



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, October 13, 2022, 6:00 P.M.

OWASA Community Room

In compliance with the "Americans with Disabilities Act," interpreter services for non-English speakers and for individuals who are deaf or hard of hearing 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. Please contact the Clerk to the Board at aorbich@owasa.org or 919-537-4217 to make arrangements by 3:00 p.m. the day of the meeting. Public comment is invited via written materials, ideally submitted at least two days in advance of the meeting to the Board of Directors by sending an email to board_and_leadership@owasa.org or via US Postal Service (Clerk to the Board, 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
 - 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.
2. Announcements by Board Members
 - Update on the September 28, 2022 Meeting between Members of the Orange County Board of County Commissioners and Orange County Appointees to the OWASA Board (Jody Eimers)
3. Announcements by Staff
 - Andre Miller, OWASA's new Utility Engineer (Allison Spinelli)

Petitions and Requests

1. Public
2. Board
3. Staff

Annual Comprehensive Financial Report

1. A. Staff Comments (Stephen Winters)
B. Martin Starnes & Associates, CPAs, P.A.'s Comments (Brandi Fesperman)

Consent Agenda

Information and Reports

2. Quarterly Report on Attendance at Board and Committee Meetings (Andrea Orbich)
3. Operating Trends Report for Fiscal Year 2022 (Ruth Rouse)

Action

4. Resolution Reappointing the Firm of Epting and Hackney as General Counsel to the Orange Water and Sewer Authority (Bruce Boehm)
5. Resolution Awarding a Construction Contract for the Chapel Hill North Pump Station Rehabilitation Project (Brad Barber)
6. Minutes of the September 8, 2022 OWASA Board of Directors Meeting (Andrea Orbich)
7. Minutes of the September 8, 2022 Closed Session of the OWASA Board of Directors for the Purpose of Discussing a Personnel Matter (Bruce Boehm)

Regular Agenda

Discussion

8. Frequently Asked Questions about Lake Recreation and Recommendations for the Annual Report (Todd Taylor)
9. Update on the Development of a New Budget Format (Stephen Winters)
10. Review Board Work Schedule
 - A. Request(s) by Board Members, General Counsel and Staff (Bruce Boehm)
 - B. Draft November 10, 2022 Board Meeting (Todd Taylor)
 - C. 12 Month Board Meeting Schedule (Todd Taylor)
 - D. Pending Key Staff Action Items (Todd Taylor)

Summary of Board Meeting Items

11. Executive Director will Summarize the Key Staff Action Items from the Meeting

Agenda Item 1:

Annual Comprehensive Financial Report

Background:

A draft of OWASA's Annual Comprehensive Financial Report (ACFR) for the year ended June 30, 2022, 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 ACFR:

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 ACFR that is not yet available. We will provide the final version to the Board of Directors later in October after a mandatory review by the North Carolina Local Government Commission.

Information:

- OWASA Draft Annual Comprehensive Financial Report

October 13, 2022

ORANGE WATER AND SEWER AUTHORITY
(A COMPONENT UNIT OF THE TOWN OF CHAPEL HILL, NORTH CAROLINA)

ANNUAL COMPREHENSIVE FINANCIAL REPORT

FOR THE FISCAL YEAR ENDED JUNE 30, 2022

DRAFT

Prepared by:

Orange Water and Sewer Authority

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ORANGE WATER AND SEWER AUTHORITY

ANNUAL COMPREHENSIVE FINANCIAL REPORT FOR THE FISCAL YEAR ENDED JUNE 30, 2022

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ORANGE WATER AND SEWER AUTHORITY

ANNUAL COMPREHENSIVE FINANCIAL REPORT FOR THE FISCAL YEAR ENDED JUNE 30, 2022

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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.

October 5, 2022

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

We are pleased to present our Annual Comprehensive Financial Report for the fiscal year beginning July 1, 2021 and ending June 30, 2022 (FY 2022). 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 2022, 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. 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 2022.

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, 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 Annual Comprehensive Financial Report (ACFR) of the Town of Chapel Hill therefore includes OWASA's financial data and OWASA's ACFR 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 85,000 people.



OWASA Water Tower on 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.

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.



University Lake

Governance

A nine-member Board of Directors governs OWASA. The Chapel Hill Town Council appoints five, and the Carrboro Town Council 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.



Cane Creek Reservoir

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.



Clarification Tanks at the Jones Ferry Road Water Treatment Plant

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 met or surpassed all federal and state standards for drinking water quality in 2022.

Wastewater System

We operate and maintain about 350 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).

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 2022.



Mason Farm Wastewater Treatment Plant

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 690,000 gallons per day during FY 2022. 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 to expand system capacity and reduces energy use and costs.

Economic Conditions

In March 2020, the COVID-19 pandemic began impacting the economy of OWASA's service area. UNC essentially closed its campus and conducted classes online for the rest of the semester. Many businesses closed or significantly reduced operations. Drinking water demand for UNC and businesses decreased substantially while water use by residences increased. The pandemic's impact on the service area began to subside in FY 2022 and water demand has returned to levels more typical of the community's average use in recent years.

In June 2022, the unemployment rate in Orange County was 2.9% compared to the North Carolina average of 3.4 percent and US average of 3.6 percent (Source: US Bureau of Labor Statistics). According to the most recent census, the estimated population of Orange County increased by 11 percent from 2010 to 2020. The estimated population for Orange County as of June 2022 was 149,964.

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 of 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 due to the higher system capacity needed to serve them. When development creates new connections to OWASA's system, fees are charged to ensure that the appropriate portion of the 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 occur on October 1.

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.

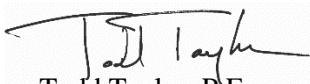
Acknowledgements

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,



Todd Taylor, P.E.
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**

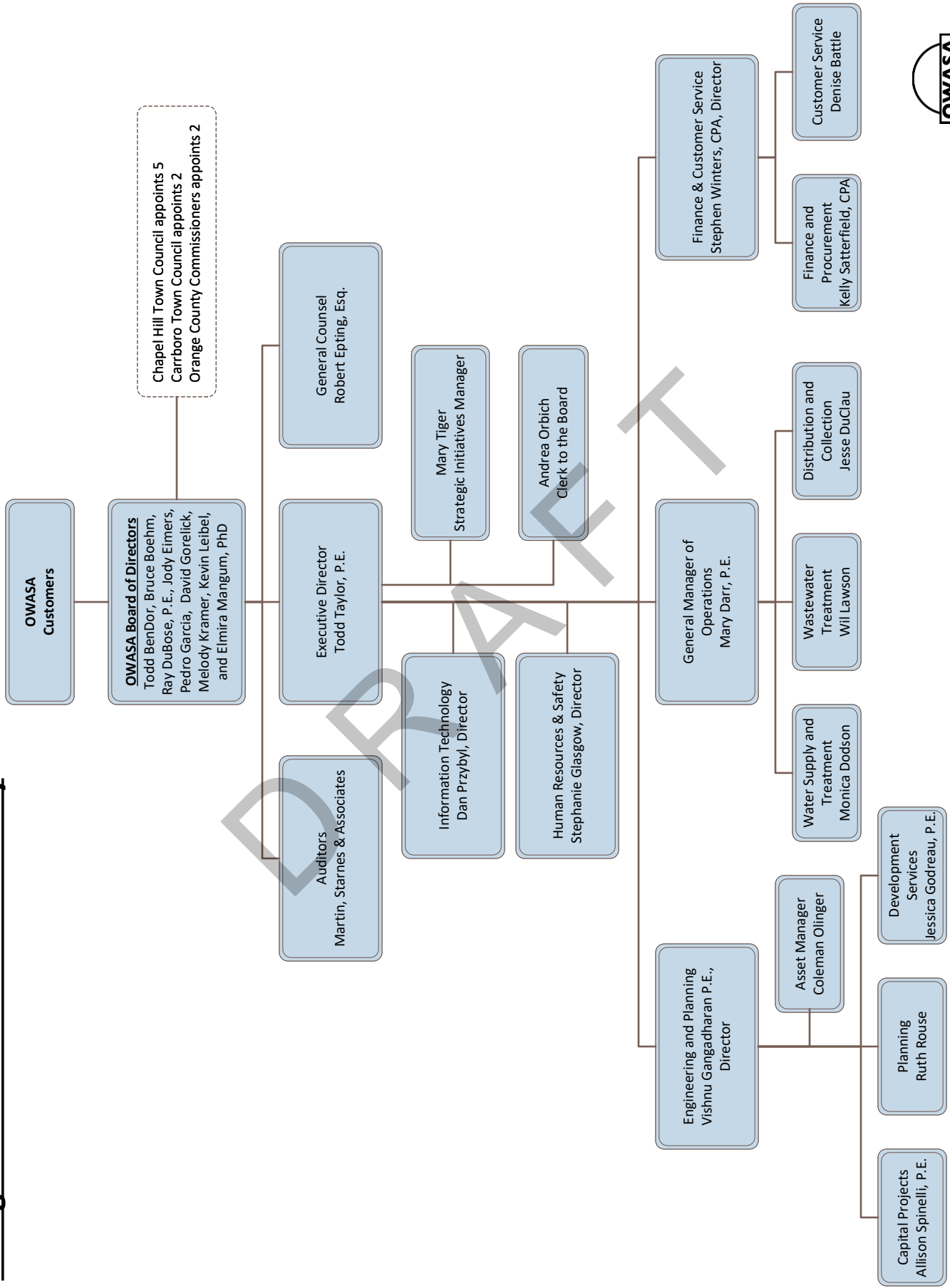
For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

June 30, 2021

Christopher P. Morill

Executive Director/CEO

Orange Water and Sewer Authority



7-12-2022

ORANGE WATER AND SEWER AUTHORITY
BOARD OF DIRECTORS

CHAIR

Bruce Boehm
1921 South Lakeshore Drive
Chapel Hill, NC 27514
Appointed by Chapel Hill; Term Expires 6/30/25

VICE CHAIR

Todd BenDor
904 Coker Drive
Chapel Hill, NC 27517
Appointed by Chapel Hill; Term Expires 6/30/24

SECRETARY

Ray DuBose
103 Easy Street
Chapel Hill, NC 27516
Appointed by Orange County; Term Expires 6/30/23

MEMBERS

Jody Eimers
3120 Landeau Dr.
Hillsborough, NC 27278
Appointed by Orange County; Term Expires 6/30/24

Pedro Garcia
319 Sonoma Way
Chapel Hill, NC 27516
Appointed by Chapel Hill; Term Expires 6/30/25

David Gorelick
1002 Willow Drive, Apt.34
Chapel Hill, NC 27514
Appointed by Orange County; Term Expires 6/30/23

Melody Kramer
103 Richard Dixon Court
Carrboro, NC 27510
Appointed by Carrboro, Term Expires 6/30/24

Kevin Leibel
105 Saint Andres Pl
Chapel Hill, NC 27517
Appointed by Chapel Hill; Term Expires 6/30/23

Elmira Mangum
102 Rivercreek Place
Carrboro, NC 27510
Appointed by Carrboro; Term Expires 6/30/25

Orange Water and Sewer Authority

Management Team

Denise Battle, Customer Service Manager

Mary Darr, P.E., General Manager of Operations

Monica Dodson, Water Supply and Treatment Manager

Jesse DuClau, Water Distribution and Wastewater Collection Systems Manager

Vishnu Gangadharan, P.E., Director of Engineering and Planning

Stephanie Glasgow, M.E.S.H., MPM, P.H.R., SHRM-CP, Director of Human Resources and Safety

Jessica Godreau, P.E., BCEE, Engineering Manager (Development Services)

Wil Lawson, Water Treatment and Biosolids Recycling Manager

Andrea Orbich, Executive Assistant

Daniel Przybyl, CGCIO, 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., Executive Director

Mary Tiger, Strategic Initiatives Manager

Allison Spinelli, P.E., Engineering Manager (Capital Projects)

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 Audit of Financial Statements

Opinions

We have audited the financial statements of the business-type activities of Orange Water and Sewer Authority (the "Authority") (a component unit of the Town of Chapel Hill, North Carolina), as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the financial position of the business-type activities of Orange Water and Sewer Authority as of June 30, 2022 and the respective changes in financial position, and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States (*Government Auditing Standards*). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of Orange Water and Sewer Authority, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a bases for our audit opinions.

Change in Accounting Principle

As discussed in Note 7 to the financial statements, in 2022 the Authority adopted new accounting guidance, GASB Statement No. 87, *Leases*. Our opinion is not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for 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.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about Orange Water and Sewer Authority's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material statement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- exercise professional judgement and maintain professional skepticism throughout the audit.
- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- obtain an understanding of internal control relevant to the audit 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 Orange Water and Sewer Authority's internal control. Accordingly, no such opinion is expressed.
- evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about Orange Water and Sewer Authority's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

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 is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the

information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Orange Water and Sewer Authority's basic financial statements. The budgetary schedules, 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. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The 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.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory information and the statistical sections but does not include the basic financial statements and our auditor's report thereon. Our opinions on the basic financial statements do not cover the other information, and we do not express an opinion or any form of assurance on thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 5, 2022 on our consideration of Orange Water and Sewer Authority's internal control over financial reporting and 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 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 Orange Water and Sewer Authority's internal control over financial reporting and compliance.

Martin Starnes & Associates, CPAs, P.A.
Hickory, North Carolina
October 5, 2022

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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 year ended June 30, 2022. 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–vii.

Financial Highlights

- At June 30, 2022, OWASA's assets and deferred outflows of resources exceeded its liabilities and deferred inflows of resources by \$283.5 million.
- OWASA's total net position increased by \$4.0 million, primarily resulting from income realized from operating activities.
- Due to the condition and capacity of OWASA's system, about 72% of the organization's \$9.4 million capital expenditures for Fiscal Year (FY) 2022 was invested in replacing and rehabilitating existing infrastructure.
- Non-current liabilities decreased by about \$10.3 million as a result of securing a low-interest loan 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, wastewater, 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, wastewater, 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 *Statement of Net Position*, a *Statement of Revenues, Expenses and Changes in Net Position* and a *Statement 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 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 *Statement 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 *Statement 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 *Statement of Net Position*.

The *Statement 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 *Statement 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 *Statement 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
	2022	2021	
Current assets	\$37.9	\$38.1	(0.5%)
Capital and other long-term assets	<u>359.1</u>	<u>358.1</u>	0.3
Total assets	397.0	396.2	0.2
Total deferred outflows of resources	6.6	6.0	10.0
Current liabilities	13.1	11.0	19.1
Non-current liabilities	<u>99.9</u>	<u>110.3</u>	(9.3)
Total liabilities	113.0	121.3	(6.8)
Total deferred inflows of resources	7.1	1.4	407.1
Net position			
Net investment in capital assets	268.9	263.6	2.0
Restricted	0.3	0.3	0.0
Unrestricted	<u>14.3</u>	<u>15.6</u>	(8.3)
Total net position	<u>\$283.5</u>	<u>\$279.5</u>	1.4

OWASA’s assets exceeded liabilities by \$283.5 million at June 30, 2022, compared to \$279.5 million at June 30, 2021. OWASA’s overall financial position strengthened between FY 2021 and 2022 as net position increased by \$4.0 million. Total assets increased during the same period by \$0.7 million. These trends reflect investments in infrastructure improvements funded through a combination of cash and debt.

Net capital assets comprised about 95% of total assets for 2022. These capital assets are essential in providing water and wastewater 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, 2022, these other unrestricted resources totaled \$14.3 million and may be used for any lawful purpose.

Non-current liabilities decreased by approximately \$10.3 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 (2021 to 2022)
	<u>2022</u>	<u>2021</u>	
Operating revenues			
Water, wastewater, reclaimed water	\$37.4	\$34.7	7.8%
Other	<u>0.6</u>	<u>0.8</u>	(25.0)
Total operating revenues	38.0	35.5	7.0
Operating expenses	<u>34.3</u>	<u>33.4</u>	3.0
Operating income	3.7	2.1	76.2
Non-operating revenues (expenses)	<u>(0.6)</u>	<u>(0.2)</u>	(200.0)
Income before contributions	3.1	1.9	63.2
Capital contributions	<u>0.9</u>	<u>1.4</u>	(35.7)
Increase (decrease) in net position	4.0	3.3	21.2
Net position, July 1	279.5	276.2	1.2
Change in accounting principles / restatement (see Note 7)	<u>0.0</u>	<u>0.0</u>	
Net position, June 30	<u>\$283.5</u>	<u>\$279.5</u>	1.4

The above condensed two-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, wastewater, 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, wastewater, 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 wastewater commodity charge is measured based on water consumption. However, for single-family residential customers, the wastewater commodity charge incorporates the assumption that not all water consumed is returned to the wastewater system. Wastewater 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 2022, drinking water volume sales averaged 5.8 million gallons per day (mgd); the average for 2021 was 5.6 mgd, respectively. FY 2021 drinking water sales were lower due to the impact that the COVID-19 pandemic on the local economy.

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 2022 were about 7.0% greater than the previous year or \$38.0 million.

- **Operating Expenses:** Operating expenses were \$34.3 million or about 3.0% greater than FY 2021. Operating expenses include a \$11.3 million charge for depreciation and a \$692,000 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 \$801,000 in FY 2022: about 57% less than FY 2021. Interest earned in FY 2022 totaled about \$17,700. Investments remained in safe and liquid secured deposits.

- **Capital Contributions:** Capital contributions totaled approximately \$0.9 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 2022 was about \$357.7 million, a decrease of approximately \$0.1 million from FY 2021. The net decrease consisted of additions totaling \$11.6 million and a reduction due to depreciation of \$11.3 million. The asset additions included the rehabilitation or replacement of various water and wastewater 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 25 for additional information on capital assets.

Orange Water and Sewer Authority			
Capital Assets			
(\$ Millions)			
	Fiscal Year Ended		Percentage of Change (2021 to 2022)
	<u>2022</u>	<u>2021</u>	
Land	\$17.8	\$17.6	1.1%
Construction in progress	48.4	57.9	(16.4)
Water treatment and distribution	109.7	106.5	3.0
Wastewater collection and treatment	162.1	154.1	5.2
Fixtures and equipment	<u>19.7</u>	<u>21.7</u>	(9.2)
Total	<u>\$357.7</u>	<u>\$357.8</u>	0.0

Debt Administration

OWASA policy stipulates that at least 30% of capital improvements projects be funded with cash from operations. At June 30, 2022 and 2021, OWASA's outstanding bond and loan debt totaled \$89.6 million, \$94.2 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 wastewater system revenue refunding bonds issued in fiscal years 2014, 2018, 2019, 2020, and 2021. At year end, OWASA owed an accrued debt service liability of approximately \$4.7 million. This amount was credited in full to the trustee restricted bond service account as of June 30, 2022.

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 27 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 19% 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.

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 2023 Budget Highlights

OWASA's Board of Directors approved a budget that includes a 16% increase in the rates charged for monthly water and sewer services.

Last year, we projected that we would need to implement a 7% rate increase in FY 2023. Several factors led to the need for a larger rate increase to fund the FY 2023 budget.

- Drinking water sales are not increasing.
- The rate of inflation for the last year was 9%.
- The economic impact of the pandemic led to deferring projects and expenditures that now need to be addressed.
- Through the development of a new strategic plan, key initiatives have been identified which require funding.

The FY 2023 budget for Operating expenses is about 12% greater than the original FY 2022 budget. Capital improvement expenditures are budgeted to be approximately \$21.9 million.

Projected operating revenues for FY 2023 assumes little to no impact of the COVID-19 pandemic on water demand in OWASA's service area. Water demand for FY 2023 is expected to return to pre-pandemic levels.

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.

ORANGE WATER AND SEWER AUTHORITY

**STATEMENT OF NET POSITION
PROPRIETARY FUND
JUNE 30, 2022**

	<u>2022</u>
Assets:	
Current assets:	
Cash and cash equivalents	\$ 24,040,201
Receivables:	
Trade accounts (net of allowances for uncollectible accounts of approximately \$178,000 for 2022)	3,980,857
Other	970,510
Inventory, materials, and supplies	1,884,596
Leases receivable	325,840
Prepaid expenses	277,396
Restricted cash and cash equivalents:	
Cash and cash equivalents	1,065,309
Cash and cash equivalents, trustee	<u>5,400,732</u>
Total current assets	<u>37,945,441</u>
Non-current assets:	
Restricted cash and cash equivalents	323,721
Lease receivable, non-current	429,741
Right-to-use lease assets, net of amortization	<u>622,837</u>
Capital assets:	
Non-depreciable	66,245,426
Depreciable	<u>291,409,521</u>
Total capital assets, net of accumulated depreciation	<u>357,654,947</u>
Total non-current assets, net	<u>359,031,246</u>
Total assets	<u>396,976,687</u>
Deferred Outflows of Resources:	
Contributions to pension plan in current fiscal year	1,042,033
Pension deferrals	1,815,721
Contributions to OPEB plan in current fiscal year	275,678
OPEB deferrals	3,189,338
Deferred charge on refunding	<u>315,906</u>
Total deferred outflows of resources	<u>6,638,676</u>

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

ORANGE WATER AND SEWER AUTHORITY

**STATEMENT OF NET POSITION
PROPRIETARY FUND
JUNE 30, 2022**

	<u>2022</u>
Liabilities:	
Current liabilities:	
Payable from current assets:	
Trade and construction contracts payable	2,935,896
Accrued expenses	407,021
Payable from restricted cash and cash equivalents:	
Accrued interest	813,522
Customer deposits and advances	1,389,030
Current maturity of note payable	1,019,800
Current maturities of bonds payable	5,979,885
Current portion of compensated absences	517,732
Current maturity of lease liabilities	59,555
Total current liabilities	<u>13,122,441</u>
Non-current liabilities:	
Note payable	13,040,666
Bonds payable	68,982,668
Compensated absences	172,577
Lease liabilities	563,172
Net pension liability	1,875,283
Total OPEB liability	<u>15,281,858</u>
Total non-current liabilities	<u>99,916,224</u>
Total liabilities	<u>113,038,665</u>
Deferred Inflows of Resources:	
Leases	798,645
Pension deferrals	2,743,568
OPEB deferrals	<u>3,559,474</u>
Total deferred inflows of resources	<u>7,101,687</u>
Net Position:	
Net investment in capital assets	268,947,944
Restricted for capital reserve	323,721
Unrestricted	<u>14,203,346</u>
Total net position	<u>\$ 283,475,011</u>

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

ORANGE WATER AND SEWER AUTHORITY

**STATEMENT OF REVENUES, EXPENSES, AND
CHANGES IN NET POSITION - PROPRIETARY FUND
FOR THE YEAR ENDED JUNE 30, 2022**

	2022
Operating Revenues:	
Water	\$ 18,872,830
Sewer	18,049,316
Service initiation fees	15,945
Reclaimed water	452,479
Other	604,690
Total operating revenues	37,995,260
Operating Expenses:	
Water supply and treatment	4,760,507
Water distribution	3,664,480
Sewer treatment	4,996,720
Sewer collection	1,441,847
General and administrative	7,417,715
Depreciation and lease amortization	11,336,214
Other post-employment benefits	691,545
Total operating expenses	34,309,028
Operating income (loss)	3,686,232
Non-Operating Revenues (Expenses):	
System development fees	801,021
Investment income, net of fair value of investments adjustment	17,689
Interest expense	(3,121,647)
Amortization of bond and lease expense	1,069,980
Gain (loss) on disposal of capital assets	14,319
Grants	261,669
Cell phone tower rental	355,212
Miscellaneous	9,515
Total non-operating revenues (expenses)	(592,242)

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

ORANGE WATER AND SEWER AUTHORITY

**STATEMENT OF REVENUES, EXPENSES, AND
CHANGES IN NET POSITION - PROPRIETARY FUND
FOR THE YEAR ENDED JUNE 30, 2022**

	<u>2022</u>
Income (loss) before capital contributions	3,093,990
Capital Contributions:	
Contributions in aid of construction	<u>876,715</u>
Change in net position	<u>3,970,705</u>
Net Position:	
Beginning of year - July 1	279,510,387
Restatement	<u>(6,081)</u>
Beginning of year, restated	<u>279,504,306</u>
End of year - June 30	<u>\$ 283,475,011</u>

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

ORANGE WATER AND SEWER AUTHORITY

**STATEMENT OF CASH FLOWS
PROPRIETARY FUND
FOR THE YEAR ENDED JUNE 30, 2022**

	<u>2022</u>
Cash Flows from Operating Activities:	
Receipts from customers	\$ 37,843,805
Payments to suppliers	(9,358,454)
Payments to employees	(13,236,034)
Other receipts	<u>452,261</u>
Net cash provided (used) by operating activities	<u>15,701,578</u>
Cash Flows from Capital and Related Financing Activities:	
Acquisition and construction of capital assets	(10,698,059)
Proceeds from disposal of capital assets	14,319
Lease payments received	407,791
Lease liability payments	(63,733)
Principal paid on bond maturities and other long-term debt	(4,762,329)
Interest paid on bond maturities and other long-term debt	(3,127,372)
System development fees received	801,022
Proceeds from issuance of debt	732,069
Capital grants and contributions	<u>118,012</u>
Net cash provided (used) by capital and related financing activities	<u>(16,578,280)</u>
Cash Flows from Investing Activities:	
Interest and dividends on investments	<u>20,390</u>
Net increase (decrease) in cash and cash equivalents	(856,312)
Cash and Cash Equivalents:	
Beginning of year - July 1	<u>31,686,275</u>
End of year - June 30	<u>\$ 30,829,963</u>

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

ORANGE WATER AND SEWER AUTHORITY

**STATEMENT OF CASH FLOWS
PROPRIETARY FUND
FOR THE YEAR ENDED JUNE 30, 2022**

	<u>2022</u>
Reconciliation of Operating Income (Loss) to Net Cash Provided (Used) by Operating Activities:	
Operating income (loss)	\$ 3,686,232
Adjustments to reconcile operating income (loss) to net cash provided (used) by operating activities:	
Depreciation and amortization	11,336,214
Pension (benefit) expense	(78,992)
Changes in assets and liabilities:	
(Increase) decrease in trade accounts receivable	512,154
(Increase) decrease in other receivables	(58,919)
(Increase) decrease in inventory	(455,340)
(Increase) decrease in prepaid expenses	(216,036)
(Increase) decrease in deferred outflows of resources for OPEB	(381,457)
(Increase) decrease in deferred outflows of resources for pensions	(203,205)
Increase (decrease) in trade and construction contracts payable	864,673
Increase (decrease) in customer deposits	(152,429)
Increase (decrease) accrued expenses	38,736
Increase (decrease) compensated absences	(34,736)
Increase (decrease) in net pension liability	(2,667,614)
Increase (decrease) in deferred inflows of resources for pensions	2,714,943
Increase (decrease) in deferred inflows of resources for OPEB	2,153,227
Increase (decrease) in other post-employment benefits	(1,355,873)
Net cash provided (used) by operating activities	<u>\$ 15,701,578</u>
Non-Cash Capital and Related Financing Activities:	
Property, plant, and equipment contributed by private developers	\$ 876,715
Right-to-use asset aquired in exchange for a lease liability	686,460
Total non-cash capital and related financing activities	<u>\$ 1,563,175</u>

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

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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 Annual Comprehensive 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, 2022.

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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)(8)] 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").

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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, an SEC-registered (2a-7) 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.

<u>Orange Water and Sewer Authority Restricted Cash</u>	
<u>Business-Type Activities:</u>	<u>2022</u>
Bond service	\$ 5,400,732
Capital reserve	323,721
Customer deposits	1,065,309
Total business-type activities	<u>\$ 6,789,762</u>

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 \$178,000 at June 30, 2022.

Lease Receivable

The Authority's lease receivables are measured at the present value of lease payments expected to be received during the lease terms. Under the lease agreements, the Authority may receive variable lease payments that are dependent upon the lessee's revenue. The variable payments are recorded as an inflow of resources in the period the payments in received.

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

A deferred inflow of resources is recorded for the lease. The deferred inflows of resources are recorded at the initiation of the lease in an amount equal to the initial recording of the lease receivables. The deferred inflows of resources are amortized on a straight-line basis over the term of the lease.

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:

	<u>Years</u>
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.

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

Right-to-Use Assets

The Authority has recorded right-to-use assets as a result of implementing GASB 87. The right-to-use assets are initially measured at an amount equal to the initial measurement of the related lease liability plus any lease payments made prior to the lease term, less lease incentives, and plus ancillary charges necessary to place the lease into service. The right to use assets are amortized on a straight-line basis over the life of the related lease.

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 assets that applies to future periods and so will not be recognized as an expense or expenditure until then. The Authority has several items that meet these 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 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 assets that applies to future periods and so will not be recognized as revenue until then. The Authority has three items that meet these criteria in the current year – leases, 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, 2022, the Authority had recorded a liability for accrued vacation and the salary-related payments of \$690,309.

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, consists 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.

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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.

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

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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 under collateralization, 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.

At June 30, 2022, the Authority's deposits had a carrying amount of \$25,352,353 and a bank balance of \$24,999,978. Of the bank balance, \$500,000 was covered by federal depository insurance, and \$24,499,978 in deposits was covered by collateral held under the Pooling Method. The Authority had cash on hand of \$1,700 at June 30, 2022.

Cash Equivalents

At June 30, 2022, the Authority's cash equivalents balance was as follows:

	<u>2022</u>
The North Carolina Capital Management Trust, government portfolio	<u>\$ 5,475,910</u>

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 and AAA-mf by Moody's Investors Service as of June 30, 2022.

Receivables

Receivables, net of allowance for uncollectible accounts, at June 30, 2022 were as follows:

	<u>2022</u>
Utility accounts receivable	\$ 3,980,857
Grants receivable	143,657
Other receivable	<u>826,853</u>
Total receivables, net	<u>\$ 4,951,367</u>

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

Leases Receivable

In October 2021, the Authority entered into a 60 month lease as lessor with a cell phone carrier. An initial lease receivable was recorded in the amount of \$266,371. Under the lease, the cell phone carrier pays the Authority \$55,000 annually through 10/19/2026 in exchange for a license to a portion of the property located at 609 Piney Mountain Road, Chapel Hill, NC for placement of cellular equipment. The lease receivable is measured as the present value of the future minimum rent payments expected to be received during the lease term at a discount rate of 1.62%, which is the calculated Incremental Borrowing Rate. As of June 30, 2022, the value of the lease receivable is \$211,371 and the value of the deferred inflow of resources was \$213,097. During fiscal year 2022, the Authority recognized \$53,274 of lease revenue and \$2,383 of interest revenue under the lease.

In December 2017, the Authority entered into a 60 month lease as lessor with a cell phone carrier. An initial lease receivable was recorded in the amount of \$55,000. Under the lease, the cell phone carrier pays the Authority \$55,000 annually through 12/14/2022 in exchange for a license to a portion of the property located at 609 Piney Mountain Road, Chapel Hill, NC for placement of cellular equipment. The lease receivable is measured as the present value of the future minimum rent payments expected to be received during the lease term at a discount rate of 0.0%, which is the calculated Incremental Borrowing Rate. As of June 30, 2022, the value of the lease receivable is \$0 and the value of the deferred inflow of resources was \$27,500. During fiscal year 2022, the Authority recognized \$27,500 of lease revenue under the lease.

In February 2022, the Authority entered into a 60 month lease as lessor with a cell phone carrier. An initial lease receivable was recorded in the amount of \$262,809. Under the lease, the cell phone carrier pays the Authority \$55,000 annually through 2/14/2027 in exchange for a license to a portion of the property located at 251 Manning Drive, Chapel Hill, NC for placement of cellular equipment. The lease receivable is measured as the present value of the future minimum rent payments expected to be received during the lease term at a discount rate of 2.32%, which is the calculated Incremental Borrowing Rate. As of June 30, 2022, the value of the lease receivable is \$207,809 and the value of the deferred inflow of resources was \$210,247. During fiscal year 2022, the Authority recognized \$52,562 of lease revenue and \$1,783 of interest revenue under the lease.

