PEPPER'S FERRY REGIONAL
WASTEWATER TREATMENT AUTHORITY

FINANCIAL STATEMENTS

FOR THE YEAR ENDED
JUNE 30, 2020

PEPPER'S FERRY REGIONAL WASTEWATER TREATMENT AUTHORITY

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PEPPER'S FERRY REGIONAL WASTEWATER TREATMENT AUTHORITY

Radford, Virginia

(A governmental organization established August 8, 1977
as a tax exempt political subdivision within the Commonwealth of Virginia)

Board of Directors

Doyle R. Barton, Chairman
City of Radford

Jeffrey S. Worrell, Vice Chairman
Town of Pulaski

Joseph L. Sheffey, Secretary
Pulaski County Sewerage Authority

Lane R. Penn, Treasurer
Town of Pulaski

Robert P. Asbury, Jr., Member
City of Radford

Stephen F. Crigger, Member
Town of Dublin

M. Todd King, Member
Montgomery County Public Service Authority

Dennis Setliff, Member
Pulaski County Public Service Authority

Officials

R. Clarke Wallcraft, Executive Director
Ryan Hendrix, Deputy Executive Director

Independent Auditors

Cooke, Lavender, Massey & Company, P.C.

COOKE
LAVENDER
MASSEY
& COMPANY, P.C.
certified public accountants

Blacksburg Office
2001 S. Main Street, Suite 6
Blacksburg, VA 24060
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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
Pepper's Ferry Regional Wastewater Treatment Authority
Radford, Virginia

We have audited the accompanying financial statements of the business-type activities of Pepper's Ferry Regional Wastewater Treatment Authority, as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise Pepper's Ferry Regional Wastewater Treatment 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.

Auditor's Responsibility

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities of Pepper's Ferry Regional Wastewater Treatment Authority, as of June 30, 2020, and the respective 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.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the required supplementary information on pages 4 - 11 and 54 – 64, respectively, 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.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated November 20, 2020, on our consideration of Pepper's Ferry Regional Wastewater Treatment 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 Pepper's Ferry Regional Wastewater Treatment 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 Pepper's Ferry Regional Wastewater Treatment Authority's internal control over financial reporting and compliance.

Cooke, Lavender, Massey & Company P.C.

Blacksburg, Virginia
November 20, 2020

PEPPER'S FERRY REGIONAL WASTEWATER TREATMENT AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED JUNE 30, 2020

The following management discussion and analysis (MD&A) serves as an introduction to the financial statements of Pepper's Ferry Regional Wastewater Treatment Authority's (the Authority) financial performance and provides an overview of the Authority's financial activities for the year ended June 30, 2020. The MD&A represents management's examination and analysis of the Authority's financial condition and performance and it should be read in conjunction with the Authority's basic financial statements which immediately follow this section. The MD&A is an element of the reporting model adopted by the Governmental Accounting Standards Board (GASB) Statement No. 34, *Basic Financial Statements – and Management's Discussion and Analysis – for State and Local Governments (GASB 34)*.

FINANCIAL HIGHLIGHTS

The Authority's net position for the year ended June 30, 2020 increased to \$14,539,616 from \$13,037,925 at June 30, 2019. Net position is composed of net investment in capital assets and unrestricted net position. Net investment in capital assets for the year ended June 30, 2020 increased to \$9,045,813 from \$8,841,017 at June 30, 2019. Unrestricted net position for the year ended June 30, 2020 increased to \$5,493,803 from \$4,196,908 at June 30, 2019.

The Authority had revenues of \$5,928,006, which totaled \$1,501,691 more than expenses and losses of \$4,426,315.

The Authority has outstanding debt of \$14,550,861 at June 30, 2020.

OVERVIEW OF THE FINANCIAL STATEMENTS

The Authority is solely engaged in business-type activities and therefore its basic financial statements are comprised of two components: 1) enterprise fund financial statements and 2) notes to the financial statements. This report also contains required supplementary information in addition to the basic financial statements. The financial statements are prepared in accordance with accounting principles generally accepted in the United States of America as promulgated by the Governmental Accounting Standards Board (GASB).

Enterprise fund financial statements. The financial statements provide information about the Authority as a whole using the accrual basis of accounting, which is the method used by most private-sector enterprises. The report includes three financial statements: the Statement of Net Position; the Statement of Revenues, Expenses, and Changes in Net Position; and the Statement of Cash Flows.

The *Statement of Net Position* presents information on the Authority's 1) assets and deferred outflows of resources and 2) liabilities and deferred inflows of resources with the difference between the two reported as net position. Net position is displayed in three broad components – net investment in capital assets; restricted assets; and unrestricted assets.

The *Statement of Revenues, Expenses, and Changes in 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 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 (e.g. earned but unused vacation leave). Revenues and expenses are categorized as either operating or non-operating based upon definitions provided by GASB Statements 33 and 34. Operating revenue consists of member service charges, debt service charges, and other revenue. Non-operating revenue consists of interest.

One of the main goals of these two financial statements is to report the Authority's net position and changes that affected net position during the fiscal year. The change in the Authority's net position is one way to measure the Authority's financial health, or financial position. Increases and decreases in net position are indicators of whether the Authority's financial health is improving or deteriorating.

The *Statement of Cash Flows* presents changes in cash equivalents, resulting from operational, financial, and investing activities. This statement presents cash receipts and cash disbursement information without consideration of the earning event, when an obligation arises, or depreciation of capital assets.

The basic enterprise fund financial statements can be found on pages 12 through 15 of this report.

<u>Notes to Financial Statements.</u> The notes to the basic financial statements provide additional information that are essential to a full understanding of the data provided in the financial statements. The notes to financial statements can be found on pages 16 through 53.

<u>Other Information.</u> In addition to the basic financial statements and accompanying notes, certain required supplementary information concerning the Authority's asset, liability, and funding of its obligation to provide pension and other post-employment benefits to its employees is located immediately following the notes to financial statements.

FINANCIAL ANALYSIS OF THE AUTHORITY AS A WHOLE

Table A presents the Condensed Statement of Net Position for the years ended June 30, 2020 and 2019. At June 30, 2020 and 2019, unrestricted net position was $5,493,803 and $4,196,908, respectively. Of total net position, unrestricted net position represented 37.8% and 32.2% for fiscal years 2020 and 2019, respectively.

Table A

Condensed Statement of Net Position
Years ended June 30, 2020 and 2019

	2020	2019
Assets:		
Current and other assets	$ 6,710,161	$ 5,516,805
Capital assets, net	23,596,674	16,576,837
Total assets	30,306,835	22,093,642
Deferred outflows of resources	313,466	109,575
Total assets and deferred outflows of resources	$ 30,620,301	$ 22,203,217

Liabilities:		
Current	1,299,859	1,494,950
Noncurrent	14,679,256	7,496,685
Total liabilities	15,979,115	8,991,685
Deferred inflows of resources	101,570	173,657
Net Position:		
Net investment in capital assets	9,045,813	8,841,017
Unrestricted	5,493,803	4,196,908
Total net position	14,539,616	13,037,925
Total liabilities, and deferred inflows of resources, and net position	$ 30,620,301	$ 22,203,217

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 and deferred inflows of resources by $14,539,616 and $13,037,925, at June 30, 2020 and 2019, respectively. The largest portion of the Authority's net position reflects its investment in capital assets (net of accumulated depreciation), less any related debt used to acquire those assets that is still outstanding. For 2020, 62.2% of the Authority's net position is invested in capital assets. The Authority uses these capital assets to provide services to customers; consequently, these assets are not available for future spending.

Table B presents the Condensed Statement of Revenues, Expenses, and Changes in Net Position for the years ended June 30, 2020 and 2019.

Table B

Condensed Statement of Revenues, Expenses,
and Changes in Net Position
Years ended June 30, 2020 and 2019

	2020	2019
Operating Revenues:		
Charges for services	$ 5,733,187	$ 5,709,168
Other revenues	104,722	155,264
Total operating revenues	5,837,909	5,864,432
Operating Expenses:		
Operating expenses	3,086,270	2,939,177
Depreciation	1,294,260	1,338,132
Total operating expenses	4,380,530	4,277,309
Non-Operating Revenues (Expenses):		
Interest income	90,097	91,858
Gain (loss) on disposal of assets	(6,082)	(5,130)
Debt issuance costs	-	(48,128)
Interest expense	(39,703)	(58,223)
Total non-operating revenues (expenses)	44,312	(19,623)
Change in net position	1,501,691	1,567,500
Total net position, beginning of year	13,037,925	11,470,425
Total net position, end of year	$ 14,539,616	$ 13,037,925

Review of Operations

Member service charge revenue estimates used to develop the budget for the year ended June 30, 2020 were based on a five-year rolling flow average. Actual flows pumped and treated during the fiscal year were greater than the five-year rolling flow average budgeted values by 7.5% . In addition, it was assumed that the new process changes associated with the Series 2018 bond funded project were to be completed by July 1, 2019 and the internal recycle flows were to be significantly less; however, this did not occur until December 31, 2019. As such, management discussed the matter with the Board of Directors who agreed to not adjust the rate until the new process was fully operational. Therefore, the approved Treatment Plant rate for the year ending June 30, 2020 was implemented on January 1, 2020 and as a result the overall member service charge revenues for the Treatment Plant remained relatively the same as the prior year with a slight decrease by 0.70% .

Generally, total operating expenses of the Authority for the year ended June 30, 2020 tracked closely with budgeted values, but did increase by $103,221 overall when compared with actual expenditures for the year ended June 30, 2019. Operating expenses increased by 2.41% ($4,380,530, compared to $4,277,309 as of June 30, 2019).

The Authority continues to scrutinize the overall operations of the Authority and optimize fund usage through operational cost saving measures wherever possible. The two smaller cost centers of the Authority, New River Pump Station (NRPS) and Radford Pump Station (RPS), each realized an operational net surplus for the year ended June 30, 2020 ($59,910.39 and $20,628.84, respectively). These unspent funds were deposited into dedicated reserve accounts for future capital expenditures in those cost centers as determined and approved by the Board of Directors. Likewise, the unanticipated revenue due to excessive flows for the year ended June 30, 2020 will be utilized to fund future capital projects in the pump station and treatment plant cost centers.

Variances of operating expenses worth noting include the following: Payroll expenses, including wages, taxes, and employee benefits, increased by $181,575 ($1,899,254 as of June 30, 2020 compared to $1,717,679 as of June 30, 2019), which was primarily due to the number of full-time employees returning to full staff and the re-activation of a second Wastewater Supervisor position; Electricity purchases decreased by $39,297 ($371,969 as of June 30, 2020 compared to $411,266 as of June 30, 2019) and was directly attributable to pumping and processing less flows received as compared to the previous fiscal year; Engineering Services increased $13,370 ($76,380 as of June 30, 2020 compared to $63,010 as of June 30, 2019), which was due to design services for the SHB electrical room expansion; WWTP Repair & Maintenance increased $35,908 ($111,145 as of June 30, 2020 compared to $75,237 as of June 30, 2019), which was is attributable to multiple equipment repairs during the year; and Fuel & Fluids expenses increased by $34,954 ($57,243 as of June 30, 2020 compared to $22,289 as of June 30, 2019), which was caused by the primary methane storage structure being out of service and resulting in the need to heat the digestion process with fuel oil instead of methane gas.

