ORANGE WATER AND SEWER AUTHORITY

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

Agenda
Meeting of the OWASA Board of Directors
Thursday, April 26, 2018, 7:00 P.M.
Chapel Hill Town Hall

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

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

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

Announcements

1. Announcements by the Vice Chair
   - A. Any Board Member who knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight is asked to disclose the same at this time.
   - B. Update on the April 18, 2018 Finance Committee Meeting
   - C. Chapel Hill Town Council OWASA Committee and Chapel Hill Appointees to the OWASA Board of Directors will meet on Monday, May 7, 2018 at 8:30 a.m. in the OWASA Board Room
   - D. The OWASA Board will convene for a Diversity and Inclusion Session with VISIONS, Inc. on Wednesday, May 30, 2018, at 6:00 p.m. in OWASA's Boardroom
2. Announcements by Board Members
   - A. Natural Resources and Technical Services Committee Meeting on Tuesday, May 8, 2018 at 4:30 p.m. in OWASA's Boardroom to Discuss Source Water Protection (John Young)
   - B. Chatham-Orange Task Force Meeting on May 10, 2018 at 12:00 p.m. at Central Carolina Community College, Pittsboro (John Young)
   - C. Human Resources Committee Meeting on Wednesday, May 9, 2018 at 5:30 p.m. in OWASA's Boardroom to Continue Discussing Retiree Health Benefits for New Hires and 457 Deferred Compensation (Barbara Foushee)
3. Announcements by Staff
   - A. Linda Low, OWASA's new Communications and Community Relations Officer (Ed Kerwin)
4. Additional Comments, Suggestions, and Information Items by Board Members (Heather Payne)

Petitions and Requests

1. Public
2. Board
3. Staff

Consent Agenda
Information and Reports
1. 12 Month Board Meeting Schedule (Heather Payne/Ed Kerwin)

Action
2. Minutes of the March 8, 2018 Meeting of the Board of Directors (Andrea Orbich)
3. Minutes of the March 22, 2018 Meeting of the Board of Directors (Andrea Orbich)

Regular Agenda
Information and Reports
4. Presentation on Agua Vista (Advanced Metering Infrastructure) Initiative (Todd Taylor)

Discussion and Action
5. Resolution Awarding a Construction Contract for the Rogerson Drive Pump Station Rehabilitation – Phase 2 (Simon Lobdell)
6. Discuss Draft Fiscal Year 2019 Budget and Rate Adjustment and Authorize Staff to Publish Proposed Budget and Rates Information (Stephen Winters)

Discussion
7. Criteria for Request for Proposals for Banking Services (Stephen Winters)

Information and Reports
8. Financial Report for the Nine-Month Period Ended March 31, 2018 (Stephen Winters)

Summary of Board Meeting Action Items
9. Executive Director will summarize the key action items from the Board meeting and note significant items for discussion and/or action expected at the next meeting

OWASA Board of Directors – 12 Month Board Meeting Schedule (April 20, 2018)

Month	Board Meetings		Committee & Other Meetings and Reports
	Work Session	Business Meeting	
April 2018	Review Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment and Long-Term Disability Insurance Renewal (↻) FY 19 Draft Budget and Rate Adjustment Information (↻) Review Action Plan for Improvements Identified by Organizational Assessment Appointment of the Nominating Committee (↻) 4/12/2018	Q3 Financial Report (↻) Agua Vista Update Discuss Criteria for Draft Banking RFP FY 19 Budget and Rates Discussion and Authorize Staff to Publish Proposed Rates Award the Rogerson Drive Pump Station Phase 2 Contract 4/26/2018	*3rd Board Session with VISIONS, Inc. (4/4/2018)* *AMI Update for Chapel Hill Town Council (4/11/2018)* *Finance Committee Meeting (4/18/2018)*
May 2018	Approve Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment and Long-Term Disability Insurance Renewal (↻) Discuss Employee Merit Pay for FY 19 (↻) ***Discuss Draft Approach for Forestry Management and Community Engagement*** 5/10/2018	Public Hearings – FY 19 Budget and Rates (↻) Budget Amendment for FY 2018 CIP (Tentative) Discuss Revisions to Retiree Health Insurance for New Hires and 457 Deferred Compensation (Tentative) Approve Criteria for Draft Banking RFP 5/24/2018	*Chapel Hill OWASA Board Members meet with TOCH OWASA Committee (5/7/2018)* *NRTS Committee Meeting to discuss Source Water Protection (5/8/2018)* *Human Resources Committee Meeting (5/9/2018)* *4th Board Session with VISIONS, Inc. (5/30/2018)*
June 2018	***(Tentative) Discuss LRWSP – Demands & Yield*** Approve FY 19 Budget and Rates, including merit pay decision (↻) Election of Officers (↻) Review Draft WTP & WWTP Reliability and Risk Assessment Report Award the WWTP Intermediate Pump Stations Rehabilitation Contract (Tentative) Approve Local Water Supply Plan 6/14/2018	TBD 6/28/2018	
July 2018	Award the Galvanized Water Main Replacement Contract Award the Pritchard Avenue Water Main Construction Contract 7/12/2018	TBD 7/26/2018	
August 2018	TBD 8/9/2018	Award the WWTP Solids Thickening Construction Contract Preliminary 12 Month Financial Report (↻) CIP Semiannual Report (↻) Discuss AMI Policies (other than manual read) CS – General Counsel Review (↻) 8/23/2018	*NRTS Committee Meeting to continue discussion of Drought Response Operating Protocol (TBD)*

Current and Pending Key Projects and Stages – in ***bold italics***

OWASA Board of Directors – 12 Month Board Meeting Schedule (April 20, 2018)

September 2018	EEO/Affirmative Action Report () Annual Report on Disposal of Surplus Personal Property () Review Updated Implementation Plan for D&I Program Discuss Action Plan from WTP/WWTP Reliability and Risk Assessment Project Discuss KPI Deep Dive on Water Loss and Non-Revenue Water (Tentative) MOA for Triangle Water Supply Partnership CS – General Counsel Review () 9/13/2018	Annual Report and Financial Audit () Approve General Counsel Engagement () Strategic Trends Report and Strategic Plan Update () CS – ED Review () 9/27/2018	
October 2018	CS – ED Review () 10/11/2018	Q1 Financial Report () 10/25/2018	*Chapel Hill Peoples Academy – OWASA Session (10/20/2018)*
November 2018	TBD 11/8/2018	*Holiday - no meeting*	
December 2018	TBD 12/13/2018	*Holiday - no meeting*	
January 2019	Employee Health and Dental Insurance Update () Appoint Audit Firm () Affordability Outreach Program Plan Update 1/10/2019	Annual Lakes Recreation Report () CIP Semiannual Report () Q2 Financial Report () FY 20 Budget Calendar and Assumptions () 1/24/2019	
February 2019	CS - General Counsel Interim Review () 2/14/2019	CS - General Counsel Interim Review () 2/28/2019	
March 2019	FY 20 Draft Budget & Rates () CS - ED Interim Review () 3/14/2019	Annual Update for the Energy Management Plan () FY 20 Draft Budget & Rates and Proposed Staff Rate Adjustment Recommendation () Set date for Public Hearings – FY 20 Budget & Rates () CS – ED Interim Review () 3/28/2019	

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

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

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

The schedule implies that the following Strategic Plan initiatives would be addressed beyond the 12-month period. The Board may conclude that one or more of the following initiatives are higher priority.

