Orange Water and Sewer Authority

OWASA is Carrboro-Chapel Hill's not-for-profit public service agency delivering high quality water, wastewater, and reclaimed water services.

Agenda
Annual Meeting of the OWASA Board of Directors
Thursday, September 26, 2019, 7:00 P.M.
Chapel Hill Town Hall

In compliance with the "Americans with Disabilities Act," interpreter services are available with five days prior notice. If you need this assistance, please contact the Clerk to the Board at 919-537-4217 or aorbich@owasa.org.

The Board of Directors appreciates and invites the public to attend and observe its meetings. Public comment is invited either by petition upon topics not on the Board's agenda, or by comments upon items appearing on the Board's agenda. Speakers are invited to submit more detailed comments via written materials, ideally submitted at least three days in advance of the meeting to the Clerk to the Board via email or US Postal Service (aorbich@owasa.org/400 Jones Ferry Road, Carrboro, NC 27510).

Public speakers are encouraged to organize their remarks for delivery within a four-minute time frame allowed each speaker, unless otherwise determined by the Board of Directors.

Announcements

1. Announcements by the Chair
   - A. Any Board Member who knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight is asked to disclose the same at this time.
   - B. Update on Tuesday, September 24, 2019 Orange County Climate Council Meeting
   - C. New Board Member Diversity and Inclusion Session with VISIONS, Inc. on Tuesday, October 8, 2019 at 5 PM in the OWASA Boardroom
2. Announcements by Board Members
   - A. OWASA Annual Update to the Carrboro Board of Aldermen on Tuesday, September 24, 2019 (Yinka Ayankoya/Robert Morgan)
   - B. Human Resources Committee Meeting on Monday, September 30, 2019, at 4:30 P.M. in the OWASA Boardroom (Robert Morgan)
   - C. Agua Vista Update to the Chapel Hill Town Council on Wednesday, October 2, 2019 at 7:00 P.M. at Chapel Hill Town Hall (Ruchir Vora)
   - D. Chapel Hill Town Council OWASA Committee and Chapel Hill Appointees to the OWASA Board of Directors meeting on Thursday, October 17, 2019 at 8:30 A.M. in the OWASA Boardroom (Ruchir Vora)
3. Announcements by Staff
4. Additional Comments, Suggestions, and Information Items by Board Members (Ray Dubose)

Petitions and Requests

1. Public
2. Board
3. Staff

Presentation of Annual Report

1. A. Staff Comments
   B. Martin Starnes & Associates, CPAs, P.A.'s Comments

Consent Agenda

Information and Reports

2. 12 Month Board Meeting Schedule (Ray DuBose/Ed Kerwin)

Action

3. Minutes of the September 12, 2019 Closed Session of the Board of Directors for the Purpose of Discussing a Personnel Matter (Robert Morgan)

Regular Agenda

Discussion and Action

4. Draft Approach to Prioritize OWASA's Forest Land for Management (Ruth Rouse)
5. Solar Lease Prospect Review (Mary Tiger)
6. Adopt Preliminary Resolutions for Revenue Bonds (Stephen Winters)
7. Resolution Reappointing the Firm of Epting and Hackney as General Counsel to the Orange Water and Sewer Authority (Robert Morgan)

Summary of Board Meeting Action Items

8. Executive Director will summarize the key action items from the Board meeting and note significant items for discussion and/or action expected at the next meeting

Closed Session

9. The Board of Directors will convene in a Closed Session for the Purpose of Discussing a Personnel Matter (Robert Morgan)

PRESENTATION OF ANNUAL REPORT

Staff Comments ..... Stephen Winters, CPA

Martin, Starnes & Associates ..... Elsa Watts

September 26, 2019

Orange Water and Sewer Authority

OWASA is Carrboro-Chapel Hill's not-for-profit public service agency delivering high quality water, wastewater, and reclaimed water services.

MEMORANDUM

TO: Board of Directors

THROUGH: Ed Kerwin

FROM: Stephen Winters, CPA

DATE: September 20, 2019

SUBJECT: Draft of Orange Water and Sewer Authority Comprehensive Annual Financial Report for the year ended June 30, 2019.

A draft of the Comprehensive Annual Financial Report (CAFR) for the year ended June 30, 2019 is presented for the Board's review. Martin, Starnes & Associates has completed its audit and has issued an unmodified opinion.

Unmodified Opinion Explained

An unmodified audit opinion means that in the independent auditor's judgment, a company's financial records and statements are fairly and appropriately presented, and in accordance with Generally Accepted Accounting Principles (GAAP). It is issued when the independent auditor believes that the company's financial statements are sound; that is, the statements are free from material misstatements. This is different from a qualified opinion which is issued when the independent auditor discovers something in the financial statements that is subject to major concern.

Draft Version of CAFR

The report is in draft form as we are still compiling supplemental information that will be included in the report. As a component unit of the Town of Chapel Hill for reporting purposes, we are required to include information from the Town's CAFR that is not yet available. We will provide the final version to the Board of Directors in October after a mandatory review by the North Carolina Local Government Commission.

Stephen Winters, CPA
Director of Finance and Customer Service

ORANGE WATER AND SEWER AUTHORITY

(A COMPONENT UNIT OF THE TOWN OF CHAPEL HILL, NORTH CAROLINA)

COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR THE FISCAL YEARS ENDED JUNE 30, 2019 AND 2018

DRAFT

Prepared by:

Orange Water and Sewer Authority

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ORANGE WATER AND SEWER AUTHORITY

COMPREHENSIVE ANNUAL FINANCIAL REPORT
FOR THE FISCAL YEARS ENDED JUNE 30, 2019 AND 2018

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ORANGE WATER AND SEWER AUTHORITY

COMPREHENSIVE ANNUAL FINANCIAL REPORT
FOR THE FISCAL YEARS ENDED JUNE 30, 2019 AND 2018

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September 16, 2019

To our Customers, Bondholders and the Orange Water and Sewer Authority Board of Directors:

We are pleased to present our Comprehensive Annual Financial Report for the fiscal year beginning July 1, 2018 and ending June 30, 2019 (FY 2019). This report conforms to the reporting and accounting standards of the Governmental Accounting Standards Board (GASB), the Financial Accounting Standards Board (FASB), and the Government Finance Officers Association's (GFOA's) *Governmental Accounting, Auditing and Financial Reporting* document. Orange Water and Sewer Authority (OWASA) is responsible for the accuracy, completeness and fairness of the information presented including all disclosures.

Highlights

In FY 2019, OWASA served the Carrboro-Chapel Hill community in full compliance with federal and state standards for drinking water, treated wastewater, and reclaimed water quality.

OWASA's financial position improved during the year. OWASA ended the year with a modified accrual based net income less debt service of about $7.9 million which was 7% percent over budget. The resulting increase in financial reserves will be used for future capital improvement needs.

Please refer to the management's discussion and analysis and the audited general purpose financial statements for additional information on OWASA's financial performance during FY 2019.

Scope and Organization of this Report

- The Introductory Section (unaudited) contains this letter of transmittal and information about OWASA's organizational structure, principal officers, major initiatives, accomplishments, and future projects.

- The Financial Section includes the independent auditor's report; OWASA management's discussion and analysis of the year; the general purpose financial statements; and supplementary schedules. The general purpose financial statements can be issued separately for securities offerings or other purposes.

- The Statistical Section (unaudited) presents fiscal and other data to provide a more complete understanding of OWASA, the community we serve and the local economy.

- The Compliance Section presents the independent auditor's report on compliance with various internal control and other requirements related to certain forms of financial assistance.

As a single-purpose governmental entity, OWASA's financial activities are reported as a sole enterprise fund through which is captured and disclosed the inflow and outflow of total economic resources under the full accrual method of accounting. For financial reporting purposes under GASB Statement 14,

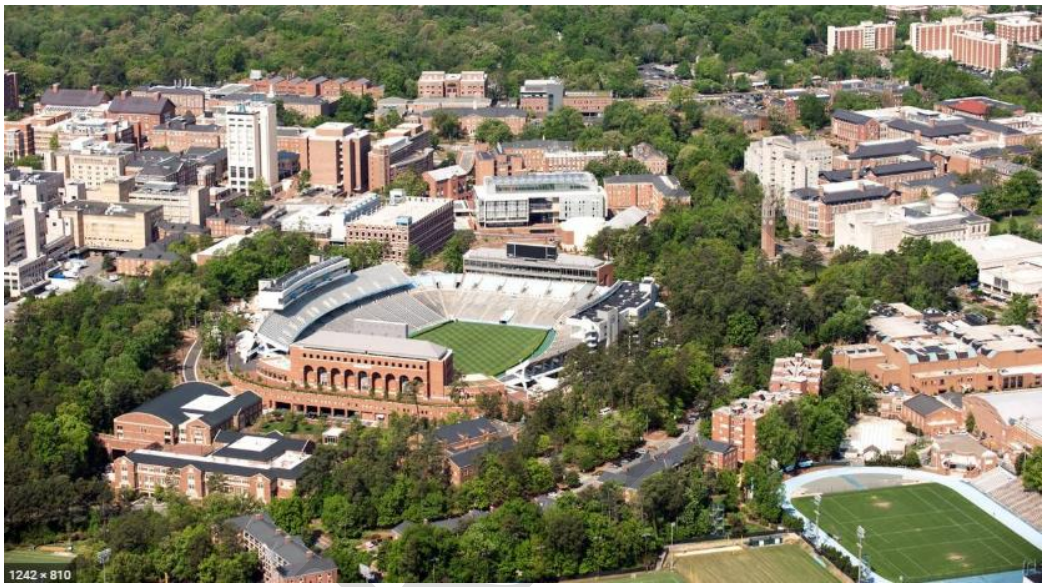
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400 Jones Ferry Road, Carrboro, NC 27510 919-968-4421 info@owasa.org @OWASA1 www.owasa.org

OWASA is considered a component unit of the Town of Chapel Hill because the Town Council appoints a majority of OWASA's Board Members and may remove them without cause. The Comprehensive Annual Financial Report (CAFR) of the Town of Chapel Hill therefore includes OWASA's financial data and OWASA's CAFR includes statistical data about the Town.

Background

A special purpose local governmental entity organized under state law, OWASA is a public non-profit agency providing water, wastewater and reclaimed water services to the Carrboro-Chapel Hill community. We serve about 83,000 people.



University of North Carolina Campus

Creation of OWASA

Before OWASA was established, the University of North Carolina at Chapel Hill (UNC) and the Towns of Chapel Hill and Carrboro provided public water and sewer services to the Carrboro-Chapel Hill community.



Kayaking on Cane Creek Reservoir

Following recommendations of a Utilities Study Commission created in 1971, on August 9, 1976, the state approved conveyance of the University's water and wastewater utilities to OWASA in accord with *Agreements of Sale and Purchase* among the University, the Towns and OWASA. The Town of Carrboro, the Town of Chapel Hill and Orange County governing boards incorporated OWASA under Chapter 162A of state law. OWASA began serving the community on February 16, 1977 upon transfer of the municipal and University systems to OWASA.

Governance

A nine-member Board of Directors governs OWASA. The Chapel Hill Town Council appoints five, and the Carrboro Board of Aldermen and the Orange County Board of Commissioners each appoints two Board Members. The OWASA Board adopts the annual budget; sets rates, fees, and charges based on cost-of-service principles; makes policy decisions; approves issuance of revenue bonds or other debt instruments; and appoints the Executive Director, General Counsel and Independent Auditor.

Water System

Our water comes from Cane Creek Reservoir, a three billion-gallon supply eight miles west of Carrboro; University Lake, a 450 million-gallon reservoir on the west side of Carrboro; and the 200 million-gallon Quarry Reservoir three miles west of Carrboro.



Water Treatment Plant Sedimentation Basins

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OWASA has a state allocation of water supply storage capacity in Jordan Lake equivalent to about five million gallons of water per day (MGD). OWASA does not currently receive water from Jordan Lake to meet the daily needs of its service area nor does it own facilities to do so. However, through mutual aid agreements, OWASA can obtain drinking water from Jordan Lake from the Town of Cary through OWASA's system connection with the City of Durham. OWASA also maintains emergency water system connections with the Town of Hillsborough and Chatham County public drinking water systems.

Our Jones Ferry Road Water Treatment Plant (WTP) has a capacity of 20 MGD. Our drinking water storage capacity is eight million gallons and we maintain about 400 miles of raw water, finished water, and water interconnection lines.

OWASA's met or surpassed all federal and state standards for drinking water quality in 2019.

Wastewater System

We operate and maintain about 340 miles of sanitary sewer and force main lines, and 21 pump stations to carry wastewater to the Mason Farm Wastewater Treatment Plant (WWTP), which has a peak treatment capacity of 14.5 MGD (daily average for a calendar month).



Biosolids Transportation Equipment

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Highly treated wastewater is recycled to the natural environment at Morgan Creek on the southeast side of Chapel Hill or provided as reclaimed water for non-drinking uses as described below. Morgan Creek is a tributary of Jordan Lake, a water source for several communities in the region.

OWASA's treated wastewater was in full compliance with regulatory standards in 2019.

Reclaimed Water System

OWASA operates a reclaimed water (RCW) system at the Mason Farm WWTP. Federal and State grants funded about 10% of the project to build the system with UNC, OWASA's primary RCW customer, providing funds for the balance of the construction costs.

The RCW system is financially self-supporting. OWASA recovers all operating, maintenance, management, and overhead costs through rates and fees. Financial responsibilities, including rate decisions by OWASA and other technical matters are specified in a contract between OWASA and UNC.

The University uses RCW for make-up water in cooling towers at chiller plants, toilet flushing, and irrigation. UNC's RCW use averaged about 910,000 gallons per day during FY 2019.
By decreasing the amount of drinking water used for non-drinking purposes, the RCW system helps reduce the community's risks in future droughts and other water shortages. The system also enables OWASA to defer the need for expansion of water supply and treatment capacity and reduces energy use and costs.

Economic Conditions

In June 2019, the unemployment rate in Orange County was 4 percent compared to the North Carolina average of 4.1 percent and US average of 3.7 percent (Source: US Bureau of Labor Statistics). The estimated population of Orange County increased by 13 percent from 2000 to 2010. The relative stability of the Carrboro-Chapel Hill economy is supported by the size and strength of UNC and UNC Healthcare which continue to actively plan and develop new facilities and infrastructure.



Downtown Carrboro, North Carolina

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Initiatives and Accomplishments

Advanced Metering Infrastructure – In FY 2019, OWASA completed the implementation of an advanced metering infrastructure (AMI) system. The system, branded Agua Vista, reads over 21,000 meters remotely over a computer network. This has reduced costs associated with purchasing and maintaining vehicles, vehicle fuel, and staff time. Agua Vista also significantly enhances our customer service capability allowing OWASA staff and customers to view and analyze hourly water consumption and detect leaks. The investment in the project cost about $5 million and took about two years to complete.

Increase in Monthly Water and Sewer Rates – After six consecutive years without a rate increase, followed by a two percent increase in FY 2018, OWASA's Board of Directors approved a new Schedule of Rates and Fees that includes a five-percent increase in monthly water and sewer rates; the increase will go into effect on October 1, 2019.

Financial Information

The annual budget is an integral part of OWASA's financial operations. Appropriations are set at the departmental level. The annual budget and capital project ordinances are adopted by the OWASA Board of Directors creating a legal limit on annual spending. Multi-year project ordinances are adopted for capital projects. OWASA's operations are accounted for, and reported as, an enterprise fund because our services are primarily funded with user fees.

OWASA's management is responsible for the accounting system and for establishing and maintaining internal financial controls. The internal control system is designed to provide reasonable assurance regarding the safeguarding of assets against loss from unauthorized use or disposition and the reliability of financial records for preparing financial statements in conformity with accounting principles generally accepted in the United States of America. Management believes that OWASA's internal accounting controls adequately protect assets and provide reasonable assurance of the proper recording of financial transactions.

OWASA is required by law to use cost-of-service rates. We set our rates, fees and charges to cover the cost for each of our services. We use increasing block water rates for individually metered residential customers and a year-round water rate for multi-family master metered customers. OWASA uses seasonal water rates for non-residential customers; non-residential customers pay a higher water rate during the peak demand months of May through September and a lower rate in the remaining months. Irrigation-only water customers pay a year-round water rate which reflects the higher system capacity necessary to serve them. When development creates new connections to OWASA's system, fees are charged to ensure that the appropriate portion of the capital costs of providing system capacity is paid for by the parties that tap into and benefit from that capacity. Annual adjustments of rates, fees and charges normally occurs on October 1.

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Independent Audit

OWASA is required by state law to undergo an annual independent financial audit. OWASA's auditor, Martin, Starnes & Associates, CPAs, P.A., was retained following an open, competitive, qualifications-based selection process. The independent auditor's report on the General Purpose Financial Statements is included in the Financial Section of this report.

Certificate of Achievement for Excellence in Financial Reporting

OWASA has received the GFOA Certificate of Achievement for Excellence in Financial Reporting each year since 2000. To receive a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and legal requirements.

The Certificate of Achievement is valid for a period of one year. We believe that our comprehensive annual financial report for FY 2019 continues to meet the Certificate of Achievement Program requirements and we will submit it to the GFOA to determine its eligibility for another award.

Distinguished Budget Presentation Award

OWASA received its 19th Distinguished Budget Presentation Award from the GFOA for our FY 2019 budget. This award program recognizes governments that prepare high quality budget documents to meet the needs of decision-makers and citizens. We believe that our budget report for FY 2020 continues to meet the Distinguished Budget Presentation Program requirements and we have submitted it to the GFOA to determine its eligibility for another certificate.

Acknowledgements

We express our appreciation to the independent certified public accountants, Martin, Starnes & Associates, CPAs, P.A., who assisted and significantly contributed to this report.

Preparation of this report could not have been accomplished without the efficient and dedicated work of the OWASA team.

We thank the OWASA Board of Directors for their responsible policy guidance in financial management.

Respectfully submitted,

Ed Kerwin
Executive Director

Stephen Winters, CPA
Director of Finance and Customer Service

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Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Orange Water and Sewer Authority

North Carolina

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

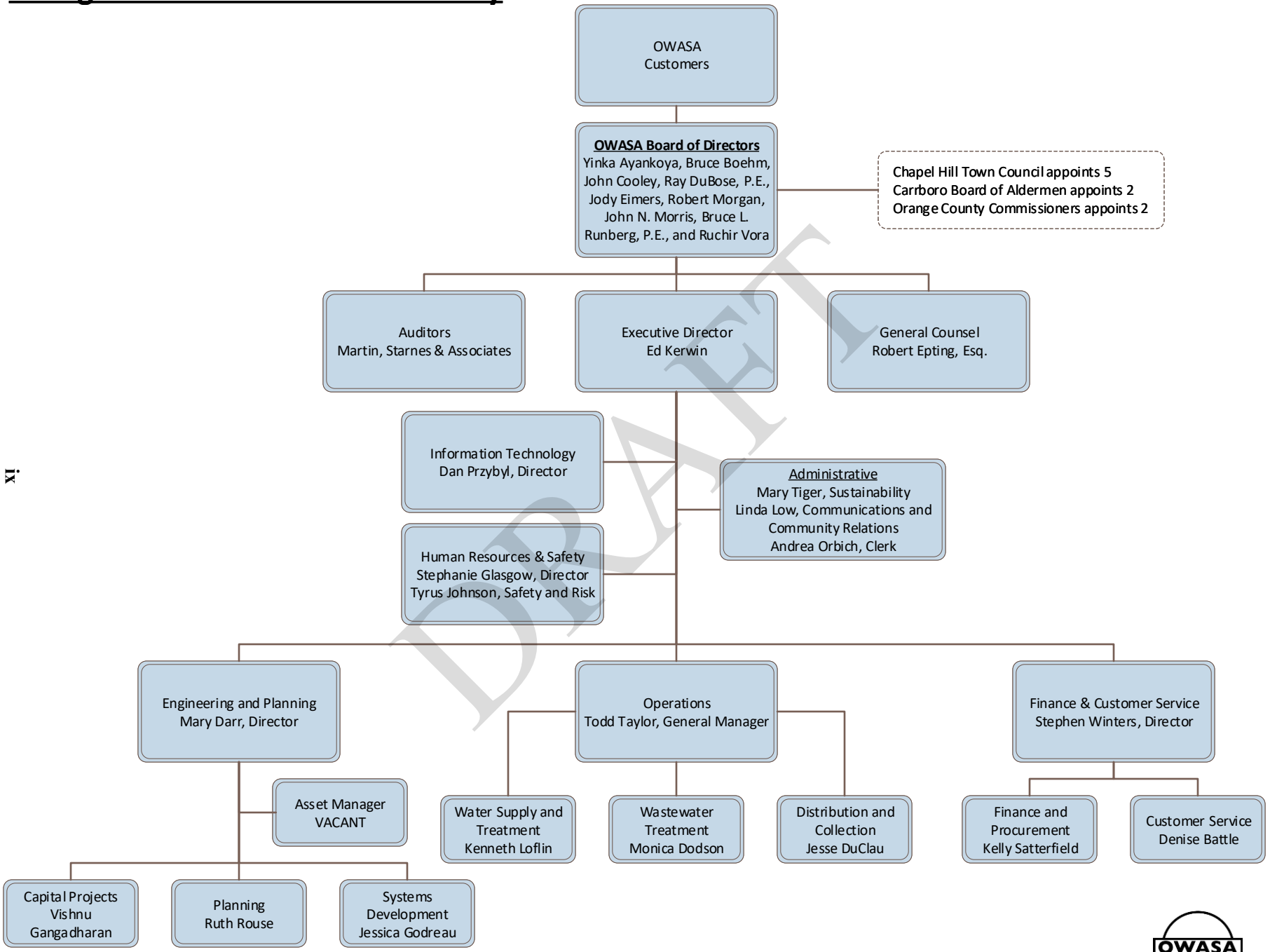
June 30, 2018

Christopher P. Morrill

Executive Director/CEO

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Orange Water and Sewer Authority



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ORANGE WATER AND SEWER AUTHORITY
BOARD OF DIRECTORS

CHAIR

Raymond DuBose
103 Easy Street
Chapel Hill, NC 27516
Appointed by Orange County; Term Expires 6/30/20

VICE CHAIR

Ruchir Vora
522 Dogwood Drive
Chapel Hill, NC 27516
Appointed by Chapel Hill; Term Expires 6/30/20

SECRETARY

Bruce Boehm
1921 South Lakeshore Dr
Chapel Hill, NC 27514
Appointed by Chapel Hill; Term Expires 6/30/22

MEMBERS

Yinka Ayankoya
200 Gary Road
Carrboro, NC 27510
Appointed by Carrboro; Term Expires 6/30/22

John Cooley
140 W. Franklin Street, Unit 418
Chapel Hill, NC 27516
Appointed by Chapel Hill; Term Expires 6/30/21

Jody Eimers
3120 Landeau Dr
Hillsborough, NC 27278
Appointed by Orange County; Term Expires 6/30/21

Robert Morgan
209 Robert Hunt Drive
Carrboro, NC 27510
Appointed by Carrboro; Term Expires 6/30/21

John Morris
614 Beechtree Court
Chapel Hill, NC 27514
Appointed by Chapel Hill; Term Expires 6/30/20

Bruce Runberg
601 MLK Jr Blvd Unit #1
Chapel Hill, NC 27514
Appointed by Chapel Hill; Term Expires 6/30/22

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ORANGE WATER AND SEWER AUTHORITY
MANAGEMENT TEAM

Denise Battle, Customer Service Manager
Mary Darr, P.E., Director of Engineering and Planning
Monica Dodson, Wastewater Treatment and Biosolids Recycling Manager
Jesse DuClau, Water Distribution and Wastewater Collection Systems Manager
Vishnu Gangadharan, P.E., Engineering Manager (Capital Projects)
Stephanie Glasgow, M.E.S.H., P.H.R., Director of Human Resources and Safety
Jessica Godreau, P.E., Engineering Manager (Systems Development)
Ed Kerwin, Executive Director
Kenneth Loflin, Water Supply and Treatment Manager
Linda Low, Communications and Community Relations Officer
Andrea Orbich, Clerk to the Board/Executive Assistant
Dan Przybyl, Director of Information Technology
Ruth Rouse, A.I.C.P., Planning and Development Manager
Kelly Satterfield, CPA, Finance and Procurement Manager
Todd Taylor, P.E., General Manager of Operations
Mary Tiger, Sustainability Manager
Stephen Winters, CPA, Director of Finance and Customer Service

GENERAL COUNSEL

Robert Epting, Esquire
Epting and Hackney, Attorneys at Law

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MARTIN ♦ STARNES
& ASSOCIATES, CPAs, P.A.
"A Professional Association of Certified Public Accountants and Management Consultants"

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
Orange Water and Sewer Authority
Carrboro, North Carolina

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities of the Orange Water and Sewer Authority (the "Authority") (a component unit of the Town of Chapel Hill, North Carolina), as of and for the years ended June 30, 2019 and 2018, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of 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 opinion.