CAPITAL ASSETS

As of June 30, 2020, the Authority has $23,596,674 invested in a variety of capital assets (net of accumulated depreciation), including land, buildings, basins, digesters, lines, equipment, vehicles, etc. The actual facilities included in these capital assets can best be described as the main wastewater treatment plant and outfall pipe, the New River pumping station and equalization facility, the Radford pumping station, and the wastewater force mains interconnecting these locations. The Authority's additions to capital assets for the current year totaled $8,354,523. Depreciation expense for the year ending June 30, 2020 was $1,294,260. Capital assets with a book value of $47,066 were also disposed of during the year ending June 30, 2020. Considering depreciation expense, disposals of capital assets, and the Authority's capital asset additions, total net investment in capital assets increased to $23,596,674 at June 30, 2020 from $16,576,837 at June 30, 2019, for a total net difference of $7,019,837.

Additional information on the Authority's capital assets can be found in Note 4 in the notes to the financial statements. The following is a summary of the capital assets net of accumulated depreciation at June 30, 2020 and 2019:

	2020	2019
Capital Assets:		
Land	$ 441,841	$ 441,841
Construction in progress	450,346	4,111,178
Plant and equipment	57,242,403	49,546,533
Total capital assets	58,134,590	54,099,552
Accumulated depreciation	(34,537,916)	(37,522,715)
Total capital assets, net	$ 23,596,674	$ 16,576,837

The Capital Improvement Projects (CIP) budget is supported by a separate rate structure than the operational budget. CIP scheduled during the fiscal year are funded through direct charges to the Authority's Member Jurisdictions. The Authority continued its focus toward replacement and enhancement of its capital assets during the fiscal year ended June 30, 2020. The following capital projects were worked on and/or completed during the fiscal year ending June 30, 2020: Replacement of WWTP bay doors ($56,000); Replacement of the mechanical drives for Secondary Clarifiers T-3A, T-3B, and T- 3C ($192,000); Design for NRPS and RPS drive replacement project ($89,612); Design for the NRPS screen replacement project ($101,241).

In addition to the capital projects listed above and funded by the CIP budget, the primary capital project scheduled for the fiscal year was the continuation of the Series 2018 bond funded construction project. The project is associated with the replacement of multiple pieces of equipment and process upgrades at the treatment plant, including: return activated sludge pumps, motors, force main and flow splitting structure, replacement of the aeration basin air transmission header piping, replacement of the primary clarifier pump station pumps and grinders, replacement of the recycle pump station, installation of mixing in the secondary digester, and replacement of the majority of HVAC equipment through the entire treatment plant facilities. This project should be complete during the year ending June 30, 2021.

Historically, the Authority's Board of Directors has adopted a long-term approach to the replacement of the Authority's capital assets, as opposed to incurring certain additional long-term debt, particularly as it relates to equipment replacement and upgrades. This long-term, pay-as-you-go, approach is also supported by the governing bodies of the member jurisdictions served by the Authority. The Authority remains dedicated to maintaining its long-term capital asset replacement plan.

LONG-TERM OBLIGATIONS

As of June 30, 2020, the Authority has $14,550,861 in outstanding debt, compared to $7,735,820 at year ended June 30, 2019. The Authority's long-term debt is structured across three separate bond issues. The 2002b series bonds carry a fixed interest rate of 1.00% and are scheduled to be retired in the year 2024 (with annual principal and interest payments of $801,556 through 2024). The 2014 series bond carries a fixed interest rate of 1.85% and is scheduled to be retired in the year 2021 (with varying annual principal and interest payments). The 2018 series bond continues to fund the ongoing capital construction project, which is slated for completion by the year ending June 30, 2021. The 2018 bonds carry a fixed interest rate of 1.00% for a term of twenty (20) years. The first payment of these bonds will occur six (6) months after project completion, with the first payment being interest only. The remaining thirty-nine (39) payments will be a combination of principal and interest in an estimated amount of $700,000 annually.

The Authority's revenue stream for payment of its long-term debt comes directly from the member jurisdictions based on monthly payments and is separate from wastewater treatment revenue. An annual debt service calculation is performed based on the previous five years of flow data, and then the annual debt payment schedule is developed based on apportioning the total annual debt to the member jurisdictions as determined by the calculation.

Effective July 1, 2014, realizing the future requirements of GASB 68 related to financial reporting for pension plans, the Authority began disclosing the Net Pension Liability (NPL) for its Virginia Retirement System (VRS) pension plan on its statement of net position. Concurrent with this liability disclosure, the Authority also established an offset reserve asset account to partially fund the liability. Deposits are made into this account upon approval by the Board of Directors. For the fiscal year ended June 30, 2020, the balance in this offset account was $445,033. At June 30, 2020, the NPL was $793,246. Therefore, at June 30, 2020 the Authority had funded the NPL to the level of 56.1% ($445,033 divided by $793,246). The Authority uses the most recent actuarial report provided by the VRS. For the year ended June 30, 2020, the most recent VRS actuarial report is dated June 30, 2019. The Authority's Board of Directors may consider additional funding of the NPL in the future, at its discretion, as funds and rate structures allow.

ECONOMIC FACTORS AND FUTURE BUDGETS

The Authority considers many factors when setting future fiscal year budgets and service fees that will be charged for business-type activities. Service fees and interest generate the revenues that are used to establish the budget. The estimated service fees are based on the anticipated flow volume (determined by utilizing a five-year flow average from each member jurisdiction) in the upcoming fiscal year. Some of the factors considered when establishing the budget include, but are not limited to:

1) Uncertainty regarding the economy in relation to the COVID-19 pandemic
2) Projected increases in health insurance premiums and retirement contribution rates assessed by the Virginia Retirement System
3) Member service rates on a cost per gallon basis
4) Past budgetary information
5) Flow volume and other trend analyses
6) Capital improvement needs and asset reinvestment
7) Competitive employee salaries and benefits
8) Overall energy, chemical, and fuel costs

Current Fiscal Year

The Board of Directors evaluated the existing treatment and pump station rate structure, as well as other rates, fees, and direct charges during the year ended June 30, 2019. The evaluation resulted in the establishment of an 11.3% rate increase in the Treatment Plant cost center, effective July 1, 2019, to account for the reduction of internal recycle flows, and achieve a flat revenue stream; however, the rate increase was not actually implemented until January 1, 2020, as that is when the internal recycle flows were actually reduced. The NRPS cost center rate was increased 8.3% , effective July 1, 2019, to cover increased utility costs, while the RPS cost center rate did not change from the prior fiscal year. The Board reconsiders the adequacy of the Authority's treatment and pump station rate structure during the budget process each fiscal year. Based on current trends associated with various cost indices, the Authority realizes that future increases in rates, fees, and direct charges may be necessary to keep pace with increased costs to operate and maintain the system.

The Authority continued construction associated with the Series 2018 bond funded construction project. The project entails replacement of the multiple pieces of equipment and process improvements, and due to the increased scope of design and construction this capital project necessitated the Authority incur new long-term debt. By the contract, the project was scheduled for completion on April 30, 2020; however, the project is six (6) months behind schedule and as such is now anticipated to be completed in or during the year ending June 30, 2021.

In addition to the Series 2018 bond funded construction project, the Authority had other capital improvement projects (CIP) scheduled for the fiscal year which are funded by the CIP budget. These projects are supported by a separate CIP rate structure and are funded through direct charges to the Authority's Member Jurisdictions. For the year beginning July 1, 2019, the Authority budgeted $1,000,000 in capital project expenditures at the Treatment Plant, NRPS, and RPS.

Next Fiscal Year

The Authority experienced another wet year, with higher than normal flows during the past year. The total flow processed was slightly less than the previous year and subsequently the five-year average flow volume anticipated at the treatment plant is slightly less. In addition, due to the reduction of internal process flows because of equipment installed with the 2018 bond funded project, the Authority continued an internal policy from last fiscal year which reduces the five-year average flow calculations utilized for the 2020/2021 rates by approximately ten (10) percent. For the fiscal year beginning July 1, 2020, the Treatment Plant cost center rate was increased by less than 1.0% , resulting in essentially a flat revenue stream. The NRPS cost center rate was increased 7.7% effective July 1, 2020 to cover increased operations and maintenance costs, while Radford Pump Station cost center rates did not change from the prior fiscal year.

The Series 2018 bond funded construction project will be completed by the year end June 30, 2021, with the anticipated final completion happening by December 31, 2020. The financing agreement between the Authority and the Virginia Resources Authority dictates that the first debt service payment (interest only) will occur six-months after project completion. The Authority anticipates initiating direct charges to the members for the debt service associated with the Series 2018 bond effective January 1, 2021, with the first interest only payment expected to occur in July 2020.

The Authority also has several other CIP budget funded projects scheduled for the year ending June 30, 2021. As previously mentioned, these CIP projects are supported by a separate CIP rate structure and are funded through direct charges to the Authority's Member Jurisdictions. Previous to the year ending June 30, 2020, the CIP rate structure was only implemented for the Treatment plant; however, with significant projects scheduled for both the NRPS and the RPS the Authority established and implemented CIP direct charges for the NRPS and RPS cost centers. For the fiscal year beginning July 1, 2020, the Authority budgeted approximately $700,000 in capital project expenditures at the NRPS and RPS for the Variable Frequency Drive Replacement project. The Authority also utilized funds collected from the treatment of excess flow and re-prioritization of capital projects to complete the emergency NRPS screen project.

Financial Goals for the Next Fiscal Year

The Authority will continue to ensure its financial management practices are in agreement with the policies identified and approved within the Authority's Fiscal Policy. These policies include the requirements outlined within the Debt Policy, Reserve Policy, Capital Budget Policy, and Investment Policies.

The Authority plans to complete the capital asset registry for the treatment plant facilities in the next fiscal year. The final asset registry will be an integral part of the Authority's Fiscal Sustainability Plan (FSP) and will aid with the development of criticality ratings for each asset, as well as realistic replacement schedules for the assets so that future capital projects can be scheduled appropriately. This effort will also link the useful life of these capital assets to the depreciation schedule. Ultimately, the FSP will culminate in updates to the five-year and ten-year CIP so that the supporting rate structures can be established.

The ten-year CIP will be updated by the year ending June 30, 2021 to reflect the capital projects expected to take precedence and occur through the year ending June 30, 2031, and assist with forecasting the CIP funds necessary to complete the projects identified. It is worth mentioning that the direct charges for the Treatment Plant CIP will be reduced over the next several years to help absorb the new Series 2018 bond debt service direct charge to the members of the Authority. The reduced Treatment Plant CIP direct charges will remain in effect until April 1, 2024 when the Series 2002b bond is retired, at which time the treatment plant CIP direct charges for the Treatment Plant, NRPS, and RPS cost centers to the members of the Authority will be increased. This approach allows the Authority to absorb the new Series 2018 bond debt service without increasing the overall charges to the members of the Authority.

While the Authority remains dedicated to minimizing the impacts of rate changes to its members, it is anticipated that modest rate increases in future budgets will be necessary to fund the ever-increasing costs to operate the Authority's treatment facilities.

REQUESTS FOR INFORMATION

This financial report is designed to provide our citizens, ratepayers, customers, and creditors with a general overview of the Authority's finances and to demonstrate the Authority's accountability for the resources it receives and their uses. Questions concerning this report or requests for additional information should be directed to the Executive Director, P.O. Box 2950, Radford, Virginia 24143, telephone (540) 639-3947, or email at cwallcraft@pfrwta.com.