OWASA Board of Directors – 12 Month Board Meeting Schedule (April 20, 2018)

The schedule will be revised as needed to reflect the Board's priorities, and any additional initiatives that the Board may decide to address.

- Development of a plan and policy framework for OWASA lands is considered a longer-term priority. The NRTS Committee discussed this issue in September 2017 and determined it was lower priority than Forestry Management. Staff will develop a Community Engagement Plan for Forestry Management by June 2018, and currently plan to present a draft in May 2018.
- Improve effectiveness as a learning organization is considered a longer-term priority.
- Water Conservation Plan will be prepared concurrent with update of the Long-Range Water Supply Plan.

The OWASA Board determines which topics it wants to explore as a full Board (potentially in a work session format) and which topics it wants to assign to Board committees or committee chairs for further analysis and development of recommendations. Board also determines priorities and desired timeframes for addressing topics. Committee meetings will be updated on the schedule routinely.

OWASA Board of Directors – 12 Month Board Meeting Schedule (April 20, 2018)

Abbreviations Used in Draft Schedule:

( )	Recurring agenda item (generally these are "required" items)
AMI	Advanced Metering Infrastructure
CE	Community Engagement
CEP	Community Engagement Plan
CIP	Capital Improvements Program
COLA	Cost of Labor Adjustment
CS	Closed Session of the Board
CY	Calendar Year
D&I	Diversity and Inclusion
ED	Executive Director
FY	Fiscal Year
JLP	Jordan Lake Partnership
LRWSP	Long-Range Water Supply Plan
MST	Mountains-to-Sea Trail
MFMM	Multi-Family Master Meter
NRTS	Natural Resources and Technical Services
Q	Quarter
SOW	Scope of Work
TBD	To Be Determined
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Current and Pending Key Projects and Stages

Project	Strategic Initiative	Project Lead	Apr-18	May-18	June-18	July-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
AMI	6	Taylor												
LRWSP	1	Rouse			Demand & Yield									
Energy Plan	5	Tiger												

Stages	Committee Discussion	Feasibility Study	Board Review	Community Engagement	Action	Procurement	Implementation

Orange Water and Sewer Authority

Meeting of the Board of Directors

March 8, 2018

The Board of Directors of the Orange Water and Sewer Authority (OWASA) met in a work session on Thursday, March 8, 2018, at 6:00 p.m. in OWASA's Community Room, 400 Jones Ferry Road, Carrboro.

Board Members present: Robert Morgan (Chair), Yinka Ayankoya (Secretary), Jeff Danner, Barbara Foushee, John N. Morris, Ruchir Vora and John A. Young. Board Members absent: Heather Payne (Vice Chair) and Ray DuBose.

OWASA staff present: Mary Darr, Robert Epting, Esq., (Epting and Hackney), Katie Harrold, Ed Kerwin, Kenneth Loflin, Andrea Orbich, Ruth Rouse, Todd Taylor, Mary Tiger, Stephen Winters and Richard Wyatt.

Others present: Margaret Holton (University of North Carolina Water Resources Manager), Ben Poulson (UNC Associate Director of Energy Services) and Lexi Valent.

Motions

1. Yinka Ayankoya made a motion to approve the Minutes of the February 8, 2018 Work Session of the Board of Directors; second by Barbara Foushee and unanimously approved.

2. Yinka Ayankoya made a motion to approve the Minutes of the February 22, 2018 Closed Session of the Board of Directors for the Purpose of Discussing a Personnel Matter; second by Barbara Foushee and unanimously approved.

3. John Young made a motion that the Board of Directors approves the Energy Management Plan, and authorizes the Executive Director to proceed with the projects, studies, and strategies described in the Plan, including incorporation of the proposed projects and studies in the Fiscal Year 2019 Operating Budget and Capital Improvements Budget; the Executive Director will provide for an annual update of the Plan, and inform the Board if and when significant changes occur in underlying assumptions, funding and partnership opportunities, etc.; second by Jeff Danner and unanimously approved.

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Announcements

Robert Morgan asked if any Board Member knows 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.

Barbara Foushee announced that the Human Resources Committee will meet on Monday, March 19, 2018, to continue discussing retiree health benefits for new hires and OWASA's deferred compensation (457) plan.

John Young said that the Natural Resources and Technical Services Committee met on February 26, 2018, to review the existing Drought Response Operating Protocol (DROP) and discuss potential changes that could provide greater flexibility to respond to extended drought conditions.

John Morris suggested that the Board include a fourth item under announcements on the agenda cover titled, "Additional comments, suggestions, and information items by Board Members". The Board agreed to follow this practice for two months.

Mr. Morris mentioned that the Chapel Hill Public Library is planning a prescribed burn on their property and if he finds out in advance when the burn will occur, he will notify the Board for those who would like to observe the burn.

Todd Taylor announced that he will provide an update on OWASA's Advanced Metering Project (Agua Vista) to Carrboro Board of Aldermen on Tuesday, March 20, 2018 and to the Chapel Hill Town Council on April 11, 2018.

Ruth Rouse announced that OWASA will conduct a prescribed burn on a portion of OWASA's Mitigation Tract in April or early May. A Community Meeting is scheduled for Wednesday, March 21, 2018 at 7:00 p.m. at the Maple View Agricultural Education Center in Orange County to educate the public on the reason for the prescribed burn and to answer questions. Ms. Rouse said that, in conjunction with the NC Forest Service, a public notice about OWASA's prescribed burn and frequently asked questions will be distributed.

Item One: Minutes

Yinka Ayankoya made a motion to approve the Minutes of the February 8, 2018 Work Session of the Board of Directors; second by Barbara Foushee and unanimously approved. Please see Motion No. 1 above.

Item Two: Minutes

Yinka Ayankoya made a motion to approve the Minutes of the February 22, 2018 Closed Session of the Board of Directors for the Purpose of Discussing a Personnel Matter; second by Barbara Foushee and unanimously approved. Please see Motion No. 2 above.

Item Three: Review and Approve Energy Management Plan Update

Jeff Danner requested additional information on real time nitrification monitors at the wastewater treatment plant.

The Board accepted the plan and the progress of the strategies; updates will be provided annually.

John Young made a motion that the Board of Directors approves the Energy Management Plan, and authorizes the Executive Director to proceed with the projects, studies, and strategies described in the Plan, including incorporation of the proposed projects and studies in the Fiscal Year 2019 Operating Budget and Capital Improvements Budget; the Executive Director will provide for an annual update of the Plan, and inform the Board if and when significant changes occur in underlying assumptions, funding and partnership opportunities, etc.; second by Jeff Danner and unanimously approved. Please see Motion No. 3 above.

Item Four: Continue Discussion on Unregulated Compounds in Water Resources, Including Recent Regional Analysis of Per-Fluorinated Substances

Jeff Danner asked if there is any communication or monitoring OWASA should do proactively in the watershed and /or is there more monitoring on an occasional basis in Cane Creek Reservoir or University Lake.

After discussion the Board agreed to continue discussion as Mr. Danner requested with the Board's Natural Resources and Technical Services Committee later this year. Staff will continue to stay abreast of scientific research of unregulated compounds and provide updates as needed. Staff will also provide background information on source water protection at the same Committee meeting.

Item Five: Review Preliminary Fiscal Year 2019 Budget Information

The Board reviewed and discussed a draft of the Fiscal Year 2019 operating expenses budget; and requested additional information including a list of potential items that could be removed from the budget if determined necessary. Staff will provide this information as well as information about rate adjustment options at the March 22, 2018 meeting.

