted as a result of funding options provided to political subdivisions by the Virginia General Assembly. Employees are required to contribute 5.00% of their compensation toward their retirement. Prior to July 1, 2012, all or part of the 5.00% member contribution may have been assumed by the employer. Beginning July 1, 2012 new employees were required to pay the 5% member contribution. In addition, for existing employees, employers were required to begin making the employee pay the 5.00% member contribution. This could be phased in over a period of up to 5 years and the employer is required to provide a salary increase equal to the amount of the increase in the employee-paid member contribution.

The Authority's contractually required employer contribution rate for the year ended June 30, 2018 was 11.06% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2015.

This rate, when combined with employee contributions, was expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Contributions to the pension plan from the Authority were $76,438 and $68,455 for the years ended June 30, 2018 and June 30, 2017, respectively.

Net Pension Asset

The Authority's net pension asset was measured as of June 30, 2017. The total pension liability used to calculate the net pension asset was determined by an actuarial valuation performed as of June 30, 2016, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2017.

Note 9—Pension Plan: (Continued)

Actuarial Assumptions – General Employees

The total pension liability for General Employees in the Authority's Retirement Plan was based on an actuarial valuation as of June 30, 2016, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2017.

Inflation	2.5%
Salary increases, including inflation	3.5% – 5.35%
Investment rate of return	7.0%, net of pension plan investment expenses, including inflation*

* Administrative expenses as a percent of the market value of assets for the last experience study were found to be approximately 0.06% of the market assets for all of the VRS plans. This would provide an assumed investment return rate for GASB purposes of slightly more than the assumed 7.0%. However, since the difference was minimal, and a more conservative 7.0% investment return assumption provided a projected plan net position that exceeded the projected benefit payments, the long-term expected rate of return on investments was assumed to be 7.0% to simplify preparation of pension liabilities.

Mortality rates:

Largest 10 – Non-Hazardous Duty: 20% of deaths are assumed to be service related

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

All Others (Non 10 Largest) – Non-Hazardous Duty: 15% of deaths are assumed to be service related

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Note 9—Pension Plan: (Continued)

Actuarial Assumptions – General Employees (Continued)

All Others (Non 10 Largest) – Non-Hazardous Duty: 15% of deaths are assumed to be service related: (Continued)

Post-Disablement:
RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Largest 10 – Non-Hazardous Duty:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

All Others (Non 10 Largest) – Non-Hazardous Duty:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

Note 9—Pension Plan: (Continued)

Long-Term Expected Rate of Return

The long-term expected rate of return on pension System investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension System 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. The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class (Strategy)	Target Allocation	Arithmetic Long-term Expected Rate of Return	Weighted Average Long-term Expected Rate of Return
Public Equity	40.00%	4.54%	1.82%
Fixed Income	15.00%	0.69%	0.10%
Credit Strategies	15.00%	3.96%	0.59%
Real Assets	15.00%	5.76%	0.86%
Private Equity	15.00%	9.53%	1.43%
Total	100.00%		4.80%
		Inflation	2.50%
		*Expected arithmetic nominal return	7.30%

* The above allocation provides a one-year return of 7.30%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the system, stochastic projections are employed to model future returns under various economic conditions. The results provide a range of returns over various time periods that ultimately provide a median return of 6.83%, including expected inflation of 2.50%.

Discount Rate

The discount rate used to measure the total pension liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that System member contributions will be made per the VRS Statutes and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Through the fiscal year ending June 30, 2019, the rate contributed by the employer for the Authority Retirement Plan will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly. From July 1, 2019 on, participating employers are assumed to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total pension liability.