In April 2019, the Authority entered into a 60 month lease as lessor with a cell phone carrier. An initial lease receivable was recorded in the amount of \$116,169. Under the lease, the cell phone carrier pays the Authority \$60,500 annually through 3/31/2024 in exchange for a license to a portion of the property located at 609 Piney Mountain Road, Chapel Hill, NC for placement of cellular equipment. The lease receivable is measured as the present value of the future minimum rent payments expected to be received during the lease term at a discount rate of 2.76%, which is the calculated Incremental Borrowing Rate. As of June 30, 2022, the value of the lease receivable is \$58,875 and the value of the deferred inflow of resources was \$58,085. During fiscal year 2022, the Authority recognized \$58,084 of lease revenue and \$3,607 of interest revenue under the lease.

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

In July 2018, the Authority entered into a 60 month lease as lessor with a cell phone carrier. An initial lease receivable was recorded in the amount of \$110,000. Under the lease, the cell phone carrier pays the Authority \$55,000 annually through 7/31/2023 in exchange for a license to a portion of the property located at 251 Manning Drive, Chapel Hill, NC for placement of cellular equipment. The lease receivable is measured as the present value of the future minimum rent payments expected to be received during the lease term at a discount rate of 0.0%, which is the calculated Incremental Borrowing Rate. As of June 30, 2022, the value of the lease receivable is \$55,000 and the value of the deferred inflow of resources was \$55,000. During fiscal year 2022, the Authority recognized \$55,000 of lease revenue under the lease.

In July 2018, the Authority entered into a 60 month lease as lessor with a cell phone carrier. An initial lease receivable was recorded in the amount of \$110,000. Under the lease, the cell phone carrier pays the Authority \$55,000 annually through 7/1/2023 in exchange for a license to a portion of the property located at 251 Manning Drive, Chapel Hill, NC for placement of cellular equipment. The lease receivable is measured as the present value of the future minimum rent payments expected to be received during the lease term at a discount rate of 0.0%, which is the calculated Incremental Borrowing Rate. As of June 30, 2022, the value of the lease receivable is \$55,000 and the value of the deferred inflow of resources was \$55,000. During fiscal year 2022, the Authority recognized \$55,000 of lease revenue under the lease.

In August 2020, the Authority entered into a 60 month lease as lessor with a cell phone carrier. An initial lease receivable was recorded in the amount of \$224,646. Under the lease the cell phone carrier pays the Authority \$55,000 annually. Commencing August 1, 2020 and each year thereafter, the license fee will increase by 2.0% over the license paid in the previous year. This will continue through 8/1/2025 in exchange for a license to a portion of the property located at 251 Manning Drive, Chapel Hill, NC for placement of cellular equipment. The lease receivable is measured as the present value of the future minimum rent payments expected to be received during the lease term at a discount rate of 1.14%, which is the calculated Incremental Borrowing Rate. As of June 30, 2022, the value of the lease receivable is \$167,526 and the value of the deferred inflow of resources was \$179,716. During fiscal year 2022, the Authority recognized \$44,929 of lease revenue and \$1,742 of interest revenue under the lease.

Year Ending June 30	Lease Receivables		
	Principal Payments	Interest Payments	Total
2023	\$ 325,840	\$ 11,780	\$ 337,620
2024	159,594	7,526	167,120
2025	162,271	4,849	167,120
2026	107,876	2,124	110,000
Total	\$ 755,581	\$ 26,279	\$ 781,860

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

Capital Assets

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

	<u>Balance</u> <u>July 1, 2021</u>	<u>Increases</u>	<u>Decreases</u>	<u>Transfers</u>	<u>Balance</u> <u>June 30, 2022</u>
Non-Depreciable Assets:					
Land	\$ 17,605,354	\$ 238,668	\$ -	\$ -	\$ 17,844,022
Construction in progress	<u>57,924,178</u>	<u>9,157,317</u>	<u>(2,700)</u>	<u>(18,677,391)</u>	<u>48,401,404</u>
Total non-depreciable assets	<u>75,529,532</u>	<u>9,395,985</u>	<u>(2,700)</u>	<u>(18,677,391)</u>	<u>66,245,426</u>
Depreciable Assets:					
Water treatment and distribution	185,814,249	1,101,842	(221,018)	5,981,697	192,676,770
Sewer collection and treatment	240,002,158	422,644	-	12,597,595	253,022,397
Fixtures and equipment	<u>59,468,674</u>	<u>654,303</u>	<u>(338,197)</u>	<u>98,099</u>	<u>59,882,879</u>
Total depreciable assets	<u>485,285,081</u>	<u>2,178,789</u>	<u>(559,215)</u>	<u>18,677,391</u>	<u>505,582,046</u>
Less Accumulated Depreciation:					
Water treatment and distribution	79,308,713	3,925,959	(221,018)	-	83,013,654
Sewer collection and treatment	85,950,649	4,932,389	-	-	90,883,038
Fixtures and equipment	<u>38,199,786</u>	<u>2,414,243</u>	<u>(338,196)</u>	<u>-</u>	<u>40,275,833</u>
Total accumulated depreciation	<u>203,459,148</u>	<u>\$ 11,272,591</u>	<u>\$ (559,214)</u>	<u>\$ -</u>	<u>214,172,525</u>
Total depreciable assets	<u>281,825,933</u>				<u>291,409,521</u>
Capital assets, net	<u>\$ 357,355,465</u>				<u>\$ 357,654,947</u>

Net Investment in Capital Assets

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

	<u>2022</u>
Capital assets, net	\$ 357,654,947
Right-to-use leased assets, net	622,837
Total debt, gross	(89,645,746)
Deferred charge related to debt	<u>315,906</u>
Net investment in capital assets	<u>\$ 268,947,944</u>

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

Right-to-Use Leased Assets

The Authority has recorded six right-to-use leased assets. The assets are right-to-use assets for leased equipment. The related leases are discussed in the Leases subsection of the Liabilities section of this note. The right-to-use lease assets are amortized on a straight-line basis over the terms of the related leases.

Right-to-use asset activity for the year ended June 30, 2022 was as follows:

	Balance July 1, 2021	Increases	Decreases	Balance June 30, 2022
Right-to-use assets:				
Leased equipment	\$ -	\$ 220,471	\$ -	\$ 220,471
Leased solar equipment	-	465,989	-	465,989
Total right-to-use assets	-	686,460	-	686,460
Less accumulated amortization for:				
Leased equipment	-	44,983	-	44,983
Leased solar equipment	-	18,640	-	18,640
Total accumulated amortization	-	\$ 63,623	\$ -	63,623
Right-to-use assets, net	\$ -			\$ 622,837

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

Liabilities

Long-Term Obligations

Long-term debt as of June 30, 2022 consists of the following:

	<u>2022</u>
Revenue Bonds:	
Revenue bonds payable, Series 2020 Revenue Bonds, in the amount of \$9,500,000, issued April 7, 2020, with coupon rates of 5.0%, final maturity June 2026; net of unamortized premium of \$821,835 at June 30, 2021	\$ 6,325,000
Revenue bonds payable, Series 2019 Revenue Bonds, in the amount of \$16,640,000, issued November 15, 2019, with coupon rates of 3.0% and 5.0%, final maturity June 2044; net of unamortized premium of \$1,877,575 at June 30, 2021	15,840,000
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 \$1,309,010 at June 30, 2021	17,000,000
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 \$812,604 at June 30, 2021	11,630,000
Revenue bonds payable, Series 2021 Water and Sewer System Revenue Bonds, in the amount of \$18,840,000, issued April 8, 2021, with coupon rates of 5.0%, final maturity June 2046; net of unamortized premium of \$1,611,608 at June 30, 2021	<u>18,840,000</u>
	<u>\$ 69,635,000</u>

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.

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

	<u>2022</u>
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	\$ 3,936,000
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	790,847
Note payable to NCDEQ in the amount of \$3,028,700 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	2,529,063
Note payable to NCDEQ in the amount of \$1,658,000 issued September 12, 2017, interest at 1.53%, State Reserve Loan, beginning May 2021, due in annual installments, varying, with a final payment due in May 2040	191,659
Note payable to NCDEQ in the amount of \$1,525,000 issued August 1, 2017, interest at 1.53%, State Reserve Loan, beginning November 2020, due in annual installments, varying, with a final payment due in May 2040	753,186
Note payable to NCDEQ in the amount of \$670,156 issued April 7, 2020, interest at 1.42%, DWSRF loan, beginning May 2021, due in annual installments, varying, with a final payment due in May 2040	603,140
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 \$266,429, with a final payment due in May 2039	4,529,299
Note payable to NCDEQ in the amount of \$1,071,000 issued July 27, 2019, interest at 1.53%, Federal Revolving loan, beginning May 2020, payable in annual installments of \$53,550, with a final payment due in May 2039	<u>727,272</u>
	<u>\$ 14,060,466</u>

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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.

Bonds payable maturities are as follows:

Year Ending June 30	Maturities	Amortization of Premiums and Deferred Refunding Losses	Total	Interest
2023	\$ 5,005,000	\$ 939,784	\$ 5,944,784	\$ 2,663,512
2024	5,320,000	812,507	6,132,507	2,408,513
2025	5,645,000	673,572	6,318,572	2,137,638
2026	5,980,000	522,601	6,502,601	1,850,512
2027	4,495,000	421,307	4,916,307	1,578,051
2028-2032	20,090,000	1,103,437	21,193,437	5,143,125
2033-2037	7,975,000	345,485	8,320,485	2,560,388
2038-2042	9,125,000	155,353	9,280,353	1,410,088
2043-2045	6,000,000	37,602	6,037,602	301,242
Total	<u>\$ 69,635,000</u>	<u>\$ 5,011,648</u>	<u>\$ 74,646,648</u>	<u>\$ 20,053,069</u>

Notes payable – direct borrowing maturities are as follows:

Year Ending June 30	Maturities	Interest	Total
2023	\$ 1,019,800	\$ 139,446	\$ 1,159,246
2024	993,409	144,453	1,137,862
2025	947,867	130,351	1,078,218
2026	921,480	121,248	1,042,728
2027	922,900	112,334	1,035,234
2028-2032	4,636,557	427,242	5,063,799
2033-2037	3,348,291	211,078	3,559,369
2038-2042	1,216,239	32,888	1,249,127
2043	53,923	-	53,923
Total	<u>\$ 14,060,466</u>	<u>\$ 1,319,040</u>	<u>\$ 15,379,506</u>

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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 April 7, 2020, the Authority issued \$9,500,000 of Series 2020 revenue bonds to provide resources that were placed in an irrevocable trust to be used for all future debt service payments of \$10,350,000 of Series 2010 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. This advanced refunding was undertaken to reduce total debt service payments over the next 6 years by \$1,091,381 and resulted in an economic gain of \$1,024,076.

Long-term liability activity for the year ended June 30, 2022 is as follows:

	<u>Balance</u> <u>July 1, 2021</u>	<u>Additions</u>	<u>Retirements</u>	<u>Balance</u> <u>June 30, 2022</u>	<u>Due Within</u> <u>One Year</u>
Direct borrowings	\$ 14,315,726	\$ 732,069	\$ 987,329	\$ 14,060,466	\$ 1,019,800
Bonds Payable:					
Revenue bonds	73,410,000	-	3,775,000	69,635,000	5,005,000
For issuance premiums	6,432,633	-	1,105,080	5,327,553	974,885
Lease liabilities	-	686,460	63,733	622,727	59,555
Compensated absences	725,045	612,031	646,767	690,309	517,732
Net pension liability (LGERS)	4,542,897	-	2,667,614	1,875,283	-
Total OPEB liability	16,637,731	-	1,355,873	15,281,858	-
Total	<u>\$116,064,032</u>	<u>\$ 2,030,560</u>	<u>\$ 10,601,396</u>	<u>\$ 107,493,196</u>	<u>\$ 7,576,972</u>

The Authority has pledged future water and sewer customer revenues, net of specified operating expenses, to repay \$69,635,000 in revenue bonds issued in 2014, 2018, 2019, 2020, and 2021. 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 2046, solely from the water and sewer customer net revenues. The total principal and interest remaining to be paid on the bonds is \$89,688,069. Principal and interest paid in the year ended June 30, 2022 was \$6,656,257 and total customer net revenues was \$37,995,260. 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 Section 7.04 Rate Covenant, authorizing the issuance of the Water and Sewer Revenue bonds, Series 2014, 2018, 2019, 2020, and 2021. The bond order requires the debt service coverage ratio to be no less than the greater of (i) 120% of the debt service requirements for parity indebtedness and (ii) 100% of the debt service requirements for parity indebtedness and subordinated indebtedness for such fiscal year.

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

The debt service coverage ratio calculation for the year ended June 30, 2022 is as follows:

Operating revenues and charges for services	\$ 37,995,260
Operating expenses*	<u>22,281,269</u>
Income available for debt service	<u>\$ 15,713,991</u>
Debt service on parity indebtedness - principal and interest paid	<u>\$ 6,656,257</u>
Debt service coverage ratio - parity indebtedness	<u>236%</u>
Subordinated indebtedness debt service - principal and interest paid	<u>\$ 1,185,925</u>
Debt service coverage ratio - parity and subordinated indebtedness	<u>200%</u>

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

Leases

The Authority has entered into agreements to lease certain equipment. The lease agreements qualify as other than short-term leases under GASB 87 and, therefore, have been recorded at the present value of the future minimum lease payments as of the date of their inception.

In April 2019, the Authority entered into an agreement to lease printing equipment and requires 20 quarterly payments of \$916. There are no variable payment components of the lease. The lease liability is measured at a discount rate of 2%, which is the stated rate in the lease agreement. As a result of the lease, the Authority has recorded a right to use asset with a net book value of \$10,261 at June 30, 2022.

In December 2021, the Authority entered into an agreement to lease postage equipment and requires 60 monthly payments of \$507. There are no variable payment components of the lease. The lease liability is measured at a discount rate of 1.3%, which is the stated rate in the lease agreement. As a result of the lease, the Authority has recorded a right to use asset with a net book value of \$15,747 at June 30, 2022.

In March 2021, the Authority entered into an agreement to lease printing equipment and requires 60 monthly payments of \$3,213. There are no variable payment components of the lease. The lease liability is measured at a discount rate of 2.8%, which is the stated rate in the lease agreement. As a result of the lease, the Authority has recorded a right to use asset with a net book value of \$149,480 at June 30, 2022.

In January 2021, the Authority entered into an agreement to solar energy equipment and requires 26 annual payments of \$7,280. There are no variable payment components of the lease. The lease liability is measured at a discount rate of 3.2%, which is the stated rate in the lease agreement. As a result of the lease, the Authority has recorded a right to use asset with a net book value of \$122,776 at June 30, 2022.

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

In September 2020, the Authority entered into an agreement to solar energy equipment and requires 25 annual payments of \$13,000. There are no variable payment components of the lease. The lease liability is measured at a discount rate of 2.4%, which is the stated rate in the lease agreement. As a result of the lease, the Authority has recorded a right to use asset with a net book value of \$231,522 at June 30, 2022.

In January 2021, the Authority entered into an agreement to solar energy equipment and requires 25 annual payments of \$5,260. There are no variable payment components of the lease. The lease liability is measured at a discount rate of 2.7%, which is the stated rate in the lease agreement. As a result of the lease, the Authority has recorded a right to use asset with a net book value of \$93,051 at June 30, 2022.

The future minimum lease obligations and the net present value of these minimum lease payments as of June 30, 2022, were as follows:

Year Ending June 30	Business-Type Activities		Total
	Principal Payments	Interest Payments	
2023	\$ 59,555	\$ 14,287	\$ 73,842
2024	59,099	13,223	72,322
2025	55,510	12,251	67,761
2026	56,449	11,312	67,761
2027	16,785	10,587	27,372
2028-2032	81,116	46,584	127,700
2033-2037	92,690	35,010	127,700
2038-2042	105,943	21,757	127,700
2043-2046	95,580	6,579	102,159
Total	\$ 622,727	\$ 171,590	\$ 794,317

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,

ORANGE WATER AND SEWER AUTHORITY

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

who serve as ex-officio members. The LGERS is included in the Annual Comprehensive Financial Report (ACFR) for the State of North Carolina. The state's ACFR 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.

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, 2022, was 11.39% 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 \$1,042,033, for the year ended June 30, 2022.

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.

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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

At June 30, 2022, the Authority reported a liability of \$1,875,283 for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2021. The total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of December 31, 2020. The total pension liability was then rolled forward to the measurement date of June 30, 2021 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, 2022, the Authority's proportion was 0.12228% (measured as of June 30, 2021), which was a decrease of 0.00485% from its proportion as of June 30, 2021 (measured as of June 30, 2020).

For the year ended June 30, 2022, the Authority recognized pension expense of \$807,165. At June 30, 2022, 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	\$ 596,594	\$ -
Changes of assumptions	1,178,156	-
Net difference between projected and actual earnings on pension plan investments	-	2,679,213
Changes in proportion and differences between employer contributions and proportionate share of contributions	40,971	64,355
Employer contributions subsequent to the measurement date	1,042,033	-
Total	\$ 2,857,754	\$ 2,743,568

\$1,042,033 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, 2023. 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
2023	\$ 169,503
2024	(58,634)
2025	(218,861)
2026	(819,855)
Total	\$ (927,847)

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

Actuarial Assumptions. The total pension liability in the December 31, 2020 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.5 percent
Salary increases	3.25 to 8.25 percent, including inflation and productivity factor
Investment rate of return	6.50 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, 2020 valuation were based on the results of an actuarial experience study for the period January 1, 2015 through December 31, 2019.

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.

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, 2021 are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Fixed income	29.0%	1.4%
Global equity	42.0%	5.3%
Real estate	8.0%	4.3%
Alternatives	8.0%	8.9%
Opportunistic fixed income	7.0%	6.0%
Inflation sensitive	<u>6.0%</u>	4.0%
Total	<u>100%</u>	

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

The information above is based on 30-year expectations developed with the consulting actuary as part of a study conducted in 2016, and is part of the asset, liability and investment policy of the North Carolina Retirement Systems. 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 3.05%. Return projections do not include any excess return expectations over benchmark averages. All rates of return and inflation are annualized.

Discount Rate. The discount rate used to measure the total pension liability was 6.50%. 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 6.50 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 (5.50 percent) or 1-percentage-point higher (7.50 percent) than the current rate:

	<u>1% Decrease</u> <u>(5.50%)</u>	<u>Current</u> <u>Discount</u> <u>Rate (6.50%)</u>	<u>1% Increase</u> <u>(7.50%)</u>
Authority's proportionate share of the net pension liability (asset)	<u>\$ 7,279,685</u>	<u>\$ 1,875,283</u>	<u>\$ (2,572,229)</u>

Pension Plan Fiduciary Net Position. Detailed information about the pension plan's fiduciary net position is available in the separately issued Annual Comprehensive Financial Report (ACFR) 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. If hired prior to September 1, 2019, 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

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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.

If hired after September 1, 2019, employees are required to contribute to a Retirement Health Savings (RHS) account. Employees will contribute 2% each pay period up to \$1,000 per plan year. The Authority will contribute \$35 per pay period up to \$910 per year. The employer contribution and the employee \$1,000 per plan year will increase annually by the Board approved Cost of Labor Adjustment.

All active full-time employees are eligible for membership. At June 30, 2021, the plan membership consisted of:

<u>Members</u>	
Retirees and dependents receiving benefits	47
Active members	<u>125</u>
Total	<u><u>172</u></u>

Total OPEB Liability

The Authority's total OPEB liability of \$15,281,858 was measured as of June 30, 2021 and was determined by an actuarial valuation as of June 30, 2021.

Actuarial Assumptions and Other Inputs. The total OPEB liability in the June 30, 2021 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	3.25 - 8.41 percent, average, including inflation
Discount rate	2.16 percent
Healthcare cost trend rates	Pre-Medicare - 7.00% for 2021 decreasing to an ultimate rate of 4.50% by 2031 Medicare - 5.125% for 2021 decreasing to an ultimate rate of 4.50% by 2024

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.

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

Changes in the Total OPEB Liability

Total OPEB Liability:	
Balance at July 1, 2021	<u>\$ 16,637,731</u>
Changes for the year:	
Service cost at end of year	619,739
Interest	378,143
Changes in benefit terms	(132,920)
Difference between expected and actual experience	(2,942,246)
Changes of assumptions or other inputs	1,016,893
Benefit payments and implicit subsidy credit	(295,482)
Net change in total OPEB liability	<u>(1,355,873)</u>
Balance at June 30, 2022	<u>\$ 15,281,858</u>

Changes in assumptions and other inputs reflect a change in the discount rate from 2.21% to 2.16%.

Mortality rates were based on the Pub-2010 mortality tables, with adjustments for LGERS experience and generational mortality improvements using Scale MP-2019.

The demographic actuarial assumptions for retirement, disability incidence, withdrawal, and salary increases used in the June 30, 2021 valuation were based on the results of an actuarial experience study for the period January 1, 2015 – December 31, 2019, adopted by the LGERS Board.

The remaining actuarial assumptions (e.g., initial per capita costs, healthcare cost trends, rate of plan participation, rates of plan election, etc.) used in the June 30, 2021 valuation were based on a review of recent plan experience done concurrently with the June 30, 2021 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 (1.16 percent) or 1-percentage-point higher (3.16 percent) than the current discount rate:

	<u>1% Decrease</u>	<u>Current</u>	<u>1% Increase</u>
	<u>(1.16%)</u>	<u>Discount</u>	<u>(3.16%)</u>
		<u>Rate (2.16%)</u>	
Total OPEB liability	<u>\$ 18,632,200</u>	<u>\$ 15,281,858</u>	<u>\$ 12,716,291</u>

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:

	<u>1% Decrease</u>	<u>Current</u>	<u>1% Increase</u>
Total OPEB liability	<u>\$ 12,591,520</u>	<u>\$ 15,281,858</u>	<u>\$ 18,854,998</u>

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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

For the year ended June 30, 2022, the Authority recognized OPEB expense of \$691,545. At June 30, 2022, 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	\$ 12,830	\$ 2,745,463
Changes of assumptions or other inputs	3,176,508	814,011
Contributions made to the OPEB plan in the current year	275,678	-
Total	\$ 3,465,016	\$ 3,559,474

\$275,678 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 OPEB liability in the year ending June 30, 2023. 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
2023	\$ (173,417)
2024	(173,417)
2025	(84,144)
2026	45,287
2027	153,690
Thereafter	(138,135)
Total	\$ (370,136)

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

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

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.

Deferred Outflows and Inflows of Resources

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

	<u>2022</u>
Deferred Outflows:	
Contributions to pension plan in current fiscal year	\$ 1,042,033
Pension deferrals	1,815,721
Contributions to OPEB plan in current fiscal year	275,678
OPEB deferrals	3,189,338
Deferred charge on refunding	<u>315,906</u>
Total	<u>\$ 6,638,676</u>
Deferred Inflows:	
Leases	\$ 798,645
Pension deferrals	2,743,568
OPEB deferrals	<u>3,559,474</u>
Total	<u>\$ 7,101,687</u>

3. 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's property insurance does have a flood coverage endorsement. Coverage is provided in zones B, C and X. There is a \$5M single occurrence paand yearly aggregate limit and the deductible is \$50k for a single occurrence.

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 \$15,562,056 at June 30, 2022.

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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2022

4. Net Position

At June 30, 2022, the Board of Directors had approved the use of the unrestricted net position for the following purposes:

	<u>2022</u>
Operating reserve	<u>\$ 14,203,346</u>

5. 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.

6. Prior Period Adjustment

During the fiscal year ended June 30, 2022, the Authority implemented GASB 87, *Leases*. As a result, the Authority restated the beginning net position related to prior year capital leases. An adjustment to beginning net position has been recorded to take the related debt and capital asset balances off the books, the net effect of which decreased fund balance by \$6,081.

7. Change in Accounting Principle

For the year ended June 30, 2022, the financial statements include the adoption of GASB Statement No. 87, *Leases*. The primary objective of this statement is to enhance the relevance and consistency of information about governments' leasing activities. This statement establishes a single model for lease accounting based on the principle that leases are financings of the right-to-use an underlying asset. Under this statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources.

8. Subsequent Events

The Authority accepted a state revolving loan from N.C. Department of Environmental Quality for \$4,212,500 close to year-end. There were no draws as of June 30, 2022, as the project is just in the beginning stages.

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

Schedule of Changes in the Total OPEB Liability and Related Ratios

Total OPEB Liability	2022	2021	2020	2019	2018
Service cost at end of year	\$ 619,739	\$ 407,705	\$ 445,581	\$ 473,531	\$ 537,550
Interest	378,143	459,812	488,973	449,217	396,831
Changes in benefit terms	(132,920)	-	-	-	-
Difference between expected and actual experience	(2,942,246)	(37,771)	(387,860)	10,631	23,866
Changes of assumptions or other inputs	1,016,893	3,227,040	(97,373)	(719,076)	(1,282,089)
Benefit payments and implicit subsidy credit	(295,482)	(295,107)	(283,833)	(242,282)	(240,928)
Net change in total OPEB liability	(1,355,873)	3,761,679	165,488	(27,979)	(564,770)
Total OPEB liability - beginning	16,637,731	12,876,052	12,710,564	12,738,543	13,303,313
Total OPEB liability - ending	<u>\$ 15,281,858</u>	<u>\$ 16,637,731</u>	<u>\$ 12,876,052</u>	<u>\$ 12,710,564</u>	<u>\$ 12,738,543</u>
Covered-employee payroll	\$ 7,816,728	\$ 7,704,086	\$ 7,704,086	\$ 7,751,275	\$ 7,751,275
Total OPEB liability as a percentage of covered-employee payroll	195.50%	215.96%	167.13%	163.98%	164.34%

Notes to Schedule:

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

Fiscal Year	Rate
2022	2.16%
2021	2.21%
2020	3.50%
2019	3.89%
2018	3.56%

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

	Local Governmental Employees' Retirement System				
	2022	2021	2020	2019	2018
Authority's proportion of the net pension liability (asset) (%)	0.12228%	0.12713%	0.12175%	0.12572%	0.12711%
Authority's proportion of the net pension liability (asset) (\$)	\$ 1,875,283	\$ 4,542,897	\$ 3,324,897	\$ 2,982,507	\$ 1,941,888
Authority's covered payroll	\$ 8,877,118	\$ 8,780,335	\$ 8,396,386	\$ 8,171,152	\$ 8,194,045
Authority's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	21.12%	51.74%	39.60%	36.50%	23.70%
Plan fiduciary net position as a percentage of the total liability**	95.51%	88.61%	90.86%	91.63%	94.18%

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

** This will be the same percentage for all participant employers in the LGERS plan

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

	Local Governmental Employees' Retirement System			
	2017	2016	2015	2014
Authority's proportion of the net pension liability (asset) (%)	0.12882%	0.11995%	0.12040%	11.89000%
Authority's proportion of the net pension liability (asset) (\$)	\$ 2,733,991	\$ 538,330	\$ (709,819)	\$ 1,433,202
Authority's covered payroll	\$ 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	39.17%	7.32%	(9.73%)	20.74%
Plan fiduciary net position as a percentage of the total liability**	91.47%	98.09%	102.64%	94.35%

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ORANGE WATER AND SEWER AUTHORITY

**CONTRIBUTIONS
REQUIRED SUPPLEMENTARY INFORMATION
LAST NINE FISCAL YEARS**

Local Governmental Employees' Retirement System					
	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>
Contractually required contribution	\$ 1,042,033	\$ 963,041	\$ 790,230	\$ 655,451	\$ 617,219
Contributions in relation to the contractually required contribution	<u>1,042,033</u>	<u>963,041</u>	<u>790,230</u>	<u>655,451</u>	<u>617,219</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered payroll	\$ 9,148,654	\$ 8,877,118	\$ 8,780,335	\$ 8,396,386	\$ 8,171,152
Contributions as a percentage of covered payroll	11.39%	10.85%	9.00%	7.81%	7.55%

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 NINE FISCAL YEARS**

Local Governmental Employees' Retirement System				
	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Contractually required contribution	\$ 598,984	\$ 510,262	\$ 519,888	\$ 516,608
Contributions in relation to the contractually required contribution	<u>598,984</u>	<u>510,262</u>	<u>519,888</u>	<u>516,608</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered payroll	\$ 8,194,045	\$ 6,980,328	\$ 7,352,374	\$ 7,297,821
Contributions as a percentage of covered payroll	7.31%	7.31%	7.07%	7.08%

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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, 2022**

	<u>Final Budget</u>	<u>Actual</u>	<u>Variance Over/Under</u>
Revenues:			
Operating revenues:			
Water	\$ 18,194,238	\$ 18,872,830	\$ 678,592
Sewer	18,749,746	18,049,316	(700,430)
Reclaimed water	463,200	452,479	(10,721)
Service initiation fees	16,510	15,945	(565)
Other	898,581	604,690	(293,891)
Total operating revenues	<u>38,322,275</u>	<u>37,995,260</u>	<u>(327,015)</u>
Non-operating revenues:			
Interest income	97,759	17,689	(80,070)
System development fees	1,249,897	801,021	(448,876)
Cell phone tower rental	-	355,212	355,212
Miscellaneous	-	5,523	5,523
FEMA reimbursement	-	261,669	261,669
Total non-operating revenues	<u>1,347,656</u>	<u>1,441,114</u>	<u>93,458</u>
Total revenues	<u>39,669,931</u>	<u>39,436,374</u>	<u>(233,557)</u>
Expenditures:			
Water supply and treatment:			
Salaries and wages	1,474,732	1,576,095	(101,363)
Fringe benefits	598,020	424,633	173,387
Materials and supplies	191,491	159,137	32,354
Chemicals	1,466,645	1,419,843	46,802
Utilities	433,234	295,368	137,866
Maintenance	1,039,578	865,997	173,581
Professional services	32,500	42,712	(10,212)
Insurance	60,139	53,579	6,560
Communication	3,000	484	2,516
Education and development	11,960	5,009	6,951
Miscellaneous	80,904	55,215	25,689
Total water supply and treatment	<u>5,392,203</u>	<u>4,898,072</u>	<u>494,131</u>

ORANGE WATER AND SEWER AUTHORITY

**ENTERPRISE FUND - WATER
SCHEDULE OF REVENUES AND EXPENDITURES
BUDGET AND ACTUAL (NON-GAAP)
FOR THE YEAR ENDED JUNE 30, 2022**

	<u>Final Budget</u>	<u>Actual</u>	<u>Variance Over/Under</u>
Water distribution:			
Salaries and wages	1,765,423	1,725,464	39,959
Fringe benefits	1,337,522	1,335,789	1,733
Materials and supplies	117,241	119,429	(2,188)
Utilities	244,015	145,506	98,509
Maintenance	629,443	519,149	110,294
Insurance	6,404	5,075	1,329
Communication	5,000	3,018	1,982
Printing and reproduction	1,500	49	1,451
Education and development	18,300	7,347	10,953
Miscellaneous	2,500	5,152	(2,652)
Total water distribution	<u>4,127,348</u>	<u>3,865,978</u>	<u>261,370</u>
Construction credits	<u>(387,500)</u>	<u>(201,498)</u>	<u>(186,002)</u>
Wastewater treatment:			
Salaries and wages	1,533,681	1,678,872	(145,191)
Fringe benefits	578,016	423,994	154,022
Materials and supplies	234,464	302,445	(67,981)
Chemicals	947,108	966,926	(19,818)
Utilities	750,035	554,078	195,957
Maintenance	1,248,920	900,270	348,650
Professional services	16,550	1,155	15,395
Insurance	72,131	64,263	7,868
Communication	740	636	104
Education and development	47,075	23,588	23,487
Miscellaneous	91,350	80,493	10,857
Total wastewater treatment	<u>5,520,070</u>	<u>4,996,720</u>	<u>523,350</u>
Sewer collections:			
Salaries and wages	571,068	546,659	24,409
Fringe benefits	264,342	202,580	61,762
Materials and supplies	63,151	47,513	15,638
Chemicals	230,000	230,939	(939)
Utilities	143,861	108,100	35,761
Maintenance	249,165	307,064	(57,899)
Insurance	6,404	6,206	198
Communication	500	408	92