Item Six: Review Board Work Schedule

The Board agreed to rename "April 26, 2018 Draft Banking Request for Proposals" to "Draft Criteria for Banking Request for Proposals."

The Board agreed to move the Strategic Trends and Strategic Plan Update report from October 25th to September 27th meeting. The Board also agreed to schedule the third Session with VISIONS, Inc. on April 4, 2018 from 6:00 to 9:00 p.m. in the OWASA Boardroom.

Item Seven: Executive Director Will Summarize the Key Staff Action Items from the Work Session

Ed Kerwin noted the following items for staff follow-up:

- On a trial basis (two months), add a fourth item under announcements to each agenda titled, "Additional comments, suggestions, and information items by Board Members".

- Answer follow-up questions on Energy Management Plan.
- Schedule a Natural Resources and Technical Services Committee meeting later this year to discuss whether OWASA should be taking additional actions to monitor activities that may affect water quality in its water supply watersheds.
- Answer follow-up questions on the draft FY 2019 operating budget to include information on possible discretionary expenditures in operating expenses for the March 22, 2018 Board meeting.

Item Eight: Closed Session

Without objection, the Board convened in a closed session for the purpose of discussing a personnel matter.

The Board Work Session was adjourned at 8:45 p.m.

Respectfully submitted by:

Andrea Orbich
Executive Assistant/Clerk to the Board

Orange Water and Sewer Authority

Meeting of the Board of Directors

March 22, 2018

The Board of Directors of the Orange Water and Sewer Authority (OWASA) held a regular meeting on Thursday, March 22, 2018, at 7:00 p.m. in Chapel Hill Town Hall Council Chamber.

Board Members present: Robert Morgan (Chair), Heather Payne (Vice Chair), Yinka Ayankoya (Secretary), Jeff Danner, Ray DuBose, Barbara Foushee, John N. Morris and Ruchir Vora. Board Member absent: John A. Young.

OWASA staff present: Mary Darr, Robert Epting, Esq., (Epting and Hackney), Vishnu Gangadharan, Robin Jacobs (Epting and Hackney), Ed Kerwin, Simon Lobdell, Andrea Orbich, Todd Taylor and Stephen Winters.

Others present: Margaret Holton (University of North Carolina Water Resources Manager) and Ben Poulson (UNC Associate Director of Energy Services).

Motions

1. Heather Payne made a motion to approve the Minutes February 22, 2018 Meeting of the Board of Directors; second by Ruchir Vora and unanimously approved.

2. Heather Payne made a motion to approve the Minutes March 8, 2018 Closed Session of the Board of Directors for the purpose of discussing a personnel matter; second by Ruchir Vora and unanimously approved.

3. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution Setting the Date of May 24, 2018 for a Public Hearing on OWASA's Fiscal Year 2019 Budget. (Motion by Yinka Ayankoya, second by Heather Payne and unanimously approved.)

4. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution Setting the Date of May 24, 2018 for a Public Hearing on Proposed Revisions to OWASA's Schedule of Rates, Fees and Charges. (Motion by Jeff Danner, second by Yinka Ayankoya and unanimously approved.)

5. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Series Resolution of the Orange Water and Sewer Authority Relating to the Issuance of Water and Sewer System Revenue Refunding Bonds. (Motion by Ruchir Vora, second by Heather Payne and unanimously approved.)

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Announcements

Robert Morgan asked if any Board Member knows 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.

Mr. Morgan said that on Wednesday, April 4, 2018, the Board will convene for a Diversity and Inclusion training session with VISIONS, Inc. at 6:00 p.m. in the OWASA's Boardroom.

Todd Taylor announced that he attended the March 20, 2018, Carrboro Board of Aldermen meeting to provide an update on OWASA's Agua Vista (Advanced Metering Program) which was well received. Mr. Taylor said that he will also give an update on Agua Vista Program to the Chapel Hill Town Council on Wednesday, April 11, 2018.

Mr. Taylor said that on Saturday, March 24, 2018, OWASA's lake recreation season begins.

Mary Darr announced that on March 21, 2018, OWASA and the North Carolina Forest Service held a Community Meeting at the Maple View Agriculture Center on the upcoming prescribed burn at OWASA's Cane Creek Reservoir Mitigation Tract. Information was provided on the purpose of the prescribed burn which will be conducted in April or early May; one member of the public attended this meeting.

John Morris said that today he attended a meeting organized by the UNC North Carolina Policy Collaboratory that oversees continuing study and analysis of nutrient management strategies and compilation of existing water quality data in Jordan Lake which is being funded by the NC General Assembly. Mr. Morris commented that he was impressed with the level of sophistication of scientific research studying what type of nutrient controls may be employed to keep harmful algae at a manageable level.

Ray DuBose said that he attended the International District Energy Association 32nd Annual Campus Energy Conference in Baltimore, Maryland. Mr. DuBose said that there were over 900 attendees and 21 presentation tracks over two days that included: Planning, Expansion and Renewal; Emergency Preparedness and Resiliency; District Energy Carbon & Environmental Strategies; Integrating Renewable Energy; Innovative financing and emerging business models; Energy and Water Efficiency (water/energy nexus); and Training and Talent Management.

Petitions and Requests

Robert Morgan asked for petitions and requests from the public, Board and staff; there were none.

Item One: 12 Month Board Meeting Schedule

The Board received this as an information item.

Item Two: Information on the Selection and Procurement of Solids Thickening Equipment for the Mason Farm Wastewater Treatment Plant

The Board received this as an information item.

Item Three: Minutes

Heather Payne made a motion to approve the Minutes February 22, 2018 Meeting of the Board of Directors; second by Ruchir Vora and unanimously approved. Please see Motion 1 above.

Item Four: Minutes

Heather Payne made a motion to approve the Minutes March 8, 2018 Closed Session of the Board of Directors for the purpose of discussing a personnel matter; second by Ruchir Vora and unanimously approved. Please see Motion 2 above.

Item Five: Review Fiscal Year 2019 Draft Budget and Rate Adjustment Information

The Board discussed the draft budget and rate adjustment information for July 2018 through June 2019 (FY 2019). Stephen Winters, Director of Finance and Customer Service, said that staff's preliminary work on the draft 2019 budget indicates a possibility that staff will not request an increase in the rates for monthly water and sewer service in the FY 2019 budget, but that increases will be necessary in following years.

The Board requested information that explains why rate increases may be necessary. Staff will provide this information for discussion at the Board's April 12, 2019 meeting and a Finance Committee meeting to be scheduled for the week of April 16, 2018. A discussion of budget and rates is scheduled for the April 26, 2018 Board meeting.

Item Six: Resolution Setting the Date of May 24, 2018 for a Public Hearing on OWASA's Fiscal Year 2019 Budget

Yinka Ayankoya made a motion to approve the resolution; second by Heather Payne and unanimously approved. Please see Motion No. 3 above.

Item Seven: Resolution Setting the Date of May 24, 2018 for a Public Hearing on Proposed Revisions to OWASA's Schedule of Rates, Fees and Charges

Jeff Danner made a motion to approve the resolution; second by Yinka Ayankoya and unanimously approved. Please see Motion No. 4 above.

Item Eight: Series Resolution of the Orange Water and Sewer Authority Relating to the Issuance of Water and Sewer System Revenue Refunding Bonds

Ruchir Vora made a motion to approve the resolution; second by Heather Payne and unanimously approved. Please see Motion No. 5 above.