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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 the Orange Water and Sewer Authority as of June 30, 2019 and 2018, and the respective changes in financial position and cash flows, thereof, for the years 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, the Other Post-Employment Benefits Schedules of Changes in the Total OPEB Liability and Related Ratios, and the Local Governmental Employees' Retirement System Schedules of the Proportionate Share of Net Pension Asset/Liability and Contributions 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 the financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary and Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Orange Water and Sewer Authority's basic financial statements. The introductory information, budgetary schedules, the statistical section, as well as the Schedule of Expenditures of Federal and State Awards, as required by Title 2 U.S. *Code of Federal Regulations (CFR) Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards,* and the State Single Audit Implementation Act, are presented for purposes of additional analysis and are not a required part of the basic financial statements.

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

The introductory information and the statistical section have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide assurance on them.

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Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated September 16, 2019 on our consideration of the 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 the Orange Water and Sewer 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 the Authority's internal control over financial reporting and compliance.

Martin Starnes & Associates, CPAs, P.A.
Hickory, North Carolina
September 16, 2019

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Management's Discussion and Analysis

The management of the Orange Water and Sewer Authority (OWASA) offers the following discussion and analysis as a supplement to the organization's financial position and activities for the fiscal years ended June 30, 2019 and 2018. This presentation is intended to enhance the readers' understanding of the financial statements which follow and should be read in conjunction with those statements and the introductory letter of transmittal found on pages i–viii.

Financial Highlights

- At June 30, 2019, OWASA's assets and deferred outflows of resources exceeded its liabilities and deferred inflows of resources by $272.4 million.
- OWASA's total net position increased by $7.5 million, primarily resulting from income realized from operating activities.
- Due to the condition and capacity of OWASA's system, about 74% of the organization's $17.3 million capital expenditures for Fiscal Year (FY) 2019 were invested in replacing and rehabilitating existing infrastructure.
- Non-current liabilities increased by about $1.9 million as a result of securing low-interest loans from the state of North Carolina and making principal payments on long-term debt.
- OWASA's credit ratings of AA+ from Fitch, Aa1 from Moody's, and AAA from Standard & Poor's remain unchanged.

Overview of the Financial Statements

OWASA's primary mission is to provide water, sewer, and reclaimed water services to Chapel Hill, Carrboro, and portions of southeastern Orange County. OWASA does not provide other general purpose government services or programs. OWASA's operations, capital improvements program, and debt payments are funded almost entirely through rates, fees and other charges for water, sewer, and reclaimed water services. OWASA is considered to be, and therefore presents its financial report, as a stand-alone enterprise fund.

As a stand-alone enterprise fund, OWASA's basic financial statements consist of a *Statements of Net Position*, a *Statements of Revenues, Expenses and Changes in Net Position* and a *Statements of Cash Flows*. These statements, together with the *Management's Discussion and Analysis*, provide both short- and long-term financial information about OWASA's financial position. Presentations of two-year and three-year comparative data in these schedules are intended to enhance the reader's ability to gauge OWASA's fiscal strength and provide useful trend information. *Notes to the Financial Statements* and a *Schedule of Revenues and Expenditures – Budget and Actual* appear immediately following the basic financial statements. In addition, other required supplementary information, generally statistical and demographic in nature, is presented.

The *Statements of Net Position* presents OWASA's basic financial position through disclosure of information about OWASA's assets and liabilities. Net position represents the difference between total assets and deferred outflows of resources and total liabilities. Over time, net position may serve as a useful indicator of OWASA's financial condition.

The *Statements of Revenues, Expenses and Changes in Net Position* provides information regarding OWASA's total economic resource inflow and outflow (accrual method of accounting). The difference between these inflows and outflows represents the change in net position, which links this statement to the *Statements of Net Position.*

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The *Statements of Cash Flows* deals specifically with the flow of cash and cash equivalents arising from operating, capital and related financing and investing activities. Because OWASA's *Statements of Revenues, Expenses and Changes in Net Position* measures the flow of total economic resources, operating income usually differs from net cash flow from operations. To supplement the reader's understanding of this difference, the *Statements of Cash Flows* includes reconciliation between these two amounts. In accordance with accounting principles generally accepted in the United States, a reconciliation of cash and cash equivalents is also presented in this statement.

The *Notes to the Financial Statements* provide additional information that is essential to a full understanding of the data provided in the financial statements.

Financial Analysis

Orange Water and Sewer Authority
Schedule of Net Position
($ millions)

	Fiscal Year Ended			Percentage of Change (2018 to 2019)
	2019	**2018**	**2017**	
Current assets	$29.5	$31.2	$39.4	(5.4%)
Capital and other long-term assets	331.5	319.0	306.0	3.9
Total assets	361.0	350.2	345.4	3.1
Total deferred outflows of resources	4.0	3.3	4.1	21.2
Current liabilities	15.1	13.4	11.2	12.7
Non-current liabilities	75.9	74.0	74.6	2.6
Total liabilities	91.0	87.4	85.8	4.1
Total deferred inflows of resources	1.6	1.2	0.1	33.3
Net position				
Net investment in capital assets	266.1	255.1	236.8	4.3
Restricted	0.2	0.2	0.2	0.0
Unrestricted	6.1	9.5	26.6	(35.8)
Total net position	$272.4	$264.8	$263.6	2.9

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OWASA's assets exceeded liabilities by $272.4 million at June 30, 2019, compared to $264.8 million and $263.6 million at June 30, 2018 and 2017, respectively. OWASA's overall financial position strengthened between FY 2017 and 2019 as net position increased by $8.9 million. Total assets increased during the same period by $15.6 million. These trends indicate that a significant portion of recent infrastructure improvements has been funded through cash rather than debt.

Net capital assets comprised about 91% of total assets for the comparative years of 2017 through 2019. These capital assets are essential in providing water and sewer services to customers and are not available for future spending. The resources needed to repay the related debt must be provided by other sources. At June 30, 2019, these other unrestricted resources totaled $6.1 million and may be used for any lawful purpose.

Non-current liabilities increased by approximately 1.7% or $1.3 million during the same period reflecting increases in low-interest loans from the state of North Carolina, net of principal payments on long-term debt.

OWASA anticipates continued increases in net position arising from its planned capital improvements program and projected excess of revenues and contributions over expenditures.

Orange Water and Sewer Authority
Revenues, Expenses and Change in Net Position
($ Millions)

	Fiscal Year Ended			Percentage of Change (2018 to 2019)
	2019	2018	2017	
Operating revenues				
Water, wastewater, reclaimed water	$35.2	$36.0	$34.5	(2.2%)
Other	1.0	1.5	1.2	(33.3)
Total operating revenues	36.2	37.5	35.7	(3.5)
Operating expenses	32.5	31.5	30.5	3.2
Operating income	3.7	6.0	5.2	(38.3)
Non-operating revenues (expenses)	(0.1)	(0.1)	1.5	
Income before contributions	3.6	5.9	6.7	(40.7)
Capital contributions	4.0	1.5	2.4	166.7
Increase (decrease) in net position	7.6	7.4	9.1	1.4
Net position, July 1	264.8	263.7	254.5	0.5
Change in accounting principles / restatement	0.0	(6.3)	0.0	
Net position, June 30	$272.4	$264.8	$263.6	2.9

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The above condensed three-year comparison of Revenues, Expenses and Change in Net Position, combined with the following discussion provides additional insight regarding changes in net position.

- **Operating Revenues:** OWASA is not empowered to levy or collect taxes, nor does OWASA receive funding from the taxing authorities within its service area. OWASA's operations, capital improvements program and debt service are funded almost entirely from fees charged to customers for water, sewer, and reclaimed water services, and other related services. As a result, OWASA's revenue stream is impacted by fluctuations in demand for services and other economic factors.

  Revenues derived from water, sewer, and reclaimed water services are comprised of two components; a fixed monthly service charge based on the size of the installed water meter and a monthly volume usage (commodity) charge per thousand gallons of water consumed. The sewer commodity charge is measured based on water consumption. However, for single-family residential customers, the sewer commodity charge incorporates the assumption that not all water consumed is returned to the sewer system. Sewer billings for residential customers are capped at 15,000 gallons per month. All rates, fees and charges are calculated under a cost-of-service rate-making methodology.

In FY 2019, drinking water volume sales was an average of 6.0 million gallons per day (mgd). In FY 2018 and 2017, drinking water volume sales were 6.2 mgd and 6.0, respectively. Drinking water demand remains much lower than long-term historical trends and reflects OWASA's and its customers' continued commitment to water conservation, the conservation signal delivered through the increasing block rate and seasonal pricing structures for single-family residential and nonresidential customers, respectively, and the use of reclaimed water by the University of North Carolina. Operating revenues for FY 2019 were about 3.5% less than the previous year or $36.2 million.

- **Operating Expenses**: Operating expenses were $32.5 million or about 3.2% more than FY 2018 and approximately 6.6% greater than FY 2017. OWASA's department managers expended about 1.8% less than the amount budgeted for FY 2019. Operating expenses includes an $9.6 million charge for depreciation and a $614,000 charge for post-employment benefits. OWASA's ability to meet operating expenses and adequately cover debt service remained positive.

- **Non-Operating Revenues (Expenses):** Non-operating revenues are comprised primarily of system development fees, interest earnings, and gains (or losses) from the sale of surplus property. System development fees are calculated to recover from new customers a share of the cost of system capacity when a new connection is made to the system. Non-operating expenditures are made up primarily of interest expense on debt and amortization of bond expenses.

  System development fee revenue was approximately $1.6 million in FY 2019: about the same as FY 2018. For FY 2018 and 2017, system development fee revenue was about $1.6 million and $2.2 million, respectively. Interest earned in FY 2019 totaled about $65,000. Investments remained in safe and liquid secured deposits.

- **Capital Contributions**: Capital contributions totaled approximately $4 million for the year and were comprised of construction costs of developer dedicated facilities. Contributions in aid of construction in the form of dedicated service lines are classified as contributions after net income. Although OWASA receives such contributions annually, these transactions are not cash or cash equivalents and are not included in the budget under the modified accrual method.

Capital Assets

Each year, OWASA expands or places into service new and renewed capital assets. Capital assets net of depreciation as of the end of FY 2019 was about $331.2 million, an increase of approximately $12.5 million from FY 2018. The net increase consisted of additions totaling $22.1 million and a reduction due to deprecation of $9.6 million. The asset additions included the rehabilitation or replacement of various water and sewer mains and improvements to the Jones Ferry Road Water Treatment Plant and the Mason Farm Wastewater Treatment Plant.

The majority of OWASA's capital expenditures over the next 15 years is expected to be invested in replacing and rehabilitating existing assets. System capacity is expected to be sufficient to meet the community's needs well into the future. Please refer to page 23 for additional information on capital assets.

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Orange Water and Sewer Authority Capital Assets ($ Millions)				
	Fiscal Year Ended			Percentage of Change (2018 to 2019)
	2019	2018	2017	
Land	$17.6	$17.6	$17.6	0.0%
Construction in progress	50.1	40.7	28.1	23.1
Water treatment and distribution	104.0	99.3	99.3	4.6
Sewer collection and treatment	145.8	148.2	148.0	(1.6)
Fixtures and equipment	13.7	13.0	12.8	5.4
Total	$331.2	$318.8	$305.8	3.9

Debt Administration

OWASA policy stipulates that at least 30% of capital improvements projects be funded with cash from operations. At June 30, 2019, 2018 and 2017, OWASA's outstanding bond and loan debt totaled $66.5 million, $65.2 million, and $70.6 million respectively, net of applicable premiums, discounts and deferred refunding costs. These amounts consist of a low-interest and interest-free loans from the state of North Carolina, and water and sewer system revenue refunding bonds issued in fiscal years 2010, 2014, 2015 and 2018. At year end, OWASA owed an accrued debt service liability of approximately $6.5 million. This amount was credited in full to the trustee restricted bond service account as of June 30, 2019.

OWASA's credit ratings for its bonds are AAA by Standard & Poor's, Aa1 by the Moody's, AA+ by Fitch Ratings. These ratings reflect OWASA's strong fiscal policy and standards and are considered excellent for an entity that does not have taxing authority.

Please refer to page 25 in the Notes to Financial Statements section for greater detail on OWASA's outstanding debt obligations.

Economic Factors

OWASA's location in Orange County, North Carolina includes a number of factors that benefit the organization and, thereby, its customers.

- The University of North Carolina at Chapel Hill (UNC) is OWASA's largest customer and accounts for approximately 23% of total drinking water sales.
- The Carrboro-Chapel Hill economy benefits from the size and strength of UNC and UNC Healthcare: public entities that serve the entire state. The University continues to actively plan and develop new facilities and infrastructure.
- There are no major industries in the service area that are subject to significant changes in economic conditions.
- Orange County's unemployment rate has historically been better than the State and National average.

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OWASA encourages water conservation through public education, voluntary and mandatory water use restrictions, and pricing structures. Reduced water use through conservation provides many benefits to the community including extending the life of OWASA's water supply and system capacity. The organization continues to strive to improve efficiencies and reduce costs to limit rate increases without adversely impacting services levels.

FY 2020 Budget Highlights

OWASA's Board of Directors approved a budget that includes a five percent increase in the monthly rates charged for water, sewer and reclaimed water services. The FY 2020 budget for Operating expenses is about 3.2% greater than the FY 2019 budget. Capital improvement expenditures are budgeted to be approximately $26.4 million.

Requests for Information

This report is designed to provide an overview of Orange Water and Sewer Authority's finances. Questions concerning any of the information found in this report or requests for additional information may be directed to the Director of Finance and Customer Service, 400 Jones Ferry Road, Carrboro, North Carolina 27510-2001.

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ORANGE WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION
PROPRIETARY FUND
JUNE 30, 2019 AND 2018

	2019	2018
Assets:		
Current assets:		
Cash and cash equivalents	$ 16,162,754	$ 15,961,713
Receivables:		
Trade accounts (net of allowances for uncollectible accounts of approximately $85,000 for 2019 and 2018)	3,411,381	5,090,491
Other	951,980	1,938,335
Inventory, materials, and supplies	1,396,186	1,191,251
Prepaid expenses	182,894	38,880
Restricted cash and cash equivalents:		
Cash and cash equivalents	1,121,461	1,057,140
Cash and cash equivalents, trustee	6,273,444	5,892,557
Total current assets	29,500,100	31,170,367
Non-current assets:		
Restricted cash and cash equivalents	241,332	206,053
Capital assets:		
Non-depreciable	67,718,829	58,290,237
Depreciable	263,514,503	260,508,128
Total capital assets, net of accumulated depreciation	331,233,332	318,798,365
Total non-current assets, net	331,474,664	319,004,418
Total assets	360,974,764	350,174,785
Deferred Outflows of Resources:		
Contributions to pension plan in current fiscal year	655,451	617,219
Pension deferrals	1,679,072	903,222
Contributions to OPEB plan in current fiscal year	283,833	196,582
OPEB deferrals	26,684	20,671
Deferred charge on refunding	1,327,210	1,518,829
Total deferred outflows of resources	3,972,250	3,256,523

The accompanying notes are an integral part of the financial statements.

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ORANGE WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION
PROPRIETARY FUND
JUNE 30, 2019 AND 2018

	2019	2018
Liabilities:		
Current liabilities:		
Payable from current assets:		
Trade and construction contracts payable	5,514,977	4,553,451
Accrued expenses	233,378	270,463
Payable from restricted cash and cash equivalents:		
Accrued interest	1,081,939	904,907
Customer deposits and advances	1,362,793	1,263,193
Current maturity of note payable	634,011	328,000
Current maturities of bonds payable	5,845,149	5,676,526
Current portion of compensated absences	449,128	428,362
Total current liabilities	15,121,375	13,424,902
Non-current liabilities:		
Note payable	11,610,207	4,920,000
Bonds payable	48,410,840	54,255,989
Compensated absences	149,709	142,787
Net pension liability	2,982,507	1,941,888
Total OPEB liability	12,710,564	12,738,543
Total non-current liabilities	75,863,827	73,999,207
Total liabilities	90,985,202	87,424,109
Deferred Inflows of Resources:		
Pension deferrals	30,490	58,668
OPEB deferrals	1,561,639	1,110,457
Total deferred inflows of resources	1,592,129	1,169,125
Net Position:		
Net investment in capital assets	266,060,335	255,136,679
Restricted for capital reserve	241,332	206,053
Unrestricted	6,068,016	9,495,342
Total net position	$ 272,369,683	$ 264,838,074

The accompanying notes are an integral part of the financial statements.

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ORANGE WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - PROPRIETARY FUND FOR THE YEARS ENDED JUNE 30, 2019 AND 2018

	2019	2018
Operating Revenues:		
Water	$ 17,666,256	$ 19,013,363
Sewer	17,058,037	16,868,447
Service initiation fees	98,625	156,225
Reclaimed water	456,926	441,303
Other	905,996	1,063,905
Total operating revenues	36,185,840	37,543,243
Operating Expenses:		
Water supply and treatment	5,001,419	5,601,957
Water distribution	4,045,476	2,659,501
Sewer treatment	5,406,223	4,607,301
Sewer collections	1,065,628	1,264,196
General and administrative	6,820,965	7,352,499
Depreciation and amortization	9,558,087	9,226,257
Other post-employment benefits	613,772	765,944
Total operating expenses	32,511,570	31,477,655
Operating income (loss)	3,674,270	6,065,588
Non-Operating Revenues (Expenses):		
System development fees	1,593,210	1,599,382
Investment income, net of fair value of investments adjustment	64,842	56,524
Interest expense	(2,161,022)	(1,863,061)
Amortization of bond and lease expense	544,907	102,842
Gain (Loss) on disposal of capital assets	27,502	-
Costs of issuance	(247,176)	(19,340)
Total non-operating revenues (expenses)	(177,737)	(123,653)

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The accompanying notes are an integral part of the financial statements.

ORANGE WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - PROPRIETARY FUND FOR THE YEARS ENDED JUNE 30, 2019 AND 2018

	2019	2018
Income (loss) before capital contributions	3,496,533	5,941,935
Capital Contributions:		
Contributions in aid of construction	4,035,076	1,509,516
Total capital contributions	4,035,076	1,509,516
Change in net position	7,531,609	7,451,451
Net Position:		
Beginning of year - July 1	264,838,074	263,660,047
Restatement	-	(6,273,424)
Beginning of year, restated	264,838,074	257,386,623
End of year - June 30	$ 272,369,683	$ 264,838,074

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The accompanying notes are an integral part of the financial statements.

ORANGE WATER AND SEWER AUTHORITY

STATEMENTS OF CASH FLOWS
PROPRIETARY FUND
FOR THE YEARS ENDED JUNE 30, 2019 AND 2018

	2019	2018
Cash Flows from Operating Activities:		
Receipts from customers	$ 37,945,309	$ 34,633,989
Payments to suppliers	(10,309,235)	(8,573,470)
Payments to employees	(12,057,677)	(11,237,096)
Other receipts	1,005,596	822,087
Net cash provided (used) by operating activities	16,583,993	15,645,510
Cash Flows from Capital and Related Financing Activities:		
Acquisition and construction of capital assets	(17,975,332)	(20,720,584)
Proceeds from sale of property, plant, and equipment	44,854	-
Costs of issuance	(247,176)	(19,340)
Principal paid on bond maturities and other long-term debt	(5,317,428)	(25,113,000)
Interest paid on bond maturities and other long-term debt	(1,983,988)	(1,831,892)
Customer fees received	2,138,117	1,702,224
Proceeds from issuance of debt	7,373,646	20,267,468
Net cash provided (used) by capital and related financing activities	(15,967,307)	(25,715,124)
Cash Flows from Investing Activities:		
Interest and dividends on investments	64,842	56,524
Net increase (decrease) in cash and cash equivalents	681,528	(10,013,090)
Cash and Cash Equivalents:		
Beginning of year - July 1	23,117,463	33,130,553
End of year - June 30	$ 23,798,991	$ 23,117,463

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The accompanying notes are an integral part of the financial statements.

ORANGE WATER AND SEWER AUTHORITY

STATEMENTS OF CASH FLOWS
PROPRIETARY FUND
FOR THE YEARS ENDED JUNE 30, 2019 AND 2018

	2019	2018
Reconciliation of Operating Income (Loss) to Net Cash Provided (Used) by Operating Activities:		
Operating income (loss)	$ 3,674,270	$ 6,065,588
Adjustments to reconcile operating income (loss) to net cash provided (used) by operating activities:		
Depreciation	9,558,087	9,226,257
Pension (benefit) expense	(38,232)	(18,235)
Changes in assets and liabilities:		
(Increase) decrease in trade accounts receivable	1,679,110	(957,258)
(Increase) decrease in other receivables	986,355	(888,091)
(Increase) decrease in inventory	(204,935)	(144,582)
(Increase) decrease in prepaid expenses	(144,014)	210,586
(Increase) decrease in deferred outflows of resources for OPEB	(93,264)	(217,253)
(Increase) decrease in deferred outflows of resources for pensions	(775,850)	914,039
(Increase) decrease in deferred outflows of resources for deferred refunding costs	(544,907)	(358,592)
Increase (decrease) in trade and construction contracts payable	961,526	2,073,229
Increase (decrease) in customer deposits	99,600	(241,818)
Increase (decrease) accrued expenses	(37,085)	8,772
Increase (decrease) compensated absences	27,688	15,490
Increase (decrease) in net pension liability	1,040,619	(792,103)
Increase (decrease) in deferred inflows of resources for pensions	(28,178)	(37,134)
Increase (decrease) in deferred inflows of resources for OPEB	451,182	1,110,457
Increase (decrease) in other post-employment benefits	(27,979)	(323,842)
Net cash provided (used) by operating activities	$ 16,583,993	$ 15,645,510
Non-Cash Capital and Related Financing Activities:		
Property, plant, and equipment contributed by private developers	$ 4,035,076	$ 1,509,516

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The accompanying notes are an integral part of the financial statements.

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2019 AND 2018

1. Summary of Significant Accounting Policies

The accounting policies of the Orange Water and Sewer Authority conform to generally accepted accounting principles as they apply to governments. The following is a summary of the more significant accounting policies:

A. Reporting Entity

The Orange Water and Sewer Authority (the "Authority") was created pursuant to Chapter 162A of the North Carolina General Statutes by the Board of Commissioners of Orange County and the Town Council of Chapel Hill and the Board of Aldermen of the Town of Carrboro in June 1975, as a public entity, politic and corporate, for the purpose of acquiring, consolidating, improving, and operating the existing water and sewer systems serving the above governmental jurisdictions and certain contiguous areas. The Authority is a separate governmental unit granted independent authority by the North Carolina General Statutes to allow the Authority's Board of Directors to set rates, fees, and charges without oversight, supervision, or direction from any other state or local entity or agency.

Because the Town Council of Chapel Hill appoints a majority of the Authority's Board of Directors and may remove them without cause, the Authority falls within the definition of a "Component Unit" provided in applicable accounting standards. For this reason, the Authority's financial data is incorporated into the Comprehensive Annual Financial Report of the Town of Chapel Hill.

B. Basis of Presentation

The business-type activities are financed in whole or in part by fees charged to external parties. All activities of the Authority are considered business-type activities.

Fund Financial Statements. The fund financial statements provide information about the Authority's funds.

Proprietary fund operating revenues, such as charges for services, result from exchange transactions associated with the principal activity of the fund. Exchange transactions are those in which each party receives and gives up essentially equal values. Non-operating revenues, such as subsidies and investment earnings, result from non-exchange transactions. The Authority has one fund category - proprietary funds.

Enterprise Fund

The Enterprise Fund is used to account for those operations that (a) are financed and operated in a manner similar to private business enterprises, where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges; or (b) where the governing body has decided that the periodic determination of revenues earned, expenses incurred and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes. The Authority operates as a singular enterprise fund.

The Enterprise Fund is considered a major fund for the year ended June 30, 2019.

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C. Measurement Focus and Basis of Accounting

In accordance with North Carolina General Statutes, all funds of the Authority are maintained during the year using the modified accrual basis of accounting.

Proprietary Fund Financial Statements. The proprietary fund financial statements are reported using the economic resources measurement focus. The proprietary fund financial statements are reported using the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded at the time liabilities are incurred, regardless of when the related cash flows take place. Proprietary funds distinguish operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's principal ongoing operations. The principal operating revenues of the Authority's Enterprise Fund are charges to customers for sales and services. Operating expenses for enterprise funds include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

D. Budgetary Data

Annual budgets are adopted on a basis consistent with provisions of the North Carolina Local Government Budget and Fiscal Control Act, which is the modified accrual method of accounting. All annual appropriations lapse at fiscal year-end.

The Authority begins developing its budget in the second quarter of each year and the Board of Directors approves the budget in early June after public hearings are held.

Budgeted revenues are reflected by source and budgeted expenses by department. On a periodic basis, as required by changing conditions, the budgeted amounts are amended. The budgeted amounts shown in the supplemental schedules reflect the governing board's amendments through the fiscal year-end. Expenditures may not legally exceed appropriations at the department level.

E. Assets, Liabilities, Deferred Outflows/Inflows of Resources, and Fund Equity

Deposits and Investments

All deposits of the Authority are made in Board-designated official depositories and are secured as required by G.S. 159-31.

The Authority may designate, as an official depository, any bank or savings association whose principal office is located in North Carolina. Also, the Authority may establish time deposit accounts such as money market accounts and certificates of deposit.