ORANGE WATER AND SEWER AUTHORITY

**ENTERPRISE FUND - WATER
SCHEDULE OF REVENUES AND EXPENDITURES
BUDGET AND ACTUAL (NON-GAAP)
FOR THE YEAR ENDED JUNE 30, 2022**

	<u>Final Budget</u>	<u>Actual</u>	<u>Variance Over/Under</u>
Printing and distribution	2,000	21	1,979
Education and development	10,800	3,011	7,789
Miscellaneous	6,000	2,427	3,573
Total sewer collections	<u>1,547,291</u>	<u>1,454,928</u>	<u>92,363</u>
Construction credits	<u>-</u>	<u>(13,081)</u>	<u>13,081</u>
General and administrative:			
Salaries and wages	3,877,477	3,930,045	(52,568)
Fringe benefits	987,142	885,387	101,755
Materials and supplies	167,503	152,639	14,864
Utilities	179,820	192,613	(12,793)
Maintenance	536,755	521,322	15,433
Professional services	1,304,575	1,349,153	(44,578)
Insurance	129,692	147,119	(17,427)
Communication	193,206	196,006	(2,800)
Printing and reproduction	25,900	11,266	14,634
Education and development	96,835	60,038	36,797
Miscellaneous	275,850	143,217	132,633
Total general and administrative	<u>7,774,755</u>	<u>7,588,805</u>	<u>185,950</u>
Construction credits	<u>(304,575)</u>	<u>(136,354)</u>	<u>(168,221)</u>
Debt Service:			
Principal		4,826,062	
Interest		3,115,922	
Total debt service	<u>8,623,186</u>	<u>7,941,984</u>	<u>681,202</u>
Capital outlay	<u>18,686,250</u>	<u>11,384,519</u>	<u>7,301,731</u>
Total expenditures	<u>50,979,028</u>	<u>41,780,073</u>	<u>9,198,955</u>
Revenues over (under) expenditures	<u>(11,309,097)</u>	<u>(2,343,699)</u>	<u>8,965,398</u>

ORANGE WATER AND SEWER AUTHORITY

**ENTERPRISE FUND - WATER
SCHEDULE OF REVENUES AND EXPENDITURES
BUDGET AND ACTUAL (NON-GAAP)
FOR THE YEAR ENDED JUNE 30, 2022**

	<u>Final Budget</u>	<u>Actual</u>	<u>Variance Over/Under</u>
Other Financing Sources (Uses):			
Proceeds from borrowing	887,073	732,069	155,004
Lease liabilities issued	-	686,460	(686,460)
Appropriated fund balance	<u>10,422,024</u>	-	<u>10,422,024</u>
Total other financing sources (uses)	<u>11,309,097</u>	<u>1,418,529</u>	<u>9,890,568</u>
Net change in fund balance	<u>\$ -</u>	<u>(925,170)</u>	<u>\$ (925,170)</u>
Reconciliation from Budgetary Basis (Modified Accrual) to Full Accrual Basis:			
Principal debt and lease payments		4,826,062	
Long-term debt issued		(1,418,529)	
Change in interest accrual for bonded debt		(5,725)	
Depreciation and lease amortization		(11,336,214)	
Change in deferred outflows of resources - pensions		203,205	
Change in net pension liability		2,667,614	
Change in deferred inflows of resources - pensions		(2,714,943)	
Change in compensated absences		34,736	
OPEB expense		(691,545)	
Amortization of bond expense and patent		1,069,980	
Capital outlay		10,698,059	
Right to use asset capitalized		686,460	
Capital contributions		<u>876,715</u>	
Change in net position		<u>\$ 3,970,705</u>	

ORANGE WATER AND SEWER AUTHORITY

**SCHEDULE OF REVENUES AND EXPENDITURES -
PROJECT FUNDS
FROM INCEPTION THROUGH JUNE 30, 2022**

	<u>Project Budget</u>	<u>Cumulative Total to June 30, 2022</u>	<u>Unexpended Balance as of June 30, 2022</u>
Raw Water Supply Sources:			
Revenues:			
General Fund	\$ 2,136,103	\$ 913,801	\$ 1,222,302
Expenditures:			
Jordan Lake raw water supply intake and pumping facility	\$ 357,558	\$ 367,823	\$ (10,265)
Stone quarry development	426,545	207,872	218,673
Cane Creek pump station improvements	35,000	-	35,000
Cane Creek raw water transmission main capacity study	200,000	275	199,725
Cane Creek dam rehabilitation	350,000	26,243	323,757
Cane Creek dam resurfacing	-	41,995	(41,995)
University Lake permanganate facility	647,000	266,934	380,066
University Lake fishing pier and boat launch	70,000	-	70,000
Western Intake Partnership projects	50,000	2,659	47,341
Total expenditures	<u>\$ 2,136,103</u>	<u>\$ 913,801</u>	<u>\$ 1,222,302</u>
Water Treatment:			
Revenues:			
General Fund	\$ 11,875,000	\$ 9,827,454	\$ 2,047,546
Expenditures:			
Water treatment plant rehabilitation projects	\$ 80,000	\$ 131,057	\$ (51,057)
Water treatment plant front entry rehabilitation	35,000	11,235	23,765
Water treatment plant flash mix basins isolation valve replacement	50,000	-	50,000
HVAC replacement	475,000	374,468	100,532
Water treatment plant concrete condition assessment	-	2,700	(2,700)
Water treatment plant clearwell rehabilitation	100,000	33,431	66,569
Water treatment plant electrical distribution improvements	2,700,000	601,612	2,098,388
Plants SCADA master plan	675,000	198,619	476,381
Water treatment plant finished water pump No. 6 VFD	-	97,577	(97,577)
Water treatment plant sedimentation basin rehabilitation	2,647,000	2,813,582	(166,582)
Water treatment plant finished water pump improvements	900,000	1,018,834	(118,834)
Cane Creek raw water pump station roof replacement	-	7,989	(7,989)
Water treatment plant chemical facility upgrades	2,905,000	3,829,926	(924,926)
Water treatment plant belt filter press replacement	1,308,000	706,424	601,576
Total expenditures	<u>\$ 11,875,000</u>	<u>\$ 9,827,454</u>	<u>\$ 2,047,546</u>
Drinking Water Storage:			
Revenues:			
General Fund	\$ -	\$ 29,889	\$ (29,889)
Expenditures:			
Manning tank fence replacement	\$ -	\$ 29,889	\$ (29,889)

ORANGE WATER AND SEWER AUTHORITY

**SCHEDULE OF REVENUES AND EXPENDITURES -
PROJECT FUNDS
FROM INCEPTION THROUGH JUNE 30, 2022**

	<u>Project Budget</u>	<u>Cumulative Total to June 30, 2022</u>	<u>Unexpended Balance as of June 30, 2022</u>
Water Transmission & Distribution:			
Revenues:			
General Fund	\$ 32,706,547	\$ 23,301,034	\$ 9,405,513
Expenditures:			
Water main - road improvement projects	\$ 1,176,000	\$ 533,752	\$ 642,248
Water main rehabilitation/replacement projects	9,287,547	6,460,189	2,827,358
High priority water main replacement	9,012,000	7,853,103	1,158,897
Water main upgrades - development projects	231,000	-	231,000
Lead and copper rule compliance	-	20,077	(20,077)
Barbee Chapel Road booster pump station study	75,000	-	75,000
Dobbins Drive water main replacement	1,196,000	1,588,355	(392,355)
Dobbins Drive water main condition assessment	435,000	-	435,000
Cameron Avenue water main replacement	5,493,000	2,971,988	2,521,012
Cameron Avenue water main design alternatives assessment	25,000	-	25,000
Water distribution system hydraulic model	310,000	103,364	206,636
Galvanized water main replacement	-	7,909	(7,909)
Jones Ferry water line improvements	3,433,000	3,110,554	322,446
Distribution system prioritization model	495,000	466,890	28,110
Bolinwood Bridge water main replacement	300,000	156,568	143,432
Westwood neighborhood water and sewer rehabilitation	75,000	-	75,000
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
Distribution system condition assessment	170,000	10,329	159,671
Water main replacement - Group II	60,000	17,956	42,044
Total expenditures	<u>\$ 32,706,547</u>	<u>\$ 23,301,034</u>	<u>\$ 9,405,513</u>
Wastewater Collection Lines:			
Revenues:			
General Fund	<u>\$ 21,468,000</u>	<u>\$ 17,139,897</u>	<u>\$ 4,328,103</u>
Expenditures:			
Gravity sewer rehabilitation	\$ 13,187,000	\$ 11,330,656	\$ 1,856,344
Bolinwood Drive interceptor replacement	1,254,000	381,274	872,726
Dobbins Drive interceptor replacement	2,910,000	2,322,137	587,864
Willow Drive interceptor replacement	25,000	-	25,000
Rocky Branch interceptor replacement	412,000	39,502	372,498
Morgan Creek interceptor replacement	100,000	39,351	60,649
Morgan Creek interceptor emergency repair	-	431,213	(431,213)

ORANGE WATER AND SEWER AUTHORITY

**SCHEDULE OF REVENUES AND EXPENDITURES -
PROJECT FUNDS
FROM INCEPTION THROUGH JUNE 30, 2022**

	Project Budget	Cumulative Total to June 30, 2022	Unexpended Balance as of June 30, 2022
Creek crossing access improvements	771,000	136,643	634,357
Sanitary sewer hydraulic modeling	1,214,000	655,204	558,797
Collection system basin No. 28 rehabilitation	320,000	-	320,000
Collection system flow monitors	110,000	28,219	81,781
Collection system on-call modeling	-	2,550	(2,550)
East Main Street sewer rehabilitation	1,165,000	1,773,149	(608,149)
Total expenditures	<u>\$ 21,468,000</u>	<u>\$ 17,139,897</u>	<u>\$ 4,328,103</u>

Waste Water Pumping Stations and Force Mains:

Revenues:

General Fund	<u>\$ 1,077,000</u>	<u>\$ 443,461</u>	<u>\$ 633,539</u>
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Expenditures:

Rogerson Drive force main routing study	\$ 50,000	\$ -	\$ 50,000
Rogerson Drive force main evaluation	75,000	-	75,000
Rogerson Drive force main and pump station program	247,000	154,469	92,531
Pump station operational assessments	140,000	48,228	91,772
Rogerson Drive grit removal evaluation	30,000	24,973	5,027
Wastewater pump station rehabilitation	535,000	215,791	319,209
Total expenditures	<u>\$ 1,077,000</u>	<u>\$ 443,461</u>	<u>\$ 633,539</u>

Wastewater Treatment and Disposal:

Revenues:

General Fund	<u>\$ 22,145,000</u>	<u>\$ 15,016,238</u>	<u>\$ 7,128,762</u>
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Expenditures:

Mason Farm wastewater treatment plant rehabilitation and improvement project	\$ 2,107,000	\$ 2,431,685	\$ (324,685)
Mason Farm wastewater treatment plant solids thickening system improvements	8,601,000	6,343,121	2,257,879
Mason Farm wastewater treatment plant hyper-pitch mixer blades	58,000	-	58,000
Mason Farm wastewater treatment plant piping heat tracing and insulation	35,000	-	35,000
Plant facilities building envelope rehabilitation	1,175,000	797,630	377,370
Mason Farm wastewater treatment plant miscellaneous building rehabilitation	65,000	-	65,000
Mason Farm wastewater treatment plant biosolids conveyance and loading	91,000	-	91,000
Offsite biosolids storage improvements	115,000	38,782	76,218
Mason Farm wastewater treatment plant filtrate side stream treatment	194,000	-	194,000
Mason Farm wastewater treatment plant secondary clarifier rehabilitation and pumping improvements	2,461,000	1,246,255	1,214,745

ORANGE WATER AND SEWER AUTHORITY

**SCHEDULE OF REVENUES AND EXPENDITURES -
PROJECT FUNDS
FROM INCEPTION THROUGH JUNE 30, 2022**

	<u>Project Budget</u>	<u>Cumulative Total to June 30, 2022</u>	<u>Unexpended Balance as of June 30, 2022</u>
Mason Farm wastewater treatment plant digester complex rehabilitation and improvements	1,575,000	1,101,584	473,416
Mason Farm wastewater treatment plant fermenter tank and pumping rehabilitation	200,000	-	200,000
Mason Farm wastewater treatment plant primary sludge pump station rehabilitation and old lab building demo	75,000	-	75,000
Mason Farm wastewater treatment plant rehabilitation and replacement of chemical building and piping	995,000	955,426	39,574
Mason Farm wastewater treatment plant security improvements	182,000	33,380	148,620
Mason Farm wastewater treatment plant gas monitoring system	190,000	-	190,000
Mason Farm wastewater treatment plant headworks rehabilitation	1,361,000	1,518,699	(157,699)
Mason Farm wastewater treatment plant mater plan	335,000	138,160	196,840
Mason Farm wastewater treatment plant clarifier No. 4 conversion	1,525,000	184,952	1,340,048
Mason Farm wastewater treatment plant administration building planning study	80,000	24,050	55,950
Mason Farm wastewater treatment plant food assessment project	-	31,943	(31,943)
Digester cleaning operational assistance	-	86,551	(86,551)
Biogas removal system improvements	250,000	-	250,000
Reclaimed water quality evaluation	75,000	-	75,000
Reclaimed water valve and coupling rehabilitation	400,000	84,018	315,982
Total expenditures	<u>\$ 22,145,000</u>	<u>\$ 15,016,238</u>	<u>\$ 7,128,762</u>
Facility Improvements:			
Revenues:			
General Fund	<u>\$ -</u>	<u>\$ 74,959</u>	<u>\$ (74,959)</u>
Expenditures:			
Administration building rehabilitation projects	\$ -	\$ 64,719	\$ (64,719)
Administration building locker room renovation study	-	10,240	(10,240)
Total expenditures	<u>\$ -</u>	<u>\$ 74,959</u>	<u>\$ (74,959)</u>

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MARTIN STARNES & ASSOCIATES, CPAs, P.A.

"A Professional Association of Certified Public Accountants and Management Consultants"

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 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 year ended June 30, 2022 and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements, and have issued our report thereon dated October 5, 2022.

Report on 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) as a basis for designing 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 or significant deficiencies may exist that were not identified.

Report on 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 financial statements. 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
October 5, 2022

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MARTIN ♦ STARNES & ASSOCIATES, CPAs, P.A.

"A Professional Association of Certified Public Accountants and Management Consultants"

Report on Compliance for Each Major Federal Program; Report on Internal Control Over Compliance; Required by the 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

Opinion on 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, 2022. The Orange Water and Sewer Authority's major federal programs are identified in the summary of auditor's results section of the accompanying Schedule of Findings, Responses and Questioned Costs.

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 each of its major federal programs for the year ended June 30, 2022.

Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States (*Government Auditing Standards*); 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. Our responsibilities under those standards and the Uniform Guidance are further described in the Auditor's Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the Orange Water and Sewer Authority and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the Orange Water and Sewer Authority's compliance with the compliance requirements referred to above.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the Orange Water and Sewer Authority's federal programs.

Auditor's Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material non-compliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the Orange Water and Sewer Authority's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, *Government Auditing Standards*, the Uniform Guidance, and the State Single Audit Implementation Act will always detect material non-compliance when it exists. The risk of not detecting material non-compliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Non-compliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the Orange Water and Sewer Authority's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, the Uniform Guidance, and the State Single Audit Implementation Act, we:

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material non-compliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the Orange Water and Sewer Authority's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- obtain an understanding of the Orange Water and Sewer Authority's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance and the State Single Audit Implementation Act, but not for the purpose of expressing an opinion on the effectiveness of the Orange Water and Sewer Authority's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Report on 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 Auditor's Responsibilities for the Audit of Compliance section and above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

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
October 5, 2022

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ORANGE WATER AND SEWER AUTHORITY

SCHEDULE OF FINDINGS, RESPONSES AND QUESTIONED COSTS FOR THE YEAR ENDED JUNE 30, 2022

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:

<u>AL No(s)</u>	<u>Names of Federal Programs or Cluster</u>
66.468	Drinking Water State Revolving Fund (DWSRF) Cluster

Dollar threshold used to distinguish between Type A and Type B programs

\$750,000

Auditee qualified as low-risk auditee?

_____ Yes X No

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF FINDINGS, RESPONSES AND QUESTIONED COSTS
FOR THE YEAR ENDED JUNE 30, 2022

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

None.

3. Findings Related to the Audit of Federal Awards

None.

DRAFT

ORANGE WATER AND SEWER AUTHORITY

**SCHEDULE OF PRIOR YEAR AUDIT FINDINGS
FOR THE YEAR ENDED JUNE 30, 2022**

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, 2022

Grantor/Pass-through Grantor/Program Title	Federal AL Number	State/ Pass-through Grantor's Number	Federal (Direct & Passed-through) Expenditures	State Expenditures	Passed Through To Subrecipients
Federal Grants:					
<u>U.S. Environmental Protection Agency</u>					
Passed-through the N.C. Department of Environmental Quality:					
Division of Water Resources:					
Drinking Water State Revolving Fund (DWSRF) Cluster:					
Capitalization Grants for Drinking Water State Revolving Funds	66.468	WIF-1981	\$ 1,280,059	\$ -	\$ -
Capitalization Grants for Drinking Water State Revolving Funds	66.468	WIF-1983	25,818	-	-
Total Drinking Water State Revolving Fund (DWSRF) Cluster			<u>1,305,877</u>	-	-
Total U.S. Environmental Protection Agency			<u>1,305,877</u>	-	-
<u>U.S. Department of Homeland Security</u>					
Passed-through the N.C. Department of Public Safety:					
Disaster Grants - Public Assistance (Presidentially Declared Disasters)	97.036	81373 P/W 1528	10,096	3,365	-
Disaster Grants - Public Assistance (Presidentially Declared Disasters)	97.036	102955 P/W 2687	463	-	-
Total Disaster Grants - Public Assistance (Presidentially Declared Disasters)			<u>10,559</u>	<u>3,365</u>	-
Total U.S. Department of Homeland Security			<u>10,559</u>	<u>3,365</u>	-
Total Federal Assistance			<u>\$ 1,316,436</u>	<u>\$ 3,365</u>	<u>\$ -</u>

State Grants:

N.C. Department of Environmental Quality

Division of Water Resources:

State Reserve Loan

Total N.C. Department of Environmental Quality

Total State Assistance

Total Federal and State Assistance

H-SRP-D-17-0021	\$ -	\$ 158,946	\$ -
	-	<u>158,946</u>	-
	-	<u>158,946</u>	-
	<u>\$ 1,316,436</u>	<u>\$ 162,311</u>	<u>\$ -</u>

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, 2022. The information in this SEFSA is presented in accordance with the requirements of Title 2 US 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 minimis indirect cost rate as allowed under the Uniform Guidance.

3. Loans Outstanding

The Authority had the following loan balances outstanding at June 30, 2022 for loans that the grantor/pass-through 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, 2022 consist of:

<u>Program Title</u>	<u>AL Number</u>	<u>Pass-Through Grantor's Number</u>	<u>Amount Outstanding</u>
Capitalization Grants for Drinking Water State Revolving Funds	66.468	WIF-1981	\$ 603,140
State Reserve Loan	N/A	H-SRP-D-17-0021	753,186
State Reserve Loan	N/A	E-SRP-W-17-0047	191,659

4. Indirect Cost Rate

The Authority has elected not to use the 10-percent de minimis indirect cost rate as allowed under the Uniform Guidance.

MARTIN STARNES & ASSOCIATES, CPAs, P.A.

"A Professional Association of Certified Public Accountants and Management Consultants"

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, 2022, 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 October 5, 2022.

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
October 5, 2022

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Agenda Item 2:

ORANGE WATER AND SEWER AUTHORITY - QUARTERLY REPORT

ATTENDANCE AT BOARD AND COMMITTEE MEETINGS

BOARD OF DIRECTORS	JULY 2022	AUGUST 2022	SEPTEMBER 2022
BRUCE BOEHM, CHAIR	July 12 EC (Meeting) July 14 Board (Meeting)	August 11 Board (Canceled)	September 8 Board (Meeting)
TODD BENDOR, VICE CHAIR	July 12 EC (Meeting) July 14 Board (Meeting)	August 11 Board (Canceled)	September 8 Board (Meeting)
RAY DUBOSE, SECRETARY	July 12 EC (Meeting) July 14 Board (Meeting)	August 11 Board (Canceled)	September 8 Board (Absent)
JODY EIMERS	July 14 Board (Meeting)	August 11 Board (Canceled)	September 8 Board (Meeting)
PEDRO GARCIA	July 14 Board (Meeting)	August 11 Board (Canceled)	September 8 Board (Meeting)
DAVID GORELICK	July 14 Board (Meeting)	August 11 Board (Canceled)	September 8 Board (Absent)
MELODY KRAMER	July 14 Board (Meeting)	August 11 Board (Canceled)	September 8 Board (Meeting)
KEVIN LEIBEL	July 14 Board (Meeting)	August 11 Board (Canceled)	September 8 Board (Absent)
ELMIRA MANGUM	July 14 Board (Meeting)	August 11 Board (Canceled)	September 8 Board (Meeting)
TOTAL MEETINGS HELD:	2	0	1

Board – Board of Directors Meeting
EC – Executive Committee Meeting

October 13, 2022

Agenda Item 3:

Operating Trends Report for Fiscal Year 2022

Purpose:

To provide information about long-term trends and utility operating issues.

Background:

The *Annual Review and Update of Strategic Trends and Utility Planning Issues* summarizes recent OWASA utility trends and issues. This annual report summarizes observed trends in customer demands, water supply and drinking water treatment, wastewater treatment, the reclaimed water system, and environmental regulations to ensure that OWASA continues to provide high quality water, wastewater, and reclaimed water services.

Summary of Key Points from Report:

Our customers have reduced peak day drinking water demands by 33 percent since Fiscal Year (FY) 1999 despite a 33 percent increase in customer accounts over that same period. Similarly, demands on our raw water supply have decreased substantially. These reduced, long-term demands result from:

- Increased water use efficiency and conservation by our customers;
- Conservation pricing and conservation ordinances including year-round water restrictions; and
- Implementation of the reclaimed water system in partnership with the University of North Carolina at Chapel Hill (UNC) in 2009, which now meets over 10 percent of the community's water needs based on water sales.

These reductions in drinking water demand – and the associated reductions in wastewater flows – help defer the need for costly expansion of the capacities of our raw water supplies, water treatment plant, and wastewater treatment plant. More efficient use of water also helps reduce costs for energy and chemicals for water supply, drinking water treatment and water distribution, and wastewater collection and treatment.

Based on current demands, we believe we have sufficient raw water supply for the next few decades under most conditions. However as noted in analyses completed for the update of our Long-Range Water Supply Plan (LRWSP), we are vulnerable during droughts. The LRWSP recommended that we partner with the City of Durham, Town of Pittsboro, and Chatham County on a new intake and transmission infrastructure on the western side of Jordan Lake. This infrastructure is difficult and costly to expand once constructed. This partnership will secure our allocation of water from Jordan Lake to use during extended droughts or operational emergencies and meet our long-term needs.

October 13, 2022

Based on current demands and projections, we do not anticipate needing to expand the hydraulic capacity of the water or wastewater plant for several decades.

There are upcoming regulations that we are tracking that may require significant investments of capital and/or staff to ensure we meet all regulatory requirements. These include potential new drinking water compliance standards for per- and poly-fluoroalkyl substances (PFAS) and identifying any potential lead service lines in our community.

Action Needed:

This report is for information only. No action is needed.

Information:

- Operating Trends Report for Fiscal Year 2022

Operating Trends Report for Fiscal Year 2022

OCTOBER 2022

Orange Water and Sewer Authority

Carrboro, North Carolina



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.

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Purpose and Summary

This report summarizes observed trends for several indicators – such as water supply and drinking water treatment, wastewater treatment, use of reclaimed water, and environmental regulations – which are important factors that influence the need, timing, and scope of our facilities planning and investment decisions. Through the process of regularly reviewing and updating this report, we strive to anticipate and proactively prepare for change so that we are better positioned to provide high quality and reliable water, wastewater, and reclaimed water services for the long-term. Some of the key messages are:

- Our customers have reduced peak day drinking water demands by 33 percent since Fiscal Year (FY) 1999 despite a 33 percent increase in customer accounts over that same period. Similarly, demands on our raw water supply have decreased substantially. These reduced, long-term demands result from:
 - Increased water use efficiency and conservation by our customers;
 - Conservation pricing and conservation ordinances including year-round water restrictions; and
 - Implementation of the reclaimed water system in partnership with the University of North Carolina at Chapel Hill (UNC) in 2009, which now meets over 10 percent of the community’s water needs based on water sales.
- These reductions in drinking water demand – and the associated reductions in wastewater flows – help defer the need for costly expansion of the capacities of our raw water supplies, water treatment plant, and wastewater treatment plant. More efficient use of water also helps reduce costs for energy and chemicals for water supply, drinking water treatment and water distribution, and wastewater collection and treatment.
- Based on current demands, we believe we have sufficient raw water supply for the next few decades under most conditions. However as noted in analyses completed for the update of our Long-Range Water Supply Plan (LRWSP), we are vulnerable during droughts. The LRWSP recommends that we partner with the City of Durham, Town of Pittsboro, and Chatham County on a new intake and transmission infrastructure on the western side of Jordan Lake. This infrastructure is difficult and costly to expand once constructed. This partnership will secure our allocation of water from Jordan Lake to use during extended droughts or operational emergencies and meet our long-term needs.
- Based on current demands and projections, we do not anticipate needing to expand the hydraulic capacity of the water or wastewater plant for several decades.
- There are upcoming regulations that we are tracking that may require significant investments of capital and/or staff to ensure we meet all regulatory requirements. These include potential new drinking water compliance standards for per- and poly-fluoroalkyl substances (PFAS), identifying any potential lead service lines in our community, and the potential for water quality standards for nitrogen and phosphorus.

Acronyms

AC	asbestos cement
AWIA	America’s Water Infrastructure Act
AWWA	American Water Works Association
BG	billion gallons
CCTV	closed circuit television
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIP	Capital Improvements Program
CY	calendar year
DEQ	NC Department of Environmental Quality
DWR	NC Division of Water Resources
EPA	US Environmental Protection Agency
ERP	Emergency Response Plan
FY	fiscal year (July – June)
HAL	Health Advisory Level
I&I	Inflow and infiltration
Kgal	One thousand gallons
kWh	kilowatt-hour
lb/yr	pounds per year
LCRR	lead and copper rule revisions
LRWSP	Long-Range Water Supply Plan
MG	million gallons
mgd	million gallons per day
mg/L	milligrams per liter
mL	milliliters
NPDES	National Pollution Discharge Elimination System
OWASA	Orange Water and Sewer Authority
PFAS	per and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonic acid

ppt	parts per trillion
RCW	reclaimed water
RRA	risk and resilience assessment
SCADA	Supervisory Control and Data Acquisition
SSO	sanitary sewer overflow
SWRRP	Source Water Resiliency and Response Plan
TAWSMP	Triangle Area Water Supply Monitoring Project
TN	total nitrogen
TP	total phosphorus
TWP	Triangle Water Supply Partnership
µg/l	micrograms per liter
UCMR4	Unregulated Contaminant Monitoring Rule 4
UCMR5	Unregulated Contaminant Monitoring Rule 5
UNC	University of North Carolina at Chapel Hill
USGS	US Geological Survey
WTP	water treatment plant
WWTP	wastewater treatment plant

Background

Orange Water and Sewer Authority (OWASA) publishes this annual report to evaluate how well we are meeting our mission of providing our customers with high quality and reliable water, wastewater, and reclaimed water services through responsible and creative stewardship of the resources we manage.

This report summarizes observed trends for several indicators – such as water supply and drinking water treatment, wastewater treatment, use of reclaimed water, and environmental regulations – which are important factors that influence the need for, timing, and scope of our facilities planning and investment decisions. Thus, the information in this document is one item that shapes our Capital Improvements Program (CIP). Through the process of regularly reviewing, updating, and publishing this report, we strive to anticipate and proactively prepare for change so that we are better positioned to engage the community as we consider and decide on how best to sustainably meet service requirements for the foreseeable future.

This Operating Trends report includes a description of OWASA’s main management areas beginning with source water protection; then raw water supply and treatment; distribution of drinking water to our customers; wastewater collection, treatment, and recycling or reuse. The report also includes sections on our Energy Management Program and provides a summary of upcoming regulations that will impact our operations and for which we are proactively planning.

Source Water Protection

Description

Our community has a long history of taking progressive actions to ensure the health and safety of our drinking water supplies. Since it began operations in 1977, OWASA has understood that to protect the water source, you must protect the watershed, and we have been actively involved in a wide range of watershed protection efforts, such as:

- Limits on the extension of water/sewer service into the Cane Creek Reservoir and University Lake watersheds;
- Support for comprehensive protection through zoning and land use controls;
- Restrictions on in-lake recreational activities;
- Lake water quality monitoring;
- Special technical studies and educational activities;
- Land acquisition through the strategic purchase of property or conservation easements in areas determined to be critical for water quality protection; and
- Managing healthy forests.

This section of the report focuses on land acquisition, water quality monitoring, and OWASA's forest management program. OWASA spent \$7.8 million on land protection between 1991 and 2006 through purchase and conservation easements, and grant funds covered \$3.0 million of these costs. (Note: these costs have not been adjusted for inflation and do not reflect ancillary expenses for legal, survey, appraisals, other site work, or administrative costs of OWASA staff time).

Land acquisition was among the options evaluated in the University Lake watershed management study and plan commissioned in the late 1980s. Water quality modeling indicated that permanently protecting 2,900 acres (approximately 15 percent) of the watershed would have only slight water quality benefits and not justify the multi-million-dollar cost, but that selected land acquisition in critical areas of the watershed may be appropriate. This recommendation was later confirmed in a follow-up analysis, which found that land acquisition would probably not be effective, but a possible exception may apply to undeveloped land very near the lake, and that conservation easements along stream buffers would be particularly valuable near the downstream ends of tributaries as they approach University Lake.

Based on these technical recommendations, OWASA elected not to pursue a widespread program of land or easement acquisition in the University Lake watershed, but to consider land preservation opportunities on a case-by-case basis. In 2006, OWASA purchased a 73-acre property along Morgan Creek immediately upstream of University Lake (with the help of a \$1.2 million NC Clean Water Management Trust Fund (now North Carolina Land and Water Fund) grant). This property was placed under a permanent restrictive conservation easement that protects all riparian areas and greatly limits future development; subdivided into two large tracts; and re-sold on the open market in 2011 – with all restrictions in place.

The primary recommendations in a 1996 study of the Cane Creek Reservoir watershed included large lot (5 acres or greater) residential re-zoning and the permanent protection of 1,265 additional acres of watershed land either through purchase of land or acquisition of conservation easements to limit development and protect critical riparian buffers. OWASA adopted those recommendations as goals for the protection of Cane Creek Reservoir and subsequently protected an estimated 1,050 acres of additional Cane Creek Reservoir watershed land through purchase or acquisition of conservation easements. Since 1997, Orange County’s Land Legacy Program and other groups also acquired protective conservation easements on an additional 360 acres in the Cane Creek Reservoir watershed. Together, OWASA and Orange County’s land protection efforts have exceeded OWASA’s original goal. OWASA and Orange County staff continue to work closely in coordinating the needs of our respective programs as the County protects additional land in the watershed and elsewhere. OWASA also continues to seek cost-effective protection opportunities.