STATEMENT OF NET POSITION
JUNE 30, 2020

ASSETS	
CURRENT ASSETS:	
Cash and cash equivalents	$ 6,042,269
Accounts receivable, net of allowance	30,700
Accounts receivable - members, net of allowance	637,192
Total current assets	6,710,161
NONCURRENT ASSETS:	
Capital Assets:	
Land	441,841
Construction in progress	450,346
Plant and equipment	57,242,403
Total capital assets	58,134,590
Accumulated depreciation	(34,537,916)
Total capital assets, net	23,596,674
TOTAL ASSETS	30,306,835
DEFERRED OUTFLOWS OF RESOURCES	
Pension related items	279,497
OPEB related items	33,969
TOTAL DEFERRED OUTFLOWS OF RESOURCES	313,466
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	$ 30,620,301
LIABILITIES	
CURRENT LIABILITIES:	
Accounts payable	$ 308,508
Accrued payroll and payroll liabilities	61,133
Accrued interest payable	7,838
Compensated absences, current portion	13,053
Long-term debt, current maturities	909,327
Total current liabilities	1,299,859
NONCURRENT LIABILITIES:	
Compensated absences, net of current portion	117,477
Net pension liability	793,246
Net OPEB liability	126,999
Long-term debt, net of current maturities	13,641,534
Total noncurrent liabilities	14,679,256
TOTAL LIABILITIES	15,979,115
DEFERRED INFLOWS OF RESOURCES	
Pension related items	79,600
OPEB related items	21,970
TOTAL DEFERRED INFLOWS OF RESOURCES	101,570
NET POSITION	
Net investment in capital assets	9,045,813
Unrestricted	5,493,803
TOTAL NET POSITION	14,539,616
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION	$ 30,620,301

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

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION
FOR THE YEAR ENDED JUNE 30, 2020

OPERATING REVENUES	
Charges for Services:	
Member service charges	$ 4,732,530
Debt service revenue	1,000,657
Other revenues	104,722
Total operating revenues	5,837,909
OPERATING EXPENSES	
Salaries and wages	1,356,043
Payroll taxes	98,242
Employee benefits	444,969
Chemical supplies	114,455
Computer expenses	15,802
Dues, licenses, taxes, and subscriptions	17,913
Electricity	371,969
Equipment rental	2,662
Food, travel, and lodging	5,891
Fuel and fluids	57,243
Insurance and bonding	49,267
Office supplies, postage, and advertising	10,673
Other materials and supplies	25,748
Professional fees	149,308
Repairs and maintenance	215,205
Telephone and communications	18,047
Training and education	1,419
Water	57,368
Other operating costs	74,046
Depreciation	1,294,260
Total operating expenses	4,380,530
OPERATING INCOME (LOSS)	1,457,379
NON-OPERATING REVENUES (EXPENSES)	
Interest income	90,097
Loss on disposal of capital assets	(6,082)
Interest expense	(39,703)
Total non-operating revenues (expenses)	44,312
CHANGE IN NET POSITION	1,501,691
TOTAL NET POSITION, BEGINNING OF YEAR	13,037,925
TOTAL NET POSITION, END OF YEAR	$ 14,539,616

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

PEPPER'S FERRY REGIONAL WASTEWATER TREATMENT AUTHORITY — Exhibit C

STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED JUNE 30, 2020

CASH FLOWS FROM OPERATING ACTIVITIES	
Cash received from:	
Customers and users	$ 5,589,274
Cash paid to:	
Employees	(1,843,588)
Suppliers	(1,188,892)
Net Cash Provided by (Used for) Operating Activities	2,556,794
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES	
None	-
Net Cash Provided by (Used for) Noncapital Financing Activities	-
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Acquisition and construction of capital assets	(8,516,581)
Proceeds from the sale of capital assets	40,984
Proceeds from new bond borrowings	7,778,331
Principal payments on bonds	(963,290)
Interest payments	(41,614)
Net Cash Provided by (Used for) Capital and Related Financing Activities	(1,702,170)
CASH FLOWS FROM INVESTING ACTIVITIES	
Interest earned	90,097
Net Cash Provided by (Used for) Investing Activities	90,097
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	944,721
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	5,097,548
CASH AND CASH EQUIVALENTS, END OF YEAR	$ 6,042,269

RECONCILIATION TO THE STATEMENT OF NET POSITION:

Cash and cash equivalents	$ 6,042,269
	$ 6,042,269

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

PEPPER'S FERRY REGIONAL WASTEWATER TREATMENT AUTHORITY

Exhibit C
(continued)

STATEMENT OF CASH FLOWS (continued)
FOR THE YEAR ENDED JUNE 30, 2020

RECONCILIATION OF OPERATING INCOME (LOSS) TO NET CASH PROVIDED BY (USED FOR) OPERATING ACTIVITIES

Operating income (loss)	$	1,457,379
Adjustments to reconcile operating income (loss) to net cash provided by (used for) operating activities:		
Depreciation		1,294,260
Changes in operating assets, liabilities, and deferred outflows and inflows of resources:		
(Increase) decrease in assets and deferred outflows of resources:		
Accounts receivable, net of allowance		27,992
Accounts receivable - members, net of allowance		(276,627)
Pension deferred outflows of resources		(183,014)
OPEB deferred outflows of resources		(20,877)
Increase (decrease) in liabilities and deferred inflows of resources:		
Accounts payable		(1,876)
Accrued payroll and payroll liabilities		15,818
Compensated absences		18,660
Net pension liability		275,923
Net OPEB liability		21,243
Pension deferred inflows of resources		(66,592)
OPEB deferred inflows of resources		(5,495)
Net Cash Provided by (Used for) Operating Activities	$	2,556,794

NONCASH INVESTING, CAPITAL, AND FINANCING ACTIVITIES

Current year capital asset additions included construction payables of $291,777.

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

1. DESCRIPTION OF ENTITY

Pepper's Ferry Regional Wastewater Treatment Authority (the Authority) is a public body, politic and corporate, created on August 8, 1977 by Articles of Incorporation executed by the Board of Supervisors for the Counties of Pulaski and Montgomery and the Councils of the City of Radford and the Town of Dublin (the Members), pursuant to the Virginia Water and Sewer Authorities Act. In 1979, the Articles of Incorporation were amended and restated to add the Town of Pulaski as a member. The Authority was created to acquire, finance, construct, operate, and maintain facilities for the development and operation of a wastewater equalization, pumping, treatment, and disposal system for the long-term needs of its Members. The Authority owns and operates certain facilities (the Collection Facilities), which are or will be owned and operated by the six Members. The Regional Facility and the Collection Facilities are known collectively as the System.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A. Measurement Focus and Basis of Accounting

For financial reporting purposes, the Authority is considered a special-purpose government and operates as an enterprise fund, engaged only in business-type activities. Accordingly, the Authority's financial statements have been prepared using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis, revenues are recognized when earned, and expenses are recorded when a liability has been incurred, regardless of the timing of the related cash flows.

The Authority distinguishes operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services in connection with the Authority's principal ongoing operations. The principal operating revenues of the Authority are charges to customers for services. All revenues not meeting this definition are reported as nonoperating revenues. Nonoperating expenses include interest on debt, debt issuance costs, and losses on disposals of capital assets. All expenses not meeting these definitions are reported as operating expenses.

B. Basis of Presentation

The financial statements have been prepared in accordance with GASB Statement 34, *Basic Financial Statements and Management's Discussion and Analysis for State and Local Governments*.

Since the Authority is only engaged in business-type activities, it is required to present only the financial statements required for enterprise funds. The Authority follows the business-type activities requirements of GASB Statement 34, which provides that the following sections be included in the annual financial report:

- Management's discussion and analysis
- Basic financial statements including:

  - Statement of Net Position
  - Statement of Revenues, Expenses, and Changes in Net Position
  - Statement of Cash Flows
  - Notes to the Financial Statements

- Required supplementary information including schedules related to pension and other postemployment benefits funding

C. Cash and Cash Equivalents

The Authority considers cash and cash equivalents to be cash on hand, demand deposits, and short-term investments with original maturities of three months or less from the date of acquisition.

D. Accounts Receivable and Allowance for Uncollectible Accounts

Accounts receivable are recorded at the invoiced amount and do not bear interest. Primary customers of the Authority consist of the City of Radford, Town of Pulaski, Town of Dublin, County of Pulaski, Montgomery County Public Service Authority, and Pulaski County Sewerage Authority. Accounts receivable are reported at the amount management expects to collect from outstanding balances. Thus, accounts receivable are stated at face value less an allowance for uncollectible accounts. The Authority calculates its allowance for uncollectible accounts using historical collection data and specific account analysis. Management considers all accounts receivable to be fully collectible at June 30, 2020, therefore no allowance for uncollectible accounts has been established.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

E. Capital Assets

Capital assets, which include property, plant, equipment, and infrastructure assets (basins, digesters, lines, 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 $5,000 and an estimated useful life in excess of one year. These assets are recorded at historical cost or estimated historical cost if purchased or constructed. Donated capital assets are recorded at estimated fair market value at the date of donation. Assets are depreciated over their estimated useful lives.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend the asset lives are not capitalized. Major outlays for capital assets and improvements are capitalized as projects are constructed. Upon the sale or retirement of a capital asset, the cost and related accumulated depreciation, if applicable, are eliminated from the related accounts, and any resulting gain or loss is included in income.

Capital assets are depreciated using the straight-line method over the following estimated useful lives:

Automotive equipment	4	years
Instrumentation	3 to 5	years
Equipment	3 to 20	years
Basins, Digesters, etc.	25 to 30	years
Buildings	30	years
Lines	30	years

F. Deferred Outflows/Inflows of Resources

In addition to assets, the Statement of Net Position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of 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 one item that qualifies for reporting in this category. It is comprised of certain items related to the measurement of the net pension liabilities and net OPEB liabilities and contributions to the pension and OPEB plans made during the current year and subsequent to the net pension liabilities and net OPEB liabilities measurement date. For more detailed information on these items, reference the related notes.

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

G. Compensated Absences

The liability for compensated absences reported in the Statement of Net Position consists of unpaid accumulated leave balances. The liability is based on the leave accumulated at June 30. It is the Authority's policy to permit employees to accumulate limited leave that may be earned until retirement or termination. Employees are paid for accumulated unused compensated absence balances upon the termination of their employment up to the amount of maximum carryover for the employees' years of service.

Employees of the Authority earn annual leave as follows:

Annual Leave:	Earning rate:	Carryover maximum:
Years of service		
Date of hire - 5 years	8 hours/month	192 work days at end of calendar year
5+ years - 10 years	10 hours/month	240 work days at end of calendar year
10+ years	12 hours/month	288 work days at end of calendar year

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

G. Compensated Absences (continued)

Employees of the Authority earn sick leave as follows:

Sick Leave:	Earning rate:	Carryover maximum:
Years of service		
Date of hire - 5 years	8 hours/month	180 work days at end of calendar year
5+ years	10 hours/month	180 work days at end of calendar year

Sick leave is earned at a rate of eight (8) hours per month prorated in the same manner as annual leave. Sick leave may be accumulated up to a maximum of 1,440 hours (180 days). Employees in good standing will be paid twenty-five percent (25%) of the value of unused sick leave up to a maximum amount of five thousand dollars ($5,000) upon termination. Sick leave is payable only upon retirement and, therefore, a liability for this amount is not reported in the financial statements.