Item Nine: Summary of Board Meeting Action Items

Ed Kerwin noted the following items for staff follow-up:

- Address Board Member feedback about draft Fiscal Year 2019 budget and rates for April 12, 2018 work session.
- Schedule a Finance Committee meeting to discuss draft budgets and rate options for Fiscal Year 2019 the week of April 16, 2018.
- April 12, 2018 Board Work Session agenda will include:
    - Discuss rate options for Fiscal Year 2019
    - Action Plan for improvement identified by employees in our organization assessment facilitated by VISIONS, Inc.
    - Review information for renewal of employee health and dental insurance.

Item Ten: Closed Session

Without objection, the Board convened in a closed session for the purpose of discussing a personnel matter.

The Board meeting was adjourned at 8:22 p.m.

Respectfully submitted by:

Andrea Orbich
Executive Assistant/Clerk to the Board

Attachments

Agenda Item

- Presentation on Agua Vista (Advanced Metering Infrastructure) Initiative

Purpose

- To provide the Board of Directors an update on the Agua Vista Metering Initiative and insight into current efforts and the work ahead.

Background

- The Agua Vista Metering Initiative has been underway since June 2017.

- The majority of the effort to date has concentrated on preparatory and "behind-the-scenes" tasks such as network infrastructure, software integration, deployment planning, training staff, testing processes, and preparing the community.

- In March 2018, after successful completion of the Field Readiness Test by our contractor, Agua Vista moved into the deployment phase (i.e. system-wide upgrading of our water meters by our contractor). This phase will have the most direct impact on customers as our contractor moves throughout the service area upgrading meters.

Action Needed

- No action is needed.

April 26, 2018

ORANGE WATER AND SEWER AUTHORITY

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

MEMORANDUM

TO: Board of Directors

THROUGH: Ed Kerwin, Executive Director

FROM: Todd Taylor, P.E., General Manager of Operations

DATE: April 20, 2018

SUBJECT: Agua Vista Update

Purpose:
To provide the Board of Directors an update on the Agua Vista Metering Initiative and insight into current efforts and the work ahead.

Key takeaways include:

- The network covers about 86% of the total meter population.
- The meter upgrades are currently about 18% complete. Upgrades are anticipated to be 100% complete by June 2019.
- OWASA staff is currently managing the contractor, monitoring the network, developing the deployment plan, assisting with meter upgrades, providing quality control, answering questions from customers, and planning communications for the web portal rollout.
- Customers whose meters are being upgraded are already benefitting from leak monitoring and notifications being performed by our Customer Service staff.
- The project is currently on track to exceed the financial performance estimates indicated in the Feasibility Study.

Action Needed:
This update is provided as information only and no action is requested at this time.

Introduction:
The Agua Vista Metering Initiative has been underway since June 2017. The majority of the effort to date has concentrated on preparatory and "behind-the-scenes" tasks such as network infrastructure, software integration, deployment planning, training staff, testing processes, and preparing the community. In March 2018, after successful completion of the Field Readiness Test by our contractor, Agua Vista moved into the deployment phase (i.e. system-wide upgrading of our water meters by our contractor). This phase will have more direct impact on customers as our contractor moves throughout the service area upgrading meters. On the surface this seems like a fairly straightforward process; however, certain elements are more complex and have required a great deal of thought and preplanning. The following is a brief summary of the efforts currently underway to ensure that the deployment, and ultimately Agua Vista as a whole, is a success for the community.

Network Infrastructure:
The planned communications network needed to receive signals from each meter is comprised of 16 data collectors and 45 signal repeaters. The first data collectors installed were on the OWASA water tanks (except for

Manning Drive tank due to construction). As of April 6, 2018, twelve of the 16 data collectors are installed and functioning properly. All 45 repeaters are installed and programmed. Thirty-eight of the repeaters are currently reporting to installed collectors; the remainder of the repeaters will report as soon as their parent collectors come online. Combined with the repeaters that report up to those 12 data collectors, the current network covers over 19,000 meters (out of approximately 22,000 meters) in our service area.

Of the remaining 4 data collectors:

- Two are planned to be installed on North Carolina Department of Transportation signal poles along Highway 54 that are maintained by the Town of Chapel Hill. OWASA contractor, Mueller Systems, is preparing the required paperwork for submittal and review to the NC DOT. The NC DOT and Town of Chapel Hill have indicated they will approve the encroachment permits; installation is expected in the May/June timeframe.
- One data collector is planned for the Lake Hogan Farms neighborhood. Mueller Systems is working with the Homeowners Association to obtain permission to install the data collector on HOA property. If this is not possible we will apply to the Town of Chapel Hill to erect a pole in the Town of Chapel Hill right-of-way in that area.
- One data collector is planned for installation at McLean Hall at the UNC Rizzo Center. OWASA is working with UNC to obtain permission to install the equipment.

The OWASA Information Technology (IT) Department has assisted Mueller with facilitating the relationship with property owners, arranging for Memorandums of Agreement with property owners and access to OWASA facilities. Along with the Mueller Network Operations Center, the IT Department is responsible for the AMI network and monitors the network for availability and performance using the Network Management Tool and the Mi.Host platform. The IT Department also uses the Network Management Tool to identify those meter locations that are covered by the network and uses this information for scheduling installations.

Deployment Plan:
In October 2017, the original meter installation contractor that Mueller Systems had arranged, Utility Partners of America (UPA), pulled out of the project just before the start of the Field Readiness Test. Working with the Distribution & Collection Systems Department, the IT Department developed and planned a pre-pilot, the OWASA Readiness Test (ORT). The goals of the ORT were to continue the project momentum, test the software integrations, and train OWASA field personnel to complete Advanced Metering Infrastructure (AMI) meter replacements and retrofits. The ORT took place from November 2017 through January 2018; several hundred meters were installed, several issues with the software integration were discovered and resolved, and OWASA field personnel gained valuable experience.

Also, while conducting the ORT, the IT Department gained valuable insight and knowledge regarding the deployment process. When the new meter installation contractor, Kentrel, was selected, it was decided that the IT Department would plan and manage the deployment process instead of the sub-contractor, as originally planned. We developed the deployment calendar which identifies, for each billing cycle, the dates that are available for meter installations and retrofits and which dates are blacked out for meter reading, quality assurance, and billing. We also developed a process to identify which meter boxes are covered by the installed portions of the network infrastructure and schedule meters on a weekly basis to release to the contractor. Using this process, each week we provide Kentrel with two files, one identifying customers to notify of upcoming installation and one identifying the work authorized for the following week.

During the first two weeks of February 2018, the Field Readiness Test (FRT) was conducted. The objectives of the FRT where to test Kentrel/Mueller's adherence to the Project Control Manual (PCM), the quality and

accuracy of the physical work performed, the accuracy of the data provided to OWASA to document the work performed, to update the OWASA billing system, and to test all of the business processes related to the deployment phase. During the FRT, Kentrel replaced or retrofitted over 200 meters. At the conclusion of the FRT, OWASA determined the FRT was successful with conditions (which have been subsequently resolved).

The deployment phase of the project began the week of March 5, 2018. Kentrel is in the process of hiring and training local installers with the objective of reaching a fully-staffed level of 450 meter replacements/retrofits per week. While in the process of hiring and training, Kentrel has been deploying experienced field technicians from Kentrel to install meters.

Since the ORT was completed, OWASA personnel have also continued to replace and retrofit meters with AMI meters/transmitters as part of the regular break/fix process. All new service locations are also being installed with AMI meters, as well. The Distribution & Collections Department, supported by the IT Department, has retrofitted approximately 15% of the AMR meters where AMR transmitters or registers have failed. Also, due to the recent expansion of the AMI network coverage, the IT Department worked with the meter crew to refresh training on programing AMI meters so that all meters are now being programmed when installed.