Note 9—Pension Plan: (Continued)

Changes in Net Pension Asset

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balances at June 30, 2016	$ -	$ -	$ -
Changes for the year:			
Interest	$ (2)	$ -	$ (2)
Contributions - employer	-	68,109	(68,109)
Contributions - employee	-	30,602	(30,602)
Net investment income	-	6,570	(6,570)
Benefit payments, including refunds of employee contributions	(66)	(66)	-
Administrative expenses	-	60	(60)
Other changes	-	(10)	10
Net changes	$ (68)	$ 105,265	$ (105,333)
Balances at June 30, 2017	$ (68)	$ 105,265	$ (105,333)

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

The following presents the net pension asset of the Authority using the discount rate of 7.00%, as well as what the Authority's net pension asset would be if it were calculated using a discount rate that is one percentage point lower (6.00%) or one percentage point higher (8.00%) than the current rate:

	Rate		
	1% Decrease (6.00%)	Current Discount (7.00%)	1% Increase (8.00%)
Authority's Net Pension Asset	$ (105,333)	$ (105,333)	$ (105,334)

Note 9—Pension Plan: (Continued)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2018, the Authority recognized pension expense of $(34,731). At June 30, 2018, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Net difference between projected and actual earnings on pension plan investments	$ -	$ 2,493
Employer contributions subsequent to the measurement date	76,438	-
Total	$ 76,438	$ 2,493

$76,438 reported as deferred outflows of resources related to pensions resulting from the Authority's contributions subsequent to the measurement date will be recognized as a reduction of the Net Pension Asset in the fiscal year ended June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense in future reporting periods as follows:

Year Ended June 30	
2019	$ (623)
2020	(623)
2021	(623)
2022	(624)
2023	-
Thereafter	-

Note 10—Group Life Insurance (GLI) Program (OPEB Plan):

Plan Description

All full-time, salaried permanent employees of the state agencies, teachers, and employees of participating political subdivisions are automatically covered by the VRS Group Life Insurance Program upon employment. This is a cost-sharing multiple-employer plan administered by the Virginia Retirement System (the System), along with pensions and other OPEB plans, for public employer groups in the Commonwealth of Virginia.

In addition to the Basic Group Life Insurance benefit, members are also eligible to elect additional coverage for themselves as well as a spouse or dependent children through the Optional Group Life Insurance Program. For members who elect the optional group life insurance coverage, the insurer bills employers directly for the premiums. Employers deduct these premiums from members' paychecks and pay the premiums to the insurer. Since this is a separate and fully insured program, it is not included as part of the Group Life Insurance Program OPEB.

The specific information for Group Life Insurance Program OPEB, including eligibility, coverage and benefits is set out in the table below:

GROUP LIFE INSURANCE PROGRAM PLAN PROVISIONS

Eligible Employees

The Group Life Insurance Program was established July 1, 1960, for state employees, teachers and employees of political subdivisions that elect the program, including the following employers that do not participate in VRS for retirement:

- City of Richmond
- City of Portsmouth
- City of Roanoke
- City of Norfolk
- Roanoke City School Board

Basic group life insurance coverage is automatic upon employment. Coverage ends for employees who leave their position before retirement eligibility or who take a refund of their member contributions and accrued interest.

Benefit Amounts

The benefits payable under the Group Life Insurance Program have several components.

- **Natural Death Benefit** - The natural death benefit is equal to the employee's covered compensation rounded to the next highest thousand and then doubled.
- **Accidental Death Benefit** – The accidental death benefit is double the natural death benefit.
- **Other Benefit Provisions** – In addition to the basic natural and accidental death benefits, the program provides additional benefits provided under specific circumstances. These include:
    - Accidental dismemberment benefit
    - Safety belt benefit
    - Repatriation benefit
    - Felonious assault benefit
    - Accelerated death benefit option

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Plan Description: (Continued)

GROUP LIFE INSURANCE PROGRAM PLAN PROVISIONS (CONTINUED)
Reduction in Benefit Amounts The benefit amounts provided to members covered under the Group Life Insurance Program are subject to a reduction factor. The benefit amount reduces by 25% on January 1 following one calendar year of separation. The benefit amount reduces by an additional 25% on each subsequent January 1 until it reaches 25% of its original value.
Minimum Benefit Amount and Cost-of-Living Adjustment (COLA) For covered members with at least 30 years of creditable service, there is a minimum benefit payable under the Group Life Insurance Program. The minimum benefit was set at $8,000 by statute. The amount is increased annually based on the VRS Plan 2 cost-of-living adjustment and is currently $8,111.