State law [G.S. 159-30(c)] authorizes the Authority to invest in obligations of the United States or obligations fully guaranteed both as to principal and interest by the United States; obligations of the State of North Carolina; bonds and notes of any North Carolina local government or public authority; obligations of certain non-guaranteed federal agencies; certain high quality issues of commercial paper and bankers' acceptances; and the North Carolina Capital Management Trust ("NCCMT").

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The Authority's investments with a maturity of more than one year at acquisition and non-money market investments are reported at cost or amortized cost, which approximates their fair value as determined by quoted market prices. The NCCMT Government Portfolio's securities, an SEC-registered 2a-7 government money market fund, is measured at fair market value. Money market investments that have a remaining maturity at the time of purchase of one year or less are reported at amortized cost.

Cash and Cash Equivalents

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

Restricted Assets

Certain proceeds of the Authority's revenue bonds, as well as certain resources set aside for their repayment, are classified as restricted assets on the Statement of Net Position, because they are maintained in separate bank accounts and their use is limited by applicable bond covenants. Customer deposits held by the Authority before any services were supplied are restricted to the service for which the deposits were collected. Capital reserve amounts are restricted for future maintenance and repairs.

Orange Water and Sewer Authority Restricted Cash

Business-Type Activities:	2019	2018
Bond service	$ 6,273,444	$ 5,892,557
Capital reserve	241,332	206,053
Customer deposits	1,121,461	1,057,140
Total business-type activities	$ 7,636,237	$ 7,155,750

Receivables

All trade receivables are shown net of an allowance for uncollectibles. Trade receivables are determined to be uncollectible based on collection history for similar customers. The Authority grants credit to residential, business and industrial customers, substantially all of whom are local to the Orange County, North Carolina, area.

Allowance for Doubtful Accounts

The Authority historically experiences uncollectible accounts, and accounts receivable is shown net of an allowance for doubtful accounts. This amount is estimated by analyzing the percentage of receivables that were written off in prior years. The allowance was $85,000 at June 30, 2019 and June 30, 2018.

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Inventory and Prepaid Items

Materials and supplies are valued at average cost and are held for subsequent use. The cost of these inventories is expensed when consumed rather than when purchased.

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in the Statement of Net Position and expensed as the items are used.

Capital Assets

Capital assets, which include property, plant, equipment, and infrastructure assets, 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. Such assets are recorded at historical cost if purchased or constructed. Donated capital assets received prior to June 30, 2015 are recorded at their estimated fair market value at the date of donation. Donated capital assets received after June 30, 2015 are recorded at acquisition value. All other purchased or constructed capital assets are reported at cost or estimated historical cost. The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend assets' lives are not capitalized.

Major outlays for capital assets and improvements are capitalized as projects are constructed. Interest incurred during the construction phase of capital assets is included as part of the capitalized value of the assets constructed.

Property, plant, and equipment are depreciated using the straight-line method by groups or classes of property over the following expected service lives:

	Years
Water treatment and distribution	20-60
Sewer collection and treatment	40-60
Fixtures and equipment	5-20

Assets under capitalized lease obligations are recorded at the discounted present value of the future minimum lease payments at the inception of the respective leases. The amounts capitalized are being amortized by the straight-line method over the lesser of the term of the lease or the estimated life of the asset. Amortization of these assets is included in depreciation expense.

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 and so will not be recognized as an expense or expenditure until then. The Authority has several items that meet this criteria, an unamortized loss on bond defeasance for Water and Sewer Refunding bonds, pension related deferrals, contributions made to the pension plan in the current fiscal year, contributions made to the OPEB plan in the current fiscal year, and OPEB related deferrals. In

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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 and so will not be recognized as revenue until then. The Authority has two items that meets this criteria in the current year – pension related deferrals and OPEB related deferrals.

Compensated Absences

It is the Authority's policy to permit employees to accumulate earned, but unused, vacation and sick pay benefits. There is no liability for unpaid accumulated sick leave since the Authority does not have a policy to pay any amounts when employees separate from service with the Authority. All vacation pay is accrued when incurred in the financial statements. At June 30, 2019 and 2018, the Authority had recorded a liability for accrued vacation and the salary-related payments of $598,837 and $571,149, respectively.

Long-Term Debt

Long-term debt is reported net of applicable bond premium or discount, which are deferred and amortized over the life of the bonds using the effective interest method.

Net Position

Net position in the proprietary fund financial statements is classified as net investment in capital assets; restricted; and unrestricted. Restricted net position represents constraints on resources that are either externally imposed by creditors, grantors, contributors, or laws or regulations of other governments or imposed by law through state statute.

Net position classified as net investment in capital assets, consist of capital assets, net of accumulated depreciation, and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets.

Restricted for Capital Reserve – represents a portion of net position that is restricted by revenue source for future maintenance and capital.

Unrestricted net position consists of net position that does not meet the definition of "restricted" or "net investment in capital assets."

F. Operating Revenues and Expenses

Operating revenues and expenses generally result from providing services in connection with the Authority's principal ongoing operations, which is the sale of water and treatment of wastewater for its customers. The Authority also recognizes as operating revenue the portion of tap fees intended to recover the cost of connecting new customers to the system. Operating expense for the Authority includes the cost of services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

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G. Accounting Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the period. Actual results could differ from these estimates.

H. Defined Benefit Cost-Sharing Pension Plans

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 positions of the Local Governmental Employees' Retirement System (LGERS) and additions to/deductions from LGERS fiduciary net positions have been determined on the same basis as they are reported by LGERS. For this purpose, plan member contributions are recognized in the period in which the contributions are due. The Authority's employer contributions are recognized when due and the Authority has a legal requirement to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the state-administered defined benefit pension plans. Investments are reported at fair value.

2. Detail Notes On All Funds

Assets

Deposits

All of the Authority's deposits are either insured or collateralized by using one of two methods. Under the Dedicated Method, all deposits exceeding the federal depository insurance coverage level are collateralized with securities held by the Authority's agents in the unit's name. Under the Pooling Method, which is a collateral pool, all uninsured deposits are collateralized with securities held by the State Treasurer's agent in the name of the State Treasurer. Since the State Treasurer is acting in a fiduciary capacity for the Authority, these deposits are considered to be held by their agents in the Authority's name. The amount of the pledged collateral is based on an approved averaging method for non-interest-bearing deposits and the actual current balance for interest-bearing deposits. Depositories using the Pooling Method report to the State Treasurer the adequacy of their pooled collateral covering uninsured deposits. The State Treasurer does not confirm this information with the Authority, or with the escrow agent. Because of the inability to measure the exact amount of collateral pledged for the Authority, under the Pooling Method, the potential exists for undercollaterization, and this risk may increase in periods of high cash flows. However, the State Treasurer of North Carolina enforces strict standards of financial stability for each depository that collateralizes public deposits under the Pooling Method. The Authority has no policy regarding custodial credit risk for deposits but relies on the State Treasurer to enforce standards for minimum capitalization for all pooling method financial institutions and to monitor them for compliance. The Authority complies with the provisions of G.S. 159-31 when designating official depositories and verifying that deposits are properly secured.

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At June 30, 2019, the Authority's deposits had a carrying amount of $17,456,835 and a bank balance of $16,672,254. Of the bank balance, $250,000 was covered by federal depository insurance, and $16,422,254 in deposits was covered by collateral held under the Pooling Method. The Authority had cash on hand of $2,700 at June 30, 2019.

At June 30, 2018, the Authority's deposits had a carrying amount of $17,161,360 and a bank balance of $17,088,000. Of the bank balance, $250,000 was covered by federal depository insurance, and $16,838,000 in interest-bearing deposits was covered by collateral held under the Pooling Method. The Authority had cash on hand of $2,700 at June 30, 2018.

Cash Equivalents

At June 30, 2019 and 2018, the Authority's cash equivalents balances were as follows:

	2019	2018
The North Carolina Capital Management Trust, government portfolio	$ 6,339,456	$ 5,953,403

Interest Rate Risk. The Authority does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Credit Risk. The Authority's policy regarding credit risk is that funds shall not be exposed to undue or unreasonable risk. State law limits investments in commercial paper to the top rating issued by nationally recognized statistical rating organizations ("NRSROs"). The Authority's investment in the NCCMT government portfolio carried a credit rating of AAAm by Standard & Poor's as of June 30, 2019 and 2018.

Receivables

Receivables, net of allowances for uncollectible accounts, at June 30, 2019 and 2018 were as follows:

	2019	2018
Utility accounts receivable	$ 3,411,381	$ 5,090,491
Other receivable	951,980	1,938,335
Total receivables, net	$ 4,363,361	$ 7,028,826

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Capital Assets

A summary of changes in the Authority's capital assets follows:

	Balance July 1, 2018	Increases	Decreases	Transfers	Balance June 30, 2019
Non-Depreciable Assets:					
Land	$ 17,605,354	$ -	$ -	$ -	$ 17,605,354
Construction in progress	40,684,883	17,299,150	-	(7,870,558)	50,113,475
Total non-depreciable assets	58,290,237	17,299,150	-	(7,870,558)	67,718,829
Depreciable Assets:					
Water treatment and distribution	167,433,487	1,975,079	-	6,338,790	175,747,356
Sewer collection and treatment	220,187,222	1,836,692	-	374,803	222,398,717
Fixtures and equipment	47,400,290	899,487	(495,329)	1,156,965	48,961,413
Total depreciable assets	435,020,999	4,711,258	(495,329)	7,870,558	447,107,486
Less Accumulated Depreciation:					
Water treatment and distribution	68,026,152	3,688,192	-	-	71,714,344
Sewer collection and treatment	72,046,580	4,530,053	-	-	76,576,633
Fixtures and equipment	34,440,139	1,339,842	(477,975)	-	35,302,006
Total accumulated depreciation	174,512,871	$ 9,558,087	$ (477,975)	$ -	183,592,983
Total depreciable assets	260,508,128				263,514,503
Capital assets, net	$ 318,798,365				$ 331,233,332

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	Balance July 1, 2017	Increases	Decreases	Transfers	Balance June 30, 2018
Non-Depreciable Assets:					
Land	$ 17,605,354	$ -	$ -	$ -	$ 17,605,354
Construction in progress	28,062,921	19,685,332	-	(7,063,370)	40,684,883
Total non-depreciable assets	45,668,275	19,685,332	-	(7,063,370)	58,290,237
Depreciable Assets:					
Water treatment and distribution	163,709,114	460,015	-	3,264,358	167,433,487
Sewer collection and treatment	215,699,542	906,578	-	3,581,102	220,187,222
Fixtures and equipment	46,004,205	1,178,175	-	217,910	47,400,290
Total depreciable assets	425,412,861	2,544,768	-	7,063,370	435,020,999
Less Accumulated Depreciation:					
Water treatment and distribution	64,426,461	3,599,691	-	-	68,026,152
Sewer collection and treatment	67,702,086	4,344,494	-	-	72,046,580
Fixtures and equipment	33,158,067	1,282,072	-	-	34,440,139
Total accumulated depreciation	165,286,614	$ 9,226,257	$ -	$ -	174,512,871
Total depreciable assets	260,126,247				260,508,128
Capital assets, net	$ 305,794,522				$ 318,798,365

Net Investment in Capital Assets

The total net investment in capital assets is composed of the following elements:

	2019	2018
Capital assets	$ 331,233,332	$ 318,798,365
Total debt, gross	(66,500,207)	(65,180,515)
Deferred charge related to debt	1,327,210	1,518,829
Net investment in capital assets	$ 266,060,335	$ 255,136,679

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Long-Term Debt

Long-term debt as of June 30, 2019 and 2018 consists of the following:

	2019	2018
Revenue Bonds:		
Revenue bonds payable, Series 2018 Refunding Revenue Serial bonds, in the amount of $18,075,000, issued April 10, 2018, with a coupon rate of 2.3%, final maturity July 2029, net of unamortized premium of $2,147,151 at June 30, 2019	$ 18,075,000	$ 18,075,000
Revenue bonds payable, Series 2015 Refunding Revenue Serial bonds, in the amount of $8,995,000, issued July 1, 2015, with a coupon rate of 4.5%, final maturity July 2031, net of deferred refunding loss of $27,519 at June 30, 2018	3,975,000	6,470,000
Revenue bonds payable, Series 2014 Refunding Revenue Serial bonds, in the amount of $15,695,000, issued December 18, 2014, with coupon rates of 3.0% and 5.0%, final maturity July 2031, net of unamortized premium of $911,828 at June 30, 2018	14,185,000	14,955,000
Revenue bonds payable, Series 2010 Refunding Revenue Serial bonds, in the amount of $21,645,000, issued September 30, 2010, with coupon rates of 3.0% and 5.0%, final maturity July 2026, net of unamortized premium of $257,227 at June 30, 2018	13,950,000	15,625,000
	$ 50,185,000	$ 55,125,000

The revenue bonds are secured by pledged water and sewer customer revenues, net of specified operating expenses to repay revenue bonds. In the event of a default, the Authority agrees to pay to the purchaser, on demand, interest on any and all amounts due and owing by the Authority under the related agreements.

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	2019	2018
Note Payable Direct Borrowing:		
Note payable to NCDEQ in the amount of $6,560,000 issued October 4, 2014, interest at 0%, Federal Revolving loan, beginning May 2015, payable in annual installments of $328,000, with a final payment due in May 2034	$ 4,920,000	$ 5,248,000
Note payable to NCDEQ in the amount of $1,056,000 issued July 28, 2018, interest at 1.53%, DWSRF loan, beginning May 2019, payable in annual installments of $52,800, with a final payment due in May 2038	939,131	-
Note payable to NCDEQ in the amount of $3,390,000 issued June 17th, 2019, interest at 1.53%, DWSRF loan, beginning November 2020, due in annual installments,varying, with a final payment due in May 2040	1,253,431	-
Note payable to NCDEQ in the amount of $6,132,000 issued June 3, 2019, interest at 1.53%, Federal Revolving loan, beginning May 2020, payable in annual installments of $256,583, with a final payment due in May 2039	5,131,656	-
	$ 12,244,218	$ 5,248,000

A State Reserve loan note payable to NCDEQ in the amount of $1,071,000 was approved February 1, 2017 at an interest rate of 1.53%, payable in annual installments beginning upon completion of the Wastewater Treatment Plant Intermediate Pump Station Rehabilitation project. As of June 30, 2019, no drawdowns have been made on this loan.

A State Reserve loan note payable to NCDEQ in the amount of $1,525,000 was approved August 3, 2017 at an interest rate of 1.53%, payable in annual installments beginning upon completion of the Dobbins Drive Water Main Replacement project. As of June 30, 2019, no drawdowns have been made on this loan.

A State Reserve loan note payable to NCDEQ in the amount of $1,658,000 was issued February 1, 2017 at an interest rate of 1.53%, payable in annual installments beginning upon completion of the Dobbins Drive Sewer Interceptor Rehabilitation project. As of June 30, 2019, no drawdowns have been made on this loan.

The Authority's outstanding notes from direct borrowings related to business-type activities is not secured by a pledge of the faith and credit of the State of North Carolina or of the Authority, but is payable solely from the revenues of the Project or benefited systems, or other available funds. The note contains provisions that an event of default would result in (1) any other monies due to the Authority from the State may be withheld by the State and applied to the payment of the outstanding note.

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Bond payable maturities are as follows:

Year Ending June 30	Maturities	Amortization of Premiums and Deferred Refunding Losses	Total	Interest
2020	$ 5,130,000	$ 523,529	$ 5,653,529	$ 1,307,003
2021	4,105,000	495,166	4,600,166	1,162,082
2022	3,875,000	452,858	4,327,858	997,125
2023	4,150,000	368,514	4,518,514	865,500
2024	4,415,000	275,441	4,690,441	739,250
2025-2029	22,035,000	650,881	22,685,881	1,800,788
2030-2033	6,475,000	(22,611)	6,452,389	244,300
Total	$ 50,185,000	$ 2,743,778	$ 52,928,778	$ 7,116,048

Note payable – direct borrowing maturities are as follows:

Year Ending June 30	Maturities	Interest	Total
2020	$ 634,011	$ -	$ 634,011
2021	672,568	-	672,568
2022	689,562	-	689,562
2023	690,415	-	690,415
2024	691,281	-	691,281
2025-2029	3,469,874	-	3,469,874
2030-2034	3,493,617	-	3,493,617
2035-2039	1,829,804	-	1,829,804
2040-2044	73,086	-	73,086
Total	$ 12,244,218	$ -	$ 12,244,218

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Advance Refunding

On December 18, 2014, the Authority issued $15,695,000 of Series 2014 revenue bonds to provide resources that were placed in an irrevocable trust to be used for all future debt service payments of $16,430,000 of Series 2006 revenue bonds. As a result, the refunded bonds are considered to be defeased and the liability has been removed from the Statement of Net Position. The reacquisition price exceeded the net carrying amount of the old debt by $561,010. This amount is being amortized over the life of the refunded debt, which is shorter than the life of the new debt issued. This advanced refunding was undertaken to reduce total debt service payments over the next 17 years by $1,984,121 and resulted in an economic gain of $1,596,310. On June 30, 2019, $14,825,000 of bonds outstanding are considered defeased.

Advance Refunding

On July 1, 2015, the Authority issued $8,995,000 of Series 2015 revenue bonds to provide resources that were placed in an irrevocable trust to be used for all future debt service payments of $8,930,000 of Series 2005 revenue bonds. As a result, the refunded bonds are considered to be defeased and the liability has been removed from the Statement of Net Position. The reacquisition price exceeded the net carrying amount of the old debt by $65,000. This amount is being amortized over the life of the new debt issued, which is shorter than the life of the refunded debt. This direct purchase forward refunding was undertaken to reduce total debt service payments over the next 5 years by $613,660 and resulted in an economic gain of $584,285. On June 30, 2019, $4,100,000 of bonds outstanding is considered defeased.

Long-term liability activity for the years ended June 30, 2019 and 2018 is as follows:

	Balance July 1, 2018	Additions	Retirements	Balance June 30, 2019	Due Within One Year
Direct borrowings	$ 5,248,000	$ 7,373,646	$ 377,428	$ 12,244,218	$ 634,011
Bonds Payable:					
Revenue bonds	55,125,000	-	4,940,000	50,185,000	5,130,000
For issuance premiums	4,807,515	-	736,526	4,070,989	715,149
Compensated absences	571,149	524,563	496,875	598,837	449,128
Net pension liability (LGERS)	1,941,888	1,040,619	-	2,982,507	-
Total OPEB liability	12,738,543	-	27,979	12,710,564	-
Total	$ 80,432,095	$ 8,938,828	$ 6,578,808	$ 82,792,115	$ 6,928,288

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	Balance July 1, 2017	Additions	Retirements	Balance June 30, 2018	Due Within One Year
Direct borrowings	$ 5,576,000	$ -	$ 328,000	$ 5,248,000	$ 328,000
Bonds Payable:					
Revenue bonds	61,835,000	18,075,000	24,785,000	55,125,000	4,940,000
For issuance premiums	3,165,258	2,192,468	550,211	4,807,515	736,526
Compensated absences	555,659	823,042	807,552	571,149	428,362
Net pension liability (LGERS)	2,733,991	-	792,103	1,941,888	-
Total OPEB liability	13,303,313	-	564,770	12,738,543	-
Total	$ 87,169,221	$ 21,090,510	$ 27,827,636	$ 80,432,095	$ 6,432,888

The Authority has pledged future water and sewer customer revenues, net of specified operating expenses, to repay $50,185,000 in revenue bonds issued in 2010, 2014, 2015 and 2018. Proceeds from the bonds were used for rehabilitation or expansion of the Authority's water and sewer systems. Annual principal and interest payments are expected to require less than 23% of net revenues. Principal and interest on the bonds are payable through 2033, solely from the water and sewer customer net revenues. The total principal and interest remaining to be paid on the bonds is $57,301,048. Principal and interest paid in the years ended June 30, 2019 and 2018 were $6,362,502 and $7,007,230, respectively, and total customer net revenues for the years ended June 30, 2019 and 2018 were $37,843,892 and $39,199,149, respectively. There is no unused line of credit

The Authority is in compliance with the covenants to rates, fees, rentals, and charges in the bond order, authorizing the issuance of the Water and Sewer Revenue bonds, Series 2010, 2014, 2015, and 2018. The bond order requires the debt service coverage ratio to be no less than 120% of the debt service requirements for parity indebtedness.

The debt service coverage ratio calculation for the year ended June 30, 2019 is as follows:

Operating revenues and charges for services	$ 37,843,892
Operating expenses*	22,339,711
Income available for debt service	$ 15,504,181
Debt service, principal and interest paid	$ 6,362,502
Debt service coverage ratio for parity debt	243.68%

*Per rate covenants, this does not include depreciation, amortization, interest expense, or OPEB.

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3. Pension Plan Obligations

Local Governmental Employees' Retirement System

Plan Description. The Authority is a participating employer in the state-wide Local Governmental Employees' Retirement System (LGERS), a cost-sharing multiple-employer defined benefit pension plan administered by the State of North Carolina. LGERS membership is comprised of general employees and local law enforcement officers (LEOs) of participating local governmental entities. Article 3 of G.S. Chapter 128 assigns the authority to establish and amend benefit provisions to the North Carolina General Assembly. Management of the plan is vested in the LGERS Board of Trustees, which consists of 13 members – nine appointed by the Governor, one appointed by the State Senate, one appointed by the State House of Representatives, and the State Treasurer and State Superintendent, who serve as ex-officio members. The LGERS is included in the Comprehensive Annual Financial Report (CAFR) for the State of North Carolina. The state's CAFR includes financial statements and required supplementary information for LGERS. That report may be obtained by writing to the Office of the State Controller, 1410 Mail Service Center, Raleigh, North Carolina 27699-1410, by calling (919) 981-5454, or at www.osc.nc.gov.

Benefits Provided. LGERS provides retirement and survivor benefits. Retirement benefits are determined as 1.85% of the member's average final compensation times the member's years of creditable service. A member's average final compensation is calculated as the average of a member's four highest consecutive years of compensation. Plan members are eligible to retire with full retirement benefits at age 65 with five years of creditable service, at age 60 with 25 years of creditable service, or at any age with 30 years of creditable service. Plan members are eligible to retire with partial retirement benefits at age 50 with 20 years of creditable service or at age 60 with five years of creditable service (age 55 for firefighters). Survivor benefits are available to eligible beneficiaries of members who die while in active service or within 180 days of their last day of service and who have either completed 20 years of creditable service regardless of age (15 years of creditable service for firefighters and rescue squad members who are killed in the line of duty) or have completed five years of service and have reached age 60. Eligible beneficiaries may elect to receive a monthly Survivor's Alternate Benefit for life or a return of the member's contributions. The plan does not provide for automatic post-retirement benefit increases. Increases are contingent upon actuarial gains of the plan.

LGERS plan members who are LEOs are eligible to retire with full retirement benefits at age 55 with five years of creditable service as an officer, or at any age with 30 years of creditable service. LEO plan members are eligible to retire with partial retirement benefits at age 50 with 15 years of creditable service as an officer. Survivor benefits are available to eligible beneficiaries of LEO members who die while in active service or within 180 days of their last day of service and who also have either completed 20 years of creditable service regardless of age, or have completed 15 years of service as a LEO and have reached age 50, or have completed five years of creditable service as a LEO and have reached age 55, or have completed 15 years of creditable service as a LEO if killed in the line of duty. Eligible beneficiaries may elect to receive a monthly Survivor's Alternate Benefit for life or a return of the member's contributions.

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Contributions. Contribution provisions are established by General Statute 128-30 and may be amended only by the North Carolina General Assembly. Authority employees are required to contribute 6% of their compensation. Employer contributions are actuarially determined and set annually by the LGERS Board of Trustees. The Authority's contractually required contribution rate for the year ended June 30, 2019, was 7.75% of compensation for general employees, actuarially determined as an amount that, when combined with employee contributions, is expected to finance the costs of benefits earned by employees during the year. Contributions to the pension plan from the Authority were $655,451, for the year ended June 30, 2019.

Refunds of Contributions – Authority employees who have terminated service as a contributing member of LGERS, may file an application for a refund of their contributions. By state law, refunds to members with at least five years of service include 4% interest. State law requires a 60-day waiting period after service termination before the refund may be paid. The acceptance of a refund payment cancels the individual's right to employer contributions or any other benefit provided by LGERS.

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

At June 30, 2019, the Authority reported a liability of $2,982,507 for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2018. The total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of December 31, 2017. The total pension liability was then rolled forward to the measurement date of June 30, 2018 utilizing update procedures incorporating the actuarial assumptions. The Authority's proportion of the net pension liability was based on a projection of the Authority's long-term share of future payroll covered by the pension plan, relative to the projected future payroll covered by the pension plan of all participating LGERS employers, actuarially determined. At June 30, 2018, the Authority's proportion was 0.12572%, which was a decrease of 0.00139% from its proportion measured as of June 30, 2017.