As of April 18, 2018, approximately 4,000 meters have been either replaced or retrofitted with AMI transmitters, representing over 18% of our total system. OWASA expects to have approximately 7,500 AMI meters installed by the end of June 2018. We are currently working to identify the materials required for installation from July through October. The replacement/retrofit of meters in expected to be substantially completed by the end of February 2019.

UNC and UNC Healthcare meters are being managed separately from the rest of the installations. Beginning the last week of April, OWASA contractors will survey all UNC meter locations to determine the work required. Any meters that require only the retrofit of an AMI transmitter will be completed during this timeframe. OWASA and OWASA's contractor will meet with UNC to plan the replacement/retrofit of the remaining meters. This work is expected to be accomplished from May through mid-August.

Meter Upgrades:

Over the past 40 years OWASA has utilized many different sizes and types of meters and installed them in various configurations. We are fortunate that the majority of our meters are located outside and in the street right-of-way which makes them easily accessible, however, other variables can create challenges for our contractor as they are encountered in the field.

In general, there are three different types of upgrades to be performed: (1) a complete meter, register and transmitter installation which is primarily required when the existing meter meets certain age requirements; (2) a register and transmitter replacement which is required when the current register is not compatible with the transmitter; or (3) a transmitter only replacement which is required on registers already equipped with a drive-by transmitter. Nearly all of these upgrades require a new composite meter box lid to reduce radio signal disruptions. There are many different sizes and shapes of these lids within our service area. Unfortunately, our records on these assets are not always accurate (another issue being addressed with this initiative). Our contractor stocks their vehicles with various components to effectively and efficiently address these different scenarios.

Over time, meter boxes settle, tree roots grow in and around them, etc. making the upgrades difficult or impossible. Our current procedure is for our contractor to request that our inspector review the situation if they encounter circumstances that prevent them from completing the upgrade. If warranted, our inspector will dispatch our staff to correct the issue. In order to maintain productivity, our contractor simply moves on to the next upgrade and returns once our staff has completed their work.

Customers are notified via letter (printed in English and Spanish) about one month prior to their meter upgrade. Additionally, we post in the NextDoor neighborhoods (i.e. neighborhood-based social media) of impacted

neighborhoods that they should be receiving such a letter. We post again in NextDoor a week prior to the meter upgrades. Once on site, contractors knock on the door of the customer to let them know that they will be working on their meter and that they may be without service for about 15 minutes. Once complete, the contractors hang a flyer on the door letting the customer know that their meter has been upgraded and inviting them to take a customer satisfaction survey (in English and Spanish). To date, we have had one customer complete that survey; the review was positive.

Quality Control & Assurance:
OWASA is committed to ensuring that Agua Vista is a positive experience for customers from the meter upgrade to billing and beyond. Therefore, the quality of our contractor's work must be monitored closely to be sure that customers' lawns and landscaping is left in good condition, their water service is restored following the upgrade, meter numbers and previous readings are entered correctly, etc. Much of this is monitored through back office processes and requiring pictures of various aspects of the upgrade process, but we have also assigned two field inspectors to oversee our contractor's work. The field inspectors are targeting inspections of at least 5% of the upgrades. In addition, our contractors are required to inspect a total of 10% of their installers' upgrades (100% of new installers work for the first two weeks) and there is a mitigation plan in place should an installer not be meeting expectations.

Addressing Customer Concerns During Deployment:
The Agua Vista Metering Initiative is about proactive Customer Service. The Customer Service team prepared for the project's implementation by cross-training so each team member could attend meetings, workshops and training sessions. Significant time has been spent over the last year training-on and testing the new system and preparing to use it in customer interactions. At the same time, staff must keep up with day-to-day customer service responsibilities.

We encourage customers to contact Kentrel directly if they have questions about the installation. However, our customers naturally contact OWASA with OWASA-related questions, and our Customer Service team has handled a lot of customer inquiries about the project. Most of the calls we receive are prompted by the notice letting them know about the work that will soon happen at their location or once their meter has been upgraded. Overall, the community response has been very positive. We are monitoring the workload in customer service and may find it necessary to bring in temporary assistance at some point.

Just as important, we are being proactive when, as a result of Agua Vista's capabilities, we see water use patterns that indicate a customer may have a leak. Through these efforts, we are gaining knowledge and experience that will help inform policy and standard operating procedure development.

We also receive daily reports from our meter installation contractor that let us know which of our customers have contacted their call center and the nature of the customer's question, compliment or complaint. We review this information and follow-up with the customer to ensure their questions or issues have been satisfactorily addressed.

Using this New Technology to Assist Customers:
While we are still learning how best to use new customer service capabilities afforded by Agua Vista, we are already using it to alert customers of indications of leaks. The new system allows us to analyze water use patterns, not just the volume used, and it is helping us identify possible leaks that we, and the customer, may never have noticed unless the situation worsened. A couple of recent examples illustrate these points:

- Senior Customer Service Representative Thomasina Farrow reviewed an account that was using more water than they normally use and there was continuous use for almost 100 hours. Thomasina called the customer and, without anyone visiting the customer's location, verified that continuous use was still occurring. The customer was out of town at the time and without the ability to monitor water use through

Agua Vista, neither we nor the customer would have discovered it until the customer returned home or when we read the meter, if then. After speaking with Thomasina, the customer called a neighbor who found a toilet running and turned it off. The toilet was leaking at a rate that was on pace to increase the customer's usage by as much as 7,200 gallons above the average for the location.

- Customer Service Representative Pamela Whitmore identified an account that was experiencing higher than normal water use. The customer expressed certainty that it was not possible there was a leak. After Pamela explained what she was seeing through Agua Vista, the customer was convinced; the customer contacted a plumber who found and repaired a leak that was in a pipe outside the house.

- Another valuable tool is the ability to set water use parameters and have the system send an alert to the customers when the parameters are crossed. We have worked with one of our largest customers to establish parameters for monitoring water use of an irrigation meter to provide an early warning of trouble with the irrigation system.

Public Communications:
The Agua Vista Metering Initiative has the potential to directly impact every single OWASA customer. Therefore, we have developed a strategic and phased Communications Strategy, founded in the AMI Community Engagement Plan approved by the OWASA Board of Directors on December 8, 2016.

Phase 1 of the Communications Strategy for the Agua Vista Metering Initiative was to raise general awareness about the project and its benefits. As part of this phase, we created and mailed an informational brochure to all OWASA customers. We built a series of web pages and created a short video that provides general information about the project, as well as what to expect with a meter upgrade. This has been particularly useful in the second phase of the Communications Strategy, which is focused on communicating with individual customers regarding their meter upgrade. This is the phase we are currently focusing most of our effort.

We will soon be turning our attention to the preparation for the third phase of our Agua Vista Communications Strategy that will focus on the roll-out of the customer web portal. We strategically delayed rolling out the web portal, so that we could focus first on the quality of the meter upgrades and network development and to reduce confusion among customers that have and have not had their meter upgraded.

Once about 75% of the meters are upgraded, we expect to roll out the web portal to customers that have received meter upgrades. The web portal will be accessible on web and mobile browsers for desktop, smartphones, and tablets. From the portal, customers will be able to establish individualized alarms. We know not everyone will have internet access, and we will actively work with our partners in affordability outreach to incorporate the use of the Agua Vista web portal into discussions on household budgeting. Additionally, our staff will be at-the-ready to individually walk customers through their water use history via telephone or a short trip to our offices in Carrboro. Even once the web portal is rolled out, our Customer Service staff will continue to use the system to analyze water use data for small, large, and catastrophic leaks and proactively alert customers of these otherwise costly leaks via telephone or email.