Contributions

The contribution requirements for the Group Life Insurance Program are governed by §51.1-506 and §51.1-508 of the Code of Virginia, as amended, but may be impacted as a result of funding provided to state agencies and school divisions by the Virginia General Assembly. The total rate for the Group Life Insurance Program was 1.31% of covered employee compensation. This was allocated into an employee and an employer component using a 60/40 split. The employee component was 0.79% (1.31% x 60%) and the employer component was 0.52% (1.31% x 40%). Employers may elect to pay all or part of the employee contribution; however, the employer must pay all of the employer contribution. Each employer's contractually required employer contribution rate for the year ended June 30, 2018 was 0.52% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2015. The actuarially determined rate, when combined with employee contributions, was expected to finance the costs of benefits payable during the year, with an additional amount to finance any unfunded accrued liability. Contributions to the Group Life Insurance Program from the entity were $3,676 and $3,218 for the years ended June 30, 2018 and June 30, 2017, respectively.

GLI OPEB Liabilities, GLI OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to the Group Life Insurance Program OPEB

At June 30, 2018, the entity reported a liability of $51,000 for its proportionate share of the Net GLI OPEB Liability. The Net GLI OPEB Liability was measured as of June 30, 2017 and the total GLI OPEB liability used to calculate the Net GLI OPEB Liability was determined by an actuarial valuation as of that date. The covered employer's proportion of the Net GLI OPEB Liability was based on the covered employer's actuarially determined employer contributions to the Group Life Insurance Program for the year ended June 30, 2017 relative to the total of the actuarially determined employer contributions for all participating employers. At June 30, 2017, the participating employer's proportion was .00335% as compared to .00000% at June 30, 2016.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

GLI OPEB Liabilities, GLI OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to the Group Life Insurance Program OPEB (Continued)

For the year ended June 30, 2018, the participating employer recognized GLI OPEB expense of $10,000. Since there was a change in proportionate share between measurement dates, a portion of the GLI OPEB expense was related to deferred amounts from changes in proportion.

At June 30, 2018, the employer reported deferred outflows of resources and deferred inflows of resources related to the GLI OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 1,000
Net difference between projected and actual earnings on GLI OPEB program investments	-	2,000
Change in assumptions	-	3,000
Changes in proportion	50,000	-
Employer contributions subsequent to the measurement date	3,676	-
Total	$ 53,676	$ 6,000

$3,676 reported as deferred outflows of resources related to the GLI OPEB resulting from the employer's contributions subsequent to the measurement date will be recognized as a reduction of the Net GLI OPEB Liability in the fiscal year ending June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the GLI OEPB will be recognized in the GLI OPEB expense in future reporting periods as follows:

Year Ended June 30	
2019	$ 8,000
2020	8,000
2021	8,000
2022	8,000
2023	8,000
Thereafter	4,000

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions

The total GLI OPEB liability was based on an actuarial valuation as of June 30, 2016, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2017.

Inflation	2.5%
Salary increases, including inflation:	
General state employees	3.5% – 5.35%
Teachers	3.5%-5.95%
SPORS employees	3.5%-4.75%
VaLORS employees	3.5%-4.75%
JRS employees	4.5%
Locality - General employees	3.5%-5.35%
Locality - Hazardous Duty employees	3.5%-4.75%
Investment rate of return	7.0%, net of investment expenses, including inflation*

*Administrative expenses as a percent of the market value of assets for the last experience study were found to be approximately 0.06% of the market assets for all of the VRS plans. This would provide an assumed investment return rate for GASB purposes of slightly more than the assumed 7.0%. However, since the difference was minimal, and a more conservative 7.0% investment return assumption provided a projected plan net position that exceeded the projected benefit payments, the long-term expected rate of return on investments was assumed to be 7.0% to simplify preparation of OPEB liabilities.