For the year ended June 30, 2019, the Authority recognized pension expense of $853,812. At June 30, 2019, 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	$ 460,130	$ 15,440
Changes of assumptions	791,443	-
Net difference between projected and actual earnings on pension plan investments	409,410	-
Changes in proportion and differences between employer contributions and proportionate share of contributions	18,089	15,050
Employer contributions subsequent to the measurement date	655,451	-
Total	$ 2,334,523	$ 30,490

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$655,451 reported as deferred outflows of resources related to pensions resulting from Authority contributions subsequent to the measurement date will be recognized as a decrease of the net pension liability in the year ending June 30, 2020. Other amounts reported as deferred inflows and outflows of resources related to pensions will be recognized in pension expense as follows:

Year Ending June 30	Amount
2020	$ 802,630
2021	520,738
2022	90,579
2023	234,635
Total	$ 1,648,582

Actuarial Assumptions. The total pension liability in the December 31, 2017 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.0 percent
Salary increases	3.50 to 8.10 percent, including inflation and productivity factor
Investment rate of return	7.00 percent, net of pension plan investment expense, including inflation

The plan currently uses mortality tables that vary by age, gender, employee group (i.e. general, law enforcement officer) and health status (i.e. disabled and healthy). The current mortality rates are based on published tables and based on studies that cover significant portions of the U.S. population. The mortality rates also contain a provision to reflect future mortality improvements.

The actuarial assumptions used in the December 31, 2017 valuation were based on the results of an actuarial experience study for the period January 1, 2010 through December 31, 2014.

Future ad hoc cost of living adjustment amounts are not considered to be substantively automatic and are therefore not included in the measurement.

The projected long-term investment returns and inflation assumptions are developed through review of current and historical capital markets data, sell-side investment research, consultant whitepapers, and historical performance of investment strategies. Fixed income return projections reflect current yields across the U.S. Treasury yield curve and market expectations of forward yields projected and interpolated for multiple tenors and over multiple year horizons. Global public equity return projections are established through analysis of the equity risk premium and the fixed income return projections.

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Other asset categories and strategies' return projections reflect the foregoing and historical data analysis. These projections 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 allocation and best estimates of arithmetic real rates of return for each major asset class as of June 30, 2018 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed income	29.0%	1.4%
Global equity	42.0%	5.3%
Real estate	8.0%	4.3%
Alternatives	8.0%	8.9%
Credit	7.0%	6.0%
Inflation protection	6.0%	4.0%
Total	100%	

The information above is based on 30-year expectations developed with the consulting actuary for the 2018 asset, liability, and investment policy study for the North Carolina Retirement Systems, including LGERS. The long-term nominal rates of return underlying the real rates of return are arithmetic annualized figures. The real rates of return are calculated from nominal rates by multiplicatively subtracting a long-term inflation assumption of 3.00%. All rates of return and inflation are annualized.

Discount Rate. The discount rate used to measure the total pension liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate and that contributions from employers will be made at statutorily required rates, actuarially determined. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of the current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Authority's Proportionate Share of the Net Pension Liability (Asset) to Changes in the Discount Rate. The following presents the Authority's proportionate share of the net pension liability (asset) calculated using the discount rate of 7.00 percent, as well as what the Authority's proportionate share of the net pension asset or net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00 percent) or 1-percentage-point higher (8.00 percent) than the current rate:

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Authority's proportionate share of the net pension liability (asset)	$ 7,164,243	$ 2,982,507	$ 511,815

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Pension Plan Fiduciary Net Position. Detailed information about the pension plan's fiduciary net position is available in the separately issued Comprehensive Annual Financial Report (CAFR) for the State of North Carolina.

Other Post-Employment Benefits (OPEB)

Plan Description. The Authority administers a single-employer defined benefit plan (the OPEB plan) that provides health and life insurance benefits to eligible retirees. The Authority has the authority to establish and amend the benefit terms and financing requirements. No assets are accumulated in a trust that meets the criteria in Paragraph 4 of GASB Statement No. 75.

Benefits Provided. An employee who retires with 30 or more years of service, or is at least age 60 with at least 10 years of service may continue in the Authority's group health plan until death. Eligible retirees are also provided life insurance coverage of $5,000. Retiree cost sharing is as follows: For retirees age 60 with 10 to 15 years of service, the retiree pays 50% of the retiree premium. For retirees age 60 with 15 to 20 years of service, the retiree pays 25% of the retiree premium. For retirees age 60 with 20 or more years of service, the retiree pays 0% of the retiree premium. There is no spousal coverage provided. The Authority may amend the benefit provisions at any time. Coverage for all retirees who are eligible for Medicare will be transferred to a Medicare Supplemental plan after qualifying for Medicare. A separate stand-alone report is not issued.

All active full-time employees are eligible for membership. At June 30, 2017, the plan membership consisted of:

Members	
Retirees and dependents receiving benefits	35
Active members	128
Total	163

Total OPEB Liability

The Authority's total OPEB Liability of $12,710,564 was measured as of June 30, 2018 and was determined by an actuarial valuation as of June 30, 2017.

Actuarial Assumptions and Other Inputs. The total OPEB liability in the June 30, 2017 actuarial valuation was determined using the following actuarial assumptions and other inputs, applied to all periods included in the measurement unless otherwise specified:

Inflation	2.5 percent
Salary increases	3.50 - 7.75 percent, average, including inflation
Discount rate	3.89 percent
Healthcare cost trend rates	Pre-Medicare - 7.50% for 2017 decreasing to an ultimate rate of 5.00% by 2023 Medicare - 5.50% for 2017 decreasing to an ultimate rate of 5.00% by 2020

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The discount rate used to measure the total OPEB liability is based on the June average of the Bond Buyer General Obligation 20-year Municipal Bond Index published weekly by The Bond Buyer.

Changes in the Total OPEB Liability

Total OPEB Liability:	
Balance at July 1, 2018	$ 12,738,543
Changes for the year:	
Service cost at end of year	473,531
Interest	449,217
Difference between expected and actual experience	10,631
Changes of assumptions or other inputs	(719,076)
Benefit payments and implicit subsidy credit	(242,282)
Net change in total OPEB liability	(27,979)
Balance at June 30, 2019	$ 12,710,564

Changes in assumptions and other inputs reflect a change in the discount rate from 3.56% to 3.89%.

Mortality rates were based on the RP-2014 mortality tables, with adjustments for LGERS experience and generational mortality improvements using Scale MP-2015.

The demographic actuarial assumptions for retirement, disability incidence, withdrawal, and salary increases used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period January 1, 2010 – December 31, 2014, adopted by the LGERS.

The remaining actuarial assumptions (e.g., initial per capita costs, health care cost trends, rate of plan participation, rates of plan election, etc.) used in the June 30, 2017 valuation were based on a review of recent plan experience done concurrently with the June 30, 2017 valuation.

Sensitivity of the Total OPEB Liability to Changes in the Discount Rate. The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (2.89 percent) or 1-percentage-point higher (4.89 percent) than the current discount rate:

	1% Decrease (2.89%)	Current Discount Rate (3.89%)	1% Increase (4.89%)
Total OPEB liability	$ 10,501,088	$ 12,710,564	$ 15,604,857

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Sensitivity of the Total OPEB Liability to Changes in the Healthcare Cost Trend Rates. The following presents the total OPEB liability of the Authority, as well as what the Authority's total OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rates:

	(Pre-Medicare - 6.50% Medicare - 4.50%)	(Pre-Medicare - 7.50% Medicare - 5.50%)	(Pre-Medicare - 8.50% Medicare - 6.50%)
Total OPEB liability	$ 15,227,338	$ 12,710,564	$ 10,738,531

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended June 30, 2019, the Authority recognized OPEB expense of $659,472. At June 30, 2019, the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 26,684	$ -
Changes of assumptions or other inputs	-	1,561,639
Contributions made to the OPEB plan in the current year	283,833	-
Total	$ 310,517	$ 1,561,639

$283,833 reported at deferred outflows of resources related to pensions resulting from benefit payments made and administrative expenses incurred subsequent to the measurement date will be recognized as a decrease of the total pension liability in the year ending June 30, 2020. Other amounts reported as deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ending June 30	Amount
2020	$ (263,276)
2021	(263,276)
2022	(263,276)
2023	(263,276)
2024	(263,276)
Thereafter	(218,575)
Total	$ (1,534,955)

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Other Employment Benefits

The Authority has elected to provide death benefits to employees through the Death Benefit Plan for members of the Local Government Employees' Retirement System (Death Benefit Plan), a multiple-employer, state-administered, cost-sharing plan funded on a one-year term cost basis. The beneficiaries of those employees who die in active service after one year of contributing membership in the System, or who die within 180 days after retirement or termination of service and have at least one year of contributing membership service in the System at the time of death are eligible for death benefits. Lump sum death benefit payments to beneficiaries are equal to the employee's 12 highest months' salary in a row during the 24 months prior to the employee's death, but the benefit may not exceed $50,000 or be less than $25,000. Because all death benefit payments are made from the Death Benefit Plan and not by the Authority, the Authority does not determine the number of eligible participants. The Authority has no liability beyond the payment of monthly contributions. The contributions to the Death Benefit Plan cannot be separated between the post-employment benefit amount and the other benefit amount. Contributions are determined as a percentage of monthly payroll based upon rates established annually by the state. Separate rates are set for employees not engaged in law enforcement and law enforcement officers. The Authority considers these contributions to be immaterial.

4. Deferred Outflows and Inflows of Resources

The Authority has several deferred outflows and deferred inflows of resources comprised of the following:

	2019	2018
Deferred Outflows:		
Contributions to pension plan in current fiscal year	$ 655,451	$ 617,219
Pension deferrals	1,679,072	903,222
Contributions to OPEB plan in current fiscal year	283,833	196,582
OPEB deferrals	26,684	20,671
Deferred charge on refunding	1,327,210	1,518,829
Total	$ 3,972,250	$ 3,256,523
Deferred Inflows:		
Pension deferrals	$ 30,490	$ 58,668
OPEB deferrals	1,561,639	1,110,457
Total	$ 1,592,129	$ 1,169,125

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5. Risk Management and Commitments

Risk Management. The Authority is exposed to various risks of losses related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees and natural disasters. The Authority has property, general liability, workers' compensation, and employee health coverage. Claims have not exceeded coverage in any of the past three fiscal years. The Authority currently does not carry flood insurance.

In accordance with G.S. 159-29, the Authority's employees that have access to $100 or more at any given time of the Authority's funds are performance bonded through a commercial surety bond. The Finance Officer is individually bonded for $200,000. The remaining employees that have access to funds are bonded under a blanket bond for $200,000.

Commitments. The Authority is committed under various contracts for the completion of water and wastewater treatment facilities and other water and sewer projects. Management estimates the cost to complete these contracts to be approximately $22,059,478 at June 30, 2019.

6. Net Position

At June 30, 2019 and 2018, the Board of Directors had approved the use of the unrestricted net position for the following purposes:

	2019	2018
Operating reserve	$ 6,068,016	$ 9,495,342

7. Summary Disclosure of Significant Contingencies

Federal and State-Assisted Programs

The Authority has received proceeds from federal and state grants. Periodic audits of these grants are required and certain costs may be questioned as not being appropriate expenditures under the grant agreements. Such audits could result in the refund of grant monies to the grantor agencies. Management believes that any required refunds will be immaterial. No provisions have been made in the accompanying financial statements for the refund of grant monies.

8. Reclassifications

Certain reclassifications have been made to the prior year's financial statements to conform to the current year's presentation. These reclassifications had no effect on previously reported results of operations or net position.

9. Significant Effects of Subsequent Events

Subsequent to year end, the Authority received three letters of intent to fund Drinking Water State Revolving Fund loans from the NCDEQ. The loans total $8,864,200 at a maximum interest rate of 1.89%.

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ORANGE WATER AND SEWER AUTHORITY

OTHER POST-EMPLOYMENT BENEFITS
REQUIRED SUPPLEMENTARY INFORMATION
LAST TWO FISCAL YEARS

Schedule of Changes in the Total OPEB Liability and Related Ratios

Total OPEB Liability	**2019**	**2018**
Service cost at end of year	$ 473,531	$ 537,550
Interest	449,217	396,831
Difference between expected and actual experience	10,631	23,866
Changes of assumptions or other inputs	(719,076)	(1,282,089)
Benefit payments and implicit subsidy credit	(242,282)	(240,928)
Net change in total OPEB liability	(27,979)	(564,770)
Total OPEB liability - beginning	12,738,543	13,303,313
Total OPEB liability - ending	$ 12,710,564	$ 12,738,543
Covered payroll	$ 7,751,275	$ 7,751,275
Total OPEB liability as a percentage of covered payroll	163.98%	164.34%

Notes to Schedule:
Changes of Assumptions: Changes of assumptions and other inputs reflect the effects of changes n the discount rate of each period. The following are the discount rates used in each period:

Fiscal Year	**Rate**
2019	3.89%
2018	3.56%

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ORANGE WATER AND SEWER AUTHORITY

PROPORTIONATE SHARE OF NET PENSION LIABILITY (ASSET)
REQUIRED SUPPLEMENTARY INFORMATION
LAST SIX FISCAL YEARS *

Local Government Employees' Retirement System

	2019	2018	2017	2016	2015	2014
Authority's proportion of the net pension liability (asset) (%)	0.12572%	0.12711%	0.12882%	0.11995%	0.12040%	11.89000%
Authority's proportion of the net pension liability (asset) ($)	$ 2,982,507	$ 1,941,888	$ 2,733,991	$ 538,330	$ (709,819)	$ 1,433,202
Authority's covered payroll	$ 8,171,152	$ 8,194,045	$ 6,980,328	$ 7,352,374	$ 7,297,821	$ 6,909,854
Authority's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	36.50%	23.70%	39.17%	7.32%	(9.73%)	20.74%
Plan fiduciary net position as a percentage of the total pension liability	91.63%	94.18%	91.47%	98.09%	102.64%	94.35%

* The amounts presented for each fiscal year were determined as of the prior fiscal year ending June 30

The pension schedules are intended to report information for ten years, and additional years' information will be displayed as it becomes available.

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ORANGE WATER AND SEWER AUTHORITY

CONTRIBUTIONS
REQUIRED SUPPLEMENTARY INFORMATION
LAST SIX FISCAL YEARS

Local Government Employees' Retirement System

	2019	2018	2017	2016	2015	2014
Contractually required contribution	$ 655,451	$ 617,219	$ 598,984	$ 510,262	$ 519,888	$ 516,608
Contributions in relation to the contractually required contribution	655,451	617,219	598,984	510,262	519,888	516,608
Contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -	$ -
Covered payroll	$ 8,396,386	$ 8,171,152	$ 8,194,045	$ 6,980,328	$ 7,352,374	$ 7,297,821
Contributions as a percentage of covered-employee payroll	7.81%	7.55%	7.31%	7.31%	7.07%	7.08%

The pension schedules are intended to report information for ten years, and additional years' information will be displayed as it becomes available.

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ORANGE WATER AND SEWER AUTHORITY

ENTERPRISE FUND - WATER
SCHEDULE OF REVENUES AND EXPENDITURES
BUDGET AND ACTUAL (NON-GAAP)
FOR THE YEAR ENDED JUNE 30, 2019

	Final Budget	Actual	Variance Over/Under
Revenues:			
Operating revenues:			
Water	$ 17,524,334	$ 17,666,256	$ 141,922
Sewer	17,265,060	17,058,037	(207,023)
Reclaimed water	454,440	456,926	2,486
Service initiation fees	154,345	98,625	(55,720)
Other	776,071	905,996	129,925
Total operating revenues	36,174,250	36,185,840	11,590
Non-operating revenues:			
Interest income	23,678	64,842	41,164
System development fees	1,194,353	1,593,208	398,855
Total non-operating revenues	1,218,031	1,658,050	440,019
Total revenues	37,392,281	37,843,890	451,609
Expenditures:			
Water supply and treatment:			
Salaries and wages	1,344,377	1,087,766	256,611
Fringe benefits	602,356	515,857	86,499
Materials and supplies	218,209	203,000	15,209
Chemicals	1,307,650	1,374,327	(66,677)
Utilities	384,840	351,814	33,026
Maintenance	1,084,380	1,025,869	58,511
Professional services	153,000	51,378	101,622
Insurance	-	70,796	(70,796)
Communication	4,000	2,963	1,037
Education and development	16,350	4,338	12,012
Miscellaneous	127,159	76,720	50,439
Total water supply and treatment	5,242,321	4,764,828	477,493
Water distribution:			
Salaries and wages	1,729,045	1,720,525	8,520
Fringe benefits	865,108	1,532,089	(666,981)
Materials and supplies	80,416	107,531	(27,115)
Utilities	203,199	204,576	(1,377)
Maintenance	503,696	488,478	15,218
Professional services	8,400	-	8,400
Insurance	-	8,052	(8,052)
Communication	1,200	4,316	(3,116)
Printing and reproduction	1,500	36	1,464

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ORANGE WATER AND SEWER AUTHORITY

ENTERPRISE FUND - WATER
SCHEDULE OF REVENUES AND EXPENDITURES
BUDGET AND ACTUAL (NON-GAAP)
FOR THE YEAR ENDED JUNE 30, 2019

	Final Budget	Actual	Variance Over/Under
Education and development	20,250	16,614	3,636
Miscellaneous	1,900	69,807	(67,907)
Total water distribution	3,414,714	4,152,024	(737,310)
Construction credits	(90,000)	(106,548)	16,548
Wastewater treatment:			
Salaries and wages	1,492,726	1,507,700	(14,974)
Fringe benefits	644,129	514,694	129,435
Materials and supplies	272,405	220,806	51,599
Chemicals	1,027,472	1,069,346	(41,874)
Utilities	760,986	898,536	(137,550)
Maintenance	953,730	998,235	(44,505)
Professional services	96,000	1,750	94,250
Insurance	-	86,641	(86,641)
Communication	11,400	9,944	1,456
Education and development	18,000	19,817	(1,817)
Miscellaneous	67,625	78,754	(11,129)
Total wastewater treatment	5,344,473	5,406,223	(61,750)
Sewer collections:			
Salaries and wages	534,129	495,462	38,667
Fringe benefits	261,911	206,309	55,602
Materials and supplies	244,262	30,887	213,375
Chemicals	-	199,726	(199,726)
Utilities	137,229	122,434	14,795
Maintenance	180,000	89,177	90,823
Professional services	8,400	-	8,400
Insurance	-	7,358	(7,358)
Communication	500	131	369
Printing and distribution	2,000	-	2,000
Education and development	14,050	6,342	7,708
Miscellaneous	2,000	2,130	(130)
Total sewer collections	1,384,481	1,159,956	224,525
Construction credits	-	(94,328)	94,328
General and administrative:			
Salaries and wages	3,509,629	3,500,273	9,356
Fringe benefits	1,536,862	882,131	654,731
Materials and supplies	143,040	126,832	16,208
Utilities	210,449	175,419	35,030

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ORANGE WATER AND SEWER AUTHORITY

ENTERPRISE FUND - WATER
SCHEDULE OF REVENUES AND EXPENDITURES
BUDGET AND ACTUAL (NON-GAAP)
FOR THE YEAR ENDED JUNE 30, 2019

	Final Budget	Actual	Variance Over/Under
Maintenance	344,105	391,676	(47,571)
Professional services	1,375,877	1,142,783	233,094
Insurance	-	60,817	(60,817)
Communication	166,387	270,793	(104,406)
Printing and reproduction	7,350	3,093	4,257
Education and development	105,180	89,598	15,582
Miscellaneous	199,112	170,035	29,077
Hurricane incident cost	189,436	189,436	-
Total general and administrative	7,787,427	7,002,886	784,541
Construction credits	(70,000)	(209,611)	139,611
Debt Service:			
Principal		5,317,428	
Interest		2,338,054	
Total debt service	7,155,554	7,655,482	(499,928)
Capital outlay	18,689,611	17,975,332	714,279
Total expenditures	48,858,581	47,706,244	1,152,337
Revenues over (under) expenditures	(11,466,300)	(9,862,354)	1,603,946
Other Financing Sources (Uses):			
Long-term debt issued	-	7,373,646	-
Appropriated fund balance	11,466,300	-	11,466,300
Total other financing sources (uses)	11,466,300	7,373,646	4,092,654
Net change in fund balance	$ -	(2,488,708)	$ (2,488,708)
Reconciliation from Budgetary Basis (Modified Accrual) to Full Accrual Basis:			
Principal payments debt		5,317,428	
Long-term debt issued		(7,373,646)	
Change in interest accrual for bonded debt		177,032	
Depreciation		(9,558,087)	
Change in deferred outflows of resources - pensions		775,850	
Change in net pension liability		(1,040,619)	
Change in deferred inflows of resources - pensions		28,178	
Change in compensated absences		(27,688)	

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ORANGE WATER AND SEWER AUTHORITY

ENTERPRISE FUND - WATER
SCHEDULE OF REVENUES AND EXPENDITURES
BUDGET AND ACTUAL (NON-GAAP)
FOR THE YEAR ENDED JUNE 30, 2019

	Final Budget	Actual	Variance Over/Under
OPEB expense		(613,772)	
Amortization of bond expense and patent		544,907	
Capital outlay		17,975,332	
Gain on disposal of capital asset		27,502	
Costs of issuance		(247,176)	
Capital contributions		4,035,076	
Change in net position		$ 7,531,609	

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ORANGE WATER AND SEWER AUTHORITY

**SCHEDULE OF REVENUE AND EXPENDITURES -
PROJECT FUNDS
FROM INCEPTION THROUGH JUNE 30, 2019**

	Project Budget	Cumulative Total to June 30, 2019	Unexpended Balance as of June 30, 2019
Raw Water Supply Sources:			
Revenues:			
General Fund	$ 2,891,103	$ 2,328,942	$ 562,161
Expenditures:			
Jordan Lake raw water supply intake and pumping facility	$ 337,558	$ 339,356	$ (1,798)
Stone quarry development	381,545	162,872	218,673
University Lake pump station improvements	365,000	473,130	(108,130)
University Lake flashboard replacement	500,000	330,309	169,691
Cane Creek permanganate facility	920,000	842,318	77,682
Cane Creek pump station improvements	25,000	-	25,000
Cane Creek raw water transmission main capacity study	50,000	275	49,725
University Lake permanganate facility	312,000	180,682	131,319
Total expenditures	$ 2,891,103	$ 2,328,942	$ 562,161
Water Treatment:			
Revenues:			
General Fund	$ 4,641,000	$ 4,684,403	$ (43,403)
Expenditures:			
Water treatment and Mason Farm waste water treatment plant risk assessment	$ 186,000	$ 244,789	$ (58,789)
Water facility security upgrades	439,000	594,078	(155,078)
Water treatment plant rehabilitation projects	-	43,274	(43,274)
HVAC replacement	45,000	-	45,000
Water treatment plant SCADA obsolete equipment replacement	15,000	13,400	1,600
Water treatment plant turbidimeter replacements	90,000	49,211	40,789
Water treatment plant and adjacent facilities paving	114,000	89,583	24,417
Water treatment plant sedimentation basin rehabilitation	1,457,000	1,646,757	(189,757)
Water treatment plant concrete condition assessment	225,000	88,331	136,669
Water treatment plant filter media and backwash improvements	1,330,000	1,319,558	10,442
Water treatment plant flash mix basins isolation valve replacement	25,000	21,840	3,160
Water treatment plant finished water pump improvements	50,000	65,496	(15,496)
Water treatment plant chemical facility upgrades	100,000	143,774	(43,774)
Water treatment plant belt filter press replacement	415,000	185,440	229,560
Water treatment plant fluoride system improvements	150,000	178,873	(28,873)
Total expenditures	$ 4,641,000	$ 4,684,403	$ (43,403)
Water Transmission and Distribution:			
Revenues:			
General Fund	$ 21,169,547	$ 17,987,614	$ 3,181,933
Expenditures:			
Water main - road improvement projects	$ 360,000	$ 343,207	$ 16,793
Water main rehabilitation/replacement projects	6,213,547	5,559,163	654,384
High priority water main replacement	2,260,000	2,112,123	147,877
Water main upgrades - development projects	231,000	-	231,000
Barbee Chapel Road booster pump station study	75,000	-	75,000
Dobbins Drive water main replacement	134,000	113,252	20,748
Dobbins Drive water main condition assessment	435,000	-	435,000
Cameron Avenue water main replacement	1,009,000	723,658	285,342
Cameron Avenue water main design alternatives assessment	25,000	-	25,000
Water distribution system hydraulic model	100,000	84,261	15,739
Jones Ferry water line improvements	-	61,520	(61,520)

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ORANGE WATER AND SEWER AUTHORITY