To prepare for the third phase of the Communication Strategy, we will engage with our peers to learn from their experiences and benchmarks for customer uptake. We are planning to conduct focus groups with customers to help design the functionality of the portal. We will develop a "how to" video platform to instruct customers how to set up their account and what to look for in their water use trends.

Once deployed, the web portal will provide an exciting platform from which to engage with customers. For example, we are working with a second-grade teacher at Seawell Elementary to incorporate the Agua Vista portal into a water-themed integrated curriculum that will advance ideas about water conservation, graphing, and civic engagement. Additionally, the Agua Vista web portal will serve as an interactive and personal platform to launch

water conservation initiatives. These are just a few examples of some of the exciting ways that we can connect our customers with our services.

Conclusion:
The Agua Vista Metering Initiative is well underway and, thus far, has been very successful. We currently have about 86% of our meters covered by the network and 18% of our meters upgraded. So far, we have received very few complaints from customers regarding the deployment or their bills. We will remain diligent in our efforts to ensure that our customers' experience with Agua Vista is positive.

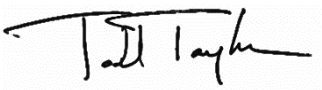
As shown in the table below, our Feasibility Study of Agua Vista indicated that the initiative is a smart investment. The outlook for the financial performance has further improved due to estimated lower capital costs, lower operation and maintenance (O&M) costs, and the impact of receiving a low-interest loan from the State for the project.

Description	**Feasibility Study Estimates**	**Current Estimates**
Capital Outlay	$6.0M	$5.4M
Average Annual O&M	$150,000	$106,000
Cost of Capital	3.50%	1.53%
15-year Net Present Value	$0.44M	$2.34M
Simple Payback	<12 Years	<10 Years

As we look ahead, the benefits of Agua Vista will continue to grow as more meters are upgraded. Once we reach a critical mass, the web portal will be activated and give customers insights into their consumption that have never been possible before. We have only begun to scratch the surface of the potential Agua Vista has to transform the way we do business.

We look forward to presenting this update to the Board of Directors at their April 26, 2018 Business Meeting. Please let me know if you have any questions.

Sincerely,



Todd Taylor, P.E.
General Manager of Operations

Agenda Item

- Resolution Awarding a Construction Contract for the Rogerson Drive Pump Station Rehabilitation – Phase 2

Purpose

- To request the Board's approval to award a construction contract for the Rogerson Drive Pump Station Rehabilitation Project – Phase 2.

Background

- The Project consists of replacement of the main electrical panels, new Heating Ventilation and Air Conditioning equipment, a new odor control system and lighting replacements.

- Plans and specifications for the construction of this project were prepared by McKim and Creed ("Engineer").

- Prospective bidders for the construction contract were screened through a prequalification process. Minority outreach was performed for the prequalification process in accordance with standard practice. Eleven bidders were prequalified.

- Bids from three prequalified contractors were received and opened on March 28, 2018. The apparent low bidder was Turner Murphy Construction, Inc., (Turner Murphy) with a bid of $1,876,918.18. The Engineer's estimate was $1,380,000.00.

- The Engineer evaluated bids and recommended award of the construction contract to Turner Murphy

- The OWASA staff, Engineer and Turner Murphy negotiated an amendment to the contract through a value engineering process. The amendment modified the bypass pumping plan for the work and resulted in savings of $93,929.00.

Staff Recommendation

- Staff recommends that the Board of Directors adopt the Resolution Awarding the Construction Contract for the Rogerson Drive Force Pump Station Rehabilitation-Phase 2 Project to Turner Murphy in the amount of $1,782,989.18.

ORANGE WATER AND SEWER AUTHORITY

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

MEMORANDUM

TO: Board of Directors

THROUGH: Ed Kerwin

FROM: Simon Lobdell

DATE: April 19, 2018

SUBJECT: Resolution Awarding a Construction Contract for the Rogerson Drive Pump Station Rehabilitation Project - Phase 2

This memorandum recommends that the Board of Directors award a construction contract to Turner Murphy Construction, Inc. ("Turner Murphy") for the construction of the Rogerson Drive Pump Station Rehabilitation Project - Phase 2 ("Project").

Background

This project provides needed rehabilitation of the electrical system, Heating Ventilation and Air Conditioning (HVAC) equipment and the odor control system for the Rogerson Drive Pump Station to improve operation and reliability of the station. The Rogerson Drive Pump Station is our largest and most important wastewater pump station and pumps roughly half of all the wastewater in OWASA's collection system. An engineering study completed in Fiscal Year 2017 broke the scope into two major phases to be bid as separate construction contracts. The first phase included new Variable Frequency Drives and grinders as well as preparatory work for the second phase. The first phase was awarded in May 2017 and was substantially completed in March 2018. The second phase, proposed for award here, includes the following scope elements:

1) replacement of the main electrical panels;
2) new HVAC equipment for the main mechanical rooms and smaller service rooms;
3) replacement of the odor control system with a unit previously awarded via a sole source agreement (see October 26, 2017 Board Meeting); and
4) lighting replacements with high efficiency, low maintenance LED fixtures.

Advertising and Bidding

McKim and Creed ("Engineer") completed design and specifications for the improvements. Prospective bidders were screened through our standard prequalification process, which involved having interested contractors submit a package outlining their qualifications, including past performance on similar projects, credentials of their management team, safety record, etc. Only those firms that clearly demonstrated the capability to adequately perform the project work were invited to submit bids.

The Request for Qualifications (RFQ) was posted in December 2016. After review, eleven contractors were prequalified to bid on the project. The invitation for bids was issued to the prequalified contractors on February 14, 2018. Three bids were received on March 28, 2018 and opened publicly. The project was bid with a single additive alternate to replace four corroded entry hatches in the station's wet well. Turner Murphy was the low, responsive and responsible bidder for the project with a total bid (including the hatches) of $1,876,918.18. A copy of the certified bid tabulation is attached with the Engineer's recommendation to award (Attachment 2), and the results are summarized below:

Turner – Murphy	$1,876,918.18
Carolina Civilworks	$2,098,634.52
Dellinger, Inc.	$2,238,000.00
Engineer's Final Estimate	*$1,380,000.00*

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. In keeping with standard practice, OWASA staff took several actions to solicit minority participation in this contract, including advertising the RFQ in the Greater Diversity News, North Carolina Institute of Minority Economic Development, North Carolina Department of Administration Historically Underutilized Businesses, OWASA's website, and plan rooms, and requiring bidders to follow "good faith" efforts to solicit participation by minority subcontractors. In addition, OWASA staff publicly advertised the formal bid itself as an additional effort to solicit participation by subcontractors where it was feasible

The apparent low bidder (Turner Murphy) provided documentation of good faith efforts and identified MWBE participation of $26,000.00 (1.4% of the total bid amount). The one selected subcontractor is a woman owned business.