H. Pensions

The Virginia Retirement System (VRS) Political Subdivision Retirement Plan is a multi-employer, agent plan. For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Political Subdivision Retirement Plan and the additions to/deductions from the Political Subdivision 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.

In 2013, the Authority's Board of Directors elected to partially fund the *net pension liability* through an offset account as funds and rate structures allow. At June 30, 2020, the established reserve offset account balance is $445,033. The June 30, 2020 *net pension liability* exceeds the reserve offset account balance by an amount of $348,213.

I. OPEB - Health Insurance Credit Program

The Political Subdivision Health Insurance Credit Program is a multiple-employer, agent defined benefit plan that provides a credit toward the cost of health insurance coverage for retired political subdivision employees of participating employers. The Political Subdivision Health Insurance Credit Program was established pursuant to § 51.1-1400 et seq. of the Code of Virginia, as amended, and which provides the authority under which benefit terms are established or may be amended. For purposes of measuring the net Political Subdivision Health Insurance Credit Program OPEB liability, deferred outflows of resources and deferred inflows of resources related to the Political Subdivision Health Insurance Credit Program OPEB, and the Political Subdivision Health Insurance Credit Program OPEB expense, information about the fiduciary net position of the Virginia Retirement System (VRS) Political Subdivision Health Insurance Credit Program; and the additions to/deductions from the VRS Political Subdivision Health Insurance Credit Program's net fiduciary position have been determined on the same basis as they were reported by VRS. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

J. OPEB - Group Life Insurance

The Virginia Retirement System (VRS) Group Life Insurance Program is a multiple employer, cost sharing plan. It provides coverage to state employees, teachers, and employees of participating political subdivisions. The Group Life Insurance 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 Group Life Insurance 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 Group Life Insurance Program OPEB liability, deferred outflows of resources and deferred inflows of resources related to the Group Life Insurance Program OPEB, and Group Life Insurance Program OPEB expense, information about the fiduciary net position of the VRS Group Life Insurance program OPEB and the additions to/deductions from the VRS Group Life Insurance Program 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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

K. Net Position

Net Position is the difference between (a) assets and deferred outflows of resources and (b) liabilities and deferred inflows of resources. Net position is comprised of three components:

Net investment in capital assets - represents historical cost of 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 attributed to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position.

Restricted - consists of assets that are restricted by the Authority's creditors (for example, through debt covenants), by the state enabling legislation (through restrictions on shared revenues), by grantors (both federal and state), and by other contributors.

Unrestricted - the net amount of the assets, deferred outflows of resources, liabilities, and deferred inflows of resources that does not meet the definition of the two preceding categories.

When both restricted and unrestricted resources are available for use, it is the Authority's policy to use restricted recourses first, then unrestricted resources as they are needed.

L. Long-term Obligations

Long-term obligations are reported as liabilities in the Statement of Net Position at face value, net of any applicable premiums and discounts.

M. Use of Estimates

Management uses estimates and assumptions in preparing financial statements. Those estimates and assumptions affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported revenue and expenses. Actual results could vary from the estimates that were assumed in preparing the financial statements, and such differences could be material to the accompanying financial statements.

N. Budgets and Budgetary Accounting

A budget is prepared for informational and fiscal planning purposes and to provide the basis for setting user rates. The budget is approved annually by the board member representatives from each member jurisdiction and is adopted as a planning document that is not a legal control on expenses.

O. Interest on Indebtedness

Interest expense applicable to that portion of indebtedness, the proceeds of which are used to construct new facilities, is capitalized during the period of construction as part of the cost of such facilities. Other interest costs of the Authority are treated as nonoperating expenses. No interest was capitalized during the current fiscal year.

P. Advertising

Advertising and marketing costs are expensed as incurred. Advertising expense totaled $2,970 for the year ended June 30, 2020.

3. CASH AND CASH EQUIVALENTS

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.

3. CASH AND CASH EQUIVALENTS (continued)

Cash and cash equivalents at June 30, 2020 consisted of bank accounts as follows:

1) Plant operations and maintenance	$ 2,299,518
2) Treatment plant, capital improvements projects	1,228,717
3) Bond fund	209,475
4) Sulfate corrosion fund	421,807
5) Treatment plant reserves	344,234
6) Radford Pump Station reserves	126,036
7) New River Pump Station reserves	192,354
8) Retirement Net Pension Liability reserve offset	445,033
9) Operating reserve	775,095
Total cash and cash equivalents	$ 6,042,269

4. CAPITAL ASSETS

Components of the Authority's capital assets at June 30, 2020 are summarized as follows:

Land	$ 441,841
Construction in Progress	450,346
Treatment Plant	41,462,038
New River Pump Station	12,305,811
Radford Pump Station	3,474,554
Subtotal	58,134,590
Accumulated depreciation	(34,537,916)
Capital assets, net	$ 23,596,674

The Authority's capital asset activity for the year ended June 30, 2020 is as follows:

	Balance June 30, 2019	Increases	Decreases	Balance June 30, 2020
Capital assets, not being depreciated:				
Land	$ 441,841	$ -	$ -	$ 441,841
Construction in Progress	4,111,178	430,258	(4,091,090)	450,346
Total nondepreciable assets	4,553,019	430,258	(4,091,090)	892,187
Depreciable assets:				
Treatment Plant	33,824,013	11,711,419	(4,073,394)	41,462,038
New River Pump Station	12,431,624	59,287	(185,100)	12,305,811
Radford Pump Station	3,290,896	244,649	(60,991)	3,474,554
Total depreciable assets	49,546,533	12,015,355	(4,319,485)	57,242,403
Less accumulated depreciation:				
Treatment Plant	(24,777,078)	(957,577)	4,053,688	(21,680,967)
New River Pump Station	(9,555,614)	(307,656)	178,177	(9,685,093)
Radford Pump Station	(3,190,023)	(29,027)	47,194	(3,171,856)
Total accumulated depreciation	(37,522,715)	(1,294,260)	4,279,059	(34,537,916)
Capital assets, net	$ 16,576,837	$ 11,151,353	$ (4,131,516)	$ 23,596,674

During the fiscal year ended June 30, 2020, the Authority disposed of plant and equipment with an original cost of $4,319,485. These dispositions resulted in a loss of $6,085. Capital asset additions (including in construction in progress) were partially funded with proceeds from additional bond proceeds totaling $7,778,331 during the year ended June 30, 2020. Prior year additions included construction payables of $447,195. Current year additions included construction payables of $291,777.

Depreciation expense for the year ended June 30, 2020 totaled $1,294,260.

5. LONG-TERM LIABILITIES

Changes in long-term obligations for the year ended June 30, 2020 are as follows:

	Balance at July 1, 2019	Increases	Decreases	Balance at June 30, 2020	Due Within One Year
2002b VA Revolving Loan Fund	$ 3,899,737	$ -	$ (764,466)	$ 3,135,271	$ 772,129
2014 Series Bond Refunding	336,022	-	(198,824)	137,198	137,198
2018 Revenue Bond	3,500,061	7,778,331	-	11,278,392	-
Compensated absences	111,870	21,062	(2,402)	130,530	13,053
Net pension liability	517,323	275,923	-	793,246	-
Net OPEB liability	105,756	21,243	-	126,999	-
Totals	$ 8,470,769	$ 8,096,559	$ (965,692)	$ 15,601,636	$ 922,380

Details of the Authority's outstanding bonds and note payable at June 30, 2020 are as follows:

A. 2002b VA Revolving Loan Fund

In December 2002, the Authority issued bonds of $13,400,000; proceeds were used for construction purposes. The bonds bear interest at an annual rate not to exceed 1.00% and are payable in semi-annual installments of combined principal and interest beginning on April 1, 2005 and ending April 1, 2024. The Bond is secured by pledge of the Authority's sewer revenues. As of June 30, 2020, the outstanding balance was $3,135,271. Interest expense for the fiscal year ended June 30, 2020 was $35,180.

B. 2014 Series Bond Refunding

In January 2014, the Authority issued bonds of $1,365,452; proceeds were used to (1) provide funds to refund the Series 2006 Sewage System Revenue Bond and (2) pay the costs of issuance associated with the bond. The bonds bear interest at a fixed annual rate of 1.85% and are payable in monthly installments of combined principal and interest beginning on February 1, 2014 and ending April 1, 2021. The Bond is secured by pledge of the Authority's sewer revenues. The Bond is issued on parity basis with all pre-existing bonded indebtedness secured by pledge of revenues. At June 30, 2020, the outstanding balance was $137,198. Interest expense for the fiscal year ended June 30, 2020 was $4,523.

C. Sewage System Revenue Bond, Series 2018

In October 2018, the Authority initiated its 2018 Series bond for funding of capital improvements. In accordance with the agreement dated October 1, 2018, the Authority promises to pay Virginia Resources Authority, as administrator of the Virginia Water Facilities Revolving Fund ("the Fund"), the sum equal to the amount of principal advances made but not to exceed Twelve Million Eight Hundred Forty Thousand and 00/100 Dollars ($12,840,000) with interest on the disbursed and unpaid principal balance froth the date of each disbursement until payment of the entire principal sum at the rate of one and zero one-hundredths percent (1.00%) per annum consisting of (i) interest of eighty one-hundredths percent (0.80%) per annum payable for the benefit of the Fund, and (ii) twenty one-hundredths percent (0.20%) per annum payable as an Annual Administrative Fee. The Bond is secured by pledge of the Authority's sewer revenues. The Bond is issued on parity basis with all pre-existing bonded indebtedness secured by pledge of revenues. In addition, the Loan requires the Authority to maintain an Operating Reserve Fund equal to one-fourth of the Authority's current fiscal-year budgeted operation and maintenance expenses. The sale proceeds of the Local Bond were used to pay the outstanding principal of the Authority's Sewage System Revenue Bond Anticipation Note Series 2018 (the "2018 BAN") in the amount of $1,153,744.95. As of the closing date, there remained no unspent proceeds of the 2018 BAN. Commencing on July 2021, and continuing semi-annually thereafter on January and July in each year, principal and the Cost of Funds due under the Bond are due and payable in equal installments of $363,193.16 with final installment of $363,192.99 due and payable on July 2040. At June 30, 2020, the outstanding balance was $11,278,392. No interest expense was incurred during the fiscal year ended June 30, 2020.

5. LONG-TERM LIABILITIES (continued)

Principal advances totaling up to $12,840,000 (maximum amount authorized) are anticipated to complete in the year ending June 30, 2021. Commencing on July 2021, and continuing semi-annually thereafter on January and July in each year, principal and the Cost of Funds due under this Bond shall be due and payable in equal installments of $363,193.16 with final installment due and payable on July 2040, if not paid sooner. If principal advances up to the maximum authorized amount are not made, the principal amount due on this Bond shall not include such undisbursed amount. Debt service requirements for the maximum amount authorized are as follows:

	2018 Series Bond	
Year ending June 30,	Principal	Interest
2021	$ -	$ -
2022	599,481	126,905
2023	605,492	120,894
2024	611,561	114,825
2025	617,692	108,694
2026-2030	3,182,596	449,334
2031-2035	3,345,355	286,575
2036-2040	3,516,437	115,493
2041	361,386	1,807
	$ 12,840,000	$ 1,324,527

Debt service requirements on long-term debt at June 30, 2020 are as follows:

	2002b VA Revolving Loan Fund		2014 Series Bond Refunding	
Year ending June 30,	Principal	Interest	Principal	Interest
2021	$ 772,129	$ 29,427	$ 137,198	$ 1,601
2022	779,870	21,687	-	-
2023	787,688	13,868	-	-
2024	795,584	5,972	-	-
2025	-	-	-	-
Thereafter	-	-	-	-
	$ 3,135,271	$ 70,954	$ 137,198	$ 1,601

All liabilities are liquidated by operating funds.