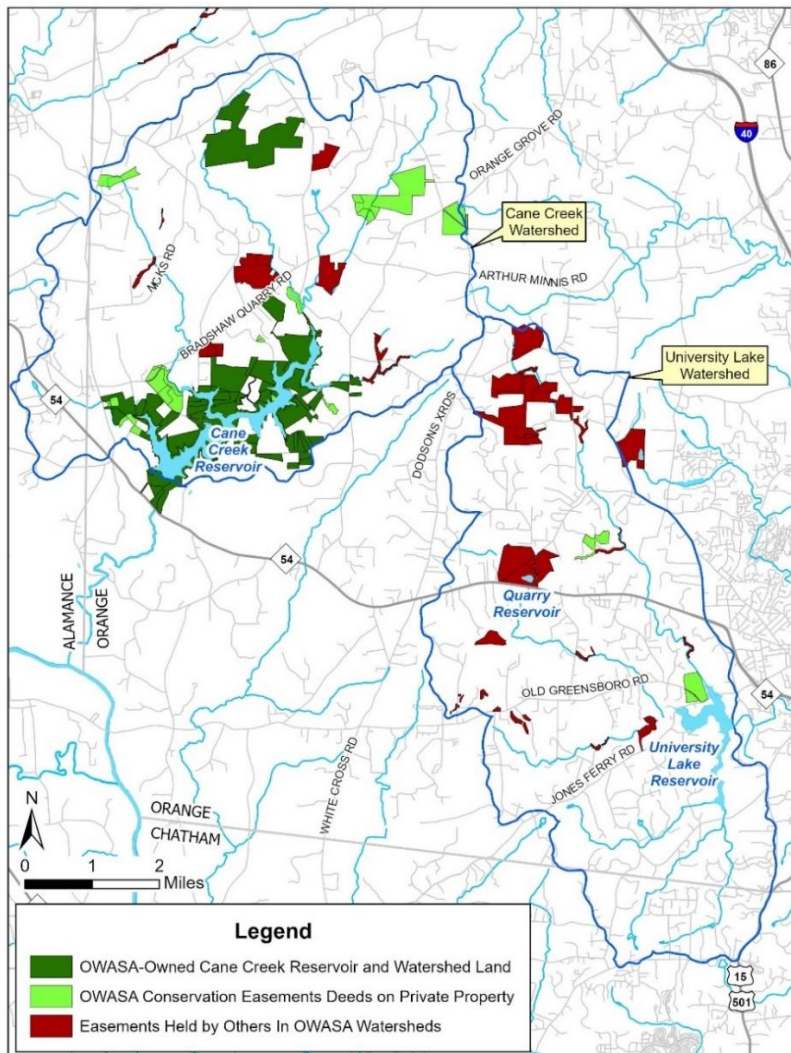


Figure 1. Protected Land in OWASA’s Watersheds – Approximately 10 percent of our watershed lands are located outside Orange County, where less stringent controls apply.

Water Quality Monitoring

OWASA is a founding member of and actively participates in the [Triangle Area Water Supply Monitoring Project](#) (TAWSMMP), which is an interlocal water quality monitoring and research project implemented in collaboration with the US Geological Survey (USGS). This Partnership began in 1988. The TAWSMMP samples area water supply reservoirs and some of their key tributaries to monitor water quality and parameters of emerging concern. The robust continuous dataset enables analysis and identification of trends in water quality. TAWSMMP operates in multi-year phases. Scopes of work were developed for each phase of the TAWSMMP which include parameters which remain the same from phase to phase such as nutrients, chlorophyll *a*, major ions, and total suspended solids as well as parameters of interest for that particular phase. The program is currently in its ninth phase, and this phase focuses on per- and polyfluoroalkyl substances (PFAS), a group of chemicals OWASA and other utilities are following for upcoming regulations. OWASA has also been doing its own PFAS monitoring that is described in the “Upcoming Regulations” section of this report.

OWASA’s Water Treatment Plant laboratory staff monitor our reservoirs on a weekly basis that includes depth profiles for temperature, dissolved oxygen, chlorophyll *a*, and blue-green algae which can cause taste and odor problems and release algal toxins. Additionally, OWASA analyzes for specific taste and odor compounds and algal toxins. Based on these data, OWASA’s water treatment plant operators can modify the depth from which they withdraw water from the reservoirs and the relative percentage of water they obtain from Cane Creek Reservoir and University Lake. It also provides them with information on the amount of chemicals they need to use in the treatment process to ensure we meet all drinking water criteria and address potential taste and odor compounds.

Forest Management

OWASA owns approximately 2,400 acres of forested lands, the majority of which is in the Cane Creek Reservoir watershed. Sustainable forest management facilitates protecting our water supply and provides other environmental benefits such as reducing the risk of wildfire and providing wildlife habitat. OWASA has seven guiding principles for its [forest management program](#):

- 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; and
- Minimize adverse impacts on neighbors and surrounding community

OWASA has been actively managing its Cane Creek Mitigation tract, an area of approximately 500 acres in the northern portion of Cane Creek Reservoir watershed for about ten years. In FY 2022, OWASA completed a draft forest stewardship plan for its Teer West property on Flat Rock Road, and began management of its Meadow Crest North and Meadow Crest South properties located on either side of

Teer Road. Plans for FY 2023 include surveying the protected conservation easement on the Teer West property; engaging the neighbors of Teer West; marking and flagging the second phase of implementation at Meadowcrest South; replanting shortleaf pine areas at both Meadowcrest properties; controlling autumn olive, an invasive species, at Meadowcrest North; and establishing firelines for future prescribed burns for the Meadowcrest properties and Mitigation Tract. Figure 2 illustrates the location of OWASA’s land near Cane Creek Reservoir and the status of forest management activities.

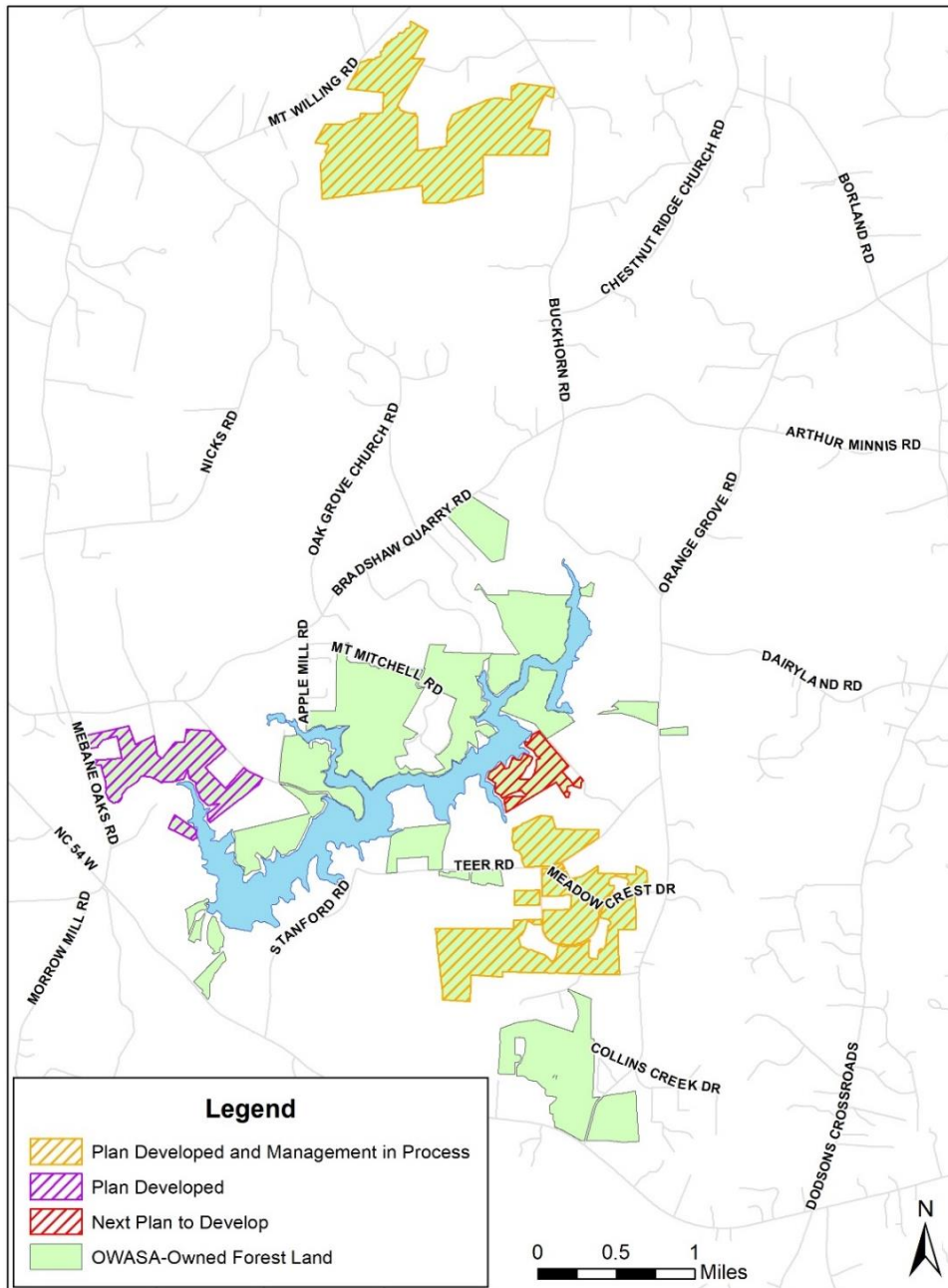


Figure 2. Status of OWASA Forest Management Plan Development and Implementation

Related Capital Improvements Program Projects and Other Initiatives

There are no planned CIP projects related to source water protection. However, there are planned projects to ensure our source water infrastructure continues to meet our needs which are described in the next section, Source Water.

Actions Needed

Action Items	Timing
1. Since OWASA met its watershed protection goals for land acquisition, we are not actively seeking additional land conservation and providing specific funds for land acquisition in our annual budget. However, we will continue to evaluate cost-effective land acquisition opportunities through conservation easements or purchase when available and discuss those with Board of Directors.	Ongoing
2. Inspect conservation easements on private land to make sure owners are following the terms of the easement.	Annually
3. Continue to participate in TAWSMP and collect weekly water quality samples at our water supply intakes.	Ongoing
4. Continue to manage our forest land in accordance with guiding principles.	Ongoing

Raw Water Supply

OWASA has three locally managed water supply sources: Cane Creek Reservoir, University Lake, and the Quarry Reservoir as illustrated in Figure 3. These three local reservoirs currently provide about 10.5 mgd of water, our estimated yield. We plan to drain the existing Quarry Reservoir in about 2025 and join it to the adjacent area currently being mined. Our yield will be reduced to about 10.2 mgd until the connection is completed at the end of 2030; the expansion will be fully completed in about 2035 and we will then have about 12.6 mgd of water from our local supplies. OWASA also has an allocation of water from Jordan Lake that provides about 5 mgd of water. However, OWASA currently does not have regular access to its allocation of water; we can access it on an emergency basis through our mutual aid agreements with the Town of Cary and City of Durham.

OWASA's Long-Range Water Supply Plan recommends that we work with the City of Durham, Town of Pittsboro, and Chatham County to invest in a new intake and transmission facilities on the west side of Jordan Lake in Chatham County. This work is estimated to be complete in about 2031. Figure 4 illustrates our historic demands, current estimated yield, and estimated yield when the proposed Jordan Lake facilities are available, and our Quarry Reservoir is expanded.

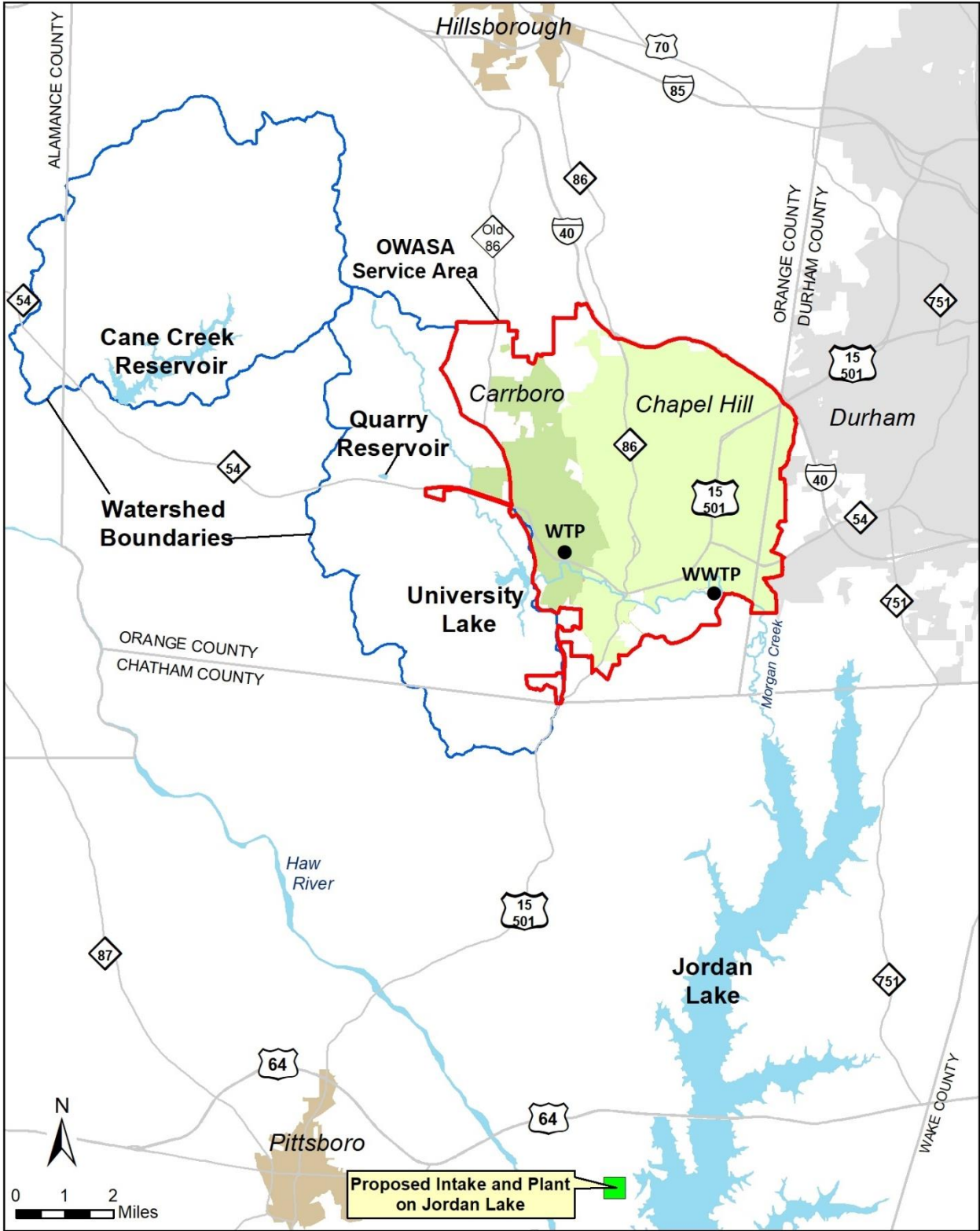


Figure 3. Location of OWASA Water Supply Reservoirs and Jordan Lake

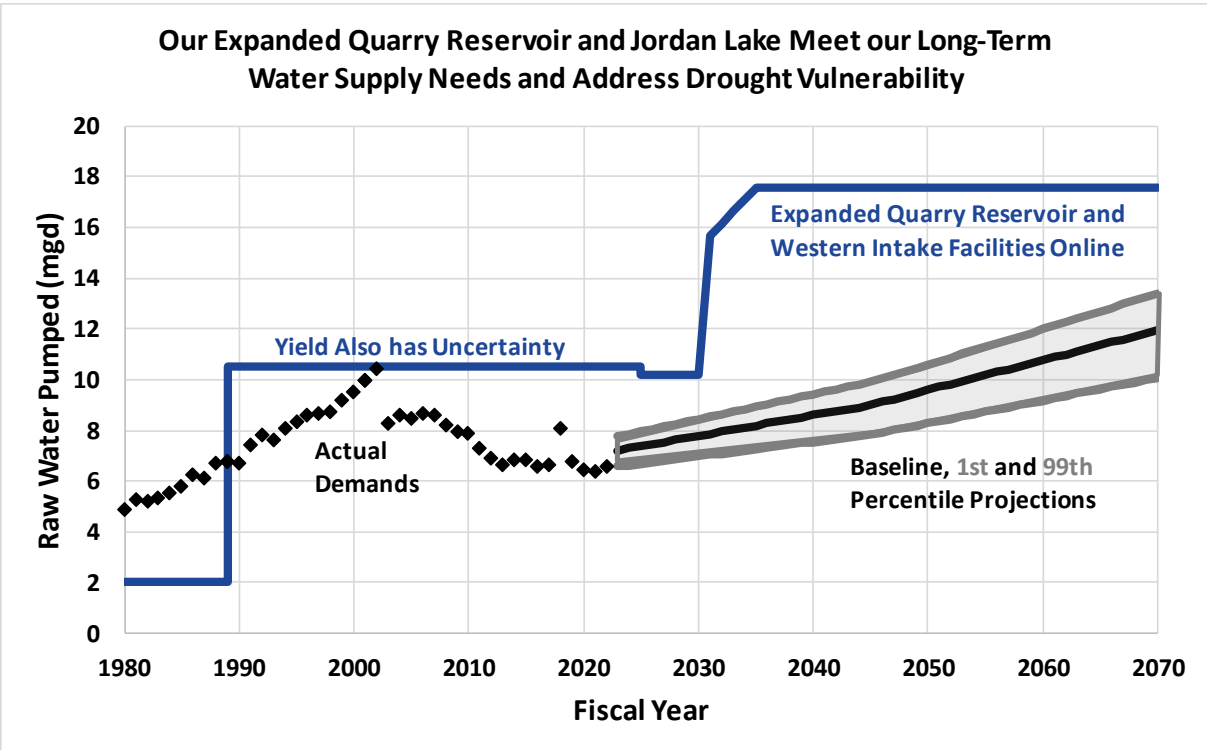


Figure 4. OWASA's Water Supply Yield and Demands – The estimated yield that includes our allocation of water from Jordan Lake is oversimplified as our access through the Western Intake Partners has not yet been modeled with our three local supplies. The projections shown in the figure are from 2019.

Description: This trend evaluates the supply (estimated yield) of our locally-owned upland water sources – Cane Creek Reservoir, University Lake, and the Quarry Reservoir as well as access to our Jordan Lake allocation along with historic raw water demands and estimated future raw water demands. This graph includes OWASA’s plans to expand the Quarry Reservoir described above. Based on recommendations from our Long-Range Water Supply Plan, we are working with the City of Durham, Town of Pittsboro, and Chatham County on a new water supply intake, treatment, and transmission facilities on the western side of Jordan Lake. OWASA does not yet need access to its Jordan Lake allocation on a regular basis so is participating in a limited capacity to have ownership in the intake and transmission infrastructure, which are difficult and costly to expand once constructed. These facilities are planned to be operational around 2031 and will provide about 5 mgd of yield. We can currently access our Jordan Lake allocation through Town of Cary and City of Durham on a limited, emergency basis.

Key Observations:

- The annual average-day amount of water we pumped from reservoirs has declined substantially since peaking in FY 2002.

- Annual average-day raw water demands are now at the same level they were in the early-1990s, shortly after Cane Creek Reservoir was placed into service. This has occurred despite over a 60 percent increase in the number of customer accounts during that period.
- Key factors in the reduction in water withdrawal rates include:
 - Increased water use efficiency and conservation by our customers;
 - Conservation pricing and conservation ordinances, including year-round restrictions;
 - Implementation of a process water recycling system at the drinking water treatment plant (2002), which reduced annual average-day raw water withdrawals by about seven percent;
 - Implementation of the reclaimed water system in partnership with UNC (2009), which now meets over 10 percent of the community’s annual average-day water needs.
 - Higher density development which typically results in lower per capita demands.
- Raw water demand was lower than anticipated in FY 2022, but we may still be seeing impacts of reduced water demands from the pandemic. Staff will continue to track our water use to help evaluate when we need to revise our demand projections.
- Raw water demand was higher than expected in FY 2018, because we provided water to the City of Durham while they were working on their WTPs. If we had not transferred this water, our average raw water demand would have been approximately 6.9 mgd, the same level it was in FY 2015 and FY 2019.
- OWASA recently updated its Long-Range Water Supply Plan (LRWSP), and Figure 4 shows the updated raw water demand projections developed as part of that project. Because we know that there is significant uncertainty when projecting growth and water demands 50 years, we developed a range of projections as shown by the grey lines in Figure 4; these represent the 1st and 99th percentile projections that resulted when we varied assumptions and ran the model 5000 times. Further information on the methodology is in this [report](#).
- We recognize that there is also uncertainty in the estimated yield shown in Figure 4. As part of the LRWSP update, a sensitivity analysis was performed on the yield; depending on the parameter changed, our estimated yield after the Quarry Reservoir expansion is completed and full in approximately 2035 will range from 11.5 to 15 mgd (the baseline projection with the expanded Quarry and without access to Jordan Lake is 12.6 mgd). This analysis did not include access to our Jordan Lake allocation.
- We anticipate that OWASA’s current and planned locally-controlled water supply sources will meet most customer demands through the next thirty to forty years and under most circumstances over the next 50 years. However, modeling shows that we will need to access our Jordan Lake allocation under conditions similar to drier historic years, and implementing our LRWSP will prepare us for those drought conditions.
- We anticipate that Jordan Lake will be needed to reduce risk to acceptable levels, particularly given the uncertainty of climate change on the frequency and severity of droughts. Demand management measures will not meet long-term needs on their own, but are an important component of OWASA’s water conservation program.

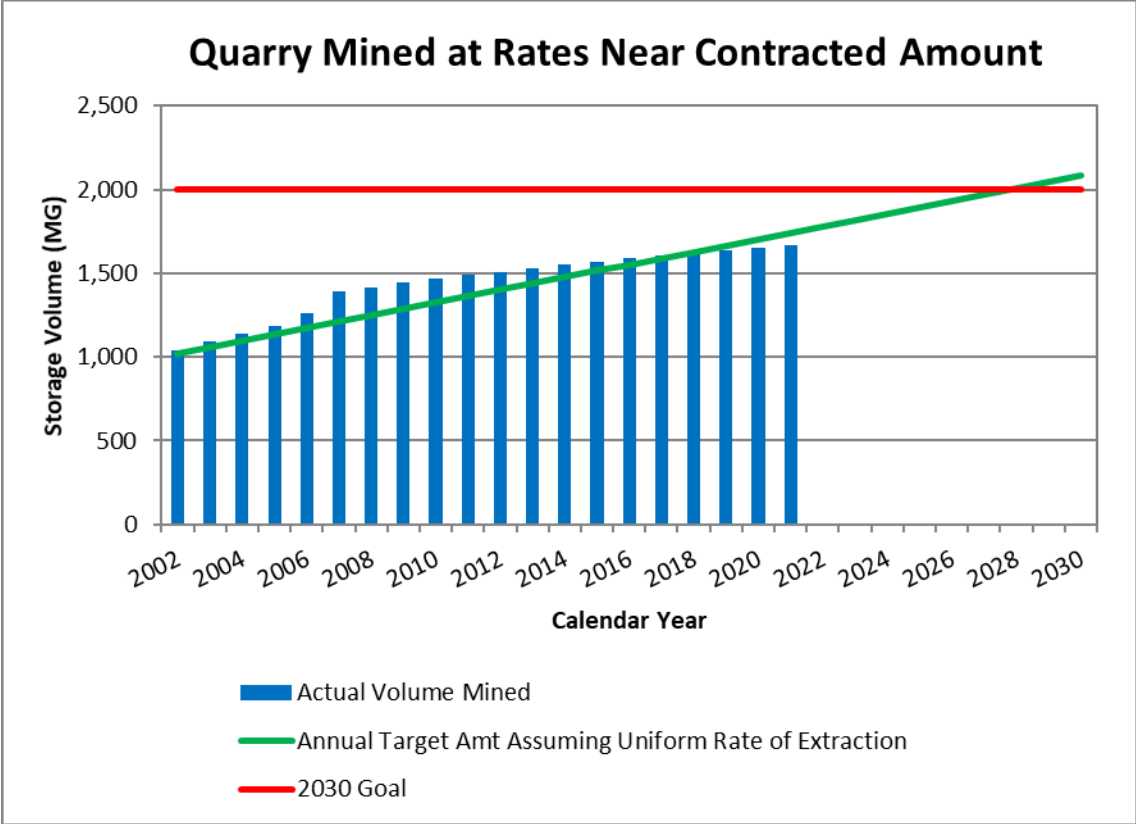


Figure 5. Quarry Mining Rates

Description: In accordance with an agreement with OWASA, Martin Marietta (formerly American Stone Company) is mining rock from OWASA-owned land adjacent to our Quarry Reservoir. Per that agreement and the requirements of Orange County’s Special Use Permit that authorized expansion of the quarry, mining operations must cease by 2030, after which OWASA will begin to fill the expanded quarry with water from Cane Creek Reservoir. In about 2025, OWASA will drain the existing Quarry Reservoir so Martin Marietta can join it to their existing mining operation during the final years of their permit. Martin Marietta is required to remove enough stone to ensure the expanded quarry (including OWASA’s existing Quarry Reservoir at 0.2 billion gallons (BG)) will store at least 2.2 BG of water. This trend evaluates whether the quarry is being mined at rates which will meet that minimum water storage capacity requirement.

Key Observations:

The actual volume mined is slightly less than the annual target to achieve OWASA’s storage volume target assuming a uniform rate of extraction. However, the contract does not require Martin Marietta to meet the uniform target in any given year and provides allowances for market conditions. Extraction rates meet the contractual requirements.

Related Capital Improvements Program Projects and Other Initiatives

One of the main capital projects regarding water supply is our participation in the Western Intake Partnership with the City of Durham, Town of Pittsboro, and Chatham County to plan, design, and permit a new water supply intake, treatment, and transmission facilities on the western side of Jordan Lake. OWASA does not yet need access to its Jordan Lake allocation on a regular basis, but hydraulic modeling shows that we will need it during extended drought. Thus, we are participating in a limited capacity to have ownership in the intake and transmission infrastructure, which are difficult and costly to expand later. OWASA will postpone ownership in the proposed water treatment facility until a later phase when we need water on a more regular basis.

Funding is also included in our CIP to conduct a planning study for the Quarry Reservoir expansion to better understand future permitting and construction needs. Other planned projects include adding a chemical facility at University Lake for pretreatment of organic compounds and iron and manganese (in construction), improving the raw water pump station at Cane Creek Reservoir, assessing the conditions of the raw water main from Cane Creek Reservoir to the Quarry Reservoir, and funding some maintenance work that involves replacing some joint sealant on Cane Creek Reservoir dam (underway) as identified by a recent inspection of the dam.

Actions Needed

Action Items	Timing
1. In future years, update calculations to estimate yield and estimate raw water demand projections when warranted (e.g., when new drought of record occurs [impacts yield], service area boundaries change, local governments or UNC revise growth projections).	Review when warranted – likely every 5 to 10 years
2. Continue to work with Western Intake Partners to secure access to our Jordan Lake allocation.	Ongoing
3. Implement Water Conservation Plan.	Will request some initial funding for FY 2024
4. Continue to monitor the annual rate of rock excavation at the quarry to ensure contractual requirements are met.	Annual
5. Obtain consulting assistance to assure we understand process and permitting requirements to expand the Quarry Reservoir.	FY 2024
6. Begin draining existing Quarry Reservoir to enable Martin Marietta to connect the current mine site with the existing Quarry Reservoir.	CY 2025

Water Treatment Plant: Peak Day Drinking Water Demands

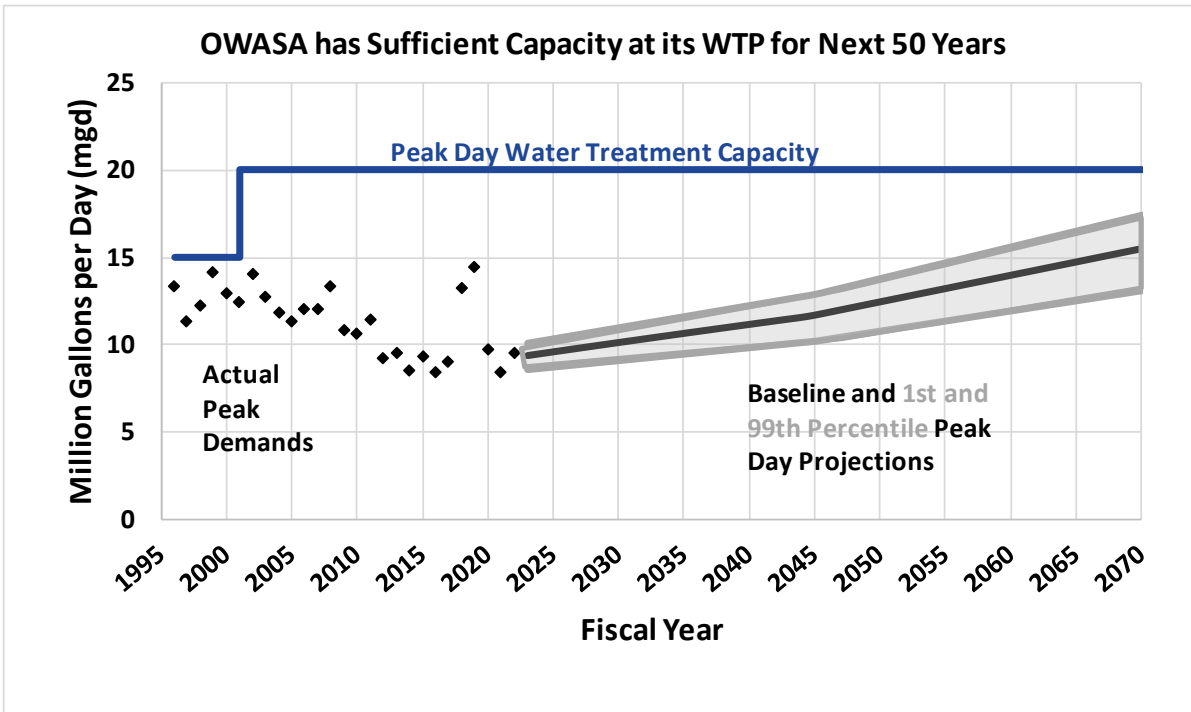


Figure 6. WTP Capacity and Peak Day Drinking Water Demands. The projections were based on an analysis completed in 2019 and assume that our reclaimed water system is in operation throughout the peak day demand season. Peak day water demands would be considerably greater if the reclaimed water system is out-of-service.

Description: This trend evaluates peak day drinking water demands and compares those demands to the 20 mgd rated capacity of the Jones Ferry Road Water Treatment Plant (WTP).

Key Observations:

- Since FY 1999, the year with the highest peak day demand under normal operations, peak day drinking water demands have declined by 33 percent despite a 33 percent increase in customer accounts over that same period. (See comments regarding peak demands in FY 2018 and FY 2019 in bullets below).
- This decline has resulted from the following primary factors: (1) our customers are using water more efficiently, (2) we have adopted conservation pricing and conservation ordinances including year-round water use restrictions, and (3) since March 2009, reclaimed water has been used instead of drinking water to meet certain non-drinking water needs at several UNC facilities that have high summer season demands (cooling towers and irrigation).
- The peak day drinking water demands indicate that we have adequate capacity in our WTP for the next 50 years even when accounting for uncertainty in our demand projections.
- There was a significant increase in peak day drinking water demands in FY 2018 and FY 2019 compared to the recent past. OWASA provided drinking water to Durham while they had one WTP

offline in FY 2018 and were making improvements at their second WTP; we provided some water to Durham in FY 2019 as well. The reason for the increased peak day in FY 2019 was the large water main break that occurred near the WTP on November 5, 2018. If OWASA had not had the main break, our peak day demand would have been 8.6 mgd, comparable to earlier years.

Related Capital Improvements Program Projects and Other Initiatives

While we do not need to expand the hydraulic capacity of our WTP, we do have several large projects planned to maintain the plant processes. One of the larger projects involves improving the electrical system at the WTP. This project was identified by our 2018 Risk and Reliability Study and involves converting a portion of the plant’s electrical system to an updated voltage standard (majority of plant already uses this updated standard) and construction of a new electrical building at the plant. Another capital improvements project is also planned to implement the recommendations for the Supervisory Control and Data Acquisition (SCADA) system at the WTP that were included in the 2021 Master Planning Study for the entire facility; creating a more resilient instrumentation and control network.