Bid Analysis and Recommendation

The three bids received were significantly different (the high bid was 19% higher than the low bid). In addition, the low bid was 36% higher than the Engineer's estimate. For both cases, the wide disparity was caused by two distinct issues. Firstly, the project requires a full bypass of the station for a significant period during construction. During the bid, bidders indicated that the bypass requirements substantially exceeded what was originally anticipated by the Engineer. Furthermore, the Engineer's estimate for the time that the contractor would require this bypass was significantly lower than most bidders anticipated. In other words, the station bypass was significantly more expensive than anticipated by our Engineer. This was the primary cost driver for the overage and represented the main point of difference between the bidders: whereas the Engineer anticipated a bypass cost of $102,000, the low bidder anticipated a cost of $386,833.28 and the high bidder estimated $650,000.

The second reason for the bid disparity is one more generally impacting the construction industry. Prices on steel and manufactured goods have become increasingly volatile and labor shortages are affecting all trades in the industry. The escalation of prices and increasing demand for various projects has led to a general price increase in all elements of construction. Excluding the overage from the bypass pumping, the low bid price was approximately 8% above the Engineer's estimate.

In an effort to reduce the cost of the project, OWASA entered into a Value Engineering negotiation with Turner Murphy. (State law permits negotiation with the low bid contractor when all bids exceed the funds available for the project.) During the negotiations, staff and our Engineer revisited the bypass pumping plans and determined that an alternate method of running the station on bypass power could be provided. This alternative would require a second power and control system be set up temporarily to run the existing pumps. Not only was the alternative bypass plan determined to have lower risk, but through negotiations with Turner Murphy would reduce bypass costs by $93,929.00. This cost reduction will be appended to the final contract and modifies the total award value of the contract to $1,782,989.18.

Although this cost exceeds the Engineer's estimate, this improved method was the best option available to reduce the cost of this critical project. The draft FY 2019 – 2023 CIP budget includes the increased construction costs and associated engineering costs for the project. We believe that because of the critical nature of the systems addressed in this project and the effort already invested, we should proceed with the project as negotiated. As an alternative to awarding the revised project, we considered modifying the design to capture the changes included in the Value Engineering negotiation and rebidding the project. However, our Engineer estimates that the cost of rebidding and the time spent thus far would offset any potential savings from the rebid project.

Turner Murphy has the ability to complete this project, was evaluated thoroughly during the prequalification process, and they have demonstrated sufficient qualifications in past project performance, personnel qualifications/experience, reference checks, and all other rated categories. OWASA staff also determined that Turner Murphy's safety performance, relevant project experience, bonding capacity, and other non-rated categories met our requirements.

McKim and Creed's recommendation that the construction contract for this project be awarded to Turner Murphy is attached along with the certified bid tabulation (Attachment 2). An additional value engineering change was negotiated with Turner Murphy and will be included with the executed contract. The recommendation is attached here as Attachment 3. OWASA staff concurs with this recommendation. In order to proceed, we request the Board's adoption of the attached resolution (Attachment 4) awarding the construction contract to Turner Murphy. Please let me know if you have any questions or comments.

Respectfully submitted,

Simon Lobdell
Utilities Engineer

Attachments

1. Pump Station Location Map
2. Engineer's Recommendation for Award and Certified Bid Tabulation
3. Value Engineering Negotiation and Recommendation
4. Resolution

Attachment 1 - Pump Station Location Map

This map contains sensitive information, not to be copied or distributed without the express written permission of OWASA. This data is being provided as a visual representation and at no time should the data be considered exact. The data is not guaranteed to be accurate and is not intended as a substitute for a field survey. OWASA assumes no legal liability or responsibility for this data.

Attachment 2 - Engineer's Recommendation for Award and Certified Bid Tabulation

McKIM&CREED

ENGINEERS

SURVEYORS

PLANNERS

April 2, 2018

M&C 01519-0043 (54)

Mr. Simon Lobdell, PE
Orange Water & Sewer Authority
400 Jones Ferry Road
Carrboro, NC 27510

RE: Rogerson Drive Pump Station Rehabilitation – Phase II (CIP No. 277-31)
Recommendation of Award

Dear Mr. Lobdell:

On Wednesday, March 28, 2018 at 3:00 p.m., the Orange Water & Sewer Authority received bids for the Rogerson Drive Pump Station Rehabilitation – Phase II project. Three (3) bids were received from prequalified bidders 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 detailed bid tabulation and bid summary tabulation for the bids received. The referenced bids have been reviewed by the Engineer, and Turner Murphy Company, Inc. (NC License #9072) is the apparent low bidder.

The bid includes a base bid and one add alternate bid item. The following represents the total bid amounts as submitted by Turner Murphy Company, Inc.:

Total Base Bid: $1,867,833.28
Total Base Bid + Add Alternate: $1,876,918.18

Any combination of award of the base bid or base bid and add alternate results in Turner Murphy Company, Inc. being the apparent low bidder.

Turner Murphy Company, Inc. is properly licensed and experienced in the type of construction involved, as indicated by the information supplied with the bid. Turner Murphy Company, Inc. has also previously been prequalified to bid on the project by the Orange Water & Sewer Authority. Based on the Engineer's review of the bids, we recommend award of the project to the lowest responsible, responsive bidder, Turner Murphy Company, Inc. The amount of award of the

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Suite 500
Raleigh, NC 27606
919.233.8091
Fax 919.233.8031
www.mckimcreed.com

construction contract will depend on the selection of the base bid or base bid and add alternate as accepted by the Orange Water & Sewer Authority.

Please accept this letter as the formal recommendation of award of construction contract to Turner Murphy Company, Inc. This recommendation of award is subject to approval and acceptance of the submitted bid by the Orange Water & Sewer Authority.

Enclosed you will find the following documents:

- Certified Bid Tabulations
- Turner Murphy Company, Inc. Bid Package
- Turner Murphy Company, Inc. Bid Bond

It is recommended that a construction contingency be held in the budget to cover any unforeseen conditions that may be encountered during construction.

Should you have any questions or concerns in regards to this letter or any of the enclosures, please do not hesitate to contact our office. We look forward to working with the Orange Water & Sewer Authority to successfully complete the construction phase of this project.

Sincerely,

McKIM & CREED, INC.

K. Jason Savage, PE
Construction Administrator

Enclosures

cc: File, w/encl.
Ben Latino, PE (M&C)

CERTIFIED BID TABULATION

Orange Water and Sewer Authority
Rogerson Drive Pump Station Rehabilitation – Ph II
CIP No. 277-31
BID DATE: March 28, 2018 at 3:00 PM
M&C Project No. 01519-0043

BIDDER	LICENSE #	BID BOND	ACKNOWLEDGE ADDENDA					TOTAL BASE BID	TOTAL ADD ALTERNATE BID	TOTAL BASE BID + TOTAL ADD ALTERNATE
			1	2	3	4	5			
Turner Murphy Co., Inc.	9072	✓	✓	✓	✓	✓	✓	$1,867,833.28	$9,084.90	$1,876,918.18
Carolina Civilworks Inc.	74658	✓	✓	✓	✓	✓	✓	$2,070,634.52	$28,000.00	$2,098,634.52
Dellinger, Inc.	5992	✓	✓	✓	✓	✓	✓	$2,232,000.00	$6,000.00	$2,238,000.00

NORTH CAROLINA PROFESSIONAL SEAL 037492 ENGINEER K. JASON SAVAGE

Certified as Correct

3/30/18

K. Jason Savage, PE — Date
Construction Adminstrator
McKim & Creed, Inc.

CERTIFIED DETAILED BID TABULATION

Orange Water and Sewer Authority
Rogerson Drive Pump Station Rehabilitation - Ph II
CIP No. 277-31
BID DATE: March 28, 2018 at 3:00 PM
MC Project No. 01519-0043