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6. PENSION PLAN

A. Plan Description

The Virginia Retirement System (VRS) Political Subdivision Retirement Plan is a multi-employer, agent plan. For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Political Subdivision Retirement Plan and the additions to/deductions from the Political Subdivision 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.

All full-time, salaried permanent employees of the Political Subdivision are automatically covered by a VRS Retirement Plan upon employment. This plan is 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.

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

VRS PLAN 1	VRS 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, service credit 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, service credit 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, service credit 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.

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6. PENSION PLAN (continued)

A. Plan Description (continued)

VRS PLAN 1	VRS 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. 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.	**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. 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.	**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 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** Same as Plan 1	**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.

6. PENSION PLAN (continued)

A. Plan Description (continued)

VRS PLAN 1	VRS PLAN 2	HYBRID RETIREMENT PLAN
Service Credit Service credit includes active service. Members earn service credit for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional service credit the member was granted. A member's total service credit 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.	**Service Credit** Same as Plan 1.	**Service Credit** Defined Benefit Component: Under the defined benefit component of the plan, service credit includes active service. Members earn service credit for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional service credit the member was granted. A member's total service credit 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 Contributions Component: Under the defined contribution component, service credit is used to determine vesting for the employer contribution portion of the plan.

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6. PENSION PLAN (continued)

A. Plan Description (continued)

VRS PLAN 1	VRS 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 service credit. Plan 1 or Plan 2 members with at least five years (60 months) of service credit who opted into the Hybrid Retirement Plan remain vested in the defined benefit component. Defined Contributions 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. 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. Distributions are not required by except as govenered by law.

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6. PENSION PLAN (continued)

A. Plan Description (continued)

VRS PLAN 1	VRS PLAN 2	HYBRID RETIREMENT PLAN
Calculating the Benefit The basic benefit is determined using the average final compensation, service credit and plan multiplier. An early retirement reduction is applied to this amount if the member is retiring with a reduced benefit. In cases where the member has elected an optional form of retirement payment, an option factor specific to the option chosen is then applied.	Calculating the Benefit See definition under Plan 1.	Calculating the Benefit Defined Benefit Component: See definition under Plan 1 Defined Contribution Component: 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.
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% .	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 service credit earned, purchased or granted on or after January 1, 2013.	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: The retirement multiplier for sheriffs and regional jail superintendents is 1.85% .	*Sheriffs and regional jail superintendents:* Same as Plan 1.	*Sheriffs and regional jail superintendents:* Not applicable.
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.	*Political subdivision hazardous duty employees:* Same as Plan 1.	*Political subdivision hazardous duty employees:* Not applicable. Defined Contribution Component: Not applicable.
Normal Retirement Age *VRS:* Age 65.	Normal Retirement Age *VRS:* Normal Social Security retirement age.	Normal Retirement Age Defined Benefit Component: *VRS:* Same as Plan 2.
Political subdivisions hazardous duty employees: Age 60.	*Political subdivisions hazardous duty employees:* Same as Plan 1.	*Political subdivisions hazardous duty employees:* Not applicable. Defined Contribution Component: Members are eligible to receive distributions upon leaving employment, subject to restrictions.

6. PENSION PLAN (continued)

A. Plan Description (continued)

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

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6. PENSION PLAN (continued)

A. Plan Description (continued)

VRS PLAN 1	VRS PLAN 2	HYBRID RETIREMENT PLAN
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%.	**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%.	**Cost-of-living Adjustment (COLA) in Retirement** Defined Benefit Component: Same as Plan 2. Defined Contribution Component: Not applicable.
Eligibility: For members who retire with an unreduced benefit or with a reduced benefit with at least 20 years of service credit, 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.	Eligibility: Same as Plan 1	Eligibility: Same as Plan 1 and Plan 2.
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.	Exceptions to COLA Effective Dates: Same as Plan 1	Exceptions to COLA Effective Dates: Same as Plan 1 and Plan 2.

6. PENSION PLAN (continued)

A. Plan Description (continued)

VRS PLAN 1	VRS 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 Plan 2 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 exception: • Hybrid Retirement Plan members are ineligible for ported service. Defined Contribution Component: Not applicable.

B. Employees Covered by the Benefit Terms

As of the June 30, 2018 actuarial valuation, the following employees were covered by the benefit terms of the pension plan:

	Number
Inactive members or their beneficiaries currently receiving benefits	16
Inactive members:	
Vested inactive members	6
Non-vested inactive members	7
Inactive members active elsewhere in VRS	5
Total inactive members	18
Active members	18
Total covered employees	52

6. PENSION PLAN (continued)

C. 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.

The Authority's contractually required contribution rate for the year ended June 30, 2020 was 8.5% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2017.

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 $98,949 and $94,145 for the years ended June 30, 2020 and June 30, 2019, respectively.

D. Net Pension Liability

The net pension liability (NPL) is calculated separately for each employer and represents that particular employer's total pension liability determined in accordance with GASB Statement No. 68, less that employer's fiduciary net position. For the Authority, the net pension liability was measured as of June 30, 2019. The total pension liability used to calculate the net pension liability was determined by an actuarial valuation performed as of June 30, 2018 rolled forward to the measurement date of June 30, 2019.

E. 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, 2018, 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, 2019.

Inflation	2.50%
Salary increases, including inflation	3.5% - 5.35%
Investment rate of return	6.75% , 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 6.75%. However, since the difference was minimal, and a more conservative 6.75% 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 6.75% to simplify preparation of pension liabilities.

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6. PENSION PLAN (continued)

E. Actuarial Assumptions - General Employees (continued)

Mortality 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% 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.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study are as follows:

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

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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%
Discount Rate	Decreased rate from 7.00% to 6.75%

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6. PENSION PLAN (continued)

F. 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	34.00%	5.61%	1.91%
Fixed Income	15.00%	0.88%	0.13%
Credit Strategies	14.00%	5.13%	0.72%
Real Assets	14.00%	5.27%	0.74%
Private Equity	14.00%	8.77%	1.23%
MAPS - Multi-Asset Public Strategies	6.00%	3.52%	0.21%
PIP-Private Investment Partnership	3.00%	6.29%	0.19%
Total	100.00%		5.13%
		Inflation	2.50%
		* Expected arithmetic nominal return	7.63%

* The above allocation provides a one-year return of 7.63%. 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 7.11%, including expected inflation of 2.50%. The VRS Board elected a long-term rate of 6.75% which is roughly at the 40th percentile of expected long-term results of the VRS fund asset allocation.

G. Discount Rate

The discount rate used to measure the total pension liability was 6.75%. 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. Consistent with the phased-in funding provided by the General Assembly for state and teacher employer contributions; political subdivisions were also provided with an opportunity to use an alternate employer contribution rate. For the year ended June 30, 2019, the alternate rate was the employer contribution rate used in FY 2012 or 100% of the actuarially determined employer contribution rate from the June 30, 2017, actuarial valuations, whichever was greater. From July 1, 2019 on, participating employers are assumed to continue 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.

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6. PENSION PLAN (continued)

H. Changes in Net Pension Liability

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at June 30, 2018	$ 3,764,350	$ 3,247,027	$ 517,323
Changes for the year:			
Service Cost	99,404	-	99,404
Interest	258,023	-	258,023
Changes of assumptions	118,710	-	118,710
Differences between expected and actual experience	165,008	-	165,008
Contributions - employer	-	94,151	(94,151)
Contributions - employee	-	55,485	(55,485)
Net investment income	-	217,823	(217,823)
Benefit payments, including refunds of employee contributions	(156,612)	(156,612)	-
Administrative expenses	-	(2,099)	2,099
Other changes	-	(138)	138
Net Changes	484,533	208,610	275,923
Balances at June 30, 2019	$ 4,248,883	$ 3,455,637	$ 793,246

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

The following presents the net pension liability of the Authority using the discount rate of 6.75% , as well as what the Authority's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (5.75%) or one percentage point higher (7.75%) than the current rate:

	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Authority's Net Pension Liability	$ 1,320,817	$ 793,246	$ 368,878

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

For the year ended June 30, 2020, the Authority recognized pension expense of $125,272. At June 30, 2020, 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
Differences between expected and actual experience	$ 105,005	$ 46,888
Change in assumptions	$ 75,543	$ 3,095
Net difference between projected and actual earnings on pension plan investments	$ -	$ 29,617
Employer contributions subsequent to the measurement date	$ 98,949	$ -
Total	$ 279,497	$ 79,600

6. PENSION PLAN (continued)

J. Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions (continued)

$98,949 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 Liability in the fiscal year ended June 30, 2021. 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		
2021	$	52,612
2022	$	47,142
2023	$	(637)
2024	$	1,831
2025	$	-
Thereafter	$	-

K. Pension Plan Data

Information about the VRS Political Subdivision Retirement Plan is also available in the separately issued VRS 2019 Comprehensive Annual Financial Report (CAFR). A copy of the 2019 VRS CAFR may be downloaded from the VRS website at http://www.varetire.org/Pdf/Publications/2019-annual-report.pdf, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

7. OTHER POSTEMPLOYMENT BENEFITS - VRS HEALTH INSURANCE CREDIT

A. Plan Description

All full-time, salaried permanent employees of participating political subdivisions are automatically covered by the VRS Political Subdivision Health Insurance Credit Program upon employment. This plan is administered by the Virginia Retirement System (the System), along with pension and other OPEB plans, for public employer groups in the Commonwealth of Virginia. Members earn one month of service credit toward the benefit for each month they are employed and for which their employer pays contributions to VRS. The health insurance credit is a tax-free reimbursement in an amount set by the General Assembly for each year of service credit against qualified health insurance premiums retirees pay for single coverage, excluding any portion covering the spouse or dependents. The credit cannot exceed the amount of the premiums and ends upon the retiree's death.

The specific information about the Political Subdivision Health Insurance Credit Program OPEB, including eligibility, coverage and benefits is set out in the table below:

HEALTH INSURANCE CREDIT PROGRAM (HIC) PLAN PROVISIONS

Eligible Employees

The Political Subdivision Retiree Health Insurance Credit Program was established July 1, 1993 for retired political subdivision employees of employers who elect the benefit and who retire with at least 15 years of service credit.

Eligible employees are enrolled automatically upon employment. They include:

- Full-time permanent salaried employees of the participating political subdivision who are covered under the VRS pension plan.

Benefit Amounts

The political subdivision's Retiree Health Insurance Credit Program provides the following benefits for eligible employees:

- At Retirement - For employees who retire, the monthly benefit is $1.50 per year of service per month with a maximum benefit of $45.00 per month.
- Disability Retirement - For employees who retire on disability or go on long-term disability under the Virginia Local Disability Program (VLDP), the monthly benefit is $45.00 per month.