Other planned projects include replacing and rehabilitating aging components of the water treatment plant, completing some maintenance work on the clearwell (the water storage tank after treatment), replacing the belt filter press, replacing roofs on several of the WTP buildings, replacing various filter components, and making overall building repairs for joints and tiles.

The American Water Works Association (AWWA) sponsors the [Partnership for Safe Water](#) program. The Partnership for Safe Water is a voluntary effort for water utilities to optimize their treatment and distribution system processes to help ensure the production and delivery of safe water to all users that go beyond regulatory measures. The OWASA Jones Ferry Road WTP was the ninth plant in the nation and the first in North Carolina to achieve the highest level of recognition with the Phase IV Excellence in Water Treatment Award. This level of excellence has been maintained for eleven consecutive years (OWASA has maintained Phase III or higher for 17 years). As part of our program of continuous improvement that is a foundation of the Partnership, OWASA is developing an Algal Toxin Response Plan and a plan to address taste and odor compounds.

Actions Needed

Action Items	Timing
1. Continue to monitor peak day demands at the Jones Ferry Road WTP.	Annually
2. Evaluate opportunities for additional conservation against guiding principles for our water conservation program and continue to look for cost-effective opportunities to expand reclaimed water use, which help reduce peak demands.	As opportunities arise
3. Continue to monitor potential growth in our service area by working closely with Carrboro, Chapel Hill, and UNC to ensure we have sufficient drinking water treatment, pumping and storage capacity.	Ongoing
4. Maintain performance goals within Partnership for Safe Water	Ongoing

Drinking Water Distribution System Integrity

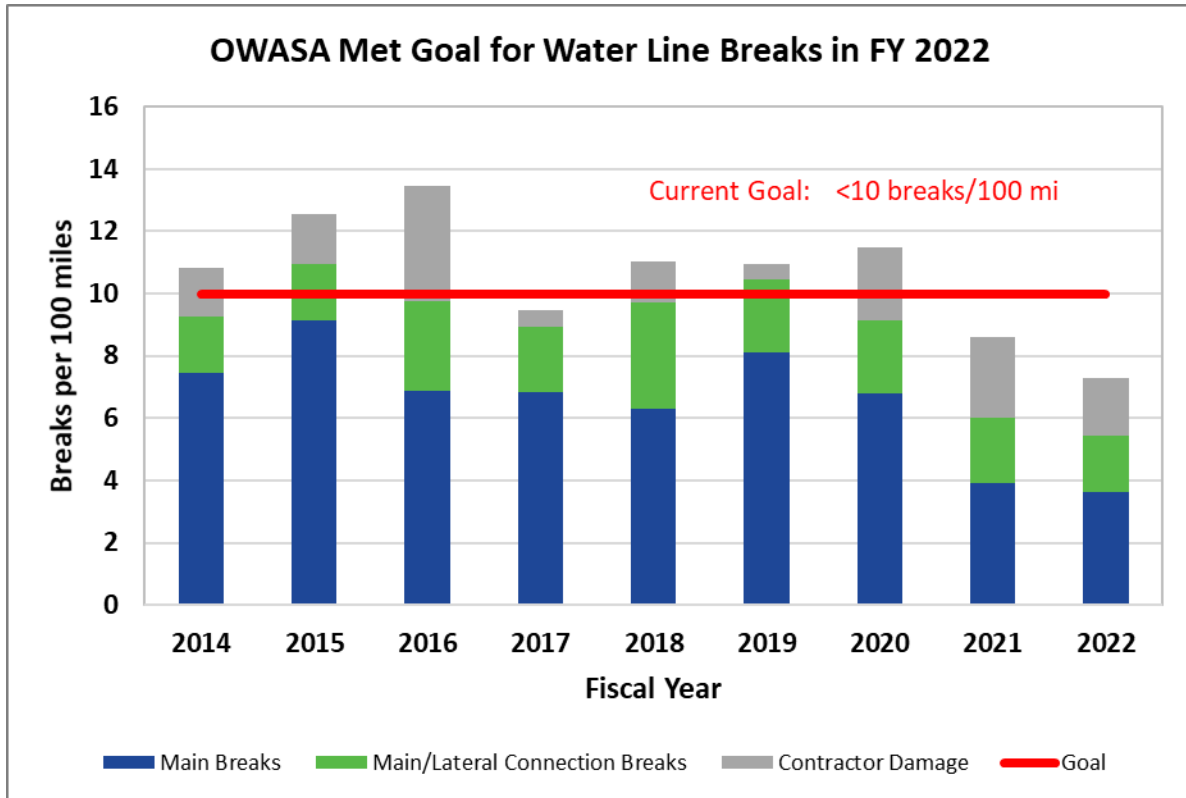


Figure 7. Historic Water Line Breaks

Description: This trend evaluates the number of water main breaks per 100 miles of water mains and connections with service lateral lines. These are important indicators of the integrity of our drinking water distribution system. It also includes information on lines damaged by contractors; while that metric does not impact the integrity of our water distribution system, there is an impact on our customers and thus we include contractor damage in this trend. Figure 8 illustrates the location of the water line breaks in FY 2022.

Key Observations:

- We had fewer water main breaks than our goal of 10 main breaks or less per 100 miles of pipeline, which is based on a goal selected by the Board of Directors at its [December 10, 2020 meeting](#). That goal is based on OWASA’s historic breaks, break rates from other local utilities, and a large study which evaluated rates in the United States and Canada. For context, OWASA has about 385 miles of water line.

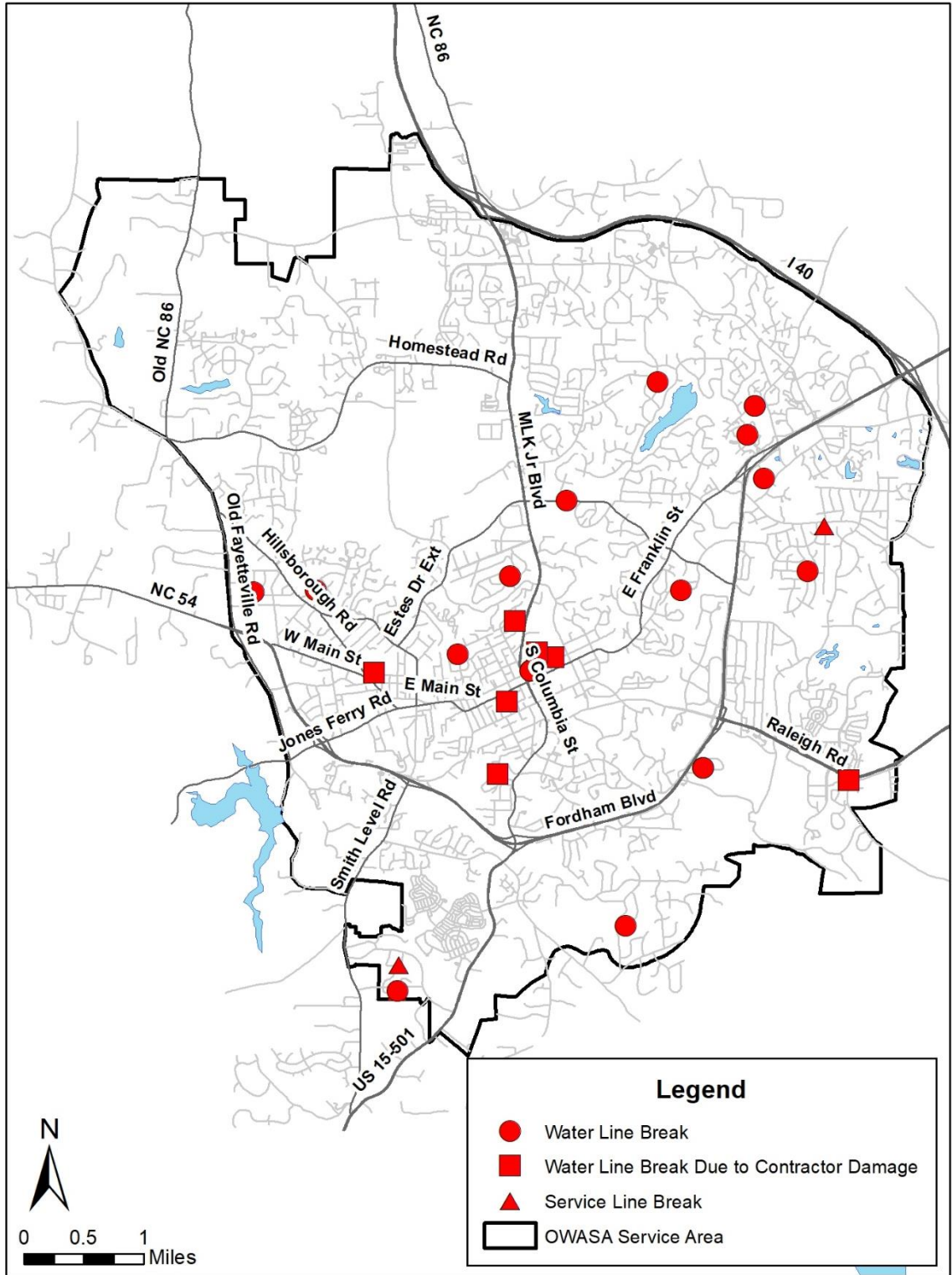


Figure 8. Location of Water Line Breaks in FY 2022

Interconnection Capacity

OWASA has interconnections with the City of Durham, Town of Hillsborough and Chatham County. We rely on these interconnections during CIP projects, some maintenance activities, and operational emergencies. These interconnections provide about 8.4 mgd; these interconnections can currently meet our average day demands (the Jones Ferry Road WTP treated 6.6 mgd on average in FY 2022). If the City of Durham also sends water to Chatham County and the Town of Cary sends water to the City of Durham, modeling shows we can get approximately 9.4 mgd through our interconnections. Based on the baseline demand projections shown in Figure 4, our interconnections will meet our average day needs until about 2037 if Durham does not send water to Chatham County. If our demands increase at the higher rate shown in Figure 4, we will need to expand the interconnection capacity in 2030.

Related Capital Improvements Program Projects and Other Initiatives

OWASA is updating and expanding its hydraulic model of the distribution system. This model will be used to identify areas within the system that have capacity or pressure concerns.

OWASA uses its distribution system prioritization model developed in 2020 to evaluate and prioritize water mains for replacement. The model is run annually to assess pipe risk and identify CIP projects that are needed. OWASA's CIP includes plans to replace over 12 miles of aging water mains over the next five years. The CIP also includes large meter vault replacement and asset management activities to assess pipe and valve conditions and better anticipate future distribution system needs. In addition, OWASA pursues beneficial cost-share betterment projects to replace additional AC water main or upsize capacity when the towns or developers are installing or relocating mains.

OWASA also has a valve maintenance program that ensures valves remain operational, which is critical to expedite repairs when breaks occur. OWASA has a goal of inspecting all valves every four years and inspecting all critical valves annually.

OWASA participates in [AWWA's Partnership for Safe Water](#), and received the Presidents Award in 2016 for its distribution system and has continued to maintain this status. As part of the efforts to maintain our Partnership status, OWASA is evaluating increasing the amount of pressure monitoring done in our distribution system. High pressures and pressure surges may indicate issues that can increase the likelihood of failure of water mains. Early detection of pressure events can reduce the consequence of the event by reducing response time and identifying potentially affected customers. We currently monitor pressure at three storage tanks, three booster pump stations, and three other locations within the distribution system. The other Partnership priority is to complete our lead service line inventory as part of the requirements of the Lead and Copper Rule Revisions (LCRR), which is described in the Regulations section of this report.

OWASA is a member of the Triangle Water Supply Partnership (TWP), which is updating a regional interconnection model to use for regional emergency planning such as what might happen if the region

lost one of its main raw water supplies or water treatment facilities. As part of this model update, OWASA’s interconnections with the City of Durham at I-40 and with Chatham County were field tested. Our interconnections were also tested in summer 2022 in preparation for a partial shutdown of the WTP for a CIP project at the facility.

The City of Durham is evaluating the potential for a new pressure zone which would reduce the capacity of our interconnections. OWASA staff will continue to follow the decisions made by the City of Durham on its water distribution system and will re-evaluate our interconnection capacity with the City and evaluate any impacts on future CIP projects on our interconnections depending on their path forward.

A 2002 interconnection capacity study recommended the installation of a new booster pump station at Barbee Chapel Road to replace the station at NC Highway 54 and Finley Golf course Road (our Hwy 54 interconnection with the City of Durham). This study also recommended transmission line improvements along Stancell Drive. OWASA’s updated hydraulic model will further inform the timing and capacity needs of our distribution system including a new or updated NC Highway 54 pump station. This potential work on the Highway 54 interconnection will be planned in coordination with the work the City of Durham is doing on its distribution system and with development projects in the corridor.

Actions Needed

Action Items	Timing
1. Use OWASA’s water main prioritization model and risk framework to inform investment decisions for the condition assessment and replacement of the drinking water distribution system.	Annual
2. Complete periodic model updates to assess pipe and project risk changes and accuracy of the model.	Ongoing
3. Continue the programmatic replacement of aging galvanized water mains throughout the distribution system.	Ongoing
4. Update the prioritization model’s risk framework to account for current data sources and statistical trends in main break history.	Ongoing
5. Use the results of the hydraulic model to identify CIP projects to address capacity and pressure issues.	FY 2024 and ongoing
6. Continue valve maintenance program.	Ongoing
7. Continue to fund our water main renewal/replacement program to ensure system sustainability.	Annual
8. Re-evaluate the capacity of system interconnections to ensure changes in system facilities and demands have not adversely affected our ability to import an adequate supply of drinking water to meet average-day demands during an emergency.	Periodically as needed
9. Continue to work with TWP to update and use regional interconnections model for planning purposes to improve regional reliability and resiliency.	Ongoing

Water System Audit

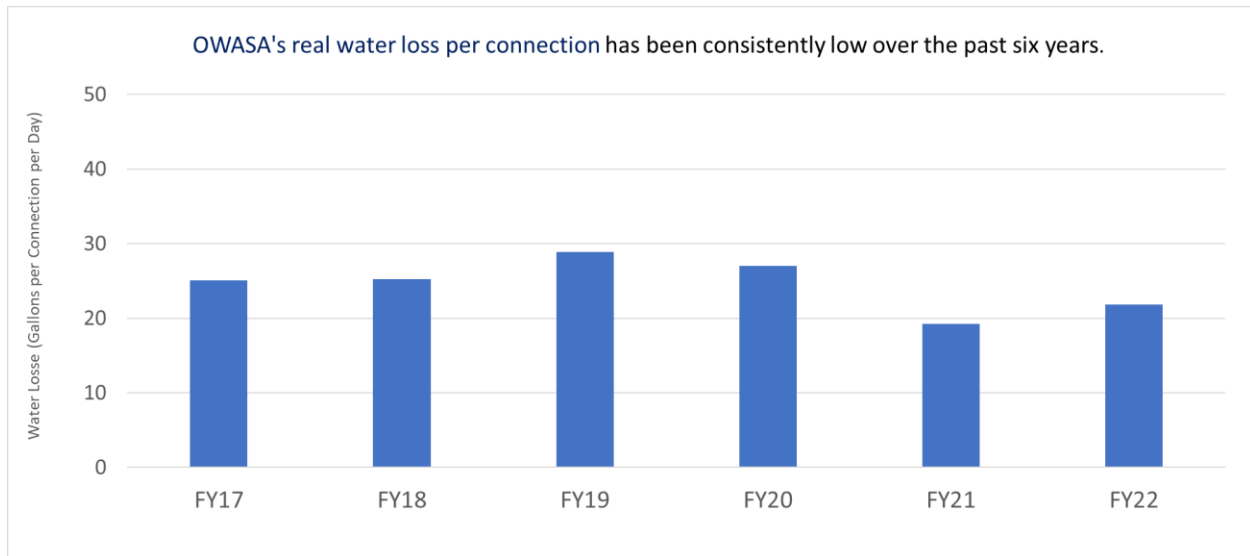


Figure 9. Historic Real Water Loss

Description: Every year, we conduct a system water audit using the American Water Works Association (AWWA) Water Audit Method and Water Audit Software. This analysis compares treated water pumped to the system to all billed water consumed by customers, as well as water used in system flushing, CIP projects, unbilled water from illicit connections, and water that leaks out of OWASA’s nearly 400 miles of drinking water distribution pipes. The trend reflected above summarizes the annual volume of water lost through leaks in the distribution system. Real loss is the difference between water supplied and authorized consumption; utilities also subtract out apparent losses associated with inaccuracies in metering, data errors, and estimated water theft.

Key Observations:

- OWASA’s water loss remains less than other utilities. The median water loss for water utilities in Georgia (a state where all water providers that serve a population of 3,300 or more conduct annual, validated water system audits) averaged over 42 gallons per connection per day in past analyses. The median water loss reported in last year’s AWWA Benchmarking survey was 37.64 gallons per connection.
- The Water Audit Software calculates an “infrastructure leak index” (ILI) as the ratio of real water losses (physical losses from the distribution system) to the unavoidable real water losses (an industry-calculated technical low limit of leakage for well-managed systems in good condition with aggressive active leak control). OWASA maintains a historical ILI at or around 1.0, which means that the water leaking from our distribution system is equal to the lowest limit technically (and economically) feasible to maintain.

Related Capital Improvements Program Projects and Other Initiatives

The CIP projects described in the Drinking Water Distribution System Integrity section help reduce water loss.

Actions Needed

Action Items	Timing
1. Update water audit information	Annual
2. Track water loss on monthly KPI report	Monthly

Wastewater Collection System Integrity

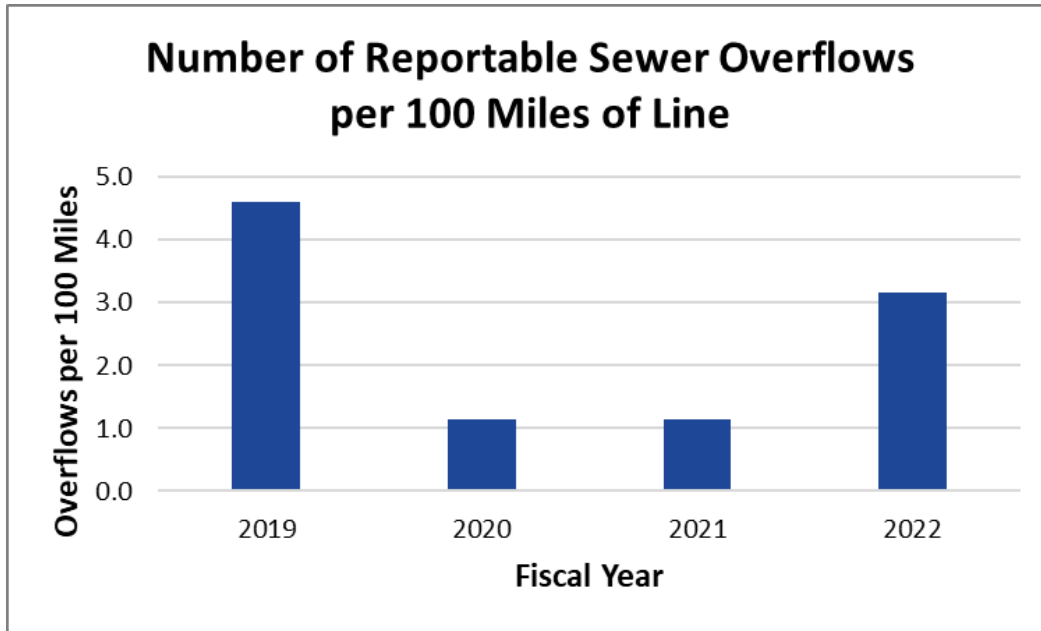


Figure 10. Historic Reportable Sanitary Sewer Overflows

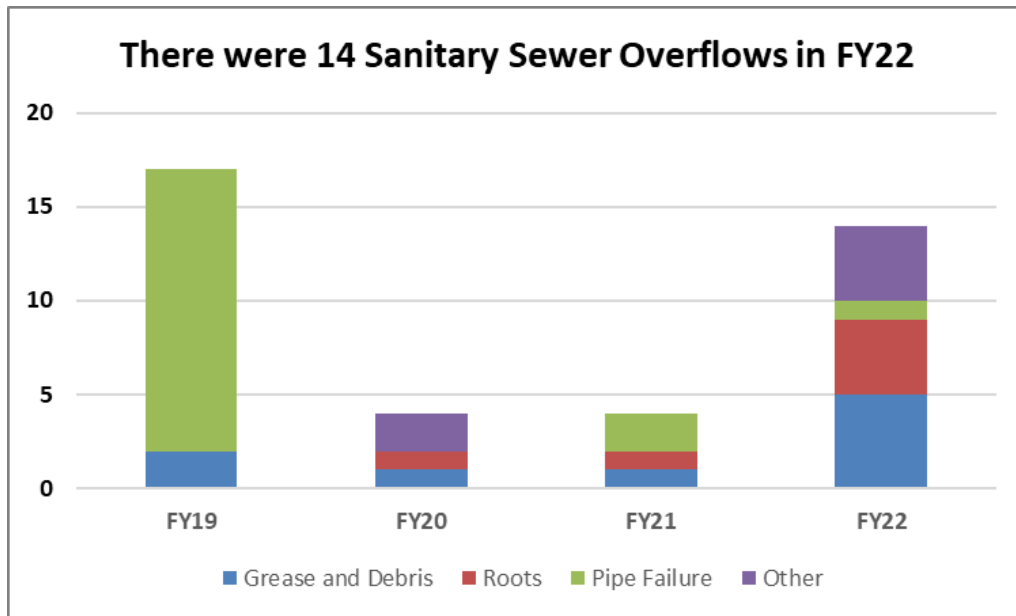


Figure 11. Historic Causes of All Sanitary Sewer Overflows

Description: This trend evaluates the number of reportable sewer overflows (Figure 10), which is an important indicator of the integrity of our wastewater collection system. It also evaluates the causes of all sanitary sewer overflows (SSO) in Figure 11. Figure 12 illustrates the location of SSOs in FY 2022. DEQ defines a reportable overflow as being over 1000 gallons or reaching surface water.

Key Observations:

- The number of reportable overflows is 3.2 per 100 miles of pipeline, which is more than 3.0 per 100 miles of pipeline, the national median per the American Water Works Association 2021 Benchmarking report. Per DEQ guidance, OWASA strives to have no overflows. For context, OWASA has about 349 miles of sewer lines.
- In FY 2022, there were 14 total overflows (reportable and non-reportable) attributed to grease and debris, roots, pipe failure, and other causes such as vandalism. Grease, debris, and roots are typically the primary causes of overflows. Customers can help minimize potential root intrusion by not planting deep rooted plants near our sewer lines; OWASA’s website includes a planting guide for landowners with sewer lines on their property.

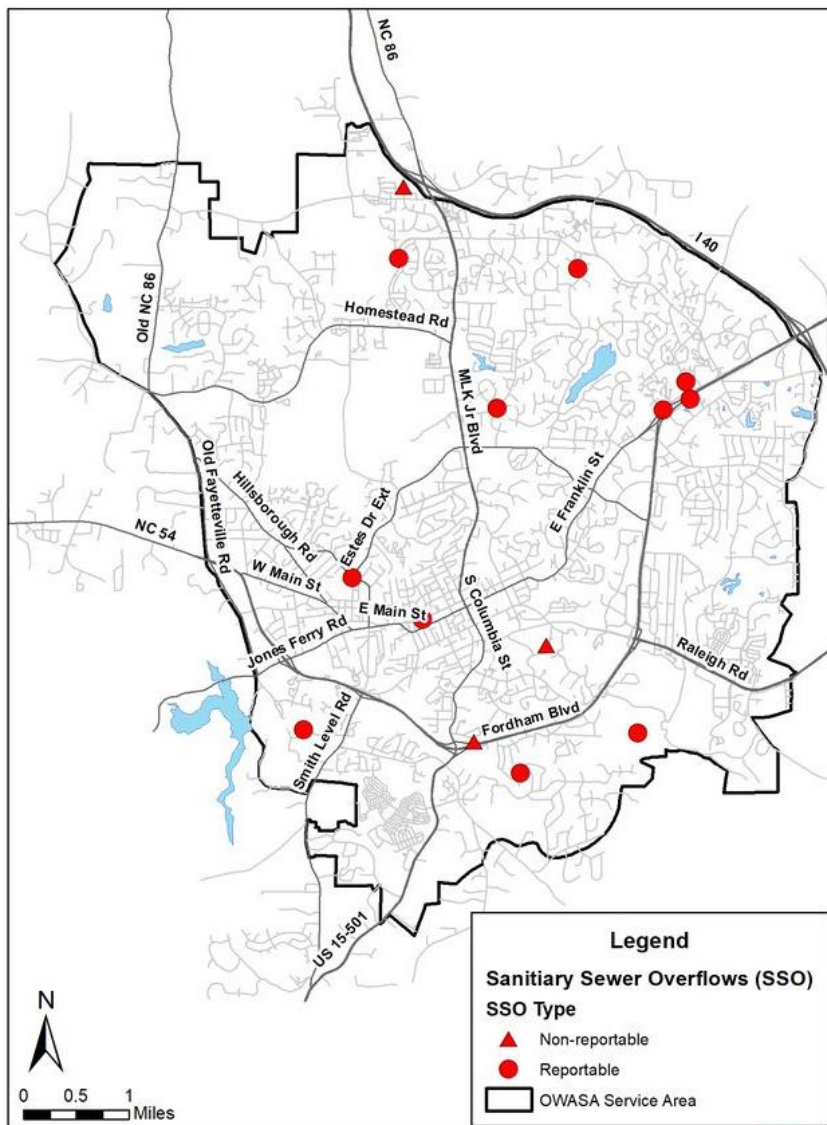


Figure 12. Location of Sanitary Sewer Overflows in FY 2022

Related Capital Improvements Program Projects and Other Initiatives

OWASA completed a Sewer System Master Plan in 2020 which identified and prioritized sewer system rehabilitation and replacement needs. The study included the development of a calibrated hydraulic model of the interceptors and critical collector pipes in the system, the use of temporary flow monitors throughout the system, establishment of a revised design storm to reflect more recent storm trends, and wastewater demand projections developed using the LRWSP demand projections as a basis.

The CIP program includes the following types of projects:

- Projects to repair deteriorated pipes and reduce stormwater inflow and groundwater infiltration,
- Improvements needed to accommodate present flows,
- Improvements to OWASA’s “backbone” infrastructure as necessary to accommodate future flows resulting from projected growth,
- Improvements to pump stations, and
- Condition assessments of priority sewer lines and appurtenances to assess future needs.

Reducing grease requires proactive, recurring education of our customers – especially those in the food service sector. Outreach to Carrboro, Chapel Hill, and Orange County has resulted in OWASA being notified more often for new restaurants or when restaurants change ownership and grease trap evaluation is needed. Inspecting grease traps proactively when occupancy changes allows restaurant owners to install a new grease trap, if needed, while renovations are ongoing. OWASA also sent letters to restaurants in FY 2022 that do not have grease traps; these restaurants have until the end of 2022 to install a grease trap to comply with OWASA requirements.

OWASA has an active root control program. We hire a contractor to treat identified areas each year. This program was recently updated; in past we had treated about 20 percent of our service area each year. We now focus on areas where roots are a problem as noted by CCTV inspections and we treat about half the service area annually. This modification is saving OWASA money and enabling us to stay within the warranty period of treatment on our lines.

Actions Needed

Action Items	Timing
1. Continue to use the findings and recommendations from the 2020 Sewer System Master Plan and subsequent Sewer Evaluation Reports as a guide for prioritizing funding for sewer system evaluation, rehabilitation, and replacement. Update the Master Plan’s modeling efforts periodically as flow demand patterns change. The goal of these actions is to reduce inflow and infiltration.	Ongoing
2. Integrate the results of the sewer system modeling and field condition assessment work into the comprehensive asset management program so that the trade-offs of	Annual

Action Items	Timing
different capital improvements investment decisions can be consistently evaluated and prioritized.	
3. Follow up with restaurants needing grease traps to make sure they have been installed.	Late CY 2022 and early 2023
4. Utilize targeted flow monitoring equipment in the collection system to identify areas susceptible to inflow and infiltration (I&I).	Ongoing
5. Continue to inspect, clean, and rehabilitate our sewer lines and wastewater pumping stations as needed to prevent overflows, reduce infiltration and inflow, and ensure adequate capacity.	Ongoing
6. Continue to monitor and maintain sewer easements to ensure our equipment and personnel can access the sewer system for maintenance and repair work, and to ensure tree root intrusion into sewers is minimized and corrected.	Ongoing
7. Continue to educate the public on the importance of not pouring fats, oils and grease, medications, etc. down the drain and not flushing items other than toilet paper.	Ongoing
8. Continue to fund the sewer system renewal/replacement program and operations and maintenance activities to ensure system sustainability.	Annual

Mason Farm Wastewater Treatment Plant Maximum Month Flows

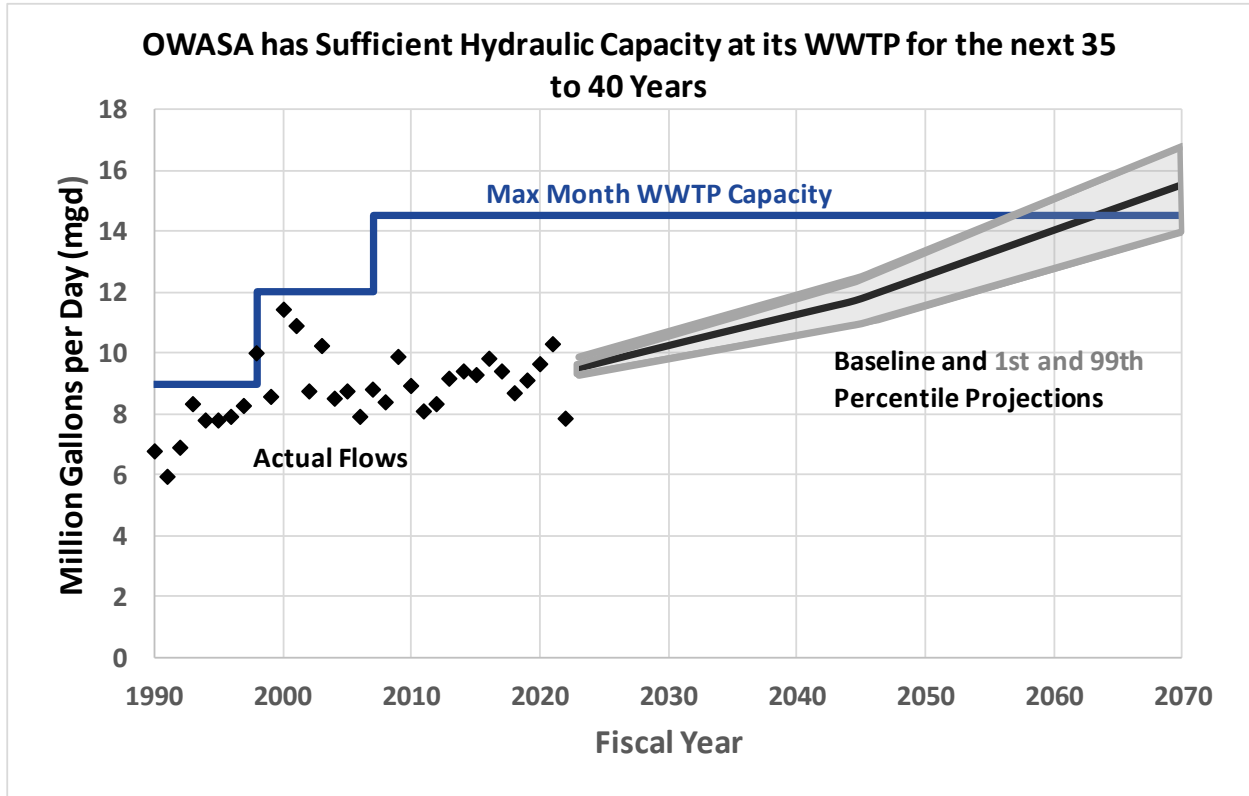


Figure 13. Mason Farm WWTP Capacity and Demands. Projected flows are from 2019.