Mortality Rates – General State Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males set back 1 year, 85% of rates; females set back 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year; females set back 1 year with 1.5% increase compounded from ages 70 to 85.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males 115% of rates; females 130% of rates.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates - General State Employees: (Continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 25%

Mortality Rates - Teachers

Pre-Retirement:

RP-2014 White Collar Employee Rates to age 80, White Collar Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020.

Post-Retirement:

RP-2014 White Collar Employee Rates to age 49, White Collar Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males 1% increase compounded from ages 70 to 90; females set back 3 years with 1.5% increase compounded from ages 65 to 70 and 2.0% increase compounded from ages 75 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; 115% of rates for males and females.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates – Teachers: (Continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change

Mortality Rates – SPORS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates – SPORS Employees: (Continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 85%

Mortality Rates – VaLORS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates – VaLORS Employees: (Continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 50% to 35%

Mortality Rates – JRS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males set back 1 year, 85% of rates; females set back 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year; females set back 1 year with 1.5% compounding increase from ages 70 to 85.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males 115% of rates; females 130% of rates.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates – JRS Employees: (Continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Decreased rates at first retirement eligibility
Withdrawal Rates	No change
Disability Rates	Removed disability rates
Salary Scale	No change

Mortality Rates – Largest Ten Locality Employers – General Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates - Largest Ten Locality Employers - General Employees: (Continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

Mortality Rates - Non-Largest Ten Locality Employers - General Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates - Non-Largest Ten Locality Employers - General Employees: (Continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

Mortality Rates - Largest Ten Locality Employers - Hazardous Duty Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates – Largest Ten Locality Employers – Hazardous Duty Employees: (Continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Increased disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 70%

Mortality Rates – Non-Largest Ten Locality Employers – Hazardous Duty Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Actuarial Assumptions: (Continued)

Mortality Rates - Non-Largest Ten Locality Employers - Hazardous Duty Employees: (Continued)

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 60% to 45%

NET GLI OPEB Liability

The net OPEB liability (NOL) for the Group Life Insurance Program represents the program's total OPEB liability determined in accordance with GASB Statement No. 74, less the associated fiduciary net position. As of June 30, 2017, NOL amounts for the Group Life Insurance Program is as follows (amounts expressed in thousands):

		Group Life Insurance OPEB Program
Total GLI OPEB Liability	$	2,942,426
Plan Fiduciary Net Position		1,437,586
Employers' Net GLI OPEB Liability (Asset)	$	1,504,840
Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability		48.86%

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

NET GLI OPEB Liability: (Continued)

The total GLI OPEB liability is calculated by the System's actuary, and each plan's fiduciary net position is reported in the System's financial statements. The net GLI OPEB liability is disclosed in accordance with the requirements of GASB Statement No. 74 in the System's notes to the financial statements and required supplementary information.

Long-Term Expected Rate of Return

The long-term expected rate of return on the System's investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of System's 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. The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class (Strategy)	Target Allocation	Arithmetic Long-term Expected Rate of Return	Weighted Average Long-term Expected Rate of Return
Public Equity	40.00%	4.54%	1.82%
Fixed Income	15.00%	0.69%	0.10%
Credit Strategies	15.00%	3.96%	0.59%
Real Assets	15.00%	5.76%	0.86%
Private Equity	15.00%	9.53%	1.43%
Total	100.00%		4.80%
		Inflation	2.50%
		*Expected arithmetic nominal return	7.30%

*The above allocation provides a one-year return of 7.30%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the system, stochastic projections are employed to model future returns under various economic conditions. The results provide a range of returns over various time periods that ultimately provide a median return of 6.83%, including expected inflation of 2.50%.

Note 10—Group Life Insurance (GLI) Program (OPEB Plan): (Continued)

Discount Rate

The discount rate used to measure the total GLI OPEB liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that member contributions will be made per the VRS guidance and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Through the fiscal year ending June 30, 2019, the rate contributed by the entity for the GLI OPEB will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly. From July 1, 2019 on, employers are assumed to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the GLI OPEB's fiduciary net position was projected to be available to make all projected future benefit payments of eligible employees. Therefore the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total GLI OPEB liability.