7. OTHER POSTEMPLOYMENT BENEFITS - VRS HEALTH INSURANCE CREDIT (continued)

HEALTH INSURANCE CREDIT PROGRAM (HIC) PLAN PROVISIONS (continued)

Health Insurance Credit Program Notes:

- The monthly Health Insurance Credit benefit cannot exceed the individual premium amount.
- No Health Insurance Credit for premiums paid and qualified under LODA; however, the employee may receive the credit for premiums paid for other qualified health plans.
- Employees who retire after being on long-term disability under VLDP must have at least 15 years of service credit to qualify for the Health Insurance Credit as a retiree.

Employees Covered by Benefit Terms

As of the June 30, 2018 actuarial valuation, the following employees were covered by the benefit terms of the HIC OPEB plan:

	Number
Inactive members or their beneficiaries currently receiving benefits	9
Inactive members:	
Vested inactive members	-
Non-vested inactive members	-
Inactive members active elsewhere in VRS	-
Total inactive members	-
Active members	18
Total covered employees	27

Contributions

The contribution requirement for active employees is governed by §51.1-1402(E) 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. The Authority's contractually required employer contribution rate for the year ended June 30, 2020 was 0.28% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2017. The actuarially determined rate 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 from the political subdivision to the Political Subdivision Health Insurance Credit Program were $3,349 and $3,178 for the years ended June 30, 2020 and June 30, 2019, respectively.

Net HIC OPEB liability

The Authority's net Health Insurance Credit OPEB liability was measured as of June 30, 2019. The total Health Insurance Credit OPEB liability was determined by an actuarial valuation performed as of June 30, 2018, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2019.

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7. OTHER POSTEMPLOYMENT BENEFITS - VRS HEALTH INSURANCE CREDIT (continued)

HEALTH INSURANCE CREDIT PROGRAM (HIC) PLAN PROVISIONS (continued)

Actuarial Assumptions

The total HIC OPEB liability was based on an actuarial valuation as of June 30, 2018, 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, 2019.

Inflation	2.50%
Salary increases, including inflation	
Locality - General employees	3.5% - 5.35%
Locality - Hazardous Duty employees	3.5% - 4.75%
Investment rate of return	6.75% , 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 6.75% . However, since the difference was minimal, and a more conservative 6.75% 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 6.75% to simplify preparation of OPEB liabilities.

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7. OTHER POSTEMPLOYMENT BENEFITS - VRS HEALTH INSURANCE CREDIT (continued)

HEALTH INSURANCE CREDIT PROGRAM (HIC) PLAN PROVISIONS (continued)

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

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% 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.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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	Increase from 14% to 20%
Discount Rate	Decrease rate from 7.00% to 6.75%

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7. OTHER POSTEMPLOYMENT BENEFITS - VRS HEALTH INSURANCE CREDIT (continued)

HEALTH INSURANCE CREDIT PROGRAM (HIC) PLAN PROVISIONS (continued)

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 Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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%
Discount Rate	Decrease rate from 7.00% to 6.75%

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 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	34.00%	5.61%	1.91%
Fixed Income	15.00%	0.88%	0.13%
Credit Strategies	14.00%	5.13%	0.72%
Real Assets	14.00%	5.27%	0.74%
Private Equity	14.00%	8.77%	1.23%
MAPS - Multi -Asset Public Strategies	6.00%	3.52%	0.21%
PIP- Private Investment Partnership	3.00%	6.29%	0.19%
Total	100.00%		5.13%
		Inflation	2.50%
		* Expected arithmetic nominal return	7.63%

* The above allocation provides a one-year return of 7.63% . 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 7.11% , including expected inflation of 2.50% . The VRS Board elected a long-term rate of 6.75% which is roughly at the 40th percentile of expected long-term results of the VRS fund asset allocation.

7. OTHER POSTEMPLOYMENT BENEFITS - VRS HEALTH INSURANCE CREDIT (continued)

HEALTH INSURANCE CREDIT PROGRAM (HIC) PLAN PROVISIONS (continued)

Discount Rate

The discount rate used to measure the total HIC OPEB liability was 6.75% . The projection of cash flows used to determine the discount rate assumed that 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 HIC OPEB will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly, which was 100% of the actuarially determined contribution rate. From July 1, 2019 on, employers are assumed to continue to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the HIC 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 HIC OPEB liability.

Changes in Net HIC OPEB Liability:

	Increase (Decrease)		
	Total HIC OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net HIC OPEB Liability (a) - (b)
Balances at June 30, 2018	$ 60,319	$ 33,563	$ 26,756
Changes for the year:			
Service Cost	1,086	-	1,086
Interest	4,107	-	4,107
Changes of assumptions	1,349	-	1,349
Differences between expected and actual experience	4,606	-	4,606
Contributions - employer	-	3,189	(3,189)
Contributions - employee	-	-	-
Net investment income	-	2,147	(2,147)
Benefit payments, including refunds of employee contributions	(3,308)	(3,308)	-
Administrative expenses	-	(47)	47
Other changes	-	(2)	2
Net Changes	7,840	1,979	5,861
Balances at June 30, 2019	$ 68,159	$ 35,542	$ 32,617

Sensitivity of the Political Subdivision Health Insurance Credit Net OPEB Liability to Changes in the Discount Rate

The following presents the Political Subdivision Health Insurance Credit Program net HIC OPEB liability using the discount rate of 6.75% , as well as what the Political Subdivision's net HIC OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (5.75%) or one percentage point higher (7.75%) than the current rate:

	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Authority's Net HIC OPEB Liability	$ 38,522	$ 32,617	$ 27,483

7. OTHER POSTEMPLOYMENT BENEFITS - VRS HEALTH INSURANCE CREDIT (continued)

HEALTH INSURANCE CREDIT PROGRAM (HIC) PLAN PROVISIONS (continued)

Health Insurance Credit Program OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Health Insurance Credit Program OPEB

For the year ended June 30, 2020, the Authority recognized Health Insurance Credit Program OPEB expense of $2,547. At June 30, 2020, the Authority reported deferred outflows of resources and deferred inflows of resources related to the Political Subdivision Health Insurance Credit Program from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 3,739	$ 3,818
Change of assumptions	$ 1,095	$ 592
Net difference between projected and actual earnings on HIC OPEB plan investments	$ -	$ 386
Employer contributions subsequent to the measurement date	$ 3,349	$ -
Total	$ 8,183	$ 4,796

$3,349 reported as deferred outflows of resources related to the HIC OPEB resulting from the Authority's contributions subsequent to the measurement date will be recognized as a reduction of the Net HIC OPEB Liability in the Fiscal Year ending June 30, 2021. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the HIC OPEB will be recognized in the HIC OPEB expense in future reporting periods as follows:

Year ended June 30	
2021	$ (352)
2022	$ (351)
2023	$ (24)
2024	$ 415
2025	$ 350
Thereafter	$ -

Health Insurance Credit Program Plan Data

Information about the VRS Political Subdivision Health Insurance Credit Program is available in the separately issued VRS 2019 Comprehensive Annual Financial Report (CAFR). A copy of the 2019 VRS CAFR may be downloaded from the VRS website at http://www.varetire.org/Pdf/Publications/2019-annual-report.pdf. or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

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8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM

A. 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 plan is administered by the Virginia Retirement System (the System), along with pensions and other OBEB 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 (GLI) 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 Schools 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 accumulated retirement 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

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.

8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM (continued)

GROUP LIFE INSURANCE PROGRAM (GLI) PLAN PROVISIONS (continued)

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 in 2015. This will be increased annually based on the VRS Plan 2 cost-of-living adjustment calculation. The minimum benefit adjusted for the COLA was $8,463 as of June 30, 2020.

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, 2020 was 0.52% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2017. 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 $6,212 and $5,914 for the years ended June 30, 2020 and 2019, 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, 2020, the Authority reported a liability of $94,382 for its proportionate share of the Net GLI OPEB Liability. The Net GLI OPEB Liability was measured as of June 30, 2019 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, 2019 relative to the total of the actuarially determined employer contributions for all participating employers. At June 30, 2019, the participating employer's proportion was 0.00580% as compared to 0.00525% at June 30, 2018.

For the year ended June 30, 2020, the participating employer recognized GLI OPEB expense of $727. 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, 2020, the Authority 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	$ 6,277	$ 1,224
Net difference between projected and actual earnings on GLI OPEB program investments	$ -	$ 1,939
Change of assumptions	$ 5,959	$ 2,846
Changes in proportionate share	$ 7,338	$ 11,165
Employer contributions subsequent to the measurement date	$ 6,212	$ -
Total	$ 25,786	$ 17,174

8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM (continued)

GROUP LIFE INSURANCE PROGRAM (GLI) PLAN PROVISIONS (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)

$6,212 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, 2021. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the GLI OPEB will be recognized in the GLI OPEB expense in future reporting periods as follows:

Year ended June 30		
2021	$	(1,120)
2022	$	(1,120)
2023	$	(299)
2024	$	1,191
2025	$	2,754
Thereafter	$	994

Actuarial Assumptions

The total GLI OPEB liability was based on an actuarial valuation as of June 30, 2018, 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, 2019.

Inflation	2.50%
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	4.50%
Locality - General employees	3.5% - 5.35%
Locality - Hazardous Duty	3.5% - 4.75%
Investment rate of return	6.75% , 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 6.75%. However, since the difference was minimal, and a more conservative 6.75% 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 6.75% 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 Life Mortality Table projected with scale BB to 2020; males 115% of rates; females 130% of rates.

8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM (continued)

GROUP LIFE INSURANCE PROGRAM (GLI) PLAN PROVISIONS (continued)

Mortality rates - General State Employees (continued)

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action 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%
Discount Rate	Decrease Rate from 7.00% to 6.75%

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 Health 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.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action 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
Discount Rate	Decrease Rate from 7.00% to 6.75%

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8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM (continued)

GROUP LIFE INSURANCE PROGRAM (GLI) PLAN PROVISIONS (continued)

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 Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table – RP2014 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%
Discount Rate	Decrease Rate from 7.00% to 6.75%

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 Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table – RP2014 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%
Discount Rate	Decrease Rate from 7.00% to 6.75%

8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM (continued)

GROUP LIFE INSURANCE PROGRAM (GLI) PLAN PROVISIONS (continued)

Mortality rates - JRS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 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

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table – RP2014 projected to 2020
Retirement Rates	Decreased rates at first retirement eligibility
Withdrawal Rates	No change
Disability Rates	Removed disability rates
Salary Scale	No change
Discount Rate	Decrease Rate from 7.00% to 6.75%

Mortality rates - Largest Ten Locality Employers - General Employees

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% 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.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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 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	Increase from 14% to 20%
Discount Rate	Decrease Rate from 7.00% to 6.75%

8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM (continued)

GROUP LIFE INSURANCE PROGRAM (GLI) PLAN PROVISIONS (continued)

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

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% 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.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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 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%
Discount Rate	Decrease Rate from 7.00% to 6.75%

Mortality rates - Largest Ten Locality Employers - Hazardous 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 Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

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8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM (continued)

GROUP LIFE INSURANCE PROGRAM (GLI) PLAN PROVISIONS (continued)

Mortality rates - Largest Ten Locality Employers - Hazardous Employees (continued)

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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%
Discount Rate	Decrease Rate from 7.00% to 6.75%

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 Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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%
Discount Rate	Decrease Rate from 7.00% to 6.75%

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8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM (continued)

GROUP LIFE INSURANCE PROGRAM (GLI) PLAN PROVISIONS (continued)

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 the Measurement Date of June 30, 2019, NOL amounts for the Group Life Insurance Program are as follows (amounts expressed in thousands):

	Group Life Insurance OPEB Program
Total GLI OPEB Liability	$ 3,390,238
Plan Fiduciary Net Position	1,762,972
GLI Net OPEB Liability	$ 1,627,266
Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability	52.00%

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	34.00%	5.61%	1.91%
Fixed Income	15.00%	0.88%	0.13%
Credit Strategies	14.00%	5.13%	0.72%
Real Assets	14.00%	5.27%	0.74%
Private Equity	14.00%	8.77%	1.23%
MAPS - Multi -Asset Public Strategies	6.00%	3.52%	0.21%
PIP- Private Investment Partnership	3.00%	6.29%	0.19%
Total	100.00%		5.13%
		Inflation	2.50%
		* Expected arithmetic nominal return	7.63%

* The above allocation provides a one-year return of 7.63% . 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 7.11% , including expected inflation of 2.50% . The VRS Board elected a long-term rate of 6.75% which is roughly at the 40th percentile of expected long-term results of the VRS fund asset allocation.