Description: The Mason Farm Wastewater Treatment Plant (WWTP) has a permitted capacity of 14.5 mgd, which is the maximum average daily flow which can be treated in any given month. This trend tracks historical annual maximum month of flow and compares those against the permitted capacity of the WWTP.

Key Observations:

- OWASA’s maximum month wastewater flows have declined from a peak of 11.5 mgd in FY 2000. This corresponds to reduced drinking water demands by our customers, as well as our continuing investments in the rehabilitation and replacement of sewer lines and manholes.
- In FY 2022, the maximum month flow was 7.9 mgd, which is about 54 percent of the WWTP’s permitted flow capacity which is lower than our predicted value for the year. This flow is lower than prior years; while FY 2022 was relatively wet, we did not have any large widespread storms that greatly influenced the flow during any given month.
- The projected maximum month flows indicate that we have adequate hydraulic capacity in our treatment plant for the next 35 to 40 years assuming inflow and infiltration rates do not increase.

However, if the frequency of high intensity storms increases with climate change, we may need to address our hydraulic capacity earlier than anticipated.

Related Capital Improvements Program Projects and Other Initiatives

OWASA is updating the WWTP Master Plan which will be used to inform future capital investments. The primary purpose of the Master Plan is to identify near and long-term improvements that will help the WWTP provide reliable and efficient wastewater treatment and meet future regulations. The Plan will include a regulatory review; hydraulic capacity assessment; nutrient removal and recovery evaluation; biosolids management evaluation; energy recovery and resiliency assessment; and prioritized condition assessment to identify improvement projects that will optimize performance, reduce resource consumption, accommodate flow and load conditions, and consider regulatory implications and challenges.

There are CIP projects planned to rehabilitate the primary clarifiers and one of the secondary clarifiers. The clarifiers help settle solids, an important part of the treatment process. Additionally, CIP projects are planned for improvements for return activated sludge pumping, scum pumping, biogas systems, digesters 3 and 4, and intermediate pump station. Additional rehabilitation is also planned for the aeration basins and coatings on various important processes throughout the WWTP.

AWWA sponsors the [Partnership for Clean Water](#), a parallel program to the Partnership for Safe Water described earlier. This program was established in 2016 and focuses on wastewater treatment plant optimization, effluent quality, and energy savings. OWASA completed a comprehensive and rigorous self-assessment which was then peer-reviewed. OWASA was awarded the Directors Award in 2021 for this program.

Actions Needed

Action Items	Timing
1. Continue to monitor growth and development activity and projections in our service area by working closely with the Towns of Carrboro, Chapel Hill, and UNC to ensure we have adequate wastewater treatment capacity for the future.	Annually with ongoing communication
2. Continue to inspect, rehabilitate, and replace our sewer lines when necessary to reduce infiltration and inflow as described in the Wastewater Collection System Integrity section.	Ongoing
3. Complete the WWTP Master Plan.	CY 2023
4. Maintain performance goals within Partnership for Clean Water	Ongoing

Mason Farm WWTP Nutrient Capacity

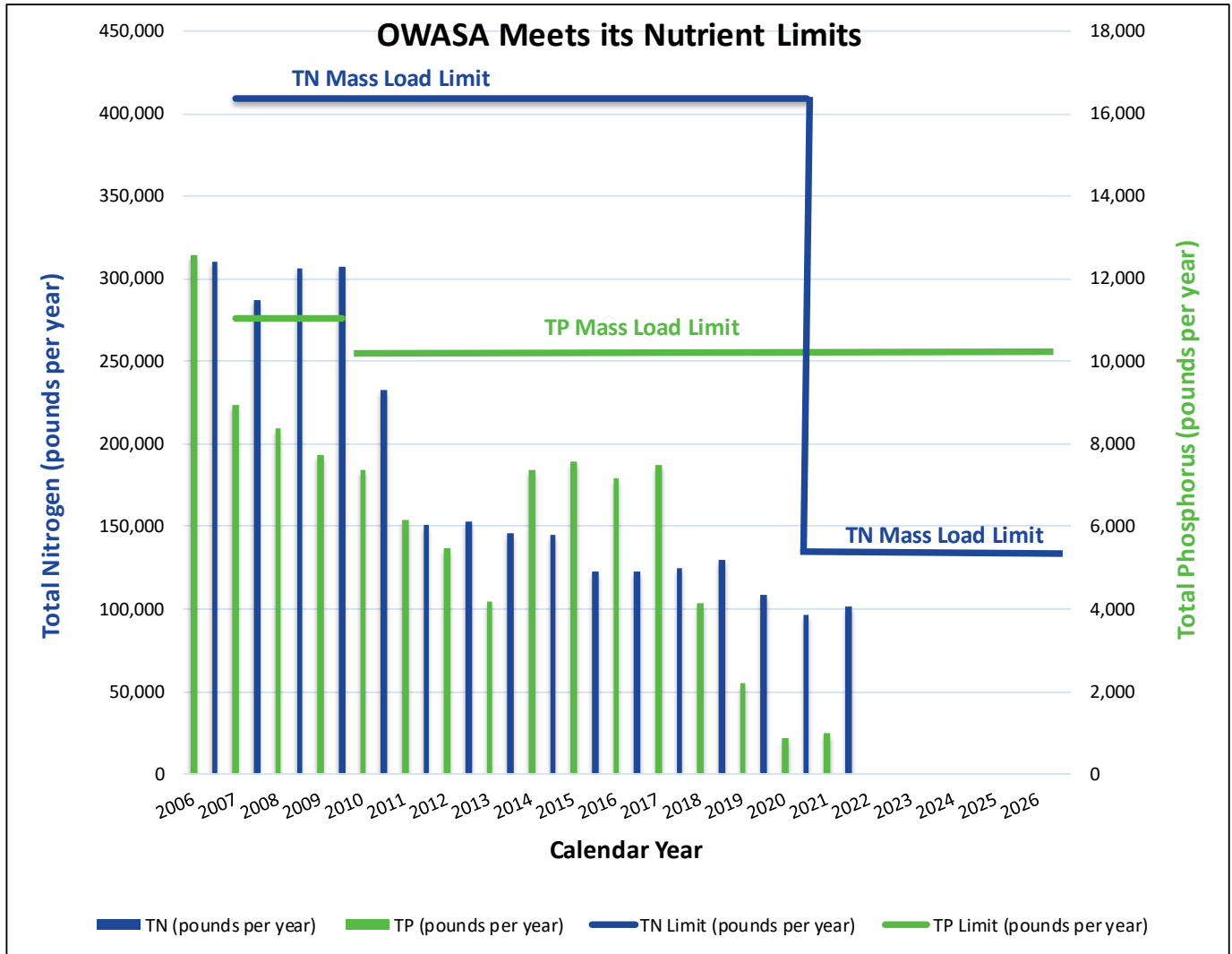


Figure 14. Mason Farm WWTP Annual Nutrient Loading

Description: The state’s Jordan Lake nutrient management rules require point sources to reduce their discharge of Total Phosphorus (TP) and Total Nitrogen (TN). OWASA’s new TN limit took effect in calendar year 2021. We report nutrient loading on a calendar year basis rather than a fiscal year basis since our permit limits for TN and TP are on a calendar year.

Key Observations:

- OWASA has met its TP limit since the annual mass load limit was first incorporated into our permit in 2007. We expect to continue to meet the limit within the 20-year planning horizon without the need for additional major capital improvements for TP removal.

- OWASA optimized its biological phosphorus removal process which is reflected in the decrease in TP in 2018-2021.
- OWASA has consistently met its current TN limit. Staff continues to focus efforts on plant optimization to improve the denitrification process, but may need to operate our filters in denitrification mode and incur considerably greater energy and chemical costs to meet the more stringent limits. Staff is performing inspections and testing to ensure the denitrification filters are operationally ready should they be needed. Next steps will be determined based on recommendations in the Wastewater Treatment Plant Master Plan.

Related Capital Improvements Program Projects and Other Initiatives

The Wastewater Treatment Plant Master Plan currently underway will help inform OWASA of needed capital investments and operational changes to ensure we continue to meet our nutrient limits. The Master Plan is evaluating five treatment options to optimize plant performance and meet our nutrient limits.

As part of OWASA’s participation in the Partnership for Clean Water, OWASA strives to be below 95 percent of the TN and TP regulatory limits described in this section. One of the initiatives that OWASA is undertaking as part of the Partnership program is to increase the instrumentation and online monitoring at the WWTP with a goal to reduce the nutrient load discharged from the plant into Morgan Creek, a tributary of Jordan Lake.

Actions Needed

Action Items	Timing
1. Continue to monitor nutrient loadings at the plant.	Monthly
2. Continue to optimize denitrification performance in the aeration basins.	Ongoing
3. Evaluate benefits and costs of different nutrient removal strategies as part of Mason Farm WWTP Master Plan update.	CY 2023

Reclaimed Water

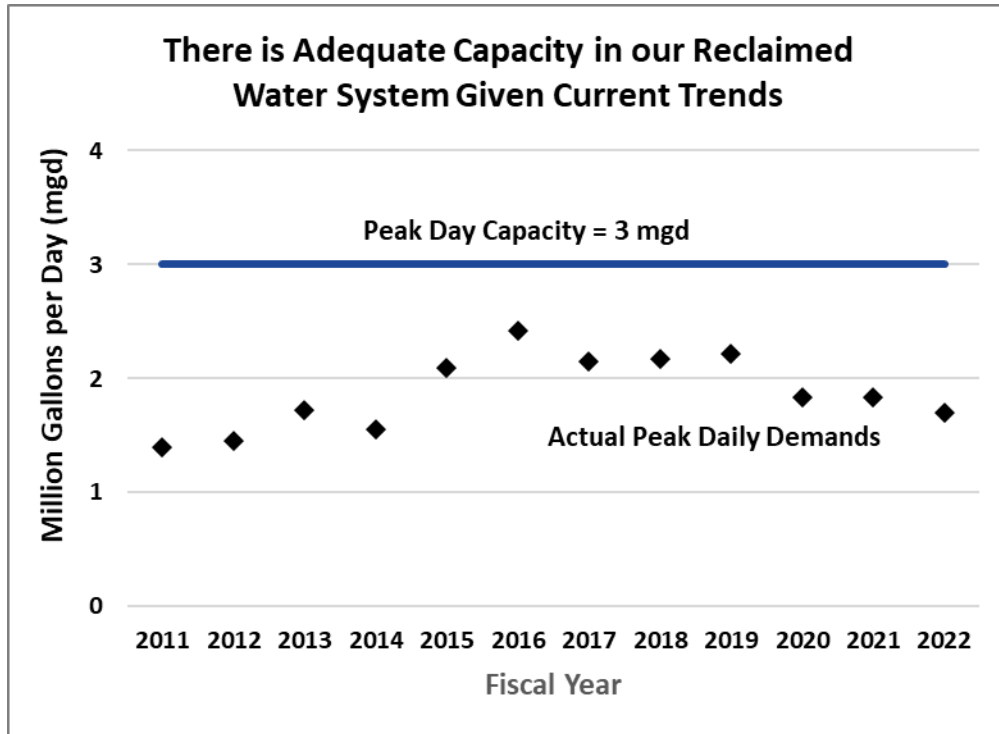


Figure 15. Reclaimed Water System Capacity and Demands

Description: This trend tracks historical annual peak day reclaimed water (RCW) demands and compares those against the peak day capacity of the Mason Farm WWTP’s RCW system.

Key Observations:

The majority of RCW is used for chilled water and irrigation of landscaping and athletic fields. These demands peak during warm months (April-October). Demands are typically lower during cold months (November-March).

- Peak daily demand of 2.4 mgd occurred in August 2016 when it was very hot and humid. The RCW system is currently configured to meet a total peak day demand of 3 MGD (average daily demand of 1.2 MGD); however, the system was designed and constructed to allow cost-effective expansion to 5.2 MGD by adding only an additional transfer pump and additional chemical feed system capacity (if that feed system is deemed necessary).

Related Capital Improvements Program Projects and Other Initiatives

There are two near-term planned CIP projects related to the RCW system:

- Coupling replacements – a flanged coupling adapter on the RCW main failed in 2019, requiring a shutdown of the system to replace the component. We now proactively inspect and replace these

couplings when needed. This project will involve replacing couplings at nine locations throughout the RCW system.

- Water quality evaluation – UNC requires a certain level of water quality for its use of RCW in its chiller plants. This study will evaluate incoming wastewater to assess the sources of conductivity within the collection system and determine if there are meaningful opportunities to reduce conductivity levels within the RCW system. The study will also evaluate how beneficial it may be to add a corrosion inhibitor at the Mason Farm WWTP to protect the reclaimed water distribution system as well as control corrosion for UNC.

Actions Needed

Action Items	Timing
1. Verify RCW meters are properly calibrated and recording flows accurately.	Annual
2. Closely monitor RCW demands in order to ensure RCW system capacity expansion is planned, designed, and funded in time to meet future demands.	Ongoing
3. Pursue cost-effective opportunities to expand the RCW system to serve non-drinking water demands of non-UNC customers as new growth and development/redevelopment occurs.	Ongoing – evaluated some options as part of LRWSP update
4. Complete water quality evaluation to include potential addition of a corrosion inhibitor and investigate conductivity levels to ensure water meets UNC needs.	FY 2024

Biosolids

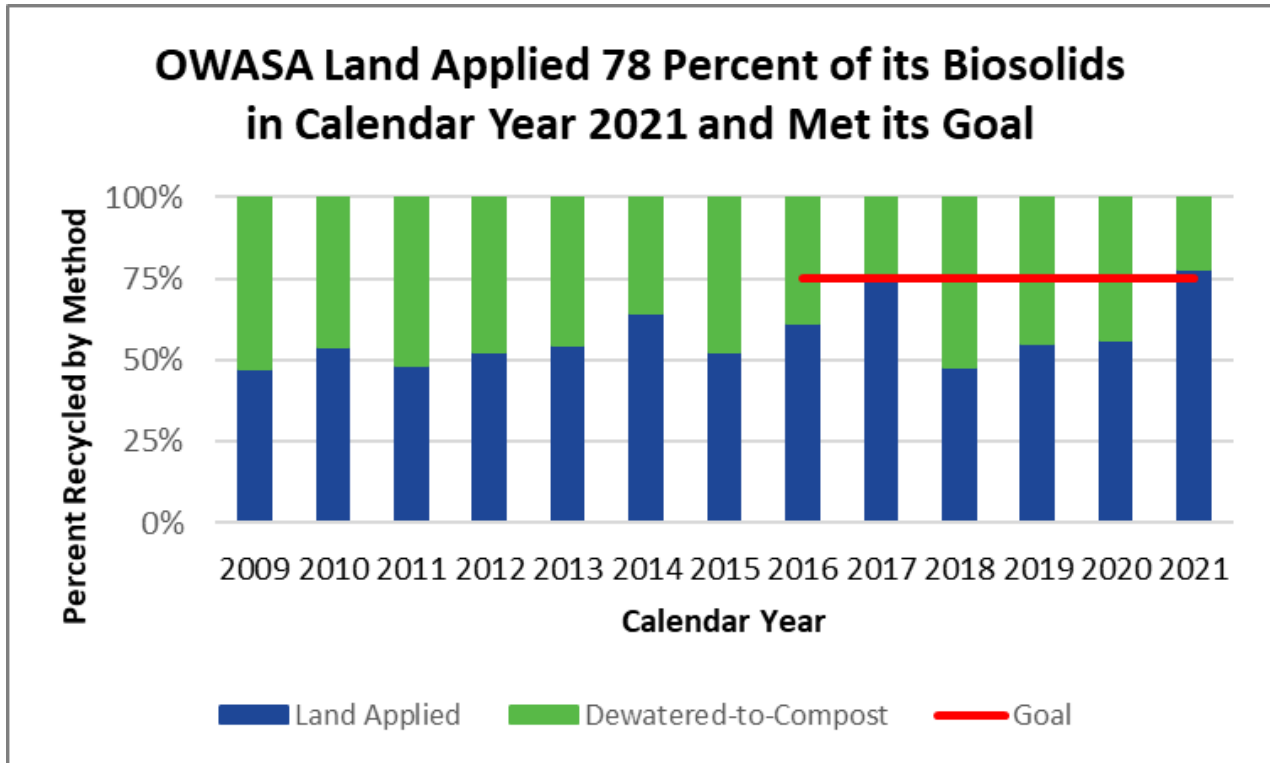


Figure 16. Historic Biosolids Application

Description: This trend evaluates the amount of biosolids which OWASA applies to land and the amount it dewateres for composting. The WWTP produces about four dry tons of biosolids each day. Most of this is applied in liquid form to agricultural land and a portion is dewatered to the texture and consistency of moist soil and transported to a private composting facility in Chatham County. For the liquid form, OWASA has 1,430 acres of farmland in Orange, Chatham, and Alamance counties available for its Class A land application program (see Figure 17). 90 percent (1,277 acres) is privately owned. The remaining 153 acres are owned by OWASA as part of a 700-acre tract west of Orange Grove Road in Orange County. At its October 8, 2015 work session, the Board of Directors agreed that OWASA’s goal is to apply 75 percent of our biosolids in liquid form and to dewater 25 percent of our biosolids. The Board of Directors understands that there are factors including weather conditions which may keep staff from meeting the goal.

Key Observations:

- From CY 2009 to CY 2014, OWASA consistently land applied about half of its biosolids and dewatered and composted the remaining half.
- In CY 2021, OWASA land applied 78 percent of its biosolids and met the goal.

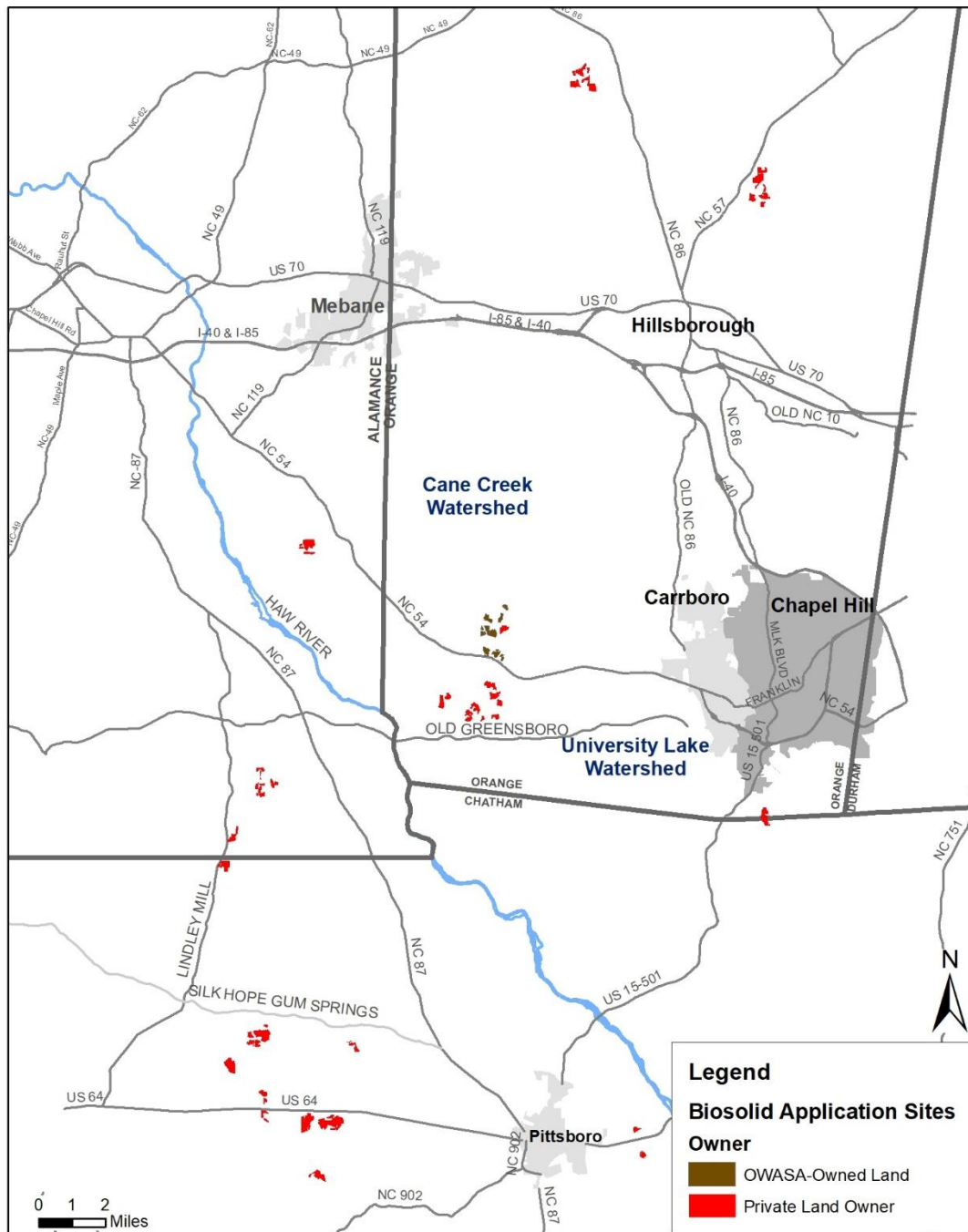


Figure 17. OWASA Biosolids Application Sites

Related Capital Improvements Program Projects and Other Initiatives

CIP projects related to biosolids include an evaluation of the mixing systems in the onsite and offsite biosolids storage tanks. This evaluation is expected to recommend different mixing solutions for the tanks in order to improve mixing efficiency. Biosolids are linked to nutrient removal; the Master

Planning effort underway will further determine strategies to meet our nutrient limits which could impact biosolids management.

Actions Needed

Action Items	Timing
1. Evaluate our performance against the 75 percent liquid land application goal and report it to the Board	Annually as part of this report
2. Evaluate the amount of land in our biosolids program to ensure it is adequate to meet liquid land application goal	As needed (if farmers drop out of program)
3. Evaluate impact of various treatment alternatives on biosolids as part of Master Plan	CY 2023

Regulations

This section summarizes upcoming regulations for which OWASA is preparing. Upcoming regulations included in this section are:

- Fifth Unregulated Contaminant Monitoring Rule,
- Per- and polyfluoroalkyl substances (PFAS),
- Lead and Copper Rule Revisions (LCRR),
- Nutrients,
- America's Water Infrastructure Act and North Carolina's Source Water Resiliency and Response Plan, and
- Chrysotile Asbestos Ban.

Fifth Unregulated Contaminant Monitoring Rule 5

The Safe Drinking Water Act Amendments of 1996 included a program for water utilities to monitor unregulated contaminants in drinking water every five years, known as the Unregulated Contaminant Monitoring Rule (UCMR). EPA identifies the contaminants in each round based on the potential to occur in drinking water, whether there is an established laboratory method, the potential health impacts of the substance, public interest, and other factors. EPA has identified 29 PFAS substances and lithium to monitor in drinking water in the fifth round of monitoring for unregulated contaminants (UCMR5). UCMR5 will occur 2023-2025, and OWASA will need to monitor these compounds in 2025. Gathering data under the UCMR is one of the first steps EPA takes to establish drinking water regulations.

Per- and poly-fluoroalkyl substances (PFAS)

Per- and poly-fluoroalkyl substances (PFAS) are emerging compounds of concern. PFAS are used in a variety of substances to increase resistance to water, grease, or stains. PFAS can be found in household, industrial, and medical products including carpet, clothing, upholstery fabric, paper packaging for food, cookware, medical devices, and firefighting foams. PFAS compounds are present throughout the environment because they are highly persistent and have been widely used for decades. Drinking water and wastewater are not sources of PFAS, but may pass PFAS compounds through in treated drinking water, wastewater, and biosolids.

In October 2021, EPA released its [PFAS Strategic Roadmap](#) in which it proposed establishing draft drinking water regulations for two PFAS compounds, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) by Fall 2023. On June 15, 2022, EPA set new Interim Health Advisory Levels (HAL) for these two compounds at levels that are orders of magnitude lower than the previous HAL. The HAL set in 2016 was 70 parts per trillion (ppt) for PFOAS and PFOA combined. The new HAL for PFOS is 0.02 ppt, and the new HAL for PFOA is 0.004 ppt, and both HALs are below the level of detection (determining whether or not a substance is present) and quantitation (the ability to reliably determine how much of a substance is present). Therefore, it is possible for PFOA or PFOS to be present in drinking

water at levels that exceed EPA’s health advisories even if there are no detections during drinking water testing. The HALs will remain in effect until a regulatory standard is promulgated.

HALs are set to identify the lowest level where a health impact can be measured after a lifetime of exposure, particularly among the most vulnerable members of the community. HALs are not regulatory requirements. EPA will consider items such as analytical detection levels and concentrations that treatment technologies can achieve as they develop drinking water standards for these compounds. In the fall/winter 2022-2023, the North Carolina Department of Environmental Quality (DEQ) is expected to begin work on development of drinking water standards for certain PFAS compounds, including PFOS and PFOA.

OWASA began proactive quarterly testing of our source water in Cane Creek Reservoir and treated drinking water in 2018 to monitor these compounds and publishes the data on a [dashboard](#). Our drinking water consistently was lower than the prior HAL, but our drinking water has higher concentrations than the new HALs.

In order to better understand the challenges regarding PFAS, OWASA is planning to expand its monitoring network to include University Lake, the Quarry Reservoir, and the tributaries to Cane Creek Reservoir. This will enable us to determine whether there are PFAS levels in University Lake and the Quarry Reservoir that are above current detection limits (prior sampling of University Lake and the Quarry Reservoir showed lower concentrations of PFAS in these two sources than in Cane Creek Reservoir) and help identify potential sources in Cane Creek Reservoir watershed.

As noted in other sections of this report, OWASA is working with the City of Durham, Town of Pittsboro, and Chatham County on a new intake and transmission infrastructure on the western side of Jordan Lake; a new water treatment facility is also planned, but OWASA is not participating financially in that portion of the project. The Partners are monitoring for PFAS and other compounds to help design the intake and water treatment facilities to ensure the facilities can meet all current and proposed drinking water standards.

Since PFAS compounds do not break down, they also show up in our wastewater and biosolids. These chemicals can then “pass through” the treatment process and be reintroduced to the environment. Two potential pathways for PFAS to reenter the food supply chain that EPA is investigating are wastewater discharges into receiving waters, which are absorbed into fish, and through land application of treated biosolids onto crop fields which can be fed to cattle, hogs, and chickens. As a component of their PFAS Action Plan, EPA is currently conducting risk assessments for PFAS exposure in biosolids. Information regarding [risk assessment in biosolids](#) and the [state of the science](#) was made available in late 2020, and their [PFAS Strategic Roadmap](#) indicates that the risk assessment is expected to be complete in Winter 2024.

In August 2021, EPA published a draft analytical method suitable for the analysis of 40 PFAS compounds in wastewater, surface water, groundwater, soil, biosolids, sediment, landfill leachate, and fish tissue, with the intent to eventually require its use for regulatory monitoring. At this time, the method remains in the multi-lab validation phase but several contract laboratories offer it as an analytical service. EPA’s

Roadmap also proposes PFAS monitoring requirements in NPDES permits and have already begun requiring it in federally-issued NPDES permits. State action is expected to closely follow the federal guidance, with some additional monitoring requirements for PFAS compounds unique to North Carolina's environment.

In June 2019, OWASA began proactively monitoring the influent into our wastewater treatment plant and its effluent for approximately 25 PFAS compounds. In 2020 we added a monitoring site within our treatment process. In August 2022, OWASA added our biosolids products to our monitoring program to begin alignment with expected regulatory monitoring requirements.

On August 26, 2022, EPA announced that it plans to designate PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. This designation would require reporting releases of the chemicals above a certain threshold (proposed at 1 pound per day) into the environment. This proposed regulation could impact OWASA and other water utilities as these compounds do not break down. If we remove them from our treatment processes, they will show up in our biosolids. OWASA will continue to follow this proposed regulation and prepare for the potential impacts on our utility.

OWASA is hiring a consultant this fiscal year to evaluate and update our monitoring plan and provide recommendations for the mitigation, treatment and removal of PFAS in water, wastewater, and biosolids. The consultant will also include estimated capital and operating costs for their recommendations. A future phase of the study will be to hire an engineering consultant to assist OWASA with implementing the recommendations.

OWASA supports local and national monitoring and research on PFAS. OWASA is a founding member of the Triangle Water Supply Partnership in which utilities in the Triangle fund the U.S. Geological Survey to monitor our water supply reservoirs. The phase of the program that will begin in calendar year 2023 will focus on PFAS. OWASA also participated in the PFAS Testing network's landfill leachate sampling study and drinking water studies. We also help fund research through the North Carolina Urban Water Consortium and the Water Research Foundation.

Lead and Copper Rule Revisions

Public water systems, including community water systems such as OWASA, are required under federal and state law to test for lead in drinking water collected from customers' homes as part of the Lead and Copper Rule. Samples must be collected from homes that meet criteria set by the EPA; these criteria identify "high priority" homes that are most likely to have elevated lead levels. OWASA tests for lead in drinking water in 30 homes built from 1983 to 1985 that have copper pipes with lead solder every three years. The most recent round of monitoring ended September 30, 2020. In advance of expected changes as part of the Lead and Copper Rule Revisions (LCRR) we requested that our contract lab analyze all samples with lower reporting limits than required and all 30 samples had no detectable lead (<0.001 mg/L). In the previous round of monitoring, completed September 30, 2017, only one sample had a measurable level of lead. OWASA provides testing of our drinking water for lead at no charge when requested by a customer.

The LCRR was published in the Federal Register January 15, 2021 and has an effective date of December 16, 2021 and compliance date of October 16, 2024. One of the initial requirements of the LCRR is to identify lead service lines on both the utility and customer sides of the meter, and OWASA has begun that process. Other primary components of the LCRR include developing a replacement plan for any identified lead service lines, evaluating our corrosion control program, modifying our sampling program to include mandatory sampling of elementary schools and day care centers, and communicating potential lead service lines to the public. OWASA has hired a consultant to assist with these and other requirements of the LCRR and plans to provide an online map to help inform the community about these efforts.

Nutrients

In accordance with direction from EPA, DEQ is developing draft nutrient criteria for surface waters in the state. If nutrient levels in one or more of our water supply reservoirs, Morgan Creek, and/or other surface waters in our area exceed future nutrient-related water quality limits, we and/or other parties could be required to reduce the discharge of nutrients into those water bodies. The technical, economic, and environmental feasibility of complying with such requirements can only be determined once proposed criteria are issued. OWASA staff follow this issue, and our Mason Farm WWTP is designed to remove nutrients.

America's Water Infrastructure Act and North Carolina's Source Water Resiliency and Response Plan

America's Water Infrastructure Act (AWIA) requires water systems to prepare a risk and resilience assessment (RRA) and emergency response plan (ERP). The RRA is to evaluate risks from natural hazards and malevolent acts; the resilience of source water, treatment, and conveyance facilities; monitoring; and financial infrastructure. The ERP evaluates strategies to improve the resiliency of the system including physical and cyber security, requires procedures to implement to respond to natural hazard or malevolent acts, and establishes practices that can reduce the impact of an event. OWASA certified its RRA on December 22, 2020, and the ERP on June 17, 2021, thus meeting the federal submittal requirements of AWIA and state requirements for Source Water Resiliency and Response Plan (SWRRP) described in the next paragraph. AWIA requires us to review and update our RRA and ERP every five years.

The North Carolina General Assembly ratified House Bill 894 in August 2014 to improve Source Water Protection in response to the accidental release of 4-methylcyclohexanemethanol in West Virginia and coal ash pond spills in North Carolina. Subsequently, the North Carolina Commission for Public Health adopted rules that require all public water supplies which use surface water to develop a Source Water Resiliency and Response Plan (SWRRP). The regulations state that public water supplies that are required to complete an RRA and a subsequent ERP under AWIA comply with the state's SWRRP requirements.