**SCHEDULE OF REVENUE AND EXPENDITURES -
PROJECT FUNDS
FROM INCEPTION THROUGH JUNE 30, 2019**

	Project Budget	Cumulative Total to June 30, 2019	Unexpended Balance as of June 30, 2019
Advanced meter infrastructure system	5,605,000	5,803,705	(198,705)
Galvanized water main replacement	1,509,000	418,288	1,090,712
Kensington water line replacement	105,000	103,182	1,818
Hillsborough Street water main replacement	1,900,000	2,528,961	(628,961)
Distribution system prioritization model	150,000	134,294	15,706
Distribution system sampling stations	125,000	2,000	123,000
Lake Ellen water main replacement	160,000	-	160,000
Brandywine Road water main replacement	739,000	-	739,000
Barnes Street valve evaluation	34,000	-	34,000
Total expenditures	$ 21,169,547	$ 17,987,614	$ 3,181,933
Wastewater Collection Lines:			
Revenues:			
General Fund	$ 19,660,000	$ 13,664,690	$ 5,995,310
Expenditures:			
Gravity sewer condition evaluation	$ 3,135,000	$ 2,370,187	$ 764,813
Gravity sewer rehabilitation	9,721,000	7,398,207	2,322,793
Bolinwood Drive interceptor replacement	954,000	149,920	804,080
Little Creek interceptor replacement	3,521,000	3,000,640	520,360
Dobbins Drive interceptor replacement	670,000	112,985	557,015
Willow Drive interceptor replacement	25,000	-	25,000
Prince Street common service replacement	30,000	23,756	6,244
Creek crossing access improvement	671,000	136,643	534,357
Rogers Road sanitary sewer extension	1,803,000	1,110,967	692,033
Credit (Orange County reimbursement) Rogers Road sewer	(1,673,000)	(1,049,157)	(623,843)
Easement acquisition program	99,000	32,348	66,652
Sanitary sewer hydraulic modeling	704,000	378,194	325,806
Total expenditures	$ 19,660,000	$ 13,664,690	$ 5,995,310
Wastewater Pumping Stations and Force Mains:			
Revenues:			
General Fund	$ 6,056,000	$ 7,544,368	$ (1,488,368)
Expenditures:			
Eastowne, Eubanks and Meadowmont I pump station rehabilitation	$ 947,000	$ 1,015,735	$ (68,735)
Rogerson Drive force main redundancy evaluation	95,000	50,000	45,000
Rogerson Drive pump station rehabilitation	3,554,000	2,365,345	1,188,655
Rogerson Drive force main routing study	50,000	-	50,000
Pump station operational assessments	25,000	33,705	(8,705)
Knolls pump station rehabilitation/replacement	135,000	53,118	81,882
Rogerson Drive force main emergency repair	-	2,342,930	(2,342,930)
Rogerson Drive force main rehabilitation	1,250,000	1,683,535	(433,535)
Total expenditures	$ 6,056,000	$ 7,544,368	$ (1,488,368)
Wastewater Treatment and Disposal:			
Revenues:			
General Fund	$ 11,012,000	$ 8,257,544	$ 2,754,456
Expenditures:			
Mason Farm waste water treatment plant rehabilitation and improvement project	$ 1,597,000	$ 2,196,377	$ (599,377)
Mason Farm waste water treatment plant comprehensive coatings program	1,562,000	1,801,051	(239,051)

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ORANGE WATER AND SEWER AUTHORITY

SCHEDULE OF REVENUE AND EXPENDITURES -
PROJECT FUNDS
FROM INCEPTION THROUGH JUNE 30, 2019

	Project Budget	Cumulative Total to June 30, 2019	Unexpended Balance as of June 30, 2019
Mason Farm waste water treatment plant intermediate pump station (IPS) rehabilitation	1,603,000	885,104	717,896
Mason Farm waste water treatment plant solids thickening system improvements	1,440,000	737,498	702,502
Mason Farm waste water treatment plant non-potable water pump replacement	554,000	249,800	304,200
Mason Farm waste water treatment plant bar screen replacement	150,000	133,346	16,655
Mason Farm waste water treatment plant pump station rehabilitation/replacement	90,000	29,692	60,308
Mason Farm waste water treatment plant pavement improvements	133,000	65,668	67,332
Mason Farm waste water treatment plant hyper-pitch mixer blades	58,000	-	58,000
Mason Farm waste water treatment plant piping heat tracing and insulation	35,000	-	35,000
Plants facilities building envelope rehabilitation	675,000	495,846	179,154
Mason Farm waste water treatment plant miscellaneous building rehabilitation	65,000	-	65,000
Mason Farm waste water treatment plant biosolids conveyance and loading	91,000	-	91,000
Mason Farm waste water treatment plant filtrate side stream treatment	194,000	-	194,000
Mason Farm waste water treatment plant backflow prevention	105,000	138,981	(33,981)
Mason Farm waste water treatment plant secondary clarifier rehabilitation and pumping improvements	1,100,000	207,187	892,813
Mason Farm waste water treatment plant warehouse improvements	25,000	112	24,888
Mason Farm waste water treatment plant supervisory control and data acquisition system (SCADA) upgrade	360,000	464,063	(104,063)
Mason Farm waste water treatment plant digester complex rehabilitation and improvements	40,000	441,374	(401,374)
Mason Farm waste water treatment plant critical spare pumps	125,000	87,807	37,193
Mason Farm waste water treatment plant fermenter tank and pumping rehabilitation	200,000	-	200,000
Mason Farm waste water treatment plant primary sludge pump station rehabilitation and old lab building demo	75,000	-	75,000
Asset Management Plan development	-	3,458	(3,458)
Mason Farm waste water treatment plant rehabilitation and replacement of chemical building and piping	125,000	203,054	(78,054)
Mason Farm waste water treatment plant server room improvements	50,000	66,078	(16,078)
Mason Farm waste water treatment plant security improvements	100,000	32,203	67,797
Mason Farm waste water treatment plant gas monitoring system	100,000	-	100,000
Mason Farm waste water treatment plant headworks rehabilitation	360,000	18,846	341,154
Total expenditures	$ 11,012,000	$ 8,257,544	$ 2,754,456
Facility Improvements:			
Revenues:			
General Fund	$ 2,194,000	$ 2,479,658	$ (285,658)
Expenditures:			
Administration building LED lighting retrofit	$ 95,000	$ 58,420	$ 36,580
Administration building HVAC system upgrade	2,099,000	2,416,118	(317,118)
Administration building locker room renovation study	-	5,120	(5,120)
Total expenditures	$ 2,194,000	$ 2,479,658	$ (285,658)

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Report On Internal Control Over Financial Reporting And On Compliance And Other Matters Based On An Audit Of Financial Statements Performed In Accordance With *Government Auditing Standards*

Independent Auditor's Report

To the Board of Directors
Orange Water and Sewer Authority
Carrboro, North Carolina

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to the financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the business-type activities of the Orange Water and Sewer Authority (the "Authority"), a component unit of the Town of Chapel Hill, North Carolina, as of and for the years ended June 30, 2019 and 2018 and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements, and have issued our report thereon dated September 16, 2019.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the 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. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

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Compliance and Other Matters

As part of obtaining reasonable assurance about whether the 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, non-compliance 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 non-compliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of This Report

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

Martin Starnes & Associates, CPAs, P.A.
Hickory, North Carolina
September 16, 2019

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Report On Compliance For Each Major Federal Program; Report On Internal Control Over Compliance; In Accordance With Uniform Guidance; And The State Single Audit Implementation Act

Independent Auditor's Report

To the Board of Directors
Orange Water and Sewer Authority
Carrboro, North Carolina

Report on Compliance for Each Major Federal Program

We have audited the Orange Water and Sewer Authority's compliance with the types of compliance requirements described in the *OMB Compliance Supplement* and the *Audit Manual for Governmental Auditors in North Carolina*, issued by the Local Government Commission, that could have a direct and material effect on each of the Orange Water and Sewer Authority's major federal programs for the year ended June 30, 2019. The Orange Water and Sewer Authority's major federal program is identified in the summary of auditor's results section of the accompanying Schedule of Findings, Responses and Questioned Costs.

Management's Responsibility

Management is responsible for compliance federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

Auditor's Responsibility

Our responsibility is to express an opinion on compliance for each of the Orange Water and Sewer Authority's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance 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 audit requirements of Title 2 U.S. *Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance), and the State Single Audit Implementation Act. Those standards, the Uniform Guidance, and the State Single Audit Implementation Act require that we plan and perform the audit to obtain reasonable assurance about whether non-compliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Orange Water and Sewer Authority's compliance with those requirements and performing such other procedures, as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of the Orange Water and Sewer Authority's compliance.

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Opinion on Each Major Federal Program

In our opinion, the Orange Water and Sewer Authority complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on its major federal program for the year ended June 30, 2019.

Report on Internal Control Over Compliance

Management of the Orange Water and Sewer Authority is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Orange Water and Sewer Authority's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control over compliance.

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

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

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Martin Starnes & Associates, CPAs, P.A.
Hickory, North Carolina
September 16, 2019

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Report On Compliance For Each Major State Program; Report On Internal Control Over Compliance; In Accordance With Uniform Guidance; And The State Single Audit Implementation Act

Independent Auditor's Report

To the Board of Directors
Orange Water and Sewer Authority
Carrboro, North Carolina

Report on Compliance for Each Major State Program

We have audited the Orange Water and Sewer Authority's compliance with the types of compliance requirements described in the *Audit Manual for Governmental Auditors in North Carolina*, issued by the Local Government Commission, that could have a direct and material effect on each of the Orange Water and Sewer Authority's major state programs for the year ended June 30, 2019. The Orange Water and Sewer Authority's major state program is identified in the summary of auditor's results section of the accompanying Schedule of Findings, Responses and Questioned Costs.

Management's Responsibility

Management is responsible for compliance with state statutes, regulations, and the terms and conditions of its state awards applicable to its state programs.

Auditor's Responsibility

Our responsibility is to express an opinion on compliance for each of the Orange Water and Sewer Authority's major state programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance 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 applicable sections of Title 2 US *Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance), as described in the *Audit Manual for Governmental Auditors in North Carolina*, and the State Single Audit Implementation Act. Those standards, Uniform Guidance, and the State Single Audit Implementation Act require that we plan and perform the audit to obtain reasonable assurance about whether non-compliance with the types of compliance requirements referred to above that could have a direct and material effect on a major state program occurred. An audit includes examining, on a test basis, evidence about the Orange Water and Sewer Authority's compliance with those requirements and performing such other procedures, as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major state program. However, our audit does not provide a legal determination of the Orange Water and Sewer Authority's compliance.

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Opinion on Each Major State Program

In our opinion, the Orange Water and Sewer Authority complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on its major state program for the year ended June 30, 2019.

Report on Internal Control Over Compliance

Management of the Orange Water and Sewer Authority is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Orange Water and Sewer Authority's internal control over compliance with the types of requirements that could have a direct and material effect on each major state program to determine the types of auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major state program and to test and report on internal control over compliance in accordance with Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Orange Water and Sewer Authority's internal control over compliance.

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

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

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Martin Starnes & Associates, CPAs, P.A.
Hickory, North Carolina
September 16, 2019

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ORANGE WATER AND SEWER AUTHORITY

SCHEDULE OF FINDINGS, RESPONSES AND QUESTIONED COSTS
FOR THE YEAR ENDED JUNE 30, 2019

1. Summary of Auditor's Results

Financial Statements

Type of auditor's report issued on whether the financial statements audited were prepared in accordance to GAAP:	Unmodified		
Internal control over financial reporting:			
• Material weakness(es) identified?	____ Yes	X No	
• Significant deficiency(ies) identified?	____ Yes	X None reported	
Non-compliance material to financial statements noted?	____ Yes	X No	

Federal Awards

Internal control over major federal programs:			
• Material weakness(es) identified?	____ Yes	X No	
• Significant deficiency(ies) identified?	____ Yes	X None reported	
Type of auditor's report issued on compliance for major federal programs:	Unmodified		
Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?	____ Yes	X No	

Identification of major federal programs:

CFDA No(s).	Names of Federal Program or Cluster
66.468	Drinking Water State Revolving Fund Cluster

Dollar threshold used to distinguish between Type A and Type B programs	$750,000		
Auditee qualified as low-risk auditee?	____ Yes	X No	

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ORANGE WATER AND SEWER AUTHORITY

SCHEDULE OF FINDINGS, RESPONSES AND QUESTIONED COSTS
FOR THE YEAR ENDED JUNE 30, 2019

State Awards

Internal control over major state programs:

- Material weakness(es) identified? _____ Yes __X__ No
- Significant deficiency(ies) identified? _____ Yes __X__ None reported

Type of auditor's report issued on compliance for major state programs: Unmodified

Any audit findings disclosed that are required to be reported in accordance with the State Single Audit Implementation Act? _____ Yes __X__ No

Identification of major state programs:

State Reserve Loan

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ORANGE WATER AND SEWER AUTHORITY

SCHEDULE OF FINDINGS, RESPONSES AND QUESTIONED COSTS
FOR THE YEAR ENDED JUNE 30, 2019

2. Findings Related to the Audit of the Basic Financial Statements

None

3. Findings Related to the Audit of Federal Awards

None

4. Findings Related to the Audit of State Awards

None

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ORANGE WATER AND SEWER AUTHORITY

SCHEDULE OF PRIOR YEAR AUDIT FINDINGS
FOR THE YEAR ENDED JUNE 30, 2019

None reported.

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ORANGE WATER AND SEWER AUTHORITY

SCHEDULE OF EXPENDITURES OF FEDERAL AND STATE AWARDS
FOR THE YEAR ENDED JUNE 30, 2019

Grantor/Pass-through Grantor/Program Title	Federal CFDA Number	State/ Pass-through Grantor's Number	Federal (Direct & Passed-through) Expenditures	State Expenditures	Passed Through To Subrecipients
Federal Grants:					
U.S. Environmental Protection Agency					
Passed-through the N.C. Department of Environmental Quality:					
Division of Water Infrastructure:					
Drinking Water State Revolving Fund Cluster:					
Capitalization Grants for Drinking Water State Revolving Funds	66.468	WIF-1930	$ 2,017,007	$ -	$ -
Capitalization Grants for Drinking Water State Revolving Funds	66.468	WIF-1928	1,537,681	-	-
Total Drinking Water State Revolving Fund Cluster			3,554,688	-	-
Total U.S. Environmental Protection Agency			3,554,688	-	-
Total Federal Assistance			$ 3,554,688	$ -	$ -
N.C. Department of Environmental Quality					
Division of Water Infrastructure:					
Drinking Water State Revolving Fund		H-SRP-D-17-0012	$ -	$ 246,034	$ -
State Reserve Loan		E-SRP-W-17-0049	-	717,642	-
State Reserve Loan		H-SRP-D-17-0021	-	19,768	-
State Reserve Loan		E-SRP-W-17-0047	-	112,985	-
Total N.C. Department of Environmental Quality			-	1,096,429	-
Total State Assistance			$ -	$ 1,096,429	$ -
Total Federal and State Assistance			$ 3,554,688	$ 1,096,429	$ -

Notes to the Schedule of Expenditures of Federal and State Awards:

1. **Basis of Presentation**

   The accompanying Schedule of Expenditures of Federal and State Awards (SEFSA) includes the federal and state grant activity of the Orange Water and Sewer Authority under the programs of the federal government and the State of North Carolina for the year ended June 30, 2019. The information in this SEFSA is presented in accordance with the requirements of Title 2 U.S. *Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* and the State Single Audit Implementation Act. Because the schedule presents only a selected portion of the operations of the Orange Water and Sewer Authority, it is not intended to and does not present the financial position, changes in net position, or cash flows of the Orange Water and Sewer Authority.

2. **Summary of Significant Accounting Policies**

   Expenditures reported in the SEFSA are reported on the modified accrual basis of accounting. Such expenditures are recognized following the cost principles contained in Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement. Orange Water and Sewer Authority has elected not to use the 10-percent de minimus indirect cost rate as allowed under the Uniform Guidance.

3. **Loans Outstanding**

   The Authority had the following loan balances outstanding at June 30, 2019 for loans that the grantor/pass-passthrough grantor has still imposed continuing compliance requirements. Loans outstanding at the beginning of the year and loans made during the year are included in the SEFSA. The balance of loans outstanding at June 30, 2019 consist of:

Program Title	CFDA Number	Pass-Through Grantor's Number	Amount Outstanding
Capitalization Grants for Drinking Water State Revolving Funds	66.468	WIF-1930	$ 5,131,656
Capitalization Grants for Drinking Water State Revolving Funds	66.468	WIF-1928	1,253,431
Drinking Water State Revolving Fund	N/A	H-SRP-D-17-0012	939,131

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REPORT OF INDEPENDENT AUDITORS ON REVENUE BOND COVENANT COMPLIANCE

To the Board of Directors
Orange Water and Sewer Authority
Carrboro, North Carolina

We have audited, in accordance with auditing standards generally accepted in the United States of America, the Statements of Net Position of the Orange Water and Sewer Authority (the "Authority"), a component unit of the Town of Chapel Hill, North Carolina, as of June 30, 2019 and 2018, and the related statements of revenues, expenses, and changes in net position and cash flows for the years then ended, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements, and have issued our report thereon dated September 16, 2019.

In connection with our audit, nothing came to our attention that caused us to believe that the Authority failed to comply with the terms, covenants, provisions, or conditions of Section 7.04 contained in the amended and restated bond order, dated September 13, 2001 with the Bank of New York and the North Carolina Local Government Commission, insofar as they relate to accounting matters. However, our audit was not directed primarily toward obtaining knowledge of such non-compliance. Accordingly, had we performed additional procedures, other matters may have come to our attention regarding the Authority's non-compliance with the above referenced terms, covenants, provisions, or conditions of the bond order, in so far as they relate to accounting matters.

This report is intended solely for the information and use of the Board of Directors and management of the Authority, the Bank of New York, and the North Carolina Local Government Commission and is not intended to be, and should not be, used by anyone other than these specified parties.

Martin Starnes & Associates, CPAs, P.A.
Hickory, North Carolina
September 16, 2019

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OWASA Board of Directors – 12 Month Board Meeting Schedule (September 20, 2019)

Month	Board Meetings		Committee & Other Meetings
	Work Session	Business Meeting	
September 2019	EEO/Affirmative Action Report & Diversity and Inclusion Update (↻) Annual Report on Disposal of Surplus Personal Property (↻) Position Reclassification **LRWSP – Schedule Update and Final Water Supply and Demand Management Alternatives** **Agua Vista Project Update and Impact** CS – GC Annual Review (↻) 9/12/2019	Annual Report and Financial Audit (↻) Approve General Counsel Engagement (↻) Solar Lease Prospect Review Adopt Preliminary Resolution for Series 2019 Revenue Bonds **Forest Management – draft process to prioritize land** CS – Prepare for ED Annual Review (↻) 9/26/2019	*OWASA's Annual Update to the Carrboro BOA (9/24/2019)* *HR Committee reviews Consultant Proposals for ED Search (9/30/2019)*
October 2019	Approval of Sole Source Procurement of Water Treatment Plant Process Equipment Sewer Use Ordinance Update Update on Rogerson Drive Force Main Emergency Repair and Cost Estimate (Tentative) Consultant Proposals for Executive Search Services (or special meeting) CS – ED Annual Review (↻) 10/10/2019	Q1 Financial Report (↻) **Strategic Trends Report and Strategic Plan Update** (↻) Adopt Series Resolution for Series 2019 Revenue Bonds Water Main Break and WTP/WWTP Reliability and Risk Assessment Action Plans Progress Report 10/24/2019	*Agua Vista Update to the Chapel Hill Town Council (10/2/2019)* *New Board Members D&I Session with VISIONS, Inc. (10/8/2019)* *Chapel Hill OWASA Board Members meet with TOCH OWASA Committee (10/17/2019)* *(Tentative) Finance Committee (TBD)* *(Tentative) OC Appointees to the OWASA Board meet with Members of Orange County BOCC (TBD)*
November 2019	(Tentative) Approve New Banking Services Provider 11/14/2019	*Holiday – no meeting*	
December 2019	TBD 12/12/2019	*Holiday – no meeting*	
January 2020	Appoint Audit Firm (↻) Employee Health and Dental Insurance Update for FY 21 (↻) Review Comments on Sewer Use Ordinance Update Affordability Outreach Program Update Update on Water Main Prioritization Model **(Tentative) LRWSP – Draft Evaluation of Water Supply and Demand Management Alternatives** 1/9/2020	Annual Lakes Recreation Report (↻) CIP Semiannual Report (↻) Q2 Financial Report (↻) FY 21 Budget Calendar and Assumptions (↻) Approve Sewer Use Ordinance Update 1/23/2020	
February 2020	CS – Prepare for GC Interim Review (↻) 2/13/2020	CS – GC Interim Review (↻) 2/27/2020	*(Tentative) OC Appointees to the OWASA Board meet with Members of Orange County BOCC (TBD)*
March 2020	FY 21 Draft Budget & Rates (↻) CS – Prepare for ED Interim Review (↻) 3/12/2020	Set date for Public Hearings – FY 21 Budget & Rates (↻) **Annual Update of the Energy Management Plan** (↻) FY 21 Draft Budget & Rates and Proposed Staff Rate Adjustment Recommendation (↻) CS – ED Interim Review (↻) 3/26/2020	

Current and Pending Key Projects and Strategic Initiatives– in **bold**

OWASA Board of Directors – 12 Month Board Meeting Schedule (September 20, 2019)

Month	Board Meetings		Committee & Other Meetings
	Work Session	Business Meeting	
April 2020	Review Employee Health and Dental Insurance Renewals ↻ FY 21 Draft Budget and Rate Adjustment Information ↻ 4/9/2020	Q3 Financial Report ↻ 4/23/2020	
May 2020	Approve Employee Health and Dental Insurance Renewals ↻ Discuss Employee Merit Pay for FY 21 ↻ **(Tentative) LRWSP – Final Evaluation of Water Supply and Demand Management Alternatives** 5/14/2020	Public Hearings – FY 21 Budget and Rates ↻ 5/28/2020	
June 2020	Approve FY 21 Budget and Rates, including merit pay decision ↻ Election of Officers ↻ 6/11/2020	TBD 6/25/2020	
July 2020	**(Tentative) LRWSP – draft LRWSP** 7/9/2020	TBD 7/23/2020	
August 2020	CS – Prepare for GC Annual Review ↻ 8/13/2020	Preliminary 12 Month Financial Report ↻ CIP Semiannual Report ↻ CS – GC Annual Review ↻ 8/27/2020	

Note: Additional Board Meetings will include matters related to improving reliability and resiliency on OWASA's services.

The 12 Month Board Meeting Schedule shows Strategic Plan initiatives and other priority efforts that the Board and staff plan to give greatest consideration to during the next twelve months. The schedule also shows major recurring agenda items that require Board action, or items that have been scheduled in response to the Board's prior standing request. This schedule does not show all the items the Board may consider in a work session or business meeting. It also does not reflect meetings at which the Board will discuss and act on the update of the Strategic Plan.

The 12 Month Board Meeting Schedule will be reviewed and updated at each monthly work session and may also be discussed and updated at the Board's business meetings.

In addition to the initiatives shown in this schedule, staff will be working on other Strategic Plan and organizational priorities that are not expected to require major additional discussion with the Board except as part of budget deliberations.

The schedule implies that the following Strategic Plan initiatives would be addressed beyond the 12-month period. The Board may conclude that one or more of the following initiatives are higher priority. The schedule will be revised as needed to reflect the Board's priorities, and any additional initiatives that the Board may decide to address.

- Development of a plan and policy framework for OWASA lands is considered a longer-term priority. The NRTS Committee discussed this issue in September 2017 and determined it was lower priority than Forest Management.
- Water Conservation Plan will be prepared concurrent with update of the Long-Range Water Supply Plan.
- Update of Strategic Plan. On November 15, 2018, the Board and staff agreed to defer update of the Strategic Plan to a date to be determined.

The OWASA Board determines which topics it wants to explore as a full Board (potentially in a work session format) and which topics it wants to assign to Board committees or committee chairs for further analysis and

development of recommendations. Board also determines priorities and desired timeframes for addressing topics. Committee meetings will be updated on the schedule routinely.

Abbreviations Used in Draft Schedule:

↻	Recurring agenda item (generally these are "required" items)
AV/AMI	Agua Vista/Advanced Metering Infrastructure
BOCC	Board of County Commissioners
CBOA	Carrboro Board of Aldermen
CE	Community Engagement
CEP	Community Engagement Plan
CHTC	Chapel Hill Town Council
CIP	Capital Improvements Program
COLA	Cost of Labor Adjustment
CS	Closed Session of the Board
CY	Calendar Year
D&I	Diversity and Inclusion
ED	Executive Director
EEO	Equal Employment Opportunity
FY	Fiscal Year
GC	General Counsel
HR	Human Resources
JLP	Jordan Lake Partnership
KPI	Key Performance Indicator
LRWSP	Long-Range Water Supply Plan
MOA	Memorandum of Agreement
MST	Mountains-to-Sea Trail
MFMM	Multi-Family Master Meter
NCDOT	North Carolina Department of Transportation
NRTS	Natural Resources and Technical Services
OC	Orange County
Q	Quarter
RFP	Request for Proposals
SRF	State Revolving Fund
SOW	Scope of Work
TBD	To Be Determined
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Orange Water and Sewer Authority

Closed Session of the Board of Directors

September 12, 2019

The Board of Directors of Orange Water and Sewer Authority met in Closed Session in on Thursday, September 12, 2019, following the Board meeting.

Board Members present: Ray DuBose (Chair), Ruchir Vora (Vice Chair), Bruce Boehm (Secretary), Yinka Ayankoya, John Cooley, Robert Morgan, John N. Morris and Bruce Runberg. Board Member absent: Jody Eimers.

Staff present: Robert Epting, General Counsel.

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Item One

The Board of Directors met in Closed Session with staff to evaluate General Counsel's annual performance review.

No official action was taken at the meeting.

The meeting was adjourned at 8:40 p.m.

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Robert Morgan, Chair
Human Resources Committee

Agenda Item

- Draft Approach to Prioritize OWASA's Forest Land for Management

Purpose

- To receive feedback from the Board of Directors on a draft approach to prioritize OWASA's forest land for management and to seek the Board's authorization to implement OWASA's new incremental approach to forest management.