8. OTHER POSTEMPLOYMENT BENEFITS - GROUP LIFE INSURANCE PROGRAM (continued)

GROUP LIFE INSURANCE PROGRAM (GLI) PLAN PROVISIONS (continued)

Discount Rate

The discount rate used to measure the total GLI OPEB liability was 6.75% . 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 which was 100% of the actuarially determined contribution rate. From July 1, 2019 on, employers are assumed to continue 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 inthe Discount Rate

The following presents the employer's proportionate share of the net GLI OPEB liability using the discount rate of 6.75% , 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 (5.75%) or one percentage point higher (7.75%) than the current rate:

	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Authority's proportionate share of the Group Life Insurance Program Net OPEB Liability	$ 123,991	$ 94,382	$ 70,369

Group Life Insurance Program Plan Data

Detailed information about the Group Life Insurance Program's Fiduciary Net Position is available in the separately issued VRS 2019 Comprehensive Annual Financial Report (CAFR). A copy of the 2019 VRS CAFR may be downloaded from the VRS website at http://www.varetire.org/Pdf/Publications/2019-annual-report.pdf, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

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9. RISK MANAGEMENT

The Authority is exposed to various risks of loss related to the following: torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The Authority participates with other government entities in a public entity risk pool, The Virginia Municipal League Insurance Program (VMLIP), for its coverage of property damage and general liability. The pool is designed to be self-sustaining through contributions from members. There have been no significant reductions in insurance coverage from the prior year, and settled claims, if any, have not exceeded the Authority's insurance coverage in any of the past three years.

10. MEMBER TRANSACTIONS

The Authority receives the majority of its operating revenues from charges to its members. Gross member transactions are summarized as follows for the year ending June 30, 2020:

	Balance of receivable at June 30, 2020	Operating Revenues
Member receivables and revenues:		
Town of Pulaski	$ 327,507	$ 2,530,314
City of Radford	161,419	1,781,299
Montgomery County Public Service Authority	15,655	177,294
Pulaski County Public Service Authority	72,046	657,970
Pulaski County Sewerage Authority	21,727	246,557
Town of Dublin	38,838	339,754
Total member receivables and revenues	$ 637,192	$ 5,733,188

11. UPCOMING PRONOUNCEMENTS

The Governmental Accounting Standards Board (GASB) has issued the following statements which are not yet effective:

GASB Statement No. 84, *Fiduciary Activities*, establishes criteria for identifying fiduciary activities of all state and local governments. The focus of the criteria generally is on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. Separate criteria are included to identify fiduciary component units and postemployment benefit arrangements that are fiduciary activities. This Statement describes four fiduciary funds that should be reported, if applicable: (1) pension (and other employee benefit) trust funds, (2) investment trust funds, (3) private-purpose trust funds, and (4) custodial funds. This Statement also provides for recognition of a liability to the beneficiaries in a fiduciary fund when an event has occurred that compels the government to disburse fiduciary resources. The requirements of this Statement are effective for reporting periods beginning after December 15, 2019.

GASB Statement No. 87, *Leases*, increases the usefulness of governments' financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments' leasing activities. The requirements of this Statement are effective for reporting periods beginning after June 15, 2021.

GASB Statement No. 90, *Majority Equity Interests—an amendment of GASB Statements No. 14 and No. 61*, improves the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. It defines a majority equity interest and specifies that a majority equity interest in a legally separate organization should be reported as an investment if a government's holding of the equity interest meets the definition of an investment. A majority equity interest that meets the definition of an investment should be measured using the equity method, unless it is held by a special-purpose government engaged only in fiduciary activities, a fiduciary fund, or an endowment (including permanent and term endowments) or permanent fund. Those governments and funds should measure the majority equity interest at fair value. For all other holdings of a majority equity interest in a legally separate organization, a government should report the legally separate organization as a component unit, and the government or fund that holds the equity interest should report an asset related to the majority equity interest using the equity method. This Statement establishes that ownership of a majority equity interest in a legally separate organization results in the government being financially accountable for the legally separate organization and, therefore, the government should report that organization as a component unit. The requirements of this Statement are effective for reporting periods beginning after December 15, 2019.

11. UPCOMING PRONOUNCEMENTS (continued)

GASB Statement No. 91, *Conduit Debt Obligations*, provides a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with (1) commitments extended by issuers, (2) arrangements associated with conduit debt obligations, and (3) related note disclosures. This Statement achieves those objectives by clarifying the existing definition of a conduit debt obligation; establishing that a conduit debt obligation is not a liability of the issuer; establishing standards for accounting and financial reporting of additional commitments and voluntary commitments extended by issuers and arrangements associated with conduit debt obligations; and improving required note disclosures. The requirements of this Statement are effective for reporting periods beginning after December 15, 2021.

Statement No. 92, *Omnibus 2020*, addresses practice issues that have been identified during implementation and application of certain GASB Statements. This Statement addresses a variety of topics such as leases, assets related to pension and postemployment benefits, and reference to nonrecurring fair value measurements of assets or liabilities in authoritative literature. The effective dates differ by topic, ranging from January 2020 to periods beginning after June 15, 2021.

Statement No. 93, *Replacement of Interbank Offered Rates*, establishes accounting and financial reporting requirements related to the replacement of Interbank Offered Rates (IBORs) in hedging derivative instruments and leases. It also identifies appropriate benchmark interest rates for hedging derivative instruments. The requirements of this Statement, except for removal of London Interbank Offered Rate (LIBOR) as an appropriate benchmark interest rate and the requirements related to lease modifications, are effective for reporting periods beginning after June 15, 2020. The removal of LIBOR as an appropriate benchmark interest rate is effective for reporting periods ending after December 31, 2021. All requirements related to lease modifications in this Statement are effective for reporting periods beginning after June 15, 2021.

Statement No. 94, *Public-Private and Public-Public Partnerships and Availability of Payment Arrangements*, addresses issues related to public-private and public-public partnership arrangements. This Statement also provides guidance for accounting and financial reporting for availability payment arrangements. The requirements of this Statement are effective for reporting periods beginning after June 15, 2022.

Statement No. 96, *Subscription-Based Information Technology Arrangements (SBITAs)*, (1) defines a SBITA; (2) establishes that a SBITA results in a right-to-use subscription asset—an intangible asset—and a corresponding subscription liability; (3) provides the capitalization criteria for outlays other than subscription payments, including implementation costs of a SBITA; and (4) requires note disclosures regarding a SBITA. The requirements of this Statement are effective for reporting periods beginning after June 15, 2022.

Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code (IRC) Section 457 Deferred Compensation Plans – an Amendment of GASB Statements No. 14 and No. 84, and a Supersession of GASB Statement. No 32*, (1) increases consistency and comparability related to reporting of fiduciary component units in certain circumstances; (2) mitigates costs associated with the reporting of certain plans as fiduciary component units in fiduciary fund financial statements; and (3) enhances the relevance, consistency, and comparability of the accounting and financial reporting for Section 457 plans that meet the definition of a pension plan and for benefits provided through those plans. The effective dates differ based on the requirements of the Statement, ranging from June 2020 to reporting periods beginning after June 15, 2021.

Management is currently evaluating the impact these standards will have on the financial statements when adopted.

12. SUBSEQUENT EVENTS

On March 11, 2020, the World Health Organization officially declared COVID-19, the disease caused by the novel coronavirus, a pandemic. The future impact of the COVID-19 outbreak continues to evolve as of the release date of this report. As such, the full magnitude that the pandemic will have on the Authority's financial condition, liquidity, and future results of operations is uncertain. While the disruption is currently expected to be temporary, there is considerable uncertainty about the duration. Management is monitoring the global situation and impact that it may have on its financial condition, liquidity, operations, suppliers, industry, and workforce. Given the volatility of the COVID-19 pandemic, the Authority is not able to estimate the effects of the pandemic on the results of operations, financial condition, or liquidity for fiscal year 2021.

In preparing the financial statements, Pepper's Ferry Regional Wastewater Treatment Authority has evaluated events and transactions for potential recognition or disclosure through November 20, 2020, the date the financial statements were available to be issued. Management is not aware of any subsequent events that occurred or other matters that should be disclosed.

SCHEDULE OF CHANGES IN THE AUTHORITY'S NET PENSION
LIABILITY AND RELATED RATIOS
YEAR ENDED JUNE 30, 2020

	2019	2018	2017	2016	2015	2014
Total pension liability:						
Service cost	$ 99,404	$ 99,252	$ 126,074	$ 126,823	$ 131,743	$ 129,313
Interest	258,023	253,611	243,290	226,731	204,669	190,862
Changes of benefit terms	-	-	-	-	-	-
Changes of assumptions	118,710	-	(43,469)	-	-	-
Differences between expected and actual experience	165,008	(130,787)	(34,118)	10,993	106,532	-
Changes in assumptions	-	-	-	-	-	-
Benefit payments, including refunds of employee contributions	(156,612)	(161,470)	(127,216)	(128,759)	(126,795)	(119,063)
Net change in total pension liability	484,533	60,606	164,561	235,788	316,149	201,112
Total pension liability - beginning	3,764,350	3,703,744	3,539,183	3,303,395	2,987,246	2,786,134
Total pension liability - ending (a)	$ 4,248,883	$ 3,764,350	$ 3,703,744	$ 3,539,183	$ 3,303,395	$ 2,987,246
Plan fiduciary net position:						
Contributions - employer	$ 94,151	$ 100,924	$ 104,799	$ 122,768	$ 119,563	$ 130,817
Contributions - employee	55,485	48,881	53,936	55,883	54,633	54,005
Net investment income	217,823	224,415	329,961	47,114	113,188	326,618
Benefit payments, including refunds of employee contributions	(156,612)	(161,470)	(127,216)	(128,759)	(126,795)	(119,063)
Administrative expense	(2,099)	(1,906)	(1,835)	(1,554)	(1,476)	(1,686)
Other	(138)	(544)	(696)	(20)	(24)	18
Net change in plan fiduciary net position	208,610	210,300	358,949	95,432	159,089	390,709
Plan fiduciary net position - beginning	3,247,027	3,036,727	2,677,778	2,582,346	2,423,257	2,032,548
Plan fiduciary net position - ending (b)	$ 3,455,637	$ 3,247,027	$ 3,036,727	$ 2,677,778	$ 2,582,346	$ 2,423,257
Authority's net pension liability - ending (a) - (b)	$ 793,246	$ 517,323	$ 667,017	$ 861,405	$ 721,049	$ 563,989
Plan fiduciary net position as a percentage of the total Pension liability	81.330%	86.257%	81.991%	75.661%	78.172%	81.120%
Covered payroll	$ 1,137,284	$ 999,122	$ 1,077,329	$ 1,126,536	$ 1,096,227	$ 1,080,105
Authority's net pension liability as a percentage of the covered payroll	69.749%	51.778%	61.914%	76.465%	64.737%	52.070%

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is completed, the political subdivision will present information for those years which information is available.