Sensitivity of the Employer's Proportionate Share of the Net GLI OPEB Liability to Changes in the Discount Rate

The follow presents the employer's proportionate share of the net GLI OPEB liability using the discount rate of 7.00%, as well as what the employer's proportionate share of the net GLI OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (6.00%) or one percentage point higher (8.00%) than the current rate:

	Rate		
	1% Decrease	**Current Discount**	**1% Increase**
	(6.00%)	**(7.00%)**	**(8.00%)**
Authority's proportionate share of the Group Life Insurance Program Net OPEB Liability	$ 65,000	$ 51,000	$ 39,000

Group Life Insurance Program Fiduciary Net Position

Detailed information about the Group Life Insurance Program's Fiduciary Net Position is available in the separately issued VRS 2017 Comprehensive Annual Financial Report (CAFR). A copy of the 2017 VRS CAFR may be downloaded from the VRS website at http://www.varetire.org/Pdf/Publications/2017-annual-report.pdf, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

Note 11—Adoption of Accounting Principles and Restatement of Beginning Balances:

The Authority implemented the financial reporting provisions of Governmental Accounting Standards Board Statement Nos. 68 *Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27,* 75 *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* 82 *Pension Issues – An Amendment of GASB Statements No. 67, No. 68, and No. 73* and 85 *Omnibus 2017* the fiscal year ended June 30, 2018. The Statements establish standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources, and expense/expenditures related to pension and postemployment benefits other than pensions (other postemployment benefits or OPEB). Note disclosure and required supplementary information requirements about pension and OPEB are also addressed. The requirements of these Statements will improve accounting and financial reporting by state and local governments for pension and OPEB. In addition, the Authority implemented Governmental Accounting Standards Board Statement No. 85, *Omnibus 2017* during the fiscal year ended June 30, 2018. This Statement addresses practice issues identified during implementation and application of certain GASB statements for a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits (OPEB)). The implementation of these Statements and a correction of capitalized assets previously expensed resulted in the following restatement of net position:

	Water Fund	Sewer Fund	Total Funds
Balances at June 30, 2017	$ 4,340,045	$ 20,860,502	$ 25,200,547
Implementation of GASB 68	14,942	53,513	68,455
Implementation of GASB 75	702	2,516	3,218
Correction of an error - capital assets	-	54,870	54,870
Balances at June 30, 2017, as Restated	$ 4,355,689	$ 20,971,401	$ 25,327,090

Required Supplementary Information

Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
For the Year Ended June 30, 2018

		2017
Total pension liability		
Interest	$	(2)
Benefit payments, including refunds of employee contributions		(66)
Net change in total pension liability	$	(68)
Total pension liability - beginning		-
Total pension liability - ending (a)	$	(68)
Plan fiduciary net position		
Contributions - employer	$	68,109
Contributions - employee		30,602
Net investment income		6,570
Benefit payments, including refunds of employee contributions		(66)
Administrative expense		60
Other		(10)
Net change in plan fiduciary net position	$	105,265
Plan fiduciary net position - beginning		-
Plan fiduciary net position - ending (b)	$	105,265
Authority's net pension liability (asset) - ending (a) - (b)	$	(105,333)
Plan fiduciary net position as a percentage of the total pension liability		-154801.47%
Covered payroll	$	618,940
Authority's net pension liability (asset) as a percentage of covered payroll		-17.02%

Schedule is intended to show information for 10 years. The Authority began participation in the VRS pension plan on 7/1/2016.

Schedule of Employer Contributions - Pension Plan
For the Years Ended June 30, 2017 through June 30, 2018

Date	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Payroll (4)	Contributions as a % of Covered Payroll (5)
2018	$ 76,438	$ 76,438	$ -	$ 699,040	10.93%
2017	68,455	68,455	-	618,940	11.06%

Schedule is intended to show information for 10 years. The Authority began participation in the VRS pension plan on 7/1/2016.