Background

- OWASA owns approximately 2,400 acres of forested lands to help meet its mission of providing high quality and reliable water, wastewater and reclaimed water service through responsible and creative stewardship of the resources we manage.
- Approximately 1,900 acres of OWASA's forested lands have not been managed; some of these forested stands are poor quality, damaged, or pose a wildfire risk.
- On January 10, 2019, the Board of Directors supported a new incremental approach to forest management and on April 11, 2019, the Board approved a Community Engagement Plan for the approach.
- On June 20, 2019, OWASA held a community meeting to hear feedback from the community about the proposed Forest Management Program and included six draft Guiding Principles.
- On July 11, 2019, the Board of Directors discussed feedback received at the June 20, 2019 community meeting.
- On August 22, 2019, the Board of Directors approved a vision statement and Guiding Principles to guide OWASA's Forest Management Program.
- The next step in the forest management program is to develop an approach to prioritize our forested lands for management based on the guiding principles.
- The Board of Directors would not need to approve additional staff actions for forest management other than through the annual budget approval process as may be needed. Staff will keep the Board of Directors and the public informed about our forest management work and we will continue to invite public feedback. We will also report annually on our work.

Action Needed

- No formal resolution is needed; however, staff recommends that when the Board supports moving forward with the draft approach to prioritize the land for management to enable program implementation, it consider acting on the matter in the form of a motion, similar to the following:

  "*That the staff be authorized and directed to implement the forest management plan, and in particular to prioritize and select initial areas appropriate for active management in accordance with the incremental approach recommended by staff (as amended by the Board), all in accordance with the Board approved Vision, Guiding Principles and Community Engagement Plan; staff will provide the Board with regular updates including progress reports, as appropriate to keep the Board and public informed of this work."*

Orange Water and Sewer Authority
OWASA is Carrboro-Chapel Hill's not-for-profit public service agency
delivering high quality water, wastewater, and reclaimed water services.

Memorandum

To: Board of Directors

Through: Ed Kerwin, Executive Director

From: Ruth Rouse, Planning and Development Manager

Date: September 20, 2019

Subject: Draft Approach to Prioritize OWASA's Forest Land for Management

Purpose:

To receive feedback from the Board of Directors on a draft approach to prioritize OWASA's forest land for management and to seek the Board's authorization to implement OWASA's new incremental approach to forest management.

Background:

- OWASA owns approximately 2,400 acres of forested lands to help meet its mission of providing high quality and reliable water, wastewater and reclaimed water service through responsible and creative stewardship of the resources we manage.
- Approximately 1,900 acres of OWASA's forested lands have not been managed; some of these forested stands are poor quality, damaged, or pose a wildfire risk.
- On January 10, 2019, the Board of Directors supported a new incremental approach to forest management and on April 11, 2019, the Board approved a Community Engagement Plan for the approach.
- On June 20, 2019, OWASA held a community meeting to hear feedback from the community about the proposed forest management program. Forty-one (41) people participated in the meeting. Also, in attendance were 11 representatives from professional agencies, seven moderators, eight OWASA staff and four OWASA Board Members.
- On July 11, 2019, the Board of Directors discussed feedback received at the June 20, 2019 community meeting and agreed with staff's recommendation that staff develops a draft Vision Statement and revised Guiding Principles for OWASA's Forest Management Program.

- On August 22, 2019, the Board of Directors supported staff's Vision Statement and revised Guiding Principles with some minor suggested changes. The Vision for OWASA's Forest Management Program is:

  "***Protect water quality now and for future generations by managing our forest lands using science-based practices so they are healthy, diverse, resilient, and sustainable.***"

  The Guiding Principles for OWASA's Forest Management Program are:

  - Protect Water Quality, OWASA's Highest Priority
  - Improve Ecological Health of Forested Land
  - Reduce the Risk of Wildfire
  - Improve Wildlife Habitat and Species Diversity
  - Sustainably Manage OWASA's Resources
  - Engage the Community and Partner Agencies
  - Minimize Adverse Impacts on Neighbors and Surrounding Community

Staff also drafted strategies to guide implementation of each Guiding Principle. Board members suggested changes and staff updated the strategies as shown in the Attachment. As noted, since each forest site is unique, OWASA may modify a strategy in order to achieve the program's long-term vision.

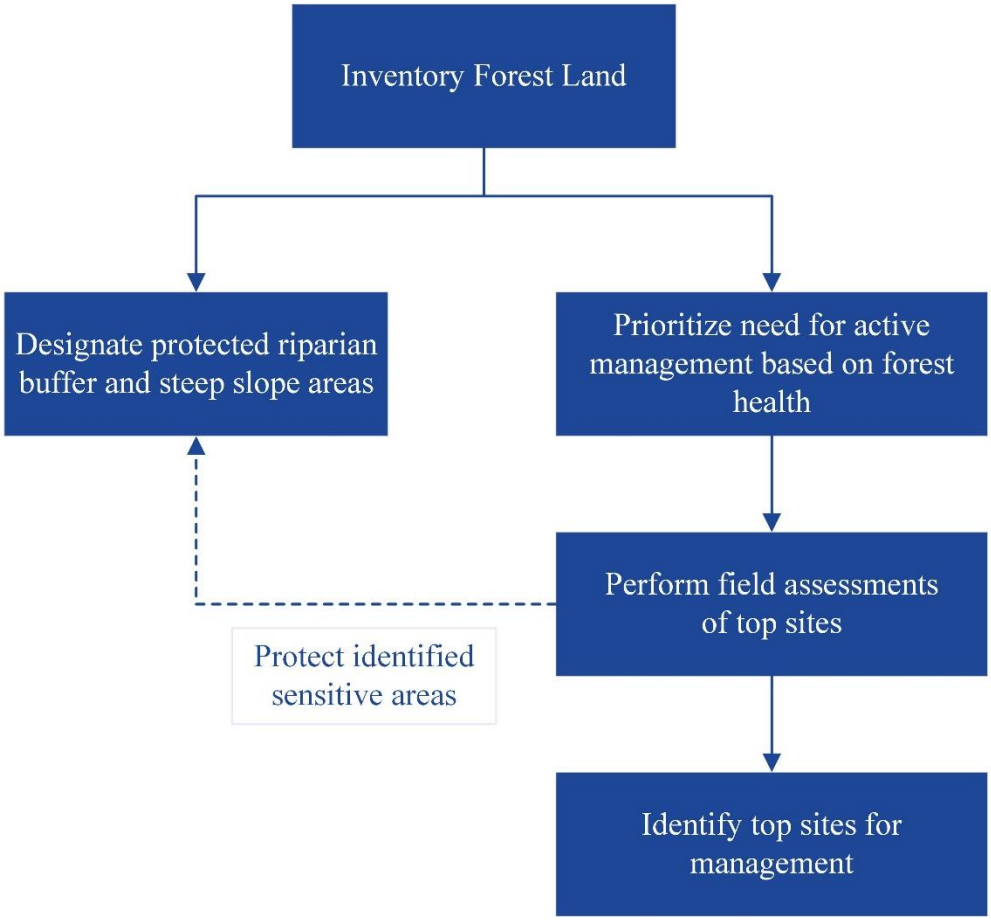
Draft Approach to Prioritize OWASA's Land for Management

Staff proposes using our Geographic Information System (GIS) as a tool to prioritize our land for management and to track progress in meeting our management goals. Staff plans to use readily available data to identify the top ten or so priority sites, and would then visit these top sites to validate the assumptions used to prioritize those sites and to select the top two or three sites where we should focus our initial management efforts.

As we learn more about each of our forested tracts and implement management measures, we would update the data in the GIS. This will help us track progress and continuously update the information we have available to us for decision making. This is consistent in how we manage our other assets.

We propose to follow the steps illustrated in Figure 1. The following subsections provide additional detail on the proposed steps.

Figure 1: Draft Approach to Prioritize Forest Lands



Inventory Forest Land

OWASA will use GIS to store available information about our forest land. The data include information from the forest stewardship plans drafted in 2010, as well as data from local, state, and federal public databases.

Designate Protected Riparian Buffers and Steep Slope Areas

Staff notes any forest management activities will pose some short-term risk to water quality. However, with proper planning and best management practices, these risks are minimized. One of our key strategies to protect water quality is to identify and maintain an extensive network of riparian buffers on our lands, and to minimize disturbance within those areas and in other areas with steep slopes and highly erodible soils.

OWASA's proposed riparian buffer widths vary depending on whether a stream is perennial (usually has water flowing in it), intermittent (has water flowing in it during portions of the year) or ephemeral (has water flowing in it during storms). We rely on two sources to delineate streams and designate the type: (a) the US Geological Survey's National Hydrography database, which indicates whether streams are perennial or intermittent, and (b) the State of North Carolina's LIDAR (light detection and ranging, a remote sensing method which uses pulsed lasers to measure distances) data, which enables higher-resolution digital elevation modeling to

identify ephemeral stream channels. Our water quality protection strategies recommend protecting 150 feet of riparian buffer on both sides of perennial streams, 100 feet on intermittent streams, and 25 feet on ephemeral streams. We also have delineated a 300-foot wide buffer protection area around Cane Creek Reservoir.

OWASA staff proposes to only monitor the health of the forests within the protected riparian buffer areas and areas with steep slopes, and to only actively manage them if advised to do so by experts or partner agencies. In addition, some of our riparian areas are further protected by easements funded by the Clean Water Management Trust Fund, and no forest management will occur in these wider buffer areas. These proposed "no management" riparian buffer areas total approximately 460 acres, or 24 percent of OWASA's forest lands. (The "no management" riparian buffer area totals do not include the Cane Creek Mitigation Tract, for which an approved forest stewardship plan has already been developed and is being implemented.) Additional steep slope areas will be identified and protected as well.

Prioritize Need for Active Management Based on Forest Health

Forest health is the primary indicator of long-term water quality. Healthy forests are more resilient to disease, infestation, drought, wildfire, and climate change impacts. Maintaining healthy forests helps ensure the trees and the forest floor are better able to filter sediment, nutrients, and other pollutants. Thus, forest health serves as a proxy for protection of long-term water quality.

Generally, younger forests will be healthier than older or senescing (deteriorating with age) forests; hardwood forests have a longer expected life than pine forests. Stocking density (the estimated total square foot area of tree at breast height in an acre of forest) also indicates how healthy a forest may be. Overstocked forests will typically have lower growth rates, a shaded forest floor, and lack diversity. In such areas, trees compete for limited light, water, and nutrients; as a result, they are generally less healthy. The forest growth rate in the last ten years is also indicative of how healthy a forest is at that point in its life cycle. Healthy forests exhibit higher rates of growth.

Staff proposes to use the following criteria to rate forest health:

- Forest type and age – Our GIS includes an estimate of stand age along with whether the stand is hardwood, pine, or a mix of hardwood and pine. We will use a combination of the estimated age and type to assign a score. For this factor, an old pine stand would be assigned a higher score than a hardwood stand of the same age or a younger pine stand. Higher scores indicate a greater need to manage the stand.
- Growth rate – The GIS has information from 2010 on the stand growth rates. Lower growth rates will be assigned a higher score. When we visit the top prioritized sites, our forest management consultant will confirm whether the historic growth rate is indicative of what has been happening since 2010.
- Stocking density – Overly stocked stands will receive the highest score and properly stocked stands will receive the lowest score.
- Other factors – The GIS indicates whether a stand included invasive species, storm damage, or evidence of pests or disease was present when the stands were visited in 2010. It should be noted that the presence of Japanese stilt grass was not included in the

database since it is so prevalent. Invasives noted in the database include autumn olive and tree of heaven. Stands noted as having invasive species or disease will be awarded points in the prioritization scheme.

Perform Field Assessments of Top Sites

Following our initial evaluation using GIS, staff and our consulting forester (and potentially other partner agencies) will visit the top sites to evaluate actual conditions to verify and update the information in our GIS. Staff will also note if there are other areas that may warrant protection, which may include steep slopes, streams and/or wetlands that are not mapped in the GIS, or other features where we want to avoid active forest management and associated land disturbance. Staff will include these areas in the designated protected areas. Staff may also modify forest health prioritization rankings based on the conditions noted in the field.

Identify Top Sites for Management

Based on conditions noted in the field and feedback received from partner agencies, staff will select the highest priority sites for management. The actual number may vary depending on their proximity to each other, their size, the estimated time and cost to manage them, and other factors such as OWASA's other priorities.

Future Actions:

Once the Board approves the approach to prioritize forest lands, staff will prepare a brief summary of the Board's approval of our new incremental approach to forest management with a link to the Vision and Guiding Principles document. We suggest the Board Chair send a letter to the local governments with this summary with an offer to present at a future meeting, if desired. Staff will also provide stakeholders and the public this information and invite their questions and feedback.

With Board approval, staff will proceed to implement the program and identify the top priority areas for management. We will share the approach with our partner agencies and verify the data through site visits to these top sites. If there are current fiscal year impacts of proposed forest management activities, staff will advise the Board before proceeding.

We will prepare draft forest stewardship plans in accordance with the Guiding Principles for the top identified sites. We will then share those plans with neighboring landowners and invite their feedback. We will then finalize our plans and inform neighboring landowners accordingly.

We will keep the Board of Directors and the public informed about our forest management work and we will continue to invite public feedback. We will also report annually about our work.

Action Needed Next:

If and when the Board concurs with the above or a revised approach for prioritizing OWASA's forest lands for management (on September 26, 2019 or at a subsequent meeting), staff suggests Board action by motion. This is the final step in the Board approving the overall forest

management program; staff also seeks authorization from the Board to move forward with implementing the forest management program. A draft motion is provided below:

> "*That the staff be authorized and directed to implement the forest management plan, and in particular to prioritize and select initial areas appropriate for active management in accordance with the incremental approach recommended by staff (as amended by the Board), all in accordance with the Board approved Vision, Guiding Principles and Community Engagement Plan; staff will provide the Board with regular updates including progress reports, as appropriate to keep the Board and public informed of this work."*

Ruth C. Rouse

Ruth Rouse, AICP
Planning and Development Manager

Attachment: Comments and Responses on Draft Strategies to Meet Guiding Principles

Comments and Responses on Draft Strategies to Meet Guiding Principles

September 20, 2019

The Board of Directors made several suggestions to the draft strategies included in *OWASA's Vision and Guiding Principles for its Forest Management Program* at their August 22, 2019 meeting. This document summarizes the comments, how staff addressed them, and shows staff's suggested changes in revisions mode. The revisions also show the final version of the Vision and Guiding Principles statements that were adopted by the Board on August 22, 2019.

Comment: Strategy 1a under the Guiding Principle to protect water quality should have a specific riparian buffer width for ephemeral streams that we strive to protect. Staff agrees, and suggests a goal of maintaining 25 feet around ephemeral channels. The reason to protect these small streams is to minimize the risk from sediment. Research in riparian buffers indicates that buffers of 25 feet generally protect streams from sediment loading, providing there are not steep slopes. These small channels tend to be in fairly level areas, but staff can also increase the width of the riparian buffer if we do not believe 25 feet will be protective.

Comment: Strategy 9 under the Guiding Principle to protect water quality identifies practices to minimize the use of herbicides and their impact on water quality when they must be used. This strategy should also note that OWASA will track the type and amount of herbicide used. Staff agrees with this suggestion.

Comment: The use of the phrase "where there is a compelling need" is unclear in Strategy 8 under the Gguiding Principle to improve wildlife habitat and species diversity. The commenter went on to suggest that rotational pine management and harvesting are used only where there are existing pine monocultures and that our long-term goal is to replace them with hardwoods. Staff agrees the wording is unclear, but it is not necessarily our goal to replace all pine monocultures with hardwoods. Our partner agencies indicated sometimes it is impossible or very difficult to introduce hardwoods to certain areas, and that pine stands do provide a certain type of habitat. There may be a site-specific reason to keep an area in pine stand; in addition, the Board could determine it would like to do some rotational pine management on an existing pine stand to generate revenue to offset the costs of managing other land. The strategy has been modified to clarify this.

Comment: There should be a strategy to be mindful of cost under the Guiding Principle to sustainably manage OWASA's resources. Staff plans to include an estimated operating cost in the annual budget based on the anticipated management needed on the stands that will be managed in the upcoming year. A strategy has been added.

Comment: Strategy 3 under the Guiding Principle to engage the community and partner agencies should include a commitment to sample total suspended solids before and after prescribed burns. Staff does not suggest this be a requirement after all prescribed burns.

There may be cases where we want to implement water quality monitoring associated with a prescribed burn or other forest management activity to assure we are not impacting water quality. Staff believes the hydraulic changes that occurred to the stream from installing the monitoring weir on the Cane Creek Mitigation Tract had a greater impact than our forest management activities on the tract. The changed hydrology from the weir impacted the road, and resulted in some stream erosion. Staff has since removed the sampling weir and repaired the road crossing. For this reason, staff suggests flexibility for when sediment monitoring is desireable.

Comment: Strategy 1 under the Guiding Principle to mitigate adverse impacts on neighbors and surrounding community should be modified to be more inclusive than adjacent land owners. Staff agrees and has modified the strategy.

OWASA's ~~Draft~~ Vision and Guiding Principles for its Forest Management Program

September 2019

Forest Management Vision Statement

Protect water quality now and for future generations by following science-based principles to manage~~ing~~ our forest lands so they are healthy, diverse, resilient, and sustainable.

Guiding Principles

Background

OWASA plans to achieve its Vision through the application of seven Guiding Principles for our forest management program, forest stewardship plans, decisions, and actions:

- Protect Water Quality, OWASA's Highest Priority
- Improve Ecological Health of Forested Land ~~through Science-Based Principles~~
- Reduce the Risk of Wildfire
- Improve Wildlife Habitat and Species Diversity
- Sustainably Manage OWASA's Resources
- Engage the Community and Partner Agencies
- Minimize Adverse Impacts on Neighbors and Surrounding Community

These Principles are mostly complementary with protection of water quality as our first and foremost objective. Any actions taken to achieve the strategies listed under any Principles must not impair or jeopardize water quality.

Several of these strategies are cross-cutting as they help achieve multiple Guiding Principles as summarized in Table 1.

Our various forest lands have evolved over many decades, and their composition, health, and condition are the result of individual land ownership patterns and land management decisions, combined with natural conditions and processes, such as forest succession and regeneration. As we develop forest stewardship plans for these various tracts, the strategies and management actions we select for each specific tract will be different depending on a number of factors, such as the type, composition, age, and quality of the existing forest and vegetation; underlying site conditions (soils, slope, orientation, etc.); and hydrology (presence of streams and riparian areas). Since each forest site is unique, OWASA staff may modify a strategy listed under a given Guiding Principle in order to achieve the long-term objective and strategy for a given forest stand or its forest land as a whole or to protect water quality. Thus the Guiding Principles serve as a compass to achieve the Vision, but may be modified as needed.

Sustainable management of our forest land is a major challenge and commitment, and it will take many decades to ~~really~~ see ~~the~~ results. Healthy, diverse forests are more resistant and resilient to stresses from drought, infestation, wildfire, storms, and the challenges associated with a changing climate. By following the proposed science-based principles and strategies where practicable, the long-term health, vitality, and resiliency of our forest land will be better than if we do not take any action. As a result, we will better protect long-term water quality conditions.

Guiding Principles and Strategies

Guiding Principle: Protect Water Quality, OWASA's Highest Priority

Strategies

1. We will maintain a network of riparian buffers that is more protective than required under local, state, or federal regulations. We recommend that these riparian buffers be excluded from forest management and that no timber harvesting occur within the boundaries of these buffers. We will strive to meet the following riparian buffers:
    a. 300 feet from the normal pool elevation of Cane Creek Reservoir
    b. 150 feet on either side of perennial stream (regardless of watershed)
    c. 100 feet on either side of intermittent stream (regardless of watershed).
    d. ~~Additional buffer around~~ 25 feet on either side of ephemeral channels (regardless of watershed) and other areas such as ~~other~~non-jurisdictional wetlands; buffers will also be included around identified ~~and~~ groundwater recharge areas.
    e. Exceptions may be made for reasons such as: to remove invasive species; remove trees that present a major fire risk, may damage structures or endanger human life; or remove trees necessary to construct road crossings.
2. We will reduce the potential for concentrated overland flow through our riparian buffers.
3. We avoid crossing streams where practicable. Where stream crossings are needed, we design, construct, and maintain crossings to minimize erosion.
4. We avoid cutting trees and building roads on steep slopes and highly erodible soils.
5. We follow or exceed North Carolina Forest Service Forest Practices Guidelines Related to Water Quality.
6. We mark and protect the boundaries of conservation easements protected by Clean Water Management Trust Fund during active forest management on areas near them.
7. Logging roads, logging decks, and other major areas where soil is disturbed will be graded, stabilized to prevent erosion, and reseeded with grass or other appropriate vegetative cover.

8. Our contracts with contractors will include requirements for best practices to minimize the impact from potential petroleum spills and erosion and sedimentation.
9. We minimize the use of herbicides to the extent practicable. Where feasible, we use prescribed burns and other practices to achieve our objectives. When we must use herbicides (to control invasive species or to promote a certain type of tree in accordance with a forest stewardship plan's goals and objectives), we use certified herbicide applicators who have been trained in best practices. We will select herbicides labeled for forestry use, use application methods that target the species we are trying to control, apply when there is low wind and little or no risk of rainfall. We avoid using herbicide in riparian buffers and when we must use them (such as for invasive species control), we select herbicides that are appropriate for use in an aquatic environment. OWASA will track the dates, amounts, locations, and specific herbicides used on its land.

Guiding Principle: Improve Ecological Health of Forested Land through Science-Based Principles

Strategies

1. Our individual Forest Stewardship Plans are based on achieving ecological value for the applicable tract considering existing vegetation, soils, slopes, and other conditions.
2. We recognize that natural forests provide a model for sustainable resource management; therefore, responsible forest management should imitate nature's dynamic processes and minimize impacts when harvesting trees and other products.
3. Our forest stewardship plans include methods to control, minimize, and eradicate where practical invasive species while we are implementing the plans. In high ecological value areas, we may also manage invasive species at times when we are not actively managing other forest resources on the tract.
4. We maintain, manage and restore our hardwood forests to remain in hardwood forests.
5. We recognize active management of all forest lands on OWASA lands is not necessary to sustain ecosystem health. Some forest areas on OWASA land will be more appropriately reserved from active management (in addition to lands set aside for buffers). OWASA will monitor these lands to ensure they remain healthy.
6. Forest management best practices will be selected and implemented so as to maintain the continuity of the forest structure, complexity, and diversity, over time. We recognize that natural and assisted regeneration is one of these practices.
7. We use practices that promote soil productivity.

Guiding Principle: Reduce the Risk of Wildfire

Strategies

1. We manage accumulated debris from storm damaged areas and areas where dead trees and branches form "ladders" to the overstory that pose increased risk or consequences from a wildfire where and when practical.
2. We periodically inspect our forested land to identify potential hazards like pests, parasites, or storm damage that could lead to unhealthy or diseased trees and greater wildfire risk.
3. We thin overstocked pine stands to reduce the risk of wildfires damaging trees or producing hazardous crowning fires.
4. We conduct periodic prescribed burns to reduce the understory fuel levels that will reduce the impact and intensity of a wildfire.
5. We partner with the North Carolina Forest Service and County fire agencies to identify weather conditions that will ensure prescribed burns can be completed in a safe manner, to perform the prescribed burn following their safety practices, and to monitor the site after the burn is completed.
6. Our network of access roads within our forest lands will be designed and located to complement our wildfire risk management objective, such as maintenance of fire breaks, ensuring timely access for fire-fighting equipment, etc. A network of roads and firebreaks will also serve as another line of defense against wildfire spread.

Guiding Principle: Improve Wildlife Habitat and Species Diversity

Strategies

1. We provide a variety of wildlife habitats and tree species; this may include providing early successional habitats such as meadows we create following clear cuts.
2. We adopt practices such as prescribed burning, thinning, and small group openings which promote understory growth and habitat.
3. We will maintain, protect, or create snags (standing dead trees) for wildlife.
4. We protect 300 foot riparian wildlife corridors on perennial streams identified by NC Wildlife Resources Commission or NC Audubon as important wildlife corridors.
5. We create conditions for native plant species to thrive.
6. We manage our upland hardwood stands to promote oak and hickory to provide forage for wildlife.
7. We look to create wildlife habitat that may be limited in a particular area.
8. We recognize that pine monocultures by themselves do not provide the biological diversity that is needed to support diverse wildlife populations. Therefore, rotational pine management and harvesting is used only where ~~there is a compelling need~~site specific conditions warrant that management approach or if OWASA identifies an

existing pine area for rotational pine management to generate revenue to offset costs of managing other lands.

Guiding Principle: Sustainably Manage OWASA's Resources

Strategies

1. We proactively manage our lands using forestry best management practices to prevent ecological decline.
2. We will ensure that OWASA's land holdings are managed to protect water quality and promote healthy forest ecosystems and diverse wildlife habitat.
3. We seek to limit timber removal to the level necessary to achieve our water quality, ecological health, and wildfire risk minimization goals.
4. We consider environmental conditions and impacts, community impacts, and economic efficiency when selecting stands to manage; for example, we may manage a lower priority stand concurrently with a nearby higher priority stand.
5. We reinvest any revenue we receive from commercial harvests back into managing our land and to further protect water quality. We will not sacrifice long-term benefits for short-term financial gain.
6. Staff provides the Board of Directors the estimated operating cost and revenue of the planned forest management strategies in the upcoming fiscal year as part of the annual budget review and approval process.