Chrysotile Asbestos Ban

EPA proposed a regulation in April 2022 that would prohibit the use and import of chrysotile asbestos, the only known form of asbestos in use in the United States. While there are significant public health and environmental concerns from asbestos, approximately 30 percent of the nation’s chlorine and sodium hypochlorite is produced using asbestos membrane technology. EPA’s proposed regulation would provide the chlor-alkali industry with two years to remove asbestos from their production process which could result in shortages (shortages have already been noted as a result of the pandemic) and price increases (also noted as a result of the pandemic). Disinfecting with chlorine is widely used in water treatment to protect public health and is necessary to maintain a required disinfectant residual in the distribution system. The chlorine that OWASA currently uses at our treatment facilities is not produced using asbestos membrane technology. However, OWASA follows this issue as it may stress the chlorine supply.

Actions Needed

Action Items	Timing
1. Continue to monitor PFAS at Cane Creek Reservoir and in our wastewater influent, effluent and biosolids; add tributary monitoring at Cane Creek Reservoir, monitoring at University Lake and Quarry Reservoir.	Ongoing; additional monitoring added during FY 2023.
2. Complete our lead service line inventory and develop a plan to comply with the remainder of the LCRR.	Present – October 2024
3. Update AWIA RRA and ERP to meet federal requirements; these requirements meet DEQ’s SWRRP requirements.	Dec 2025 for RRA and June 2026 for ERP

Energy Management

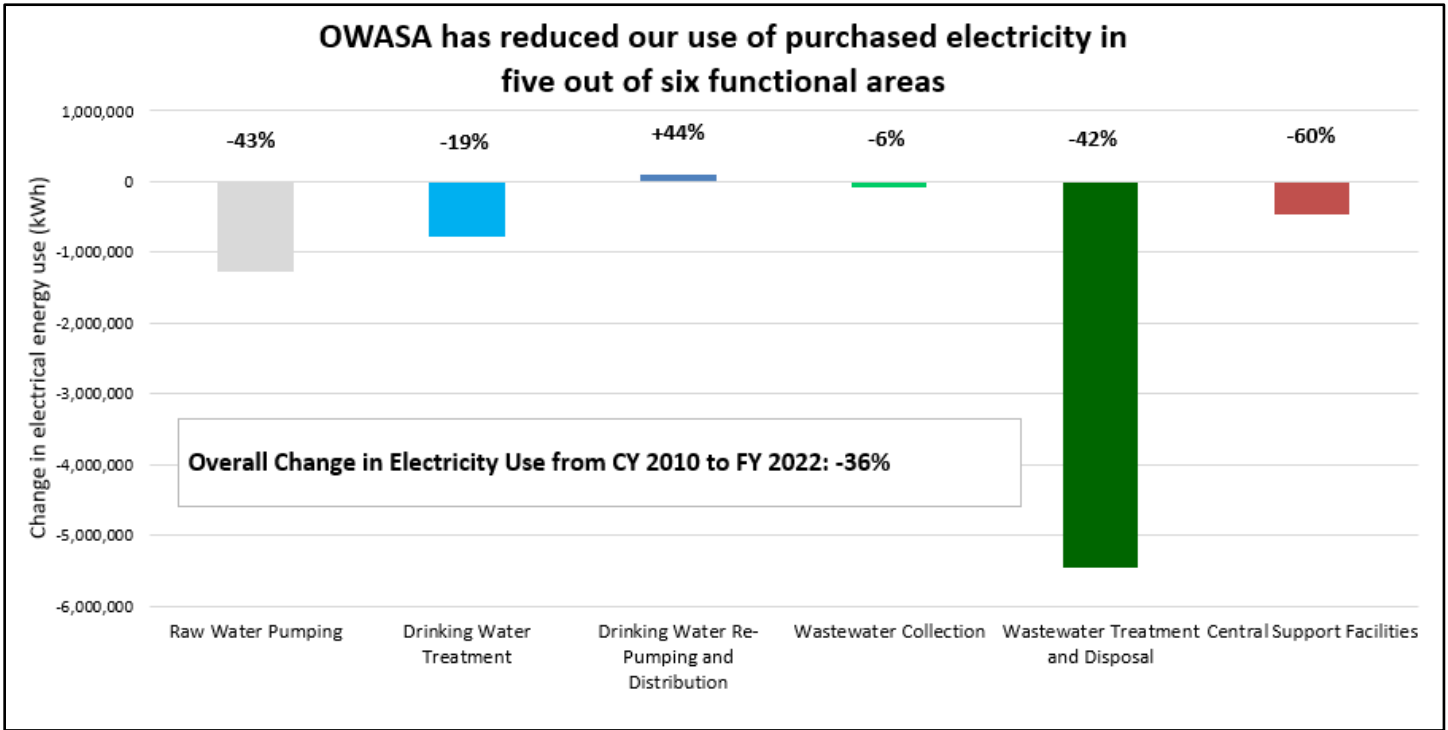


Figure 18. OWASA's Use of Purchased Electricity

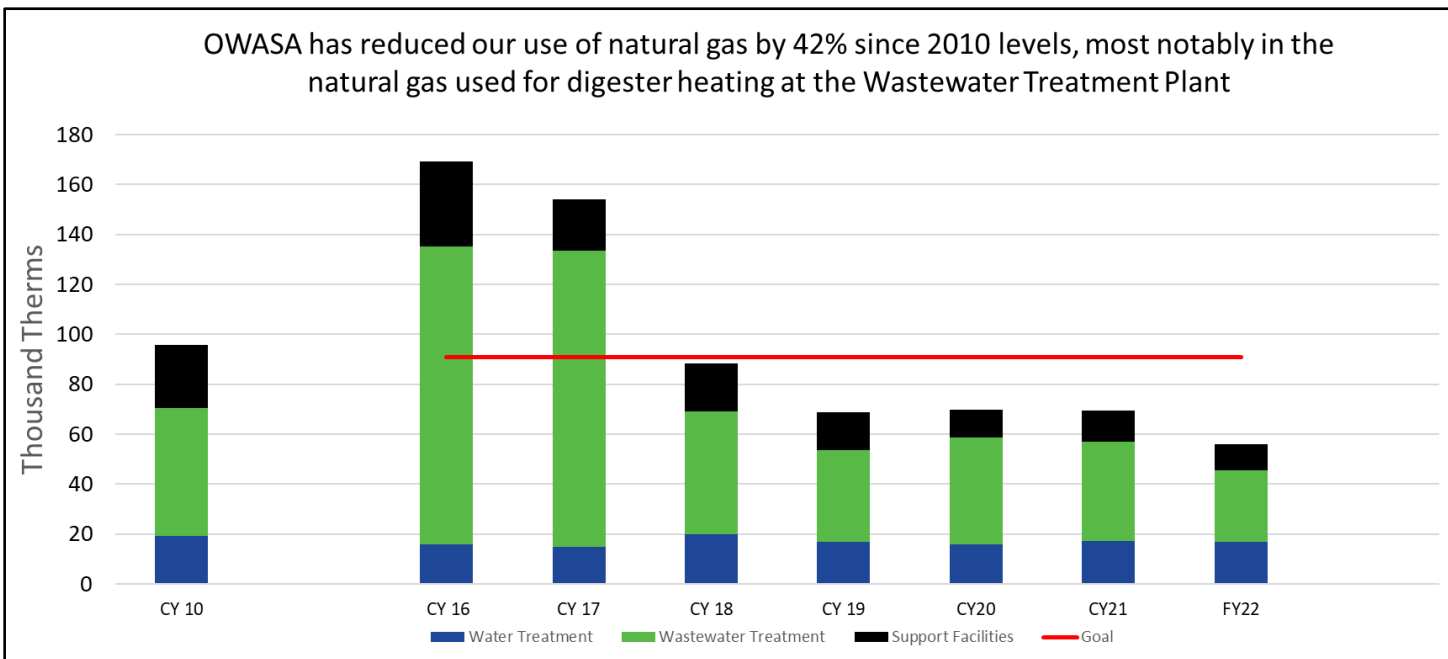


Figure 19. OWASA's Use of Natural Gas

Description: OWASA processes are energy intensive. Electricity is primarily used by pumps to move various forms of water throughout our processes. Additionally, the wastewater treatment process requires a significant amount of electricity for mixing and aeration. Natural gas is primarily used for building heating and also as a supplemental fuel for digester heating at the Mason Farm Wastewater Treatment Plant.

Key Observations: In 2015, the OWASA Board of Directors set energy management goals to reduce our overall use of electricity by 35% and of natural gas by 5% from 2010 levels. As of the end of Fiscal Year 2022, we have surpassed both goals, reducing our use of purchased electricity by 36% and of natural gas by 42%. These gains have been achieved through a series of cost-effective investment in energy efficiency and renewable energy technology, as well as a team commitment to conservation and the wise use of energy.

Upcoming Capital Improvements Program Projects and Other Initiatives

In the Fall of 2022, OWASA will connect our fourth and largest solar photovoltaic lease system. This system will be connected behind the meters serving the Cane Creek Reservoir Pump Station.

The Capital Improvements Program includes the following projects, which will serve as opportunities to evaluate more energy-efficient design and technology:

- Cane Creek Pump Station Improvements (270-16) – Raw Water Pumping
- Cane Creek Raw Water Transmission Main Study (271-05) – Raw Water Pumping
- Finished Water Pump #4 Motor and Pump Replacement (272-59) – Drinking Water Treatment
- WWTP Non-potable Water System Assessment and Rehab (278-95) – Wastewater Treatment
- WWTP HVAC Systems (WWTP Lab) (278-14) – Wastewater Treatment
- WWTP Master Plan – Wastewater Treatment

Actions Needed

Action Items	Timing
1. Update Energy Management Plan	Annual
2. Consider next phase of Energy Management Program	Spring 2023

Agenda Item 4:

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 advise 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 \$15,000.

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 15, 2022 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.”

Information:

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

October 13, 2022

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

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

ROBERT EPTING
JOE HACKNEY
ELIZABETH LACKEY JACOBS
STEVE LACKEY

September 15, 2022

Mr. Todd Taylor
Executive Director
Orange Water and Sewer Authority
Carrboro, NC 27510

General Counsel Engagement Letter

Dear Mr. Taylor:

We 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 we propose to continue in this capacity, should the Board of Directors choose to continue our appointment at its October Board 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 our 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 we enjoy at OWASA.

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

We are willing and would be pleased to continue to serve as General Counsel upon the terms and conditions of our present understanding, under which we are 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 and am thus unavailable to OWASA, 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 own 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 we 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. My partner Elizabeth Jacobs and I will be OWASA's primary legal contacts, and we will devote not less than forty hours per week to these services. Where Ms. Jacobs' work involves services in addition to my own, her time will be shown additionally on our monthly invoice, provided we will not bill for both when we work or attend meetings together and our services are merely duplicative.

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, 2022 through September 30, 2023, 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, as will Ms. Jacobs, 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. In the event of my unavailability, or as I might otherwise assign, my partner Elizabeth Jacobs will continue to serve as General Counsel to fulfill this engagement.

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 Jacobs or Joe Hackney, will attend in my place. The term "General Counsel" used herein includes their service as needed or assigned, as well as my own, as well as our firm EPTING & HACKNEY, a law partnership. I or my partner(s) 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 and assignments 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 Fifteen Thousand Dollars (\$15,000.00) 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 the firm.

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 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:

Engagement of General Counsel

September 15, 2022

Page Four

- 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 58 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.

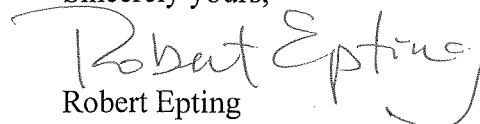
Matters involving opinions upon title and closing in the acquisition or disposal of real property by the Authority will be charged for and compensated on a parcel-by-parcel basis, in accordance with factors including the time expended and the consideration involved. Unless unusual effort and time are 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 one thousand 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

**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 (OWASA) 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 OWASA Board of Directors finds 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 15, 2022 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 13, 2022 and shall continue until terminated as provided in Mr. Epting's said letter dated September 15, 2022.

Adopted this 13th day of October 2022.

Bruce Boehm, Chair

ATTEST:

Raymond E. DuBose, P.E., Secretary

Agenda Item 5:

Resolution Awarding a Construction Contract for the Chapel Hill North Pump Station Rehabilitation Project

Purpose:

This memorandum recommends that the OWASA Board award a construction contract to Gilbert Engineering Company (Gilbert Engineering) for the construction of the Chapel Hill North Pump Station Rehabilitation Project.

Background:

The Chapel Hill North Pump Station (CHNPS) is currently served by two Smith & Loveless vacuum suction pumps housed in a single package enclosure over a precast concrete wet well. The CHNPS serves the Chapel Hill North Harris Teeter Shopping Center located on Hwy-86/Martin Luther King Blvd. near the I-40 Exit 266 Interchange. The CHNPS is enclosed by a wooden fence and is located directly behind the Harris Teeter adjacent to a stormwater pond. The pump station was constructed as part of the shopping center construction work in 1997. The pump station pumps an average of approximately 0.316 million gallons per day.

As a part of OWASA's asset management program, facility assessments are routinely completed, and equipment renewal and replacement schedules are tracked. This tracking, in addition to wastewater treatment plant (WWTP) staff observations and maintenance records, helped inform and prioritize the complete replacement of the pumps, updates to controls and communications components, and rehabilitation of the concrete wet well.

OWASA selected an engineering consultant, McKim and Creed (Engineer), to provide preliminary evaluation of options, design, bidding, and construction related services for the Chapel Hill North Pump Station Rehabilitation Project. The project scope provides new vacuum primed pumps, along with various other mechanical, electrical, instrumentation and control improvements, including:

- Removal of the existing dual vacuum primed pumps system and installation of a new dual vacuum primed pumps system consisting of a new pump control panel, two pumps and motors, valves, suction and discharge piping.
- Removal and replacement of the wet well precast concrete cover.
- Evaluation and rehabilitation of the existing precast concrete wet well.
- Relocation of the emergency bypass pump connection.
- Modifications to the existing concrete containment area.
- Upgrades to the existing remote communications components.



Advertising and Bidding:

The Engineer completed the Chapel Hill North Pump Station Rehabilitation Project design and bid documents in July 2022. The bid was posted on websites, news outlets, and emailed on July 28, 2022. Additionally, throughout the bid process, the Engineer and OWASA staff made direct contact with numerous general contractors via phone calls and emails. A total of seven (7) bids were submitted on the September 7, 2022 deadline, and the results are summarized below:

Gilbert Engineering	\$ 648,905.00
Sanford Contractors	\$ 655,085.00
J. Cumby Construction	\$ 705,000.00
Pipeline Utilities	\$ 723,432.00
Turner Murphey	\$ 773,809.00
Laughlin-Sutton Construction	\$ 808,600.00
Carolina Civilworks	\$1,109,242.00

Engineer's Estimate of Construction Cost: \$561,800

The low bid is 16% higher than the Engineer's estimate of construction Cost, however, this was a very competitive bid and the overage can be attributed to the current long equipment lead-times and uncertainty resulting from the continuing increase of inflation.

After an evaluation of the low bidder's project references, current projects list, financial statement and references, safety performance data, debarment status, and claims and judgments information,

Gilbert Engineering was determined to be a responsive and responsible bidder. A copy of the certified bid tabulation is attached with the Engineer's recommendation for award (attached).

Minority and Women Business Enterprise (MWBE) Participation:

OWASA's Minority Business Participation Outreach Plan and Guidelines include all of the statutory requirements from the State of North Carolina and specifies a 10% goal for participation by minority businesses. OWASA staff took several actions to solicit minority participation in this contract, including advertising the construction bid with the Greater Diversity News, publishing the advertisement on various websites, including the State of North Carolina Interactive Purchasing System (NC IPS), The National Institute of Minority Economic Development, North Carolina Department of Administration Office of Historically Underutilized Businesses (NC HUB), and OWASA, and posting advertisement in multiple plan rooms. Staff also emailed the advertisement directly to 498 MWBE prime contractors and subcontractor firms registered with NC IPS.

OWASA also requires bidders to complete "good faith efforts" to solicit participation by minority subcontractors, and to attest to those efforts via an affidavit submitted with the bid. Staff reiterated this requirement at the pre-bid meeting and provided the bidders with detailed guidelines.

Additionally, Gilbert Engineering provided the required documentation of their good faith efforts. The scope of work for this project offers opportunities for subcontracting to trades such as electrical, SCADA, painting/coatings, concrete cutting and demolition, and precast concrete fabrication. The limited nature and scope of this project affords a few opportunities for MWBE participation, however, Gilbert Engineering identified that approximately 10.5% of the contract value will be completed by MWBE (primarily Hispanic-owned) businesses.

Bid Review and Recommendation:

Gilbert Engineering has demonstrated sufficient qualifications in recent project performance, personnel qualifications/experience, and project references. The Engineer and OWASA staff also determined that Gilbert Engineering met safety performance, relevant project experience, bonding capacity, and other requirements. The Engineer's recommendation that the base bid construction contract for this project be awarded to Gilbert Engineering is attached along with the certified bid tabulation (attached).

The Chapel Hill North Pump Station Rehabilitation Project will provide necessary equipment replacement, structure restoration, and communication updates to a facility constructed approximately 25-years ago that serves an important Chapel Hill retail and business center. This rehabilitation will significantly lower the risk of pump station failures that can result in sewer overflows and impact the ability of businesses to serve their community. While the bids received were above the engineer's estimate, it is the opinion of OWASA staff that the bid is competitive, given the number of bidders (7), and reflects the current uncertainties of construction bidding due extensive materials and equipment lead-times. With regards to this project, the pump package manufacture has quoted a lead-time of 24-28 weeks after approval of equipment shop drawings.

Therefore, given the aforementioned understanding, OWASA staff supports the Engineer's recommendation and requests that the Board adopt the attached resolution (attached) awarding the construction contract to Gilbert Engineering.

Action Requested:

Board review and consideration to approve the Resolution Awarding a Construction Contract for the Chapel Hill North Pump Station Rehabilitation Project.

Information:

- Engineer's Recommendation for Award and Certified Bid Tabulation
- Resolution Awarding a Construction Contract for the Chapel Hill North Pump Station Rehabilitation Project

September 13, 2022

M&C 01519-0057 (54)

Mr. Brad Barber, PE
Utilities Engineer
Orange Water & Sewer Authority
400 Jones Ferry Road
Carrboro, NC 27510

RE: Chapel Hill North Pump Station Rehabilitation
Recommendation of Award of Construction Contract

Dear Mr. Barber:

On Wednesday, September 7, 2022, at 2:00 pm, the Orange Water and Sewer Authority (OWASA) received bids for the Chapel Hill North Pump Station Rehabilitation project. Seven (7) bids were received, and the bids were opened and read aloud. The advertisement and bidding procedures were consistent with statutory requirements, to the best of our knowledge. Please refer to the attached bid summary tabulation and detailed bid tabulation for the bids received. The referenced bids have been reviewed by the Engineer, and Gilbert Engineering Company (NC License # 999) is the apparent low bidder, with a bid submitted in the base bid amount of \$648,905.00.

Upon review of the submitted bids, a mathematical error was found in the bid submitted by Laughlin-Sutton Construction Company. The attached certified bid tabulations reflect the corrected bid amounts. In addition, the bid submitted by J. Cumby Construction, Inc. does not appear to be a responsive bid due to an alteration of the bid form, specifically the addition of a unit price bid item that was not listed in the bid form provided in the bidding documents. Gilbert Engineering Company remains the apparent low bidder.

Gilbert Engineering Company is properly licensed and experienced in the type of construction involved, as indicated by the information supplied with the bid. Based on the Engineer's review of the bids, we recommend award of the project to the lowest responsible, responsive bidder, Gilbert Engineering Company in the amount \$648,905.00.

Venture IV Building

1730 Varsity Drive

Raleigh, NC 27606

919.233.8091

Fax 919.233.8031

www.mckimcreed.com

Mr. Brad Barber
September 13, 2022
Page 2

Please accept this letter as the formal recommendation of award of construction contract to Gilbert Engineering Company. This recommendation of award is subject to acceptance of the submitted bid by OWASA.

Enclosed you will find the following documents:

- Certified Bid Summary Tabulation
- Certified Detailed Bid Tabulation
- Gilbert Engineering Company Bid Package
- Gilbert Engineering Company Bid Bond

Per the requirements of the bidding documents, Gilbert Engineering Company has been requested to provide the following post-bid documentation:

- Non-Collusion Affidavit of Subcontractors
- Affidavit C – Portion of Work to be Performed by Minority Firms

Should you have any questions or concerns regarding this letter or any of the enclosures, please do not hesitate to contact our office.

Sincerely,

McKIM & CREED, INC.


K. Jason Savage, PE
Construction Administrator

Enclosures

**CERTIFIED BID TABULATION
 ORANGE WATER AND SEWER AUTHORITY
 CHAPEL HILL NORTH PUMP STATION REHABILITATION
 BID DATE: SEPTEMBER 7, 2022 at 2:00PM
 MC PROJECT NO. 01519-0057 / OWASA CIP NO. 277-45**


BIDDER	ATTENDED MANDATORY PRE-BID	LICENSE NO.	BID BOND	BASE BID
Gilbert Engineering Company	Y	999	Y	\$648,905.00
Sanford Contractors	Y	6301	Y	\$655,088.00
J. Cumby Construction, Inc.	Y	82136	Y	\$705,000.00**
Pipeline Utilities, Inc.	Y	13040	Y	\$723,432.00
Turner Murphy Co., Inc.	Y	9072	Y	\$773,809.00
Laughlin-Sutton Construction Company	Y	3067	Y	\$806,100.00*
Carolina Civilworks, Inc.	Y	74658	Y	\$1,109,242.00

*Math error. Correct as shown.

**Alteration to bid form. Bid considered not responsive.



Certified as Correct


 K. Jason Savage, PE
 Construction Administrator
 McKim & Creed, Inc.

9/14/22
 Date

**Resolution Awarding A Construction Contract For Chapel Hill North
Pump Station Rehabilitation Project**

Whereas, there is a need to replace aging pumps and controls, rehab the pump station wetwell concrete, replace the fencing, and perform other rehabilitation work at the Chapel Hill North Sewer Pump Station; and

Whereas, plans and specifications for the construction of this project have been prepared by McKim and Creed; and

Whereas, advertisement to bid was published on the websites of the Greater Diversity News, the State of North Carolina Interactive Purchasing System (NC IPS), The National Institute of Minority Economic Development, North Carolina Department of Administration Office of Historically Underutilized Businesses (NC HUB), and OWASA, and was posted in multiple plan rooms on July 28, 2022; and

Whereas, seven bids were received and opened publicly on September 7, 2022, and Gilbert Engineering Company has been determined to be the low responsive, responsible bidder for the project; and

Now, Therefore, Be It Resolved:

1. That the Orange Water and Sewer Authority Board of Directors awards the construction contract to Gilbert Engineering Company, the low responsive, responsible bidder for the Chapel Hill North Pump Station Rehabilitation Project, in accordance with the approved plans and specifications, in the amount of \$648,905.00, subject to such change orders as may apply.

2. That the Executive Director be, and hereby is, authorized to execute said contract, subject to prior approval of legal counsel, and to approve and execute change orders and such documents as may be required in connection with the construction contract.

Adopted this 13th day of October 2022.

Bruce Boehm, Chair

Attest:

Raymond E. DuBose, P.E., Secretary

Agenda Item 6:

Orange Water and Sewer Authority
Meeting of the Board of Directors
September 8, 2022

The Board of Directors of the Orange Water and Sewer Authority (OWASA) met in a regular meeting on Thursday, September 8, 2022, at 6:00 p.m. in OWASA's Community Room, 400 Jones Ferry Road, Carrboro.

Board Members present: Bruce Boehm (Chair), Todd BenDor (Vice Chair), Jody Eimers, Pedro Garcia, Melody Kramer, and Elmira Mangum. Board Members absent: Raymond (Ray) DuBose (Secretary), David Gorelick, and Kevin Leibel

OWASA staff present: Mary Darr, Robert Epting, Esq. (Epting and Hackney), Vishnu Gangadharan, Stephanie Glasgow, Andrea Orbich, Ruth Rouse, Kelly Satterfield, Allison Spinelli, Todd Taylor, Mary Tiger, Stephen Winters, and Richard Wyatt.

Public present: none.

Motions

1. Jody Eimers made a Motion to approve the Minutes of the July 14, 2022, Board of Directors Meeting; second by Todd BenDor and the Motion was unanimously approved.
2. Jody Eimers made a Motion to approve the Minutes of the July 14, 2022, Closed Session Board of Directors Meeting for the purpose of discussing a personnel matter; second by Todd BenDor and the Motion was unanimously approved.
3. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution Declaring the Intent of the Orange Water and Sewer Authority to Reimburse Itself for Capital Expenditures from the Proceeds of Certain Tax-Exempt Obligations Under the Internal Revenue Code of 1986 and the United States Department of Treasury Regulations. (Motion by Jody Eimers, second by Todd BenDor and the Motion was unanimously approved.)
4. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution by Orange Water and Sewer Authority to Submit Applicant for Water Service Extension to Disadvantaged Households. (Motion by Jody Eimers, second by Todd BenDor and the Motion was unanimously approved.)
5. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution by Orange Water and Sewer Authority to Submit Applicant for Sewer Service Extension to Disadvantaged Households. (Motion by Jody Eimers, second by Todd BenDor and the Motion was unanimously approved.)

6. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution Approving OWASA's New Strategic Plan. (Motion by Elmira Mangum, second by Jody Eimers and the Motion was unanimously approved.)

7. Pedro Garcia made a Motion to approve the Water Conservation Plan second by Melody Kramer, and the Motion was unanimously approved

* * * * *

Announcements

Chair Boehm asked if any Board Member knew of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight to disclose the same at this time. None were disclosed.

Petitions and Requests

Chair Boehm said no petitions or requests were received from the public.

Chair Boehm asked for petitions and requests from the Board and staff; none were provided.

Item One: Formal Purchase of Scarlett-Cooper Water Line Pipe

The Board accepted this as an information item.

Item Two: Annual Report on Disposal of Surplus Personal Property

The Board accepted this as an information item.

Item Three: Preliminary Financial Report for the Twelve-Month Period Ended June 30, 2022

The Board accepted this as an information item.

Item Four: Capital Improvements Program Semiannual Report

The Board accepted the report and discussed with staff the various challenges regarding delayed projects.

Item Five: Diversity and Inclusion Program Progress Report, and Equal Employment Opportunity/Affirmative Action Report for Fiscal Year 2022

The Board accepted this as an information item.

Item Six: Minutes of the July 14, 2022, OWASA Board of Directors Meeting

Jody Eimers made a Motion to approve the Minutes of the July 14, 2022, Board of Directors Meeting; second by Todd BenDor and the Motion was unanimously approved. Please see Motion 1.

Item Seven: Minutes of the July 14, 2022, Closed Session of the OWASA Board of Directors Meeting

Jody Eimers made a Motion to approve the Minutes of the July 14, 2022, Closed Session of the OWASA Board of Directors for the purpose of discussing a personnel matter; second by Todd BenDor and the Motion was unanimously approved. Please see Motion 2.

Item Eight: Resolution Declaring the Intent of the Orange Water and Sewer Authority to Reimburse Itself for Capital Expenditures from the Proceeds of Certain Tax-Exempt Obligations Under the Internal Revenue Code of 1986 and the United States Department of Treasury Regulations

Jody Eimers made a Motion to approve the resolution; second by Todd BenDor and the Motion was unanimously approved. Please see Motion 3.

Item Nine: Resolutions Supporting the Application for American Rescue Plan Act Grant Funding to the Extend and Connect Water and Sewer Services to Disadvantaged Households within the OWASA Service Area

Jody Eimers made a Motion to approve the Resolution by Orange Water and Sewer Authority to Submit Applicant for Water Service Extension to Disadvantaged Households; second by Todd BenDor and the Motion was unanimously approved. Please see Motion 4.

Jody Eimers made a Motion to approve the Resolution by Orange Water and Sewer Authority to Submit Applicant for Sewer Service Extension to Disadvantaged Households; second by Todd BenDor and the Motion was unanimously approved. Please see Motion 5.

The Board suggested staff consider the ability to pay bills in connection with disadvantaged households.

Item Ten: Request from Orange County for OWASA to Provide Land for Solid Waste Collection Site

Jody Eimers made a Motion to authorize staff to work with Orange County staff to identify conditions that meet the County's requirements for a waste and recycling center on land provided by OWASA that also minimizes impacts to the environment, public health and OWASA's current and long-term operating needs; second by Todd BenDor and the Motion was unanimously approved. Please see Motion 6.

Item Eleven: Resolution Approving OWASA's New Strategic Plan

Elmira Mangum made a Motion to approve the Resolution Approving OWASA's New Strategic Plan, second by Jody Eimers and the Motion was unanimously approved. Please see Motion 7.

Item Twelve: Review and Approve Draft Water Conservation Plan

The Board suggested staff meet with the University of North Carolina at Chapel Hill to pursue water conservation strategies.

Pedro Garcia made a Motion to approve the Water Conservation Plan, second by Melody Kramer, and the Motion was unanimously approved. Please see Motion 8.

Item Thirteen: Review Board Work Schedule

There were no comments on this item.

Item Fourteen: Summary of Board Meeting Action Items

Todd Taylor noted staff will incorporate the Board's feedback into the Water Conservation Plan and will consider the ability to pay bills in connection of disadvantaged households.

Item Fifteen: Closed Session

Without objection, the Board of Directors convened in a closed session for the purpose of discussing a personnel matter as provided in N.C. General Statutes 143.318.11(6).

Following the closed session, the Board reconvened in open session, reported no action was taken in the closed session, and the meeting was adjourned at 8:00 p.m.

Respectfully submitted by:

Andrea Orbich
Executive Assistant/Clerk to the Board

Attachments

Agenda Item 7:

Orange Water and Sewer Authority

Closed Session of the Board of Directors

September 8, 2022

The Board of Directors of Orange Water and Sewer Authority met in Closed Session on Thursday, September 8, 2022, following the Board meeting.

Board Members present: Bruce Boehm (Chair), Todd BenDor (Vice Chair), Jody Eimers, Pedro Garcia, Melody Kramer, and Elmira Mangum. Board Members absent: Ray DuBose (Secretary), David Gorelick, and Kevin Leibel.

Staff present: Robert Epting, Esquire.

Item One

The Board of Directors met in Closed Session with General Counsel to evaluate and provide feedback pertaining to the annual review of significant activities of General Counsel from September 2021 to August 2022 as well as annual review planning for the following year.

No official action was taken. At the conclusion of the closed session, the Board convened in open session to adjourn the meeting.

The meeting was adjourned at 8:00 p.m.

Bruce Boehm, Chair
OWASA Board of Directors

Agenda Item 8:

Frequently Asked Questions about Lake Recreation and Recommendations for the Annual Report

Purpose:

To provide background information on recreation at OWASA's lakes (i.e., Frequently Asked Questions (FAQs)) and staff recommendations regarding the Annual Lakes Recreation Report (Annual Report).

Background:

The Annual Report includes information on lake use, expenses, and annual revenue. During discussion of the [Annual Report](#) at its January 27, 2022, meeting, the Board asked staff to prepare frequently asked questions to be added as background information to the report. The Annual Report is an information item with no Board action needed. As the Board requested in January, we have prepared FAQs in Attachment 1. The FAQs will be saved to the Board's SharePoint site.

As we continue to identify opportunities to make the most efficient use of the Board's time, staff assessed the purpose and content of the Annual Report from the perspective of balancing the recreation program roles and responsibilities of the Board (set policy, adopt budgets and rates/fees) and staff (operation, maintenance, program management). With this review, we found that information presented in the Annual Report primarily represents operating trends that have not changed significantly over the years, other than the pandemic years of 2020 and 2021, and have typically not influenced policy, budget, or fee decisions.