Notes to Required Supplementary Information - Pension Plan
For the Year Ended June 30, 2018

Changes of benefit terms – There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation. The 2014 valuation includes Hybrid Retirement Plan members for the first time. The hybrid plan applies to most new employees hired on or after January 1, 2014 and not covered by enhanced hazardous duty benefits. Because this is a fairly new benefit and the number of participants was relatively small, the impact on the liabilities as of the measurement date of June 30, 2017 is not material.

Changes of assumptions – The following changes in actuarial assumptions were made effective June 30, 2016 based on the most recent experience study of the System for the four-year period ending June 30, 2016:

Largest 10 – Non-Hazardous Duty:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

All Others (Non 10 Largest) – Non-Hazardous Duty:

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

Schedule of Authority's Share of Net OPEB Liability
Group Life Insurance Program
For the Year Ended June 30, 2018

Date (1)	Employer's Proportion of the Net GLI OPEB Liability (Asset) (2)	Employer's Proportionate Share of the Net GLI OPEB Liability (Asset) (3)	Employer's Covered Payroll (4)	Employer's Proportionate Share of the Net GLI OPEB Liability (Asset) as a Percentage of Covered Payroll (3)/(4) (5)	Plan Fiduciary Net Position as a Percentage of Total GLI OPEB Liability (6)
2017	0.00335%	$ 51,000	$ 618,940	8.24%	48.86%

Schedule is intended to show information for 10 years. The Authority began participation in the VRS pension plan on 7/1/2016.

Schedule of Employer Contributions
Group Life Insurance Program
For the Years Ended June 30, 2009 through June 30, 2018

Date	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Payroll (4)	Contributions as a % of Covered Payroll (5)
2018	$ 3,676	$ 3,676	$ -	$ 706,893	0.52%
2017	3,218	3,218	-	618,940	0.52%

Schedule is intended to show information for 10 years. The Authority began participation in the VRS pension plan on 7/1/2016.

Notes to Required Supplementary Information
Group Life Insurance Program
For the Year Ended June 30, 2018

Changes of benefit terms – There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation.

Changes of assumptions – The following changes in actuarial assumptions were made effective June 30, 2016 based on the most recent experience study of the System for the four-year period ending June 30, 2016:

General State Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 25%

Teachers

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change

SPORS Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 85%

VaLORS Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better fit experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 50% to 35%

Notes to Required Supplementary Information
Group Life Insurance Program
For the Year Ended June 30, 2018 (Continued)

JRS Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Decreased rates at first retirement eligibility
Withdrawal Rates	No change
Disability Rates	Removed disability rates
Salary Scale	No change

Largest Ten Locality Employers - General Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

Non-Largest Ten Locality Employers - General Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

Largest Ten Locality Employers - Hazardous Duty Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Increased disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 70%

Non-Largest Ten Locality Employers - Hazardous Duty Employees

Mortality Rates (pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table - RP-2014 projected to 2020
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 60% to 45%

Supporting Schedules

Schedule of Revenues and Expenses - Budget and Actual - Water Fund
Year Ended June 30, 2018

	Budget	Actual	Variance Favorable (Unfavorable)
REVENUE:			
Water sales	$ 1,300,000	$ 1,260,160	$ (39,840)
Interest income	-	8,182	8,182
Contribution for debt service payments	35,655	35,618	(37)
Miscellaneous	9,500	-	(9,500)
Total revenue	$ 1,345,155	$ 1,303,960	$ (41,195)
EXPENSES:			
Wages	$ 250,892	$ 241,410	$ 9,482
Payroll Taxes	19,193	16,136	3,057
VRS	31,035	(4,411)	35,446
Insurance - Health	29,399	48,777	(19,378)
Accountant	6,500	1,900	4,600
Audit fee	2,837	-	2,837
Bank Fees	-	20	(20)
Chemicals	67,200	66,205	995
Contract Services	2,213	1,257	956
Dues	2,518	2,397	121
Education	500	1,782	(1,282)
Electricity	169,575	145,914	23,661
Gas, grease, oil	2,500	6,000	(3,500)
Generator expense	6,400	3,391	3,009
Honoraria	1,800	1,680	120
Insurance - General	31,244	52,399	(21,155)
IT Contract	6,214	6,000	214
Janitorial Supplies	2,000	1,217	783
Lab Supplies	6,000	5,822	178
Legal and advisory services	500	224	276
Maintenance	81,523	56,242	25,281
Monitoring	10,400	3,619	6,781
Office expenses	2,000	13,729	(11,729)