Guiding Principle: Engage the Community and Partner Agencies

Strategies

1. We will share information with neighboring landowners, the general public, and others about why and how we manage our forest land. We will do this through a variety of methods that may include meetings, tours, website updates, and email.
2. We provide meaningful and varied opportunities for the community to provide feedback on our Forest Management Program, Forest Stewardship Plans, and the implementation of those plans (see also next Guiding Principle).
3. We will continue to work closely with partner agencies in all aspects of our Forest Management Program. We will: request their expert guidance as we develop and implement our plans; partner with them to use our land for demonstration, education, and training opportunities; and work with them to evaluate the ecological and cultural resources on our land and to study and document the outcomes of our Forest Management Program.
4. We provide notice to neighboring landowners prior to performing land management activities.

5. We protect important natural heritage areas identified by the North Carolina Natural Heritage Program (NHP) and work with NHP to register them or protect them through conservation easements or NHP registry agreements where appropriate.
6. We work with NC Wildlife Resources Commission and NC Audubon to perform before and after species surveys where they deem the surveys an effective use of their staff time.
7. Where neighboring landowners also wish to manage lands, we work with them to coordinate our respective plans and management activities. (Note: we will not develop plans for neighboring landowners, but account for their plans when developing our plans).

Guiding Principle: Mitigate Adverse Impacts on Neighbors and Surrounding Community

Strategies

1. We meet with neighbors to our forest stands after providing them with the draft Forest Stewardship Plan for our ~~adjacent~~nearby property. We listen to their concerns and where applicable, we develop measures that enable OWASA to meet its management needs while mitigating adverse impacts to our neighbors.
2. Where practical and site conditions allow, we maintain an aesthetic buffer of 100 feet from viewsheds and public roads. Where unique site conditions exist, OWASA will strive to provide a wider viewshed buffer.
3. OWASA will not access its forest land through another landowner's property unless a formal access agreement has first been developed and approved by OWASA and the landowner. The agreement will specify the terms and conditions under which OWASA can access the property.
4. Where we access our land through a common gravel road that serves OWASA property and private property, OWASA will restore the road to at least the condition it was in prior to our use for forest management activities.
5. We minimize noise impacts by limiting equipment operations within our forest lands to daytime hours, Monday through Saturday. We avoid having major equipment operate on our forest land on Sundays.
6. Where practicable, we will protect any unique or locally important cultural features on our property. This will be done by maintaining forested buffers, and using low impact methods if any active forest management is done in close proximity to such cultural features. Such sites will be clearly marked to indicate where equipment is not allowed.

Agenda Item

- Solar Lease Prospect Review

Purpose

- To receive from the Board of Directors feedback on and confirmation to pursue (if the Board is ready) a solar lease agreement with Eagle Solar and Light (ESL)

Background

- The OWASA Board of Directors established a goal to reduce OWASA's use of purchased electricity from a 2010 baseline level by 35% by the year 2022.

- As a result of investment in energy efficient technology and a commitment to energy conservation across the organization, OWASA has reduced our use of purchased electricity by 29% since 2010.

- While opportunity remains to further reduce our use of purchased electricity through energy conservation and efficiency, it is very unlikely that we will achieve our goal to reduce purchased electricity by 35% by 2022 through energy conservation and efficiency alone. A renewable energy option is needed to achieve the goal.

- In approving the 2019 Energy Management Plan Update in March 2019, the OWASA Board of Directors authorized staff to move forward with the pursuit of a solar lease agreement.

- In July 2019, OWASA issued a Request for Solar (Photovoltaic) Lease Agreement Proposals. Based on firm qualifications, project understanding, team qualifications, economic viability of proposed projects and responsiveness, OWASA staff identified ESL as the preferred partner to move forward with on a lease agreement. The following memo summarizes specifications detailed in ESL's proposal.

Action Needed

- No formal resolution is needed; however, staff recommends that when the Board supports moving forward with finalizing a solar photovoltaic lease agreement with Eagle Solar and Light, it consider acting on the matter in the form of a motion, similar to the following:

  "Motion that the Board of Directors approves for staff to move forward with finalizing a lease agreement with Eagle Solar and Light and to engage in a design process for the installation of solar panels on OWASA facilities to generate and use renewable energy."

September 26, 2019

Orange Water and Sewer Authority
OWASA is Carrboro-Chapel Hill's not-for-profit public service agency
delivering high quality water, wastewater, and reclaimed water services.

Memorandum

To: Board of Directors

Through: Ed Kerwin, Executive Director

From: Mary Tiger, Sustainability Manager

Date: September 20, 2019

Subject: Solar Lease Prospect Review

Purpose:

To receive from the Board of Directors feedback on and confirmation to pursue (if the Board is ready) a solar lease agreement with Eagle Solar and Light (ESL)

Background:

- The OWASA Board of Directors established a goal to reduce OWASA's use of purchased electricity from a 2010 baseline level by 35% by the year 2022. The goal was set to reduce our annual energy expenses, as well as our greenhouse gas emissions.

- In 2016, the OWASA Board of Directors approved an Energy Management Program (EMP) designed to systematically identify, evaluate, and pursue energy conservation, energy efficiency, and renewable energy initiatives.

- In identifying whether to proceed with a specific energy management initiative, OWASA evaluates the net present value of the investment over the life of the associated asset(s). The economics are assessed with and without accounting for an estimated cost borne to society for greenhouse gas emissions (i.e. social cost of carbon) as identified in the Energy Management Plan. Those projects with a positive net present value within the life of the associated assets are recommended for pursuit.

- As a result of investment in energy efficient technology and a commitment to energy conservation across the organization, OWASA has reduced our use of purchased electricity by 29% since 2010.

- While opportunity remains to further reduce our use of purchased electricity through energy conservation and efficiency, it is very unlikely that we will achieve our goal to reduce purchased electricity by 35% by 2022 through energy conservation and efficiency alone. A renewable energy option is needed to achieve the goal.

- As a tax-exempt entity, OWASA cannot utilize tax credits or other benefits to reduce the overall costs of an investment in solar photovoltaics. However, we can take advantage of Duke Energy's recently enacted (and likely time-limited) rebate for non-profit investment in solar photovoltaic technology (PV) that produces renewable energy, as well as the leasing opportunity afforded with recent legislation.

- A solar PV lease agreement with a private partner provides OWASA the opportunity to utilize Duke Energy solar PV rebates while allowing a private partner to utilize tax credits.

- In approving the 2019 Energy Management Plan Update in March 2019, the OWASA Board of Directors authorized staff to move forward with the pursuit of a solar lease agreement.

- In July 2019, OWASA issued a Request for Solar Lease Agreement Proposals. We received responses from both firms authorized by the North Carolina Utilities Commission to offer such agreements.

- Based on firm qualifications, project understanding, team qualifications, economic viability of proposed projects and proposal responsiveness, OWASA staff identified Eagle Solar and Light (ESL) as the preferred partner to move forward with on a lease agreement. The following memo summarizes specifications detailed in ESL's proposal. The other proposal came from a Duke Energy subsidiary. It was non-responsive and more expensive.

Summary of Proposed Solar Projects:

In response to OWASA's RFP, ESL proposed to install solar PV systems on five OWASA facilities, as follows:

Facility	**System Size (ac)**	**Annual energy generation**	**Solar offset to purchased energy at location**
Administration Building	100 kW	132,072 kWh	30%
Operations Center	60.7 kW	66,824 kWh	34%
Clear well	180 kW	222,452 kWh	6% (of Water Treatment Plant)
Biosolids – Portion of Field 4 (approximately 0.3 acres)	100 kW	200,935 kWh	44% (of biosolids mixing tanks)
Cane Creek Reservoir – Entryway field (approximately 0.7 acres)	300 kW	510,170 kWh	30%
Cumulative Project Impact	**847.7 / 740.7 kW**	**1,132,453 kWh**	**5% of entire OWASA 2010 baseline**

At this point, the design of each system is preliminary. Once we have a more detailed understanding about what will be needed at each facility, we plan to engage the community on

design and timing. We have included time in the project plan to work with the community and neighbors in the early stages of design and in permitting.

Economics of Solar Lease Portfolio:

Under a solar lease agreement, a private party (in this case, ESL) will purchase, install, own and maintain a solar photovoltaic system installed on our property and connect it to a utility meter at each location. The energy produced by the system will offset our consumption at each facility and will, therefore, reduce our purchased power from Duke Energy. Additionally, under Duke Energy's net metering rules, we will receive credit for any kilowatt hour that we do not use and send to the grid. OWASA will make lease payments to ESL until a specified date at which point OWASA can (a) buy the system from ESL, (b) renegotiate another lease, or (c) have ESL remove the system at no additional cost to OWASA.

This arrangement allows for a private entity to take advantage of tax credits that OWASA otherwise would not be able to utilize, effectively reducing the overall price of the entire system.

Modeling the economics of a solar lease project requires the consideration of the following factors:

Upfront costs: ESL has proposed a down payment for each system, all or a portion of which could be reimbursed by a rebate from Duke Energy's NC Solar Rebate Program. This rebate program began in 2019 and is required by state law to be offered until the end of 2022. The maximum amount of a rebate eligible to non-profit entities (which OWASA would be) is $75,000 per meter (at $0.75/watt). Once a formal interconnection request is made, OWASA can apply for the NC Solar rebate. The rebate will be paid to OWASA after the system is installed and commissioned. We will know if Duke Energy reserved the rebate amount for each project within two weeks of applying.

Facility	**Upfront Cost**	**Potential Rebate ($0.75/Watt; max of 100 kW AC capacity)**
Administration Building	$75,000	$75,000
Operations Center	$45,000	$45,000
Clear well	$135,000*	$75,000
Biosolids – Portion of Field 4	$95,000	$75,000
Cane Creek Reservoir – Entryway field	$200,000	$75,000
	$550,000	**$345,000**

*Includes $25,000 engineering study on clear well installation

Lease agreement: ESL proposed a five-year lease term for each facility. ESL, as owner of the system, will be responsible for maintaining the system and covering the costs of repair during this time period. Over the five years, OWASA would pay a total of $108,070 each year in lease payments per the following breakdown:

Facility	Annual Lease Payment
Administration Building	$12,150
Operations Center	$7,960
Clear well	$17,890
Biosolids – Portion of Field 4	$20,440
Cane Creek Reservoir – Entryway field	$49,630
	$108,070

Projected energy savings: As noted, the energy produced will offset the current consumption on each meter or if exported to the grid, credited to OWASA's monthly energy bill. ESL utilized a third-party software (Energy Toolbase) to model the financial savings based on time of generation and utility rates. Using Energy Toolbase was critically important given that four of the five proposed facilities are charged time of use rates for electricity. The financial model assumes a 2% annual increase in energy rates, which has historical precedence and is used for modeling OWASA's energy savings. Additionally, it models that energy production will decline 0.75% every year due to panel degradation. OWASA has requested a performance bond to cover the first year of installation, and ESL has guaranteed 80% of the kilowatt hour production (minus the expected panel degradation).

Facility	Blended Utility Savings per kWh	Projected Annual Energy Savings (Year 1)
Administration Building	$0.067	$8,849
Operations Center	$0.073	$4,878
Clear well	$0.074	$16,461
Biosolids – Portion of Field 4	$0.068	$13,664
Cane Creek Reservoir – Entryway field	$0.053	$27,039
		$70,891 (Approximately 6% of FY19 electricity cost)

Operations and Maintenance (O&M): ESL will provide O&M for each system for 25 years as part of the agreement. Although lease payments will stop if and when OWASA buys-out the system, ESL will continue to provide O&M on the systems. The financial model projects OWASA's cost to replace inverters (which converts electricity to usable output) on each system at year 20, the point at which the warranty expires. The panels and racking have 25-year warranties, and therefore, we consider the useful life of the asset to be 25 years, though the solar PV industry typically cites a 30-year lifespan.

Buy-out value: At the end of the lease term, OWASA will have the option to purchase the system. As proposed, the lease payments are greater than the modeled energy savings. A purchase of the system at the end of the lease term will allow OWASA to capture the full financial benefits of the system and will allow each system to become cash flow positive within seven to fourteen years after purchase (if utility price assumptions are accurate). Federal tax law for operational leases requires that the buy-out value be based on the fair market value (FMV) of the system. ESL has calculated that the FMV will be

approximately 15% of the installed costs and will detail this cost in the final lease agreement. However, these buy-out costs cannot be hard-wired into the contract. There is a provision for a fair market appraisal in lieu of the calculation at the time of the purchase should both parties request one. If the FMV appraisal exceeds OWASA's threshold, OWASA can either have the system removed or negotiate a much lower lease payment. Collectively, the entire portfolio of projects becomes economically inviable if the FMV reaches $500,000 (30% of the total installed costs).

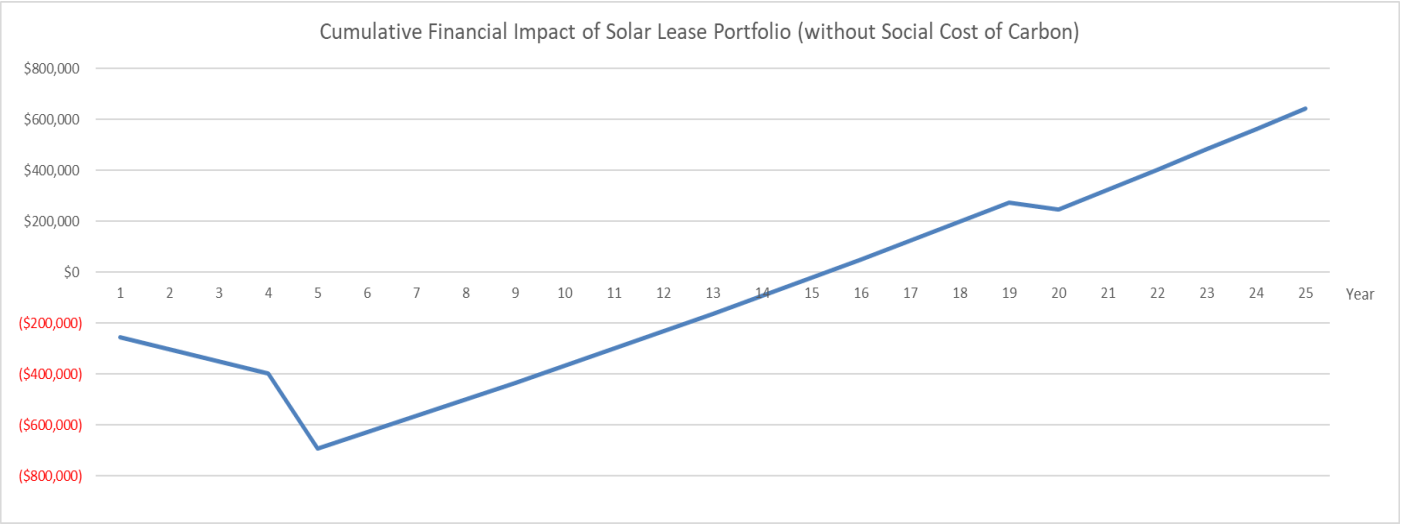
Facility	**Buy-out costs at 15% of install cost**
Administration Building	$29,894
Operations Center	$20,031
Clear well	$51,300
Biosolids – Portion of Field 4	$45,864
Cane Creek Reservoir – Entryway field	$102,600
	$249,689

Under the aforementioned assumptions, each solar installation has a positive net present value within the 25-year life of the associated assets with and without accounting for the social cost of carbon.

Facility	**25-Year NPV without SCC***	**25-Year NPV with SCC***
Administration Building	$50,929	$72,445
Operations Center	$12,638	$23,525
Clear well	$90,979	$127,220
Biosolids – Portion of Field 4	$67,101	$90,037
Cane Creek Reservoir – Entryway field	$9,997	$93,111
	$231,644	**$406,338**

*Incorporates a 3% discount rate

The following graph summarizes the cash flow associated with the entire portfolio.



As proposed, this portfolio of projects has a payback of about 15 years. It is a long-term investment in the economic sustainability of OWASA. It is a near-term investment in our environmental sustainability.

But what does it mean for our current customers and the affordability of our services? Based on the cash flow depicted in the previous graph, staff has estimated how this investment may impact future water and sewer rates. The estimate in the table below is based on the financial plan that we worked with while developing the FY 2020 budget and assumes the only change to the plan is the solar lease agreement. Beyond the fifth year of the agreement, this project would not account for any more rate increases. In fact, we would see operational savings through year 25.

Projected Increases in Monthly Water and Sewer Rates					
	FY 2020	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**
Original projection	5.0%	5.0%	5.0%	5.0%	5.0%
Projection adjusted for potential solar project investment	5.0%	5.0%	5.0%	6.0%	6.0%
Difference in Average OWASA Monthly Bill	$0	$0	$0	$0.83	$1.78

Action Needed Next:

Although, individually and collectively, this portfolio of projects clears the economic threshold set by the OWASA Board of Directors in our Energy Management Program, staff seeks Board confirmation to move forward with the project – particularly given the upfront costs and contingency associated with the potential fair market value. Should the Board agree to moving forward with the solar lease agreement, a draft motion has been proposed in the cover memo for the Board's consideration.

Staff recommends pursuing the lease agreement in its entirety for the following reasons:

- With this project, we can achieve our goal of reducing purchased electricity by 35% by 2022; without it, we will not.
- Based on our understanding of the solar market in North Carolina, this agreement is the most cost-effective method for us to generate renewable energy. Furthermore, the rebates incorporated into the proposal are not likely to be available indefinitely.
- This project is projected to have a modest impact on rates in Years 4 and 5. Beyond that, solar PV will reduce the third largest non-personnel operating expense for another 20 years, at least.
- Completion of this project will make measurable progress and demonstrate leadership in reducing greenhouse gas emissions.

Future Actions:

If the Board authorizes staff to move forward, we will begin working through the following steps on each facility:

1. Develop design (including structural review and approval), interconnection authorization submissions, and rebate applications
    a. Engage community in design process
2. Initiate permitting process for Orange County Special Use Permit and Town of Carrboro Building Permits
    a. Engage community
3. Receive interconnection authorization from Duke Energy
4. Begin construction, following community engagement and permit approval

Likely, each individual project will proceed through the aforementioned steps at a different rate. Eagle Solar and Light projects to be complete with construction on all projects by June 30, 2020.

Mary Tiger
Sustainability Manager

Agenda Item

- Adopt Preliminary Resolutions for Revenue Bonds

Background

- The Board of Directors and staff have identified the need to issue revenue bonds to help fund investments to maintain OWASA's water and sewer system and our ability to deliver high-quality services to our customers.

- Staff has identified $18.4 million in Capital Improvements Program (CIP) projects to be funded by revenue bonds.

- We have also identified the opportunity to reduce future debt service payments by refunding our Series 2010 Water and Sewer System Revenue Refunding Bonds (Series 2010 Bonds).

- Based on current bond market conditions, we estimate that refunding the Series 2010 Bonds will save approximately $1.2 million over the remaining six-year life of the bonds.

- The next step in the process of issuing bonds is for the OWASA Board of Directors to approve resolutions directing staff to file an application with the North Carolina Local Government Commission (LGC) and a resolution asking the LGC to approve the financing team.

Action Needed

Approve the following resolutions:

Resolution A Resolution directing the filing of an application with the LGC for approval of the issuance and private sale of Orange Water and Sewer Authority Water and Sewer System Revenue Bonds, Series 2019

Resolution B Resolution requesting the North Carolina Local Government Commission to approve the financing team to be used in connection with the issuance and sale of Orange Water and Sewer Authority Water and Sewer System Revenue Bonds, Series 2019

Resolution C Resolution directing the filing of an application with the LGC for approval of the issuance and private sale of Orange Water and Sewer Authority Water and Sewer System Revenue Refunding Bonds, Series 2020

Resolution D Resolution requesting the North Carolina Local Government Commission to approve the financing team to be used in connection with the issuance and sale of Orange Water and Sewer Authority Water and Sewer System Revenue Refunding Bonds, Series 2020

September 26, 2019

Orange Water and Sewer Authority
OWASA is Carrboro-Chapel Hill's not-for-profit public service agency
delivering high quality water, wastewater, and reclaimed water services.

MEMORANDUM

TO: Board of Directors

THROUGH: Ed Kerwin

FROM: Stephen Winters, CPA

DATE: September 20, 2019

SUBJECT: Adopt Preliminary Resolutions for Revenue Bonds

Background

The Board of Directors and staff have identified the need to issue revenue bonds to help fund investments to maintain OWASA's water and sewer system and our ability to deliver high-quality services to our customers. Additionally, we have identified the opportunity to reduce future debt service payments by refunding our Series 2010 Water and Sewer System Revenue Refunding Bonds (Series 2010 Bonds).

Since 2007, OWASA's outstanding bond/loan debt has been reduced from almost $115 million to approximately $60 million. While we have taken out low- or zero-interest loans from the state of North Carolina, we have not issued "new money" bonds since 2006. With interest rates near all-time lows, now is an opportune time to issue debt to fund our critically important infrastructure investments.

Series 2019 Water and Sewer Revenue Bonds

Our long-term financial planning indicates the need to borrow about $26 million over the next two years. The state has committed to loaning us about $8.9 million in low-interest loans (1.89%) and we have identified another $18.4 million in Capital Improvements Program (CIP) projects to be funded by the Series 2019 Water and Sewer Revenue Bonds (Series 2019 Bonds).

Project Name	Estimated Investment
Wastewater Treatment Plant (WWTP) Solids Thickening System Improvements	$5,557,000
Rogerson Drive Pump Station Rehab Phase 2	$1,108,000
Manning Drive (East) Water Main	$2,233,000
WWTP Headworks Rehab	$1,396,000
Barclay Road Water Main	$1,550,000
Kensington Drive Water Main	$1,427,000
Country Club Road Water Main	$1,295,000
University Lake Pump Station Improvements	$1,774,000
Fordham Service Road Water Main	$910,000
WWTP Secondary Clarifier Rehab	$1,153,000
Total	**$18,403,000**

Series 2020 Water and Sewer Revenue Refunding Bonds

In our effort to address service affordability, we continually look for ways to reduce costs and/or risk. One of our practices is to regularly monitor the bond market and evaluate opportunities to reduce our interest costs. Based on current market conditions, we have an opportunity to potentially reduce interest costs and annual debt service obligations by refunding our outstanding Series 2010 Bonds.

The Series 2010 Bonds have roughly six years remaining until they will be paid in-full. Based on current market conditions, we estimate that we can reduce the total amount left to be paid by approximately $1.2 million or almost $200,000 per year: a net present value savings of about 11%. These estimates are net of the cost to issue the bonds.

The Series 2010 Bonds become eligible to be refunded in April 2020. To save transaction costs and to lock-in current interest rates, we plan to issue the new money bonds and the refunding bonds at the same time. The refunding bonds will not officially close until April which is why they are named Series 2020. There is risk that interest rates may be lower in April 2020 than they will be when we lock-in rates in November 2019. However, given that rates are near historic lows, staff and our financial advisors believe this risk is acceptable.

North Carolina Local Government Commission Approval

As with any financing transaction such as this, we are working with the North Carolina Local Government Commission (LGC). The transaction must be approved by the LGC.

Bond Resolutions

Attached are four required preliminary resolutions that must be adopted for the borrowing process to proceed: two for each bond series.

- Resolution directing the filing of an application with the LGC for approval of the issuance and private sale of Orange Water and Sewer Authority Water and Sewer System Revenue Bonds, Series 2019 (Resolution A)

- Resolution requesting the North Carolina Local Government Commission to approve the financing team to be used in connection with the issuance and sale of Orange Water and Sewer Authority Water and Sewer System Revenue Bonds, Series 2019 (Resolution B)

- Resolution directing the filing of an application with the LGC for approval of the issuance and private sale of Orange Water and Sewer Authority Water and Sewer System Revenue Refunding Bonds, Series 2020 (Resolution C)

- Resolution requesting the North Carolina Local Government Commission to approve the financing team to be used in connection with the issuance and sale of Orange Water and Sewer Authority Water and Sewer System Revenue Refunding Bonds, Series 2020 (Resolution D)

The purpose of Resolutions A and C are to get the Board's approval to file an application for approval of the bond issues with the LGC. The purpose of Resolutions B and D are to get the LGC's approval of the financing team. The financing team consists of the following:

Bond Counsel

Based on our satisfaction with services rendered in connection with previous bond issues, staff recommends the firm of McGuireWoods LLP to serve as bond counsel. Kevin Dougherty of McGuireWoods has served OWASA in this capacity since, and including, the Series 2001 issue. Mr. Dougherty rewrote and streamlined our bond order in 2001 and has significant knowledge of our operations.

Underwriter and Underwriter's Counsel

To select an underwriter, OWASA, in consultation with its financial advisor, solicited quotes for underwriting services. Wells Fargo Bank submitted the proposal that offers the best financial arrangement to OWASA and its customers. At its meeting on September 12, 2019, OWASA's Board of Directors approved working with Wells Fargo. Womble Bond Dickinson (US) LLP will serve as counsel to Wells Fargo.