There are two Board adopted policies on lake recreation. The "Policy on In-Lake Activities and Uses" adopted on June 28, 1990, authorizes the Executive Director to develop regulations that permit limited recreational uses of OWASA's reservoirs to protect water quality and users that are consistent with federal and state regulations (see Attachment 2). These regulations direct staff's day-to-day operation and management of the recreation facilities.

The second policy is "Procedures to be Followed by OWASA Staff in the Enforcement of Laws, Regulations and Rules Pertaining to Public Access and Use of OWASA Reservoirs" adopted on March 26, 2015 (see Attachment 3). This policy establishes procedures for the effective, consistent, and equitable enforcement of the lake rules and regulations by OWASA staff.

When either of these policies need to be updated or if a new policy is needed, staff will bring them to the Board for review and approval.

Budget requests for recreation, such as equipment replacement and capital improvements, are part of the Board's annual budget review and approval process. Fees for boat rentals and lake use are part of the annual update of OWASA's Schedule of Rates, Fees, and Charges. The Annual Budget and Schedule of Rates, Fees and Charges are adopted by the Board each June.

After many decades of successful operation, we consider our recreation program to be efficiently managed and fully optimized in terms of activities provided, patronage, accessibility and meeting the purposes for which the program was intended. Therefore, and recognizing the long list of more pressing mission critical matters we have before us, we propose that the Board consider removing the Annual Report from the 12-month schedule and that staff engage the Board on an as-needed basis with recreation program policy changes and budgetary requests as part of the Board's regular business.

In addition, the Board's agenda includes provisions for accepting petitions and requests from the public at the beginning of each meeting. Petitions and requests provide the public the opportunity to bring suggestions and concerns related to recreation to the Board throughout the year.

Recommendation:

Staff recommends the Board remove the Annual Lakes Recreation report from the 12-month Board Meeting schedule.

Action Requested:

Direct staff to remove the Annual Lakes Recreation Report from the 12-month Board Meeting Schedule.

Information:

- Attachment 1 – Frequently Asked Questions
- Attachment 2 – Policy on In-Lake Activities and Uses
- Attachment 3 – Policy on Procedure to be Followed by OWASA Staff in the Enforcement of Laws, Regulations and Rules Pertaining to Public Access and Use of OWASA Reservoirs

Lake Recreation Frequently Asked Questions

What are the objectives of OWASA recreation program?

OWASA operates and maintains the recreation facilities at University Lake and Cane Creek Reservoir (the Lakes) to protect the Lakes as high-quality drinking water supply sources; ensure the safety of OWASA staff and visitors; provide an enjoyable recreation experience within the limits of our resources; and meet the requirement for recreation in our 404 Permit for Cane Creek Reservoir.

Why does OWASA provide recreation activities at the Lakes?

When OWASA began operation in 1977, the University of North Carolina's practice of offering recreation activities at University Lake was continued. To create the Cane Creek Reservoir, OWASA was required by Section 404 of the Clean Water Act, a federal law, to have the project plans reviewed and approved by the US Army Corps of Engineers (The Corps). The Corps required OWASA to provide mitigation for the habitat, fishing, hunting, and other natural resources and recreational opportunities lost to the impoundment of Cane Creek Reservoir. To meet the 404 Permit requirements, an agreement was developed between the North Carolina Wildlife Resources Commission and OWASA requiring limited hunting on the Mitigation Tract (500 acres located north of the Cane Creek Reservoir) and regular boating and fishing opportunities on the Cane Creek Reservoir. Cane Creek Reservoir's recreation facilities opened to the public in 1992.

What lake recreation activities are offered?

Facilities for picnicking, boating, and fishing are provided at University Lake and Cane Creek Reservoir. Off-season birdwatching is offered Wednesday mornings at Cane Creek Reservoir.

When are the Lakes open?

The recreation season runs from the last Saturday in March through the last weekend in October. The Lakes are currently open to the public from 6:30 AM to 6:00 PM. University Lake is open three days a week, Friday through Sunday. Cane Creek Reservoir is open two days a week, Friday and Saturday. Additionally, both lakes are open to the public on Memorial Day, the 4th of July, and Labor Day holidays. Off-season birdwatching is offered from 7:00 AM to 11:00 AM Wednesday mornings at Cane Creek Reservoir.

With this schedule of operation, based on 30 years of operation, staff believes we have found the optimal balance between providing recreational opportunities at the most popular times for our visitors and minimizing operating costs.

How do we promote lake recreation?

We utilize several outlets to promote lake recreation. We utilize the Recreation page of our website to provide guidelines and general information about the recreation opportunities at the Lakes. We also post an article each year that appears on the home page of the website to promote the upcoming season. We post information to OWASA's social media sites (Facebook and Twitter) throughout the recreation season. Staff promotes recreation opportunities during facility tours. Our facilities are listed on the Chapel Hill-Orange County and North Carolina Visitor websites.

In the last year, as a "thank you" to those that participated in the Strategic Plan survey, we provided a complimentary one-time-use pass. Our outreach for the strategic plan survey included a day in front of the Chapel Hill Library with a kayak to promote lake recreation. We also provided graduates of the Youth Water Academy with a free lake pass. And we announced the opening of lake recreation season in the inaugural quarterly newsletter that went out to all customers for whom we have an email in April 2022.

Where do the lake rules and regulations come from?

As drinking water supplies, the North Carolina Division of Water Resources requires the Commission for Public Health (CPH) authorize recreation activities at the Lakes to maintain and protect the water in the reservoirs as a high-quality drinking water supply.

The Board adopted a Policy on In-Lake Activities and Uses June 28, 1990. This policy authorizes the Executive Director develop regulations which permit limited recreational uses of OWASA's reservoirs to protect water quality and users; and that are consistent with federal and state regulations. The CPH most recently approved OWASA's regulations in 2013, which include sections on facility operating schedule, fees and rates for the facilities, enforcement of regulations, activities and uses, watercraft standards, user safety, and sanitation.

Why are swimming and wading in the Lakes prohibited?

Swimming and other body contact with the water, as well as pets and other domestic animals, are not allowed to protect water quality.

Why is there a limit on the number of boats?

The number of boats allowed on the Lakes is approved by CPH. Limits on the number of boats to 1 boat per 10 acres of reservoir surface area is to protect water quality. The limitations are 21 boats for University Lake and 75 boats for Cane Creek Reservoir. Also, gas-powered boats are not permitted. In addition to protecting water quality, we believe this is the maximum number of boats our staff can safely accommodate.

RESOLUTION ADOPTING POLICY ON IN-LAKE ACTIVITIES AND USES

WHEREAS, it is necessary to institute a policy for public recreational uses of University Lake that are consistent with the primary objective of preserving and protecting this resource for use as a public water supply; and

WHEREAS, the primary purpose of University Lake is to provide high quality raw water supply that after reasonable treatment will be safe, potable water which meets or exceeds all regulatory standards and any in-lake activities must be compatible with and subordinate to the protection of this public water supply resource.

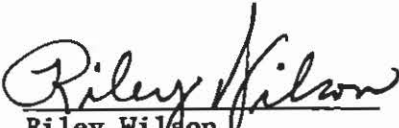
NOW, THEREFORE, BE IT RESOLVED:

1. That the Board of Directors of Orange Water and Sewer Authority hereby adopts the attached Policy on In-Lake Activities and Uses.
2. That said policy is effective upon adoption.
3. That the Executive Director be, and hereby is, authorized and directed to administer, implement, and enforce said policy and regulations to protect the public water supply resources.

Adopted this 28th day of June, 1990.


Verla C. Insko, Chairman

ATTEST:


Riley Wilson
Secretary-Treasurer

ORANGE WATER AND SEWER AUTHORITY

POLICY ON IN-LAKE ACTIVITIES AND USES

PURPOSE: TO ESTABLISH THE POLICY OF THE ORANGE WATER AND SEWER AUTHORITY RESPECTING RECREATIONAL USE OF UNIVERSITY LAKE, CANE CREEK RESERVOIR, AND STONE QUARRY IMPOUNDMENT PREMISES.

BACKGROUND: THE WATER SUPPLY IMPOUNDMENTS AT UNIVERSITY LAKE, CANE CREEK RESERVOIR, AND THE STONE QUARRY ARE ASSETS ESSENTIAL TO THE PRIMARY MISSION OF THE AUTHORITY TO SUPPLY HIGH QUALITY WATER TO ITS CUSTOMERS. BECAUSE OF THE LIMITED RECREATIONAL USE ALLOWED AT UNIVERSITY LAKE AND CANE CREEK RESERVOIR, A POLICY IS NECESSARY TO GUIDE THE EXECUTIVE DIRECTOR IN STAFF DEVELOPMENT OF REGULATIONS FOR RECREATIONAL USE OF THESE FACILITIES THAT ARE CONSISTENT WITH THE PRIMARY OBJECTIVE OF PROTECTING THESE IMPOUNDMENTS FOR USE AS PUBLIC WATER SUPPLIES.

POLICY: ANY ACTIVITIES PERMITTED AT THE AUTHORITY'S IMPOUNDMENT PREMISES SHALL BE REGULATED TO BE COMPATIBLE WITH AND SUBORDINATE TO THE PROTECTION OF THESE RESOURCES AS PUBLIC WATER SUPPLY RESOURCES.

THE EXECUTIVE DIRECTOR IS AUTHORIZED TO DEVELOP REGULATIONS WHICH WILL PERMIT LIMITED RECREATIONAL USES OF THE AUTHORITY'S IMPOUNDMENTS ONLY TO THE EXTENT THAT SUCH USES MAY BE MANAGED TO ASSURE THE PROTECTION OF THE WATER QUALITY THEREIN, THE SECURITY OF THE PERSONS MAKING SUCH USES, AND CONSISTENT WITH APPLICABLE REGULATIONS OF THE FEDERAL AND STATE REGULATORY AUTHORITIES. USE PERMITTED MAY NOT INCLUDE ANY BODY CONTACT ACTIVITIES SUCH AS SWIMMING.

FEES SHALL BE SET TO RECOVER A SIGNIFICANT PORTION OF THE ACTUAL COST TO THE AUTHORITY OF IN-LAKE ACTIVITIES.

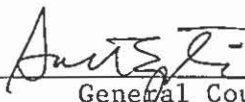
PUBLIC ACTIVITIES SHALL BE PERMITTED ONLY WHEN AN AUTHORIZED AUTHORITY REPRESENTATIVE IS ON DUTY AT THE PREMISES SUCH AS A WARDEN, TO ADMINISTER AND ENFORCE THE APPLICABLE REGULATIONS CONTROLLING THE USE AND PROTECTION OF THE FACILITIES AND THE GENERAL PUBLIC. THE WARDEN(S) ARE AUTHORIZED ON BEHALF OF THE AUTHORITY TO DIRECT PERSONS WHOSE PRESENCE OR USE OF THE FACILITIES IS IN VIOLATION OF LAWS AND REGULATIONS TO LEAVE THE AUTHORITY'S PREMISES.

THE WARDEN(S) SHALL CALL UPON STATE AND LOCAL LAW ENFORCEMENT AUTHORITIES WHEN THEIR ASSISTANCE IS REQUIRED.

AUTHORIZATION: THE EXECUTIVE DIRECTOR IS AUTHORIZED AND EMPOWERED TO DIRECT ON BEHALF OF THE ORANGE WATER AND SEWER AUTHORITY IN-LAKE ACTIVITIES AND USES AS PROVIDED UNDER THIS POLICY, TO ESTABLISH REGULATIONS FOR THE IMPLEMENTATION OF THIS POLICY AND WITHOUT FURTHER AUTHORIZATION BY THE BOARD OF DIRECTORS TO TAKE ADMINISTRATIVE ACTIONS FOR THE SECURITY AND CONTROLLED USE OF THE WATER SUPPLY IMPOUNDMENTS.

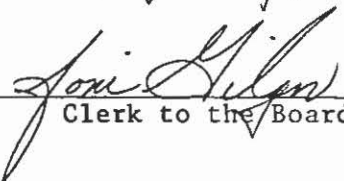
Reviewed by General Counsel:

7-10-90
Date


General Counsel

Adopted by the Board:

6/28/90
Date


Clerk to the Board

**RESOLUTION ADOPTING POLICY ON PROCEDURES TO BE FOLLOWED
BY ORANGE WATER AND SEWER AUTHORITY (OWASA) STAFF IN THE
ENFORCEMENT OF LAWS, REGULATIONS AND RULES PERTAINING
TO PUBLIC ACCESS AND USE OF OWASA RESERVOIRS**

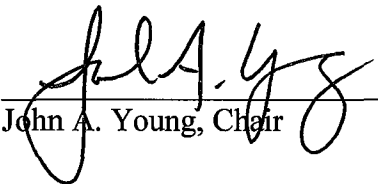
WHEREAS, Orange Water and Sewer Authority (OWASA) has instituted certain Lake Rules and Regulations to protect water quality and to ensure that all patrons have a safe and enjoyable experience when visiting our recreational facilities; and

WHEREAS, in order to assure consistent application and enforcement of its rules pertaining to access and use of its reservoirs and land under the supervision of its staff, the Board of Directors has determined to adopt the attached Policy regarding Enforcement of Lake Usage Rules and Regulations;

NOW, THEREFORE, BE IT RESOLVED BY THE OWASA BOARD OF DIRECTORS THAT:

1. The Orange Water and Sewer Authority Board of Directors hereby adopts the attached Policy Regarding Enforcement of Lake Usage Rules and Regulations.

Adopted this 26th day of March, 2015.



John A. Young, Chair

ATTEST:



Heather Payne, Secretary

Policy Regarding Enforcement of Lake Usage Rules and Regulations

Purpose

The Orange Water and Sewer Authority (OWASA) has instituted certain Lake Rules and Regulations to protect water quality and to ensure that all patrons have a safe and enjoyable experience when visiting our recreational facilities. This policy establishes procedures for the effective, consistent, and equitable enforcement of our Lake Rules and Regulations by OWASA Staff.

I. Procedure

Whenever a violation of a lake rule is witnessed by Staff, or a reported violation is established by Staff, the violator(s) will immediately be notified of the infraction and requested to comply with the Rule(s). If the violation involves a breach of statutory law or Wildlife Resources Commission (WRC) Regulation, local Law Enforcement and/or the WRC may be notified as needed to address those types of violations. However, the violator(s) must come into compliance with statute or regulation when requested by Staff, or they shall be directed to leave the Lake/OWASA property.

Staff will determine the appropriate penalty using Attachment 1 in conjunction with the violator(s)' record of previous infractions. Staff will then complete and ask the violator to sign a written Notice of Violation (NOV) (see Attachment 2) that will detail the infraction and the penalty. The NOV must be signed by the Staff member who witnessed the infraction, or determined that it did occur.

The violator will be given a copy that also includes information regarding their right to an appeal. Records of all violations will be kept on file at the Warden's Office for a period of at least five years. Copies will be forwarded to the Water Supply and Treatment Manager for review.

Patrons (or other violators) who fail to follow the directions given by OWASA staff, or who refuse to sign acknowledging receipt of the written NOV, will be required to leave the Lake/OWASA premises. The assistance of appropriate local law enforcement officers may be requested to deal with violators who fail or refuse to leave the premises when requested, or to deal with statutory or regulatory violations other than those listed on the chart.

II. Appeal Process

Any patron receiving a NOV involving a suspension of lake use privileges may appeal the suspension by submitting a written request to the Water Supply and Treatment Manager within

five business days from the date of issuance. The Water Supply and Treatment Manager must respond to the appeal request in writing within ten business days of receipt of the request. The Water Supply and Treatment Manager will review/investigate the incident (including interviewing the violator and/or witnesses, if deemed necessary) and determine if the suspension remains in effect or is rescinded and if so, what conditions if any may apply.

The Department Manager's decision may be appealed to the Executive Director within ten business days of the date on the written response. The Executive Director shall respond to the appeal request in writing within fifteen business days of receipt of the request. The Executive Director will review/investigate (including interviewing the violator and/or witnesses, if deemed necessary) the incident and determine if the suspension remains in effect or is rescinded and if so, what conditions if any may apply. All decisions by the Executive Director are final.

III. After Action Review

When Law Enforcement is involved for an incident involving Rules and Regulations Violations, an After Action Review will be conducted to review the incident and make recommendations regarding the proper handling of the incident by Staff.

Penalty Structure for Lake Rules Violations

Description	<u>First Offense</u>	<u>Second Offense</u>	<u>Third Offense</u>
Alcohol/Illegal Drugs	60 day suspension	1 Year suspension	Banned from the Lake
All other Lake Rules violations	Warning	30 day suspension	60 day suspension*

* Offenses committed after the third offense may result in suspension of lake privileges for the remainder of the season

Notes:

1. Offenses are cumulative (i.e. exiting the boat while on University Lake one day would count as a first offense. Leaving trash in the boat a month later at Cane Creek Reservoir would count as a second offense and so on)
2. Breaches of statutory law or Wildlife Resources Commission (WRC) Regulations that result in local law enforcement or WRC citations will result in an indefinite suspension of lake privileges.



ORANGE WATER AND SEWER AUTHORITY

A public, non-profit agency providing water, sewer and reclaimed water services to the Carrboro-Chapel Hill community.

Notice of Violation

_____ has been (warned/suspended) for violating OWASA Lake Rules/Policies _____ on (Date) _____. They will be allowed to return to the Lakes on (Date) _____.

Lake Patron Signature & Driver License Number

Warden-on-Duty Signature

Note: Any patron receiving a notice of violation involving a suspension of lake use privileges may challenge this action by submitting a written request to the Water Supply and Treatment Manager at 400 Jones Ferry Road, Carrboro, NC 27510 within five business days from the date of issuance.

Agenda Item 9:

Update on the Development of a New Budget Format

Background:

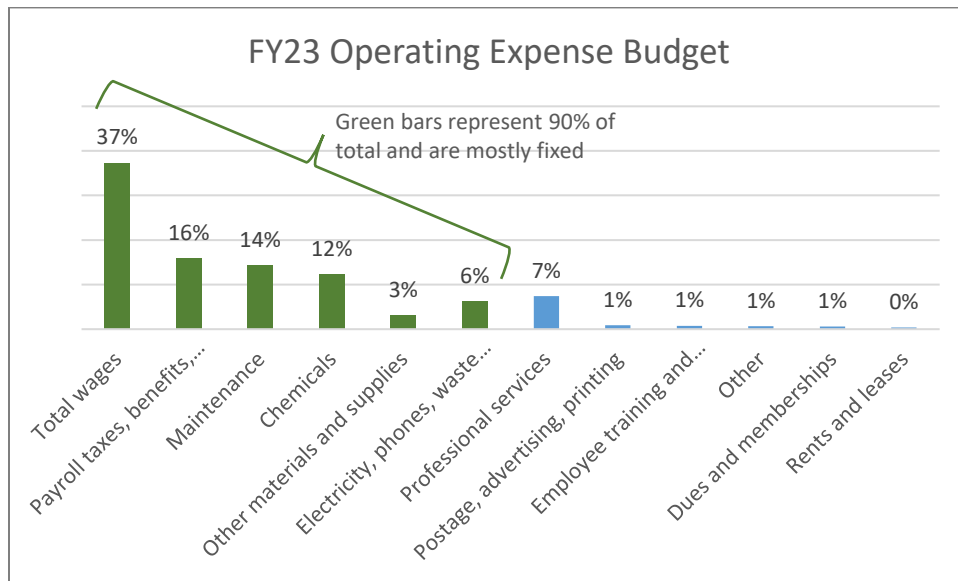
Each year, staff proposes a budget for the Board to review, provide input on, and ultimately adopt. The annual budget includes four major expenditure categories:

- Operating expenses – includes employee wages and benefits, energy, chemicals, maintenance, and others.
- Capital Improvements Program (CIP) – includes projects to rehabilitate and replace existing assets which are approaching end-of-useful-life and to construct or install new assets.
- Capital equipment – purchase of assets such as construction equipment, vehicles, computer equipment, etc.
- Debt service – principal and interest payments on outstanding bonds and loans.

<u>FY 2023 Budget</u> (millions)	
Operating expense	\$26.4
CIP expenditures	\$21.9
Capital equipment	\$1.3
Debt service	\$10.5

Operating Expense Budget

The Operating Expense Budget includes the costs to maintain and operate the system on a day-to-day basis. Between 80% and 90% of our operating expenses are fixed: meaning they are about the same no matter how much drinking water we produce and distribute or how much wastewater we collect and clean. If we were to reduce these fixed operating expenses, we would expect service levels to begin to degrade (more service outages, wastewater overflows, etc.).



Maintenance is typically our largest non-personnel operating expense, and our Asset Management Program and Computerized Maintenance Management System (CMMS) are both important tools for assisting us in determining maintenance activities and costs. Improving both of these tools is included among the initiatives in our recently adopted Strategic Plan.

Our participation in the Partnership for Safe Water and Partnership for Clean Water programs and meeting the criteria for the programs' "excellence" awards helps us ensure our treatment plants and processes are optimized and efficient.

Capital Improvements Program

We strive to get as much use from our assets as possible before spending money to rehabilitate or replace them. We utilize several methods for identifying assets to be rehabilitated, replaced, or added: hydraulic models, condition assessments, prioritization models, risk assessments, and others. Regulation also impacts how and when we invest in improving our system. And in addition to helping to determine maintenance needs, our Asset Management Program helps us identify and determine the timing of CIP projects.

There is more flexibility in the timing of spending funds on CIP projects than spending on operating expenses. While all CIP projects are critical, the risks associated with deferring a CIP project for a few months or even years is typically more acceptable than not providing funds for maintenance expenses, competitive employee wages and benefits, and other operating expenses.

In addition to improving our Asset Management Program, our Strategic Plan includes an initiative to establish and implement a Capital Investment Strategy. This will help us better plan for the orderly, long-term maintenance of our system and help us minimize some potential risks.

Capital Equipment

We typically spend between \$750,000 and \$1.5 million per year adding equipment or replacing equipment that is no longer serviceable. Our Asset Management Program and CMMS also assist in identifying capital equipment needs.

Debt Service

The amount we pay for bond and loan principal and interest is a function of the amount of debt we have outstanding and the interest rate on that debt.

Current State of our Budget Process:

Staff has confidence in the processes we use to determine how and when to spend funds on operating expenses and to invest in capital improvements. However, we are also always looking for ways to improve. We are excited to work on improving our Asset Management Program and our CMMS and to develop our Capital Investment Strategy. These efforts will require a lot of

our time and energy over the next few years and we believe they will further enhance the organization’s budget-development and decision-making processes and improve transparency and communication of budget information with the Board.

Status of a New Budget Format:

The primary purpose for the Board’s interest in developing a new format is to provide the Board with more insight into the budget process and enhance decision-making. Prior to beginning work on the FY 2021 budget, staff was working with the Board to develop a new format for presenting budget information. Progress was cut short by the onset of the pandemic in March of 2020. With the many financial challenges brought on by the pandemic, the Board agreed with staff to put the effort on hold.

Potential Alternatives for a New Budget Format:

Staff’s Initial Proposal

At the Board’s meeting on [March 12, 2020](#), staff presented an outline of a new budget format. The outline covered one of our departments, Wastewater Collection, and focused on our goal of having “no wastewater spills or overflows.” Performance related to this goal is reported on our monthly Key Performance Indicators (KPI) report. We chose this goal because Wastewater Collection is a process with fewer complexities than some of our others which we hoped would make coming up with a new format easier. The Board reviewed this information and suggested that it was more detailed than the Board needed.

Alternative Approach

As suggested by one of our Board Members, an alternative approach could be to analyze costs vs. results at a high level. The following table offers a couple of examples.

Expense Category	Risk if Expenses are Reduced	Potential Result	Data to Analyze
Employee compensation increases	Lower morale	Turnover, lower efficiency	Turnover rate in prior periods when pay raises were below market
Planned or Preventative Maintenance	Higher long-term costs Asset failure	More costs incurred to compensate for lack of maintenance Asset failure that could have been prevented with proper level of maintenance	Difference between cost of planned vs. unplanned maintenance

If staff understands this alternative correctly, this approach is less of a new budget format and more of a way to analyze the cause and effect of budgetary spending at a macro level. Implementing this approach would likely occur over several years' budget cycles.

Related Strategic Initiatives:

Several strategic initiatives are currently underway or planned to occur over the next five years which we hope will improve the Board's insight into the budget process and provide more helpful analytical information.

- Update and execute Asset Management Plan
- Establish and implement Capital Investment Strategy
- Implement upgraded Computerized Maintenance Management System (CMMS)

Prioritization of Initiatives:

In addition to those listed above, the following are other projects that will rely on the resources of several OWASA departments; all are scheduled to occur within the next few years:

- System Development Fee study (required by law) – FY 2023
- Implement new customer management and billing system, finance and accounting system – FY 2023-24
- Employee pay and classification study – FY 2023
- Rate study (potentially) – FY 2024

Depending on the direction we take towards developing a new budget format, the timing of some of these initiatives may be impacted.

Next steps related to developing a new budget format:

The following are potential options for next steps for the Board's consideration.

1. Focus on completing upcoming strategic initiatives and revisit a new budget format after we assess the efficacy of an enhanced Asset Management Program, a more functional CMMS, and a new Capital Investment Strategy.
2. Pursue a budget format based on the Board Member suggested alternative approach described above.
3. Work on developing other alternative budget format concepts for the Board to consider.

Agenda Item 10:

Review Board Work Schedule

Purpose:

- A. Request(s) by Board Members, General Counsel and Staff
 - Check-in on In-person Board Meetings (Todd Taylor)
- B. Review draft Board Meeting Agenda for November 10, 2022
- C. Review 12 Month Board Meeting Schedule
- D. Review Pending Key Staff Action Items

Information:

- Draft November 10, 2022 Board Meeting Agenda
- 12 Month Board Meeting Schedule
- Pending Key Staff Action Items from Board Meetings

October 13, 2022



**ORANGE WATER AND SEWER AUTHORITY
Meeting of the OWASA Board of Directors**

Thursday, November 10, 2022, 6:00 p.m.
OWASA Community Room, 400 Jones Ferry Road Carrboro

A. Announcements

1. Conflict of Interest

B. Petitions and Requests

C. Consent

1. Financial Report for Three-Month Period Ended September 30, 2022 (Stephen Winters)
2. Resolution Authorizing the Executive Director to Sign Western Intake Partnership Project Permits as Owner of Seaforth Property (Vishnu Gangadharan)
3. Minutes of the October 13, 2022 Annual Meeting of the OWASA Board of Directors (Andrea Orbich)

D. Discussion

1. Update on Per- and Polyfluoroalkyl Substances (Monica Dodson)
2. Goals and Expectations for a Potential Rate Study (Stephen Winters)
3. Review Board Work Schedule (Bruce Boehm/Todd Taylor)

E. Summary of Board Meeting Items

F. Adjournment

In compliance with the "Americans with Disabilities Act," interpreter services for non-English speakers and for individuals who are deaf or hard of hearing 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. Please contact the Clerk to the Board to make arrangements by 3:00 p.m. the day of the meeting. Public comment is invited either by petition for 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.

OWASA Board of Directors – 12 Month Board Meeting Schedule (October 7, 2022)

Meeting Date	Agenda Items	Committee Meetings & Other Board Items
<i>October 13 2022</i>	Annual Meeting of the Board – Annual Report and Financial Audit Approve GC Engagement Award Chapel Hill North Pump Station Improvements Project Frequently Asked Questions about Lake Recreation and Recommendations for the Annual Report Update on Development of New Budget Format	() ()
<i>November 10 2022</i>	Authorize ED to Sign WIP Project Permit Applications as Owner of Seaforth Property PFAS Update Goals and Expectations for a Potential Rate Study	
<i>December 8 2022</i>	(Tentative) Approve Financing Team for Series 2023 Bonds CS – Prepare for ED Interim Review	()
<i>January 12 2023</i>	Approve Audit Firm Contract Discuss FY 24 Budget Calendar and Assumptions (including Financial Management Policy) CS – ED Interim Performance Review	() () ()
<i>February 9 2023</i>	Department Managers FY 24 Budget Presentations CS – Prepare for GC Interim Review Strategic Plan Update (Tentative) Series 2023 Bond Resolution	() ()
<i>March 9 2023</i>	Set Date for Public Hearings on FY 24 Budget & Rates FY 24 Draft Budget and Rate Adjustment (Tentative) Draft of System Development Fee Study Report CS – GC Interim Review	() () ()
<i>April 13 2023</i>	Discuss Draft FY 2024 Budget and Authorize Staff to Publish FY 2024 Budget and Rate Information BOD Eligible for Nominations to Election as Board Officers (include Officer descriptions) Planning BOD Self-Assessment CS – Prepare ED Annual Review	() () () ()
<i>May 11 2023</i>	Public Hearings – FY 24 Budget and Rates Approve Employee Insurance Renewals Discuss Employee Merit Pay for FY 24 CS - ED Annual Review	() () () ()
<i>June 8 2023</i>	Approve FY 24 Budget and Rates (including Employee Merit Pay decision) Election of Officers ED Compensation	() () ()
<i>July 13 2023</i>	Review Proposed ED Work Plan CS – Prepare GC Annual Review	() ()
<i>August 10 2023</i>	CS – GC Annual Review	()
<i>September 14 2023</i>	CS – GC Annual Review	()

OWASA Board of Directors – 12 Month Board Meeting Schedule (October 7, 2022)

Recurring Reports (included as part of monthly Consent Agendas)

- **January** - Employee Health and Dental Insurance Update; Annual Lakes Recreation Report
- **February** - Reliability and Resiliency Report; Q2 Financial Report; CIP Semiannual Report; Affordability Program Update
- **March** - Energy Management Plan
- **April** - TBD
- **May** - Q3 Financial Report
- **June** - TBD
- **July** - TBD
- **August** - Preliminary 12 Month Financial Report and CIP Semiannual Report
- **September** - Disposal of Surplus Personal Property; EEO/Affirmative Action Report and D&I Update
- **October** - Operating Trends Report
- **November** - Q1 Financial Report
- **December** - TBD

The 12 Month Board Meeting Schedule shows priority efforts the Board and staff plan to consider during the next twelve months. The schedule also shows annual updates to the Board which will be distributed on the consent agenda. This schedule does not show all the items the Board may consider in a meeting. The 12 Month Board Meeting Schedule will be reviewed and updated by the Board each month.

The OWASA Board determines which topics it wants to explore as a full Board 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)	JL	Jordan Lake
ARPA	American Rescue Plan Act	KPI	Key Performance Indicator
BOCC	Orange County Board of County Commissioners	LRWSP	Long-Range Water Supply Plan
BOD	Board of Directors	MOA	Memorandum of Agreement
CCR	Cane Creek Reservoir	MWBE	Minority/Women-owned Business Enterprises
CE	Community Engagement	MST	Mountains-to-Sea Trail
CEP	Community Engagement Plan	MFMM	Multi-Family Master Meter
CHTC	Chapel Hill Town Council	NCDOT	North Carolina Department of Transportation
CIP	Capital Improvements Program	NRTS	Natural Resources and Technical Services
COLA	Cost of Labor Adjustment	OC	Orange County
CS	Closed Session of the Board	Q	Quarter
CTC	Carrboro Town Council	RFP	Request for Proposals
CY	Calendar Year	SRF	State Revolving Fund
D&I	Diversity and Inclusion	SOW	Scope of Work
ED	Executive Director	TBD	To Be Determined
EEO	Equal Employment Opportunity	WIP	Western Intake Partnership
EPA	Environmental Protection Agency	WTP	Water Treatment Plant
FY	Fiscal Year	WWTP	Wastewater Treatment Plant
GC	General Counsel		
HR	Human Resources		

Pending Key Staff Action Items from Board Meetings

No.	Date	Action Item	Target Board Meeting Date	Person(s) Responsible	Status
1.	9-8-2022	Incorporate Board feedback in Water Conservation Plan.	N/A	Rouse Tiger	
2.	9-8-2022	Consider ability to pay bills in connection of disadvantaged households.	N/A	Tiger	