Schedule of Revenues and Expenses - Budget and Actual - Water Fund
Year Ended June 30, 2018

	Budget	Actual	Variance Favorable (Unfavorable)
EXPENSES: (Continued)			
Permits	$ -	$ 600	$ (600)
Professional fees	64,075	37,348	26,727
Safety	1,000	202	798
Special Projects	10,000	-	10,000
Telephone	5,000	3,989	1,011
Travel	2,500	1,419	1,081
Vehicles	2,000	888	1,112
Wearing Apparel	2,500	2,037	463
Solids Handling	5,000	-	5,000
Payment on water plant bond:			
Principal	155,000	165,000	(10,000)
Interest	40,341	30,341	10,000
Loan payment on Loop Project:			
Principal	141,158	144,008	(2,850)
Interest	145,138	142,289	2,849
Asset repair and replacement	39,000	16,841	22,159
Total expenses	$ 1,345,155	$ 1,216,672	$ 128,483
Net income (loss)	$ -	$ 87,288	$ 87,288

Reconciliation to Statement of Revenues, Expenses and Changes in Net Position:

Net income (loss) - Budgetary Basis	$ 87,288
Principal payments on bonds and loans	309,008
Depreciation	(371,945)
Interest Accrual	6,580
Capital asset additions	16,841
Change in Net Position - GAAP Basis	$ 47,772

This schedule is presented on the Authority's budgetary basis of accounting. Depreciation is excluded from the schedule and loan payments are included.

Schedule of Revenues and Expenses - Budget and Actual - Sewer Fund
Year Ended June 30, 2018

	Budget	Actual	Variance Favorable (Unfavorable)
REVENUE:			
Sewer sales	$ 1,656,600	$ 1,607,104	$ (49,496)
Interest	10,000	7,858	(2,142)
Contribution for debt service payments	-	1,408,661	1,408,661
Miscellaneous	10,000	57,805	47,805
Total revenue	$ 1,676,600	$ 3,081,428	$ 1,404,828
EXPENSES:			
Wages	$ 555,352	$ 493,707	$ 61,645
Payroll Taxes	42,500	39,121	3,379
VRS	70,413	(14,871)	85,284
Insurance - Health	153,834	154,316	(482)
Accountant	2,850	26,649	(23,799)
Audit fee	2,837	-	2,837
Chemicals	58,000	98,533	(40,533)
Contract Services	3,300	1,221	2,079
Dues	3,562	11,510	(7,948)
Education	500	1,954	(1,454)
Electricity	315,000	256,183	58,817
Gas, grease, oil	5,000	14,184	(9,184)
Generator expense	14,000	11,639	2,361
Honoraria	1,800	1,740	60
Insurance - General	40,000	10,663	29,337
Janitorial Supplies	5,000	4,693	307
Lab Supplies	10,000	19,254	(9,254)
Legal and advisory services	513	3,894	(3,381)
Maintenance	84,943	185,216	(100,273)
Monitoring	8,500	6,859	1,641
Office expenses	1,750	4,195	(2,445)
Permits Expense	11,000	18,573	(7,573)

Schedule of Revenues and Expenses - Budget and Actual - Sewer Fund
Year Ended June 30, 2018