Trustee and Bond Registrar

The Bank of New York Trust Company has provided competent trustee services for OWASA beginning with the Series 1993 issue. To preserve continuity in trustee services, staff recommends that the Bank of New York Trust Company continue to serve as our bond trustee.

Financial Advisor to OWASA

David Cheatwood of First Tryon Advisors is serving as OWASA's financial advisor. Mr. Cheatwood has provided valuable guidance to OWASA in previous bond transactions and other financial matters.

Feasibility Consultant

The LGC requires that a third-party review our financial projections and verify that these projections show adequate revenue to pay existing and new indebtedness. Stantec, Inc. conducted OWASA's most recent rate studies and assists us with the annual update to our financial plan. Based on our satisfaction with their services and the efficiencies we will achieve through their knowledge of OWASA, staff recommends Stantec, Inc. to serve as feasibility consultant.

Series Resolutions to presented for Board Approval on October 24, 2019

In accordance with Section 2.08 of OWASA's Bond Order dated September 13, 2001, the final formal action the Board of Directors must take to issue the bonds will be to adopt the Series Resolutions. This is scheduled for the Board Meeting on October 24, 2019.

Action Requested

Approve resolutions in preparation for the issuance of Series 2019 Water and Sewer Revenue Bonds and Series 2020 Water and Sewer Revenue Refunding Bonds.

Stephen Winters, CPA
Director of Finance and Customer Service

Attachments:	Resolution A	Resolution directing the filing of an application with the LGC for approval of the issuance and private sale of Orange Water and Sewer Authority Water and Sewer System Revenue Bonds, Series 2019
	Resolution B	Resolution requesting the North Carolina Local Government Commission to approve the financing team to be used in connection with the issuance and sale of Orange Water and Sewer Authority Water and Sewer System Revenue Bonds, Series 2019
	Resolution C	Resolution directing the filing of an application with the LGC for approval of the issuance and private sale of Orange Water and Sewer Authority Water and Sewer System Revenue Refunding Bonds, Series 2020
	Resolution D	Resolution requesting the North Carolina Local Government Commission to approve the financing team to be used in connection with the issuance and sale of Orange Water and Sewer Authority Water and Sewer System Revenue Refunding Bonds, Series 2020

RESOLUTION DIRECTING THE FILING OF AN APPLICATION WITH THE NORTH CAROLINA LOCAL GOVERNMENT COMMISSION FOR APPROVAL OF THE ISSUANCE AND PRIVATE SALE OF ORANGE WATER AND SEWER AUTHORITY WATER AND SEWER SYSTEM REVENUE BONDS, SERIES 2019

WHEREAS, the Orange Water and Sewer Authority ("OWASA"), acting by and through its Board of Directors (the "Board"), is authorized by The State and Local Government Revenue Bond Act of North Carolina, Article 5 of Chapter 159 of the North Carolina General Statutes, as amended (the "Act"), and particularly Sections 159-83(a)(5) and 159-81(3)a and b thereof, to issue revenue bonds for the purpose of financing the cost of acquisition, construction, reconstruction, enlargement, equipping, extension, betterment or improvement of facilities for obtaining, conserving, treating and distributing water for domestic or industrial use, irrigation, sanitation, fire protection, or any other public or private use and the collection, treatment, purification or disposal of sewage; and

WHEREAS, OWASA owns and operates facilities for the production, collection, treatment, transmission and distribution of water and the collection, transmission, treatment and disposal of sewage; and

WHEREAS, OWASA proposes to issue its Water and Sewer System Revenue Bonds, Series 2019 (the "Series 2019 Bonds") for the purpose of providing funds, together with any other available funds, to (i) acquire, construct and equip certain improvements to OWASA's water and sewer system, including, but not limited to, replacement of water mains, replacement and rehabilitation of water and wastewater pumping stations, chemical facility improvements and upgrades at the Jones Ferry Road Water Treatment Plant, replacement of sewer interceptors, and improvements to and rehabilitation of facilities and equipment at the Mason Farm Wastewater

Treatment Plant (collectively, the "2019 Additional Project"), and (ii) pay certain costs and expenses incurred in connection with the sale and issuance of the Series 2019 Bonds; and

WHEREAS, OWASA proposes to issue the Series 2019 Bonds in an aggregate principal amount not to exceed $20,000,000, the determination of the aggregate principal amount of the Series 2019 Bonds to be made at the time of the private sale of the Series 2019 Bonds;

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE ORANGE WATER AND SEWER AUTHORITY DOES HEREBY DETERMINE AND RESOLVE, as follows:

1. The Board hereby finds and determines, in connection with the issuance of the Series 2019 Bonds, that (i) the issuance of the Series 2019 Bonds is necessary or expedient for OWASA, (ii) the proposed aggregate principal amount of the Series 2019 Bonds is adequate and not excessive for the proposed purposes of such issue, (iii) the proposed 2019 Additional Project is feasible, (iv) OWASA's debt management procedures and policies are good and OWASA's finances are managed in strict compliance with law and (v) under current economic conditions, the Series 2019 Bonds can be marketed at a reasonable interest cost to OWASA.

2. The Board hereby authorizes the filing of an application with the Local Government Commission for approval of the issuance of the Series 2019 Bonds, in an aggregate principal amount not to exceed $20,000,000, pursuant to Section 159-86 of the Act and directs the Executive Director of OWASA and the Director of Finance and Customer Service of OWASA, as representatives of OWASA, to file such application with the Local Government Commission.

3. The Local Government Commission is hereby requested to sell the Series 2019 Bonds at private sale without advertisement to any purchaser or purchasers thereof, at such price

as the Local Government Commission determines to be in the best interest of OWASA, subject to the approval of OWASA.

4. This resolution shall take effect immediately upon its passage.

Adopted this 26th day of September, 2019.

_____
Raymond E. DuBose, Chair

ATTEST:

_____
Andrea Orbich, Assistant-Secretary

RESOLUTION REQUESTING THE NORTH CAROLINA LOCAL GOVERNMENT COMMISSION TO APPROVE THE FINANCING TEAM TO BE USED IN CONNECTION WITH THE ISSUANCE AND SALE OF ORANGE WATER AND SEWER AUTHORITY WATER AND SEWER SYSTEM REVENUE BONDS, SERIES 2019

WHEREAS, the Orange Water and Sewer Authority ("OWASA"), acting by and through its Board of Directors (the "Board"), is authorized by The State and Local Government Revenue Bond Act of North Carolina, Article 5 of Chapter 159 of the North Carolina General Statutes, as amended (the "Act"), and particularly Sections 159-83(a)(5) and 159-81(3)a and b thereof, to issue revenue bonds for the purpose of financing the cost of acquisition, construction, reconstruction, enlargement, equipping, extension, betterment or improvement of facilities for obtaining, conserving, treating and distributing water for domestic or industrial use, irrigation, sanitation, fire protection, or any other public or private use and the collection, treatment, purification or disposal of sewage; and

WHEREAS, OWASA owns and operates facilities for the production, collection, treatment, transmission and distribution of water and the collection, transmission, treatment and disposal of sewage; and

WHEREAS, OWASA proposes to issue its Water and Sewer System Revenue Bonds, Series 2019 (the "Series 2019 Bonds") for the purpose of providing funds, together with any other available funds, to (i) acquire, construct and equip certain improvements to OWASA's water and sewer system, including, but not limited to, replacement of water mains, replacement and rehabilitation of water and wastewater pumping stations, chemical facility improvements and upgrades at the Jones Ferry Road Water Treatment Plant, replacement of sewer interceptors, and improvements to and rehabilitation of facilities and equipment at the Mason Farm Wastewater

Treatment Plant, and (ii) pay certain costs and expenses incurred in connection with the sale and issuance of the Series 2019 Bonds; and

WHEREAS, OWASA proposes to issue the Series 2019 Bonds in an aggregate principal amount not to exceed $20,000,000, the determination of the aggregate principal amount of the Series 2019 Bonds to be made at the time of the private sale of the Series 2019 Bonds; and

WHEREAS, OWASA has selected for recommendation to the Local Government Commission a financing team to be used in connection with the issuance and private sale of the Series 2019 Bonds; and

WHEREAS, the selection of said financing team was made by OWASA after a review of proposals received from prospective underwriters of the Series 2019 Bonds and the record of service to OWASA of the other members of said financing team; and

WHEREAS, OWASA wishes to obtain the approval of the Local Government Commission for said financing team;

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE ORANGE WATER AND SEWER AUTHORITY DOES HEREBY DETERMINE AND RESOLVE, as follows:

1. The Board hereby recommends that the following financing team members be engaged in connection with the issuance and private sale of the Series 2019 Bonds and requests that the Local Government Commission approve said financing team members:

Bond Counsel:	McGuireWoods LLP
Underwriter:	Wells Fargo Bank, National Association
Underwriter's Counsel:	Womble Bond Dickinson (US) LLP
Trustee and Bond Registrar:	The Bank of New York Mellon Trust Company, N.A.
Financial Advisor to OWASA:	First Tryon Advisors

Feasibility Consultant
(Agreed-upon Procedures): Stantec, Inc.

2. This resolution shall take effect immediately upon its passage.

Adopted this 26th day of September, 2019.

_____
Raymond E. DuBose, Chair

ATTEST:

_____
Andrea Orbich, Assistant-Secretary

RESOLUTION DIRECTING THE FILING OF AN APPLICATION WITH THE NORTH CAROLINA LOCAL GOVERNMENT COMMISSION FOR APPROVAL OF THE ISSUANCE AND PRIVATE SALE OF ORANGE WATER AND SEWER AUTHORITY WATER AND SEWER SYSTEM REVENUE REFUNDING BONDS, SERIES 2020

WHEREAS, the Orange Water and Sewer Authority ("OWASA"), acting by and through its Board of Directors (the "Board"), is authorized by The State and Local Government Revenue Bond Act of North Carolina, Article 5 of Chapter 159 of the North Carolina General Statutes, as amended (the "Act"), and particularly Sections 159-83(a)(5) and 159-81(3)a and b thereof, to issue revenue bonds for the purpose of financing the cost of acquisition, construction, reconstruction, enlargement, equipping, extension, betterment or improvement of facilities for obtaining, conserving, treating and distributing water for domestic or industrial use, irrigation, sanitation, fire protection, or any other public or private use and the collection, treatment, purification or disposal of sewage and to refund revenue bonds issued for such purposes; and

WHEREAS, OWASA owns and operates facilities for the production, collection, treatment, transmission and distribution of water and the collection, transmission, treatment and disposal of sewage; and

WHEREAS, OWASA proposes to issue its Water and Sewer System Revenue Refunding Bonds, Series 2020 (the "Series 2020 Bonds") for the purpose of providing funds, together with any other available funds, to (i) refund all or a portion of the callable maturities of OWASA's outstanding Water and Sewer System Revenue Refunding Bonds, Series 2010 (the "Series 2010 Bonds") and (ii) pay certain costs and expenses incurred in connection with the sale and issuance of the Series 2020 Bonds; and

WHEREAS, OWASA proposes to issue the Series 2020 Bonds in an aggregate principal amount not to exceed $11,000,000, the determination of the aggregate principal amount of the Series 2020 Bonds to be made at the time of the private sale of the Series 2020 Bonds;

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE ORANGE WATER AND SEWER AUTHORITY DOES HEREBY DETERMINE AND RESOLVE, as follows:

1. The Board hereby finds and determines, in connection with the issuance of the Series 2020 Bonds, that (i) the issuance of the Series 2020 Bonds is necessary or expedient for OWASA, (ii) the proposed aggregate principal amount of the Series 2020 Bonds is adequate and not excessive for the proposed purposes of such issue, (iii) the refunding of all or a portion of the callable maturities of the Series 2010 Bonds to be effectuated by the issuance of the Series 2020 Bonds is feasible, (iv) OWASA's debt management procedures and policies are good and OWASA's finances are managed in strict compliance with law and (v) under current economic conditions, the Series 2020 Bonds can be marketed at a reasonable interest cost to OWASA. The Board hereby also determines to proceed with the refunding of all or a portion of the callable maturities of the Series 2010 Bonds as described in this resolution provided that such refunding will result in net present value debt service savings that equal or exceed 3.00% with respect to the Series 2010 Bonds to be refunded.

2. The Board hereby authorizes the filing of an application with the Local Government Commission for approval of the issuance of the Series 2020 Bonds, in an aggregate principal amount not to exceed $11,000,000, pursuant to Section 159-86 of the Act and directs the Executive Director of OWASA and the Director of Finance and Customer Service of OWASA, as representatives of OWASA, to file such application with the Local Government Commission.

3. The Local Government Commission is hereby requested to sell the Series 2020 Bonds at private sale without advertisement to any purchaser or purchasers thereof, at such price as the Local Government Commission determines to be in the best interest of OWASA, subject to the approval of OWASA.

4. This resolution shall take effect immediately upon its passage.

Adopted this 26th day of September, 2019.

_____
Raymond E. DuBose, Chair

ATTEST:

_____
Andrea Orbich, Assistant-Secretary

RESOLUTION REQUESTING THE NORTH CAROLINA LOCAL GOVERNMENT COMMISSION TO APPROVE THE FINANCING TEAM TO BE USED IN CONNECTION WITH THE ISSUANCE AND SALE OF ORANGE WATER AND SEWER AUTHORITY WATER AND SEWER SYSTEM REVENUE REFUNDING BONDS, SERIES 2020

WHEREAS, the Orange Water and Sewer Authority ("OWASA"), acting by and through its Board of Directors (the "Board"), is authorized by The State and Local Government Revenue Bond Act of North Carolina, Article 5 of Chapter 159 of the North Carolina General Statutes, as amended (the "Act"), and particularly Sections 159-83(a)(5) and 159-81(3)a and b thereof, to issue revenue bonds for the purpose of financing the cost of acquisition, construction, reconstruction, enlargement, equipping, extension, betterment or improvement of facilities for obtaining, conserving, treating and distributing water for domestic or industrial use, irrigation, sanitation, fire protection, or any other public or private use and the collection, treatment, purification or disposal of sewage and to refund revenue bonds issued for such purposes; and

WHEREAS, OWASA owns and operates facilities for the production, collection, treatment, transmission and distribution of water and the collection, transmission, treatment and disposal of sewage; and

WHEREAS, OWASA proposes to issue its Water and Sewer System Revenue Refunding Bonds, Series 2020 (the "Series 2020 Bonds") for the purpose of providing funds, together with any other available funds, to (i) refund all or a portion of the callable maturities of OWASA's outstanding Water and Sewer System Revenue Refunding Bonds, Series 2010 and (ii) pay certain costs and expenses incurred in connection with the sale and issuance of the Series 2020 Bonds; and

WHEREAS, OWASA proposes to issue the Series 2020 Bonds in an aggregate principal amount not to exceed $11,000,000, the determination of the aggregate principal amount of the Series 2020 Bonds to be made at the time of the private sale of the Series 2020 Bonds; and

WHEREAS, OWASA has selected for recommendation to the Local Government Commission a financing team to be used in connection with the issuance and private sale of the Series 2020 Bonds; and

WHEREAS, the selection of said financing team was made by OWASA after a review of proposals received from prospective underwriters of the Series 2020 Bonds and the record of service to OWASA of the other members of said financing team; and

WHEREAS, OWASA wishes to obtain the approval of the Local Government Commission for said financing team;

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE ORANGE WATER AND SEWER AUTHORITY DOES HEREBY DETERMINE AND RESOLVE, as follows:

1. The Board hereby recommends that the following financing team members be engaged in connection with the issuance and private sale of the Series 2020 Bonds and requests that the Local Government Commission approve said financing team members:

Bond Counsel:	McGuireWoods LLP
Underwriter:	Wells Fargo Bank, National Association
Underwriter's Counsel:	Womble Bond Dickinson (US) LLP
Trustee and Bond Registrar:	The Bank of New York Mellon Trust Company, N.A.
Financial Advisor to OWASA:	First Tryon Advisors

2. This resolution shall take effect immediately upon its passage.

Adopted this 26th day of September, 2019.

_____
Raymond E. DuBose, Chair

ATTEST:

_____
Andrea Orbich, Assistant-Secretary

Agenda Item

- Resolution Reappointing the Firm of Epting and Hackney as General Counsel to the Orange Water and Sewer Authority

Purpose

- General Counsel is appointed annually by the Board of Directors to provide legal services to the Board of Directors and staff, to observe the general operation and management of OWASA from a legal perspective, to assist in the establishment of policy and the administration and operations of the business and affairs of OWASA, to initiate legal comment and advice on matters before OWASA or relating to OWASA, so that due regard may be given to pertinent laws, regulations, and statutes.

Background

- The firm of Epting and Hackney has capably served as General Counsel to OWASA since October 1, 1984.

- The hourly rate for services of General Counsel remains unchanged.

- Maintain monthly retainer at $10,000.

Recommendation

- Reappoint Epting and Hackney as General Counsel to the Orange Water and Sewer Authority in accordance with the terms and conditions set out in his letter dated September 17, 2019 to the Executive Director (attached).

  "*Motion that the Board of Directors approves the Resolution Reappointing the Firm of Epting and Hackney as General Counsel to the Orange Water and Sewer Authority.*"

September 26, 2019

Resolution Reappointing the Firm of Epting and Hackney as General Counsel to the Orange Water and Sewer Authority

Whereas, the Orange Water and Sewer Authority is a public, corporate entity organized and operated under the laws and statutes of the State of North Carolina and is engaged in the provision of public water, sewer and reclaimed water services within its service area; and

Whereas, the Board of Directors of Orange Water and Sewer Authority finds that it is necessary and appropriate to provide for and obtain general legal counsel and services to assist in the establishment of policy and the administration and operations of the business and affairs of OWASA so that due regard may be given to the pertinent laws, regulations, and statutes; and

Whereas, Robert Epting, General Partner of the firm Epting and Hackney, has served as General Counsel to OWASA since October 1, 1984, and has rendered competent and appropriate legal services in that regard, and the Board of Directors wishes to continue their services as General Counsel;

Now, Therefore, Be It Resolved by the Orange Water and Sewer Authority Board of Directors:

1. That the firm of Epting and Hackney, Chapel Hill, N.C., is hereby reappointed General Counsel of Orange Water and Sewer Authority in accordance with the terms and conditions set out in Robert Epting's letter dated September 17, 2019 to the Executive Director.

2. That as General Counsel, he and his firm will serve under the general direction of the Executive Director, subject to the ultimate authority of the Board of Directors.

3. That this reappointment will be effective October 1, 2019 and shall continue until terminated as provided in Mr. Epting's said letter dated September 17, 2019.

Adopted this 26th day of September 2019.

_____
Raymond E. DuBose, Chair

ATTEST:

_____
Andrea Orbich, Assistant-Secretary

EPTING AND HACKNEY
ATTORNEYS AND COUNSELLORS AT LAW
410 MARTIN LUTHER KING, JR. BOULEVARD
P. O. DRAWER 1329
CHAPEL HILL, NORTH CAROLINA 27514

ROBERT EPTING
JOE HACKNEY
ELIZABETH LACKEY JACOBS
STEVE LACKEY
HATHAWAY S. PENDERGRASS

TELEPHONE 919-929-0323
FACSIMILE 919-929-3960

OF COUNSEL:
ELLEN B. SCOUTEN

September 17, 2019

Mr. Ed Kerwin
Executive Director
Orange Water and Sewer Authority
Carrboro, NC 27510

General Counsel Engagement Letter

Dear Mr. Kerwin:

I appreciate the privilege of having been appointed to serve as General Counsel to the Orange Water and Sewer Authority since 1984. As General Counsel is appointed to serve on an annual basis from October 1 through September 30, I write to suggest the terms upon which I propose to continue in this capacity, should the Board of Directors choose to continue my appointment at its annual meeting.

First though, I want to thank you and the staff, and each of the members of the Board of Directors, for the support given my work as General Counsel. Surely few public agency lawyers have the advantage of working with so qualified and cooperative an administrative and support staff, or to report to as dedicated a governing Board, as I enjoy at OWASA.

Today most of the matters I handle directly as OWASA's General Counsel are things I believe benefit from the scope of my training and experience as an environmental lawyer for more than thirty years, and as one who has that many years of experience serving on and working with our local governments, and with state and federal agencies. In that work, for other clients, my hourly rate is now $325.00 per hour, and up, depending upon the complexity of the matter.

I am willing and would be pleased to continue to serve with my firm as General Counsel upon the terms and conditions of our present understanding, under which I am paid $150.00 per hour, and under which it is understood and agreed that I will devote most of my forty hour work week to OWASA matters, as a priority. When I do work for other clients, I will subtract the time involved in those services from the remainder of my work week, and the balance will be billed to OWASA for our representation and services.

The amount of my work for OWASA has increased over the years and now constitutes most of my legal work. But we constantly look for ways to educate staff to be able to minimize legal costs, and I am satisfied that OWASA obtains a fair bargain for our services. I am proud of our efforts on OWASA's behalf, and I continue to enjoy the work and appreciate OWASA's very prompt payment for this representation.

Again, we propose to continue to serve in the coming year upon the same terms and conditions as last year, and which have not changed for a number of years, as set out below.

1. Appointment and Service as General Counsel.

As General Counsel, we would undertake and agree to exercise our best professional judgment and to provide our best efforts in that service, including, as necessary the services of my partners, associates, and firm employees and contractors under our direction and supervision, to the Authority, its Board and staff, as to the legal affairs, rights, and responsibilities of the Authority.

Appointment of General Counsel would be made and accepted anticipating and engaging our legal services on an operating year basis, that is, from October 1, 2019 through September 30, 2020, subject to such reviews, renewal, or termination as the Board of Directors may deem appropriate; provided, that such appointment will be deemed to continue in full effect until terminated as provided herein by either of the parties.

The Authority Board of Directors shall have the right to terminate, or not to renew, this appointment upon not less than ninety days written notice to me as General Counsel, or with the payment of the monthly retainer for at least three months past the effective termination date, along with such other fees and charges as may be due at the date of termination.

I will also retain the right to end my service as General Counsel should that necessity arise. Unless that termination or retirement is caused by health or other circumstances beyond my control, I would endeavor to give the Board not less than one year's notice in advance of any termination on my part. And, for so long as my health allowed after my retirement, I would always remain available to confer and consult with OWASA representatives as you or the Board might find useful, upon such terms and conditions as may be agreed in that event.

While serving as General Counsel, I will be permitted to continue in the general practice

of law, as a partner in the firm of EPTING & HACKNEY, or otherwise, as I might choose. And, I would avoid in that practice the representation of any clients whose interests might be in conflict with those of OWASA.

2. Specific Services.

As General Counsel, I will be available generally for consultations and assignments as noted above. I will attend regular Board meetings and such other meetings and work sessions as requested. Whenever I may be unable to attend such meetings, one of my partners, Elizabeth Lackey Jacobs or Joe Hackney, will attend in my place. I will be available regularly in my firm office, or in OWASA's offices as requested, and at any other time by telephone and electronic messaging means, for regular consultations by Board and staff.

3. Compensation by Monthly Retainer; Other Compensation.

For my primary professional availability and the services provided as General Counsel, the Authority will pay to me as a retainer the sum of Ten Thousand Dollars ($10,000.00) per month, on or before the first business day of each month.

The monthly retainer will be applied against the fees charged for our time in the month for which the retainer is paid. An invoice for the net due for time and services beyond those paid by the retainer will be provided on a monthly basis, and the net due will be paid promptly to me.

For such time and services as may be devoted hereunder to my representation of the Authority, where such time exceeds the hours devoted per month multiplied by the hourly rate provided for under the monthly retainer, the Authority will compensate the firm at the rate of $150.00 per hour for my services and those of my partners Joe Hackney and Elizabeth Lackey Jacobs.

4. Expenses.

The Authority will also reimburse me for the reasonable and necessary expenses incurred in the performance of my duties as General Counsel. These would include, among others:

a) The costs of supplies and copies, when incurred for copies made, or for supplies necessary for our services to the Authority and devoted solely to its use;

b) The costs of our Clerks' time and related expenses, insofar as expended or incurred solely

on behalf of the Authority, at a rate not to exceed $25.00 per hour;

c) The costs of non-local travel (distance exceeding 25 miles), meals and lodging when incurred in the service of the Authority; automobile expenses for personal vehicles to be reimbursed at the IRS-allowed rate, currently 61 cents per mile; and the expenses and fees for continuing education authorized and approved by the Executive Director of the Authority;

d) Such other costs as may be authorized by the Authority and incurred by reason of my appointment and service as General Counsel.

5. Other Services.

Matters involving opinions upon title and closing in the acquisition or disposal of real property by the Authority will be charged for and compensated on a parcel-by-parcel basis, in accordance with factors including the time expended and the consideration involved. Unless unusual effort and time are required in our closing of such matters for the Authority, our fees for title examination and the transactional closing would not normally exceed one percent of the purchase price, subject to a minimum of five hundred dollars per parcel.

I will be happy to provide such further information or response as you or the Board may wish with regard to this proposal.

I remain grateful and proud to have served the Authority as its General Counsel, and I hope that the Board of Directors will find this proposal acceptable to the end that we might continue in this capacity.

With kindest regards, I remain

Sincerely yours,

Robert Epting

Robert Epting