PEPPER'S FERRY REGIONAL WASTEWATER TREATMENT AUTHORITY Exhibit E

SCHEDULE OF EMPLOYER PENSION CONTRIBUTIONS
FOR THE YEARS ENDED JUNE 30, 2015 THROUGH JUNE 30, 2020

Year	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Employee Payroll (4)	Contributions as a % of Covered Employee Payroll (5)
2020	$ 98,949	$ 98,949	$ -	$ 1,194,673	$ 8.28%
2019	$ 94,145	$ 94,145	$ -	$ 1,137,284	$ 8.28%
2018	$ 100,771	$ 100,771	$ -	$ 999,122	$ 10.09%
2017	$ 110,464	$ 110,464	$ -	$ 1,077,329	$ 10.25%
2016	$ 119,765	$ 119,765	$ -	$ 1,126,536	$ 10.63%
2015	$ 123,201	$ 123,201	$ -	$ 1,096,227	$ 11.24%

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is completed, the political subdivision will present information for those years which information is available.

NOTES TO REQUIRED SUPPLEMENTARY PENSION INFORMATION
YEAR ENDED JUNE 30, 2020

1. Changes of Benefit Terms

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

2. Changes of Assumptions

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of an actuarial experience study for the period from July 1, 2012, through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

All Others (Non-10 Largest) - Non-hazardous Duty

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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%
Discount Rate	Decrease rate from 7.00% to 6.75%

SCHEDULE OF AUTHORITY'S NET HEALTH INSURANCE CREDIT OPEB LIABILITY AND RELATED RATIOS
FOR THE YEARS ENDED JUNE 30, 2018 THROUGH JUNE 30, 2019

	2019	2018
Total HIC OPEB liability:		
Service cost	$ 1,086	$ 1,083
Interest	4,107	4,387
Changes of benefit terms	-	-
Differences between expected and actual experience	4,606	(5,866)
Changes in assumptions	1,349	-
Benefit payments	(3,308)	(3,904)
Net change in total HIC OPEB liability	7,840	(4,300)
Total HIC OPEB liability - beginning	60,319	64,619
Total HIC OPEB liability - ending (a)	$ 68,159	$ 60,319
Plan fiduciary net position:		
Contributions - employer	$ 3,189	$ 3,097
Contributions - employee	-	-
Net investment income	2,147	2,272
Benefit payments	(3,308)	(3,904)
Administrative expense	(47)	(54)
Other	(2)	(160)
Net change in plan fiduciary net position	1,979	1,251
Plan fiduciary net position - beginning	33,563	32,312
Plan fiduciary net position - ending (b)	$ 35,542	$ 33,563
Political subdivision's net HIC OPEB liability (asset) - ending (a) - (b)	$ 32,617	$ 26,756
Plan fiduciary net position as a percentage of the total HIC OPEB liability	52.146%	55.643%
Covered payroll	$ 1,194,673	$ 1,137,284
Political subdivision's net HIC OPEB liability as a percentage of the covered payroll	2.730%	2.353%

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is completed, the political subdivision will present information for those years which information is available.

PEPPER'S FERRY REGIONAL WASTEWATER TREATMENT AUTHORITY Exhibit H

SCHEDULE OF EMPLOYER CONTRIBUTIONS - HEALTH INSURANCE CREDIT
FOR THE YEARS ENDED JUNE 30, 2011 THROUGH JUNE 30, 2020

Year	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Employee Payroll (4)	Contributions as a % of Covered Employee Payroll (5)
2020	$ 3,349	$ 3,349	$ -	$ 1,194,673	0.28%
2019	$ 3,178	$ 3,178	$ -	$ 1,137,284	0.28%
2018	$ 3,097	$ 3,097	$ -	$ 999,122	0.31%
2017	$ 3,355	$ 3,355	$ -	$ 1,077,329	0.31%
2016	$ 3,830	$ 3,830	$ -	$ 1,126,536	0.34%
2015	$ 3,727	$ 3,727	$ -	$ 1,096,227	0.34%
2014	$ 4,320	$ 4,320	$ -	$ 1,080,105	0.40%
2013	$ 4,191	$ 4,191	$ -	$ 1,047,789	0.40%
2012	$ 3,749	$ 3,749	$ -	$ 961,267	0.39%
2011	$ 3,540	$ 3,540	$ -	$ 907,792	0.39%

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION - HEALTH INSURANCE CREDIT
YEAR ENDED JUNE 30, 2020

1. Changes of Benefit Terms

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

2. Changes of Assumptions

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of an actuarial experience study for the period from July 1, 2012, through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Non-Largest 10 Locality Employers - General Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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 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%
Discount Rate	Decrease rate from 7.00% to 6.75%

SCHEDULE OF AUTHORITY'S SHARE OF NET OPEB LIABILITY - GROUP LIFE INSURANCE PROGRAM
FOR THE PROGRAM YEARS ENDED JUNE 30, 2017-2019

	2019	2018	2017
Employer's Proportion of the NET GLI OPEB Liability (Asset)	0.00580%	0.00525%	0.00584%
Employer's Proportionate Share of the NET GLI OPEB Liability (Asset)	$ 94,382	$ 79,000	$ 88,000
Employer's Covered payroll	$ 1,137,284	$ 999,122	$1,077,329
Employer's Proportionate Share of the Net GLI OPEB Liability (Asset) as a Percentage of its Covered Payroll	8.299%	7.907%	8.168%
Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability	52.00%	51.22%	48.86%

Schedule is intended to show information for 10 years. Since 2019 is the third year for this presentation, there are only three years available. However, additional years will be included as they become available.

PEPPER'S FERRY REGIONAL WASTEWATER TREATMENT AUTHORITY Exhibit K

SCHEDULE OF EMPLOYER CONTRIBUTIONS - GROUP LIFE INSURANCE
FOR THE YEARS ENDED JUNE 30, 2011 THROUGH JUNE 30, 2020

Year	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Employee Payroll (4)	Contributions as a % of Covered Employee Payroll (5)
2020	$ 6,212	$ 6,212	$ -	$ 1,194,673	0.52%
2019	$ 5,914	$ 5,914	$ -	$ 1,137,284	0.52%
2018	$ 5,195	$ 5,195	$ -	$ 999,122	0.52%
2017	$ 5,602	$ 5,602	$ -	$ 1,077,329	0.52%
2016	$ 5,407	$ 5,407	$ -	$ 1,126,536	0.48%
2015	$ 5,262	$ 5,262	$ -	$ 1,096,227	0.48%
2014	$ 5,185	$ 5,185	$ -	$ 1,080,105	0.48%
2013	$ 5,029	$ 5,029	$ -	$ 1,047,789	0.48%
2012	$ 2,692	$ 2,692	$ -	$ 961,267	0.28%
2011	$ 2,542	$ 2,542	$ -	$ 907,792	0.28%

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION - GROUP LIFE INSURANCE
YEAR ENDED JUNE 30, 2020

1. Changes of Benefit Terms

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

2. Changes of Assumptions

   The actuarial assumptions used in the June 30, 2018, valuation were based on the results of an actuarial experience study for the period from July 1, 2012, through June 30, 2016, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

General State Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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%
Discount Rate	Decreased rate from 7.00% to 6.75%

Teachers

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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
Discount Rate	Decreased rate from 7.00% to 6.75%

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%
Discount Rate	Decreased rate from 7.00% to 6.75%

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 match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 50% to 35%
Discount Rate	Decreased rate from 7.00% to 6.75%

JRS Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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
Discount Rate	Decreased rate from 7.00% to 6.75%

Largest 10 Locality Employers – General Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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 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	Increase from 14% to 20%
Discount Rate	Decreased rate from 7.00% to 6.75%

Non-Largest 10 Locality Employers - General Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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 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	Increase from 14% to 15%
Discount Rate	Decreased rate from 7.00% to 6.75%

Largest 10 Locality Employers – Hazardous Duty Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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%
Discount Rate	Decreased rate from 7.00% to 6.75%

Non-Largest Ten Locality Employers - Hazardous Duty Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update 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%
Discount Rate	Decreased rate from 7.00% to 6.75%

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INDEPENDENT AUDITOR'S 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
Pepper's Ferry Regional Wastewater Treatment Authority
Radford, 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 business-type activities of the Pepper's Ferry Regional Wastewater Treatment Authority, as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise the Pepper's Ferry Regional Wastewater Treatment Authority's basic financial statements, and have issued our report thereon dated November 20, 2020.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Pepper's Ferry Regional Wastewater Treatment 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 opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Pepper's Ferry Regional Wastewater Treatment Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Pepper's Ferry Regional Wastewater Treatment Authority's internal control.

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

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that have not been identified. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. We did identify a deficiency in internal control, described in the accompanying schedule of findings and responses as item 2020-001 that we consider to be a significant deficiency.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Pepper's Ferry Regional Wastewater Treatment 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*.

The Authority's Response to Findings

The Authority's response to the finding identified in our audit is described in the accompanying schedule of findings and responses. The 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.

Cooke, Lavender, Massey & Company P.C.

Blacksburg, Virginia
November 20, 2020

PEPPER'S FERRY REGIONAL WASTEWATER TREATMENT AUTHORITY

SCHEDULE OF FINDINGS AND RESPONSES
YEAR ENDED JUNE 30, 2020

SECTION I - SUMMARY OF AUDITOR'S RESULTS

Financial Statements

Type of auditor's report issued:	Unmodified
Internal Control over financial reporting:	
Material Weakness(es) identified?	No
Significant deficiency(ies) identified?	Yes
Noncompliance material to the financial statements noted?	No

SECTION II - FINANCIAL STATEMENT FINDINGS

Finding 2020-001

Condition: Four payments for Virginia Retirement System pension plan contributions were not submitted by the 10th of the following month being certified.

Criteria: The Virginia Retirement System requires pension plan contributions to be scheduled immediately following the contribution confirmation process which must occur by the 10th of the month following the month being certified. The payment must also be received by the 10th of the month following the month being certified.

Cause: Insufficient design and implementation of internal controls over compliance with VRS specifications to ensure that all contributions are submitted within the required timeframe.

Effect: The Authority was not in compliance with Virginia Retirement System specifications.

Management Response: Management is aware of this compliance issue and will take the steps necessary to improve internal controls over pension plan contributions.

SECTION III - STATUS OF PRIOR AUDIT FINDINGS

There were no audit findings for the year ended June 30, 2019.