	Budget	Actual	Variance Favorable (Unfavorable)
EXPENSES: (Continued)			
Professional fees	$ 74,075	$ 124,527	$ (50,452)
Safety	4,000	132	3,868
Special Projects	10,000	86,212	(76,212)
Telephone	5,125	5,009	116
Travel	2,153	501	1,652
Vehicles	14,350	14,236	114
Wearing Apparel	1,743	4,851	(3,108)
IT Contract	10,000	6,000	4,000
Landfill Contract	4,500	4,320	180
Special Projects			
Loan payment on sewer plant bonds:			
Principal	-	1,396,968	(1,396,968)
Interest	-	11,693	(11,693)
Asset repair and replacement	160,000	101,372	58,628
Total expenses	$ 1,676,600	$ 3,105,054	$ (1,428,454)
Net income (loss)	$ -	$ (23,626)	$ (23,626)

Reconciliation to Statement of Revenues, Expenses and Changes in Net Position:

Net income (loss) - Budgetary Basis	$ (23,626)
Principal payments on bonds	1,396,968
Depreciation	(782,767)
Interest Accrual	1,297
Capital asset additions	101,372
Rounding	1
Change in Net Position - GAAP Basis	$ 693,245

This schedule is presented on the Authority's budgetary basis of accounting. Depreciation is excluded from the schedule and loan payments are included.

Compliance

Independent Auditors' Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

To the Board of Directors
Maury Service Authority
Lexington, Virginia

We have audited, in accordance with the auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States; and the *Specifications for Audits of Authorities, Boards, and Commissions,* issued by the Auditor of Public Accounts of the Commonwealth of Virginia, the financial statements of the Maury Service Authority as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Maury Service Authority's financial statements and have issued our report thereon dated June 4, 2019.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Maury Service Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of Maury Service Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of Maury Service Authority's internal control.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that have not been identified. However, as described in the accompanying schedule of findings and responses, we identified certain deficiencies in internal control that we consider to be material weaknesses.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. We consider the deficiency described in the accompanying schedule of findings and responses to be a material weakness (2018-001).

Compliance and Other Matters

As part of obtaining reasonable assurance about whether Maury Service Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Maury Service Authority's Response to Findings

Maury Service Authority's response to the finding identified in our audit is described in the accompanying schedule of findings and questioned costs and responses. Maury Service Authority's response was not subjected to the auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on it.

Purpose of this Report

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

Robinson Farmer Cox Associates

Charlottesville, Virginia
June 4, 2019

Maury Service Authority

Schedule of Findings and Responses
For the Year Ended June 30, 2018

Section I - Summary of Auditors' Results

Financial Statements

Type of auditors' report issued:	Unmodified
Internal control over financial reporting:	
Material weakness(es) identified?	Yes
Significant deficiency(ies)?	None reported
Noncompliance material to financial statements noted?	No

Section II - Financial Statement Findings

2018-001
Criteria:

Per Statement on Auditing Standards 115, identification of a material adjustment to the financial statements that was not detected by entity's internal controls indicates that a material weakness may exist.

Condition:

The Authority's financial statements required material adjustments by the Auditor to ensure such statements complied with Generally Accepted Accounting Principles (GAAP).

Context:

Management contracts with a CPA to provide general ledger services. However, consultants were changed mid-year and significant adjustments were identified by the auditors.

Effect:

There is a reasonable possibility that a material misstatement of the financial statements will not be prevented or detected by the entity's internal controls over financial reporting.

Cause:

Management and the contracted bookkeeper failed to identify all year-end accounting adjustments necessary for the books to be prepared in accordance with current reporting standards. The Authority does not have proper controls in place to detect and record governmental GAAP accruals in closing their year end financial statements.

Recommendation:

We recommend that accrual activity (accounts payable, accrued leave, interfund balances, depreciation, etc.) be recorded prior to audit fieldwork to limit the auditor's involvement in recording adjusting journal entries and making significant adjustments to the general ledger.

Management's Response:

MSA has made significant changes to the bookkeeping system used for financial accountability. The QuickBooks software is now an integral part of the day-to-day financial transactions. Adjustments are being made in the way we identify accounts payable, accrued leave, etc. to ensure the information is more accurate and accessibility is enhanced. Additionally, our plan is to have an accountant review our financial information at the end of each fiscal year so we know the appropriate information is more readily available and in a better format when the Auditors arrive.

Section III - Status of Prior Year Findings

Finding 2017-001 is repeated as 2018-001.