BASE BID				TURNER MURPHY CO., INC.		CAROLINA CIVILWORKS, INC.		DELLINGER, INC.	
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
1	Mobilization and Demobilization	1	LS	$25,000.00	$25,000.00	$59,000.00	$59,000.00	$60,000.00	$60,000.00
2	Odor Control Equipment Allowance	1	LS	$174,000.00	$174,000.00	$174,000.00	$174,000.00	$174,000.00	$174,000.00
3	Odor Control Improvements				$0.00				
	a. Demolition and Removal of Existing Equipment	1	LS	$25,000.00	$25,000.00	$75,000.00	$75,000.00	$25,000.00	$25,000.00
	b. Install New Equipment	1	LS	$75,000.00	$75,000.00	$85,000.00	$85,000.00	$75,000.00	$75,000.00
4	Temporary Sewer Bypass Pumping	1	LS	$386,833.28	$386,833.28	$591,594.92	$591,594.92	$650,000.00	$650,000.00
5	HVAC Improvements								
	a. Demolition and Removal of Existing Equipment	1	LS	$15,000.00	$15,000.00	$60,042.77	$60,042.77	$18,000.00	$18,000.00
	b. Furnish and Install New Equipment	1	LS	$165,000.00	$165,000.00	$156,175.12	$156,175.12	$130,000.00	$130,000.00
6	Electrical Improvements								
	a. Demolition and Removal of Existing Equipment and Lighting Fixtures	1	LS	$35,000.00	$35,000.00	$22,000.00	$22,000.00	$20,000.00	$20,000.00
	b. New Switchgear	1	LS	$325,000.00	$325,000.00	$229,887.41	$229,887.41	$360,000.00	$360,000.00
	c. New Motor Control Center	1	LS	$150,000.00	$150,000.00	$237,017.34	$237,017.34	$330,000.00	$330,000.00
	d. New Lighting Fixtures	1	LS	$30,000.00	$30,000.00	$21,833.74	$21,833.74	$30,000.00	$30,000.00
	e. New HVAC Equipment Electrical	1	LS	$25,000.00	$25,000.00	$12,000.00	$12,000.00	$15,000.00	$15,000.00
	f. New Odor Control Equipment Electrical	1	LS	$50,000.00	$50,000.00	$11,523.36	$11,523.36	$15,000.00	$15,000.00
	g. New Grounding	1	LS	$15,000.00	$15,000.00	$6,000.00	$6,000.00	$10,000.00	$10,000.00
	h. New Roll-Up Generator Connection	1	LS	$75,000.00	$75,000.00	$55,312.13	$55,312.13	$50,000.00	$50,000.00
	i. Relocate Existing Variable Frequency Drives, Pump Power and Control Cables	1	LS	$35,000.00	$35,000.00	$40,000.00	$40,000.00	$35,000.00	$35,000.00
	j. Conduit, Wire, Terminations for Instrumentation and Controls	1	LS	$42,000.00	$42,000.00	$14,247.73	$14,247.73	$15,000.00	$15,000.00
7	CITI Instrumentation and Control Allowance	1	LS	$170,000.00	$170,000.00	$170,000.00	$170,000.00	$170,000.00	$170,000.00
8	Contingency Allowance	1	LS	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00
			TOTAL BASE BID (Items 1-8)		**$1,867,833.28**		**$2,070,634.52**		**$2,232,000.00**

ADD ALTERNATE BID									
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
9	Remove and Replace Four (4) Existing Aluminum Access Hatches	1	LS	$9,084.90	$9,084.90	$28,000.00	$28,000.00	$6,000.00	$6,000.00
	TOTAL ADD ALTERNATE (Item 9)				**$9,084.90**		**$28,000.00**		**$6,000.00**
	TOTAL BASE BID + TOTAL ADD ALTERNATE (Items 1 thru 9)				**$1,876,918.18**		**$2,098,634.52**		**$2,238,000.00**

Certified as Correct

3/30/18

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

Date

Attachment 3 - Value Engineering Negotiation and Recommendation

McKIM&CREED

ENGINEERS

SURVEYORS

PLANNERS

April 17, 2018 M&C 01519-0043 (54)

Mr. Simon Lobdell, PE
Orange Water & Sewer Authority
400 Jones Ferry Road
Carrboro, NC 27510

RE: Rogerson Drive Pump Station Rehabilitation – Phase II (CIP No. 277-31)
Value Engineering Proposal

Dear Mr. Lobdell:

Recommendation of award of construction contract for the Rogerson Drive Pump Station Rehabilitation – Phase II project has previously been submitted to Orange Water & Sewer Authority (OWASA), in a letter dated April 2, 2018. The referenced recommendation of award identified Turner Murphy Company, Inc. (NC License #9072) as the apparent low bidder for the bids received on March 28, 2018. Since this time, OWASA has indicated the bid as submitted by Turner Murphy Company, Inc. is in excess of the available project funds, and OWASA has entered into value engineering discussions with Turner Murphy Company, Inc.

In a letter dated April 16, 2018, Turner Murphy Company, Inc. submitted a value engineer proposal for a net deduction in the bid amount equal to $93,929.00, for modifications to the temporary sewer bypass pumping requirements. The Bidding Documents require a complete temporary sewer bypass pumping system, consisting of portable, diesel powered, temporary pumps capable of providing for complete bypass of the pump station during periods where the station will be shut down for various upgrades and improvements. The Bidding Documents also require manned pump-watch, during all times the temporary sewer bypass pumping system is to be in service.

The value engineering proposal submitted by Turner Murphy Company, Inc. provides a detailed breakdown of the labor, equipment and materials used to formulate their bid, based on the temporary sewer bypass pumping system described in the Bidding Documents. To reduce project costs, Turner Murphy Company, Inc. has proposed an alternative method to maintain sewer flow at the pump station during periods of time where the station would need to be shut down for various upgrades and improvements. The scope of the alternative method for maintaining sewer service at the pump station is described in Turner Murphy Company, Inc. value engineering proposal dated April 16, 2018. In general, the value engineering proposal removes the requirement for a complete

1730 Varsity Drive
Suite 500
Raleigh, NC 27606

919.233.8091

Fax 919.233.8031

www.mckimcreed.com

temporary sewer bypass pumping system utilizing temporary, diesel powered pumps, and provides for the following:

- Contractor will coordinate with Duke Energy for a temporary utility electric service; actual costs of the utility electric service installation by Duke Energy will be paid by OWASA.
- Contractor will connect to Duke Energy temporary utility electric service and provide/install a temporary power panel to provide power to the existing facilities to maintain full operational capacity of the existing pump station during all upgrades and improvements as shown in the Bidding Documents, including all hardware, appurtenances, components and accessories required for a complete and operable system, capable of maintaining the sewer flows into the existing pump station.
- Contractor will provide/install three (3) temporary variable frequency drives to operate the four (4) existing pumps, with no more than three (3) of the existing pumps operational simultaneously. One of the temporary variable frequency drives will be provided with a manual selector switch to operate two (2) existing pumps independently.
- Existing mixers and existing grinders will also be powered and fully operational any time the pumps are in service.
- Contractor will provide/install a temporary control panel as furnished by OWASA's control system integrator, CITI, LLC; existing equipment and materials to be utilized in accordance with CITI, LLC proposal C17326, dated April 11, 2018.
- Contractor will provide/install an automatic transfer switch and connect to the existing generator set to provide for backup power in the event of loss of utility electric service; the backup generator will also be used to provide power to maintain full pump station operational capacity during periods of electrical connections and tie-ins as may be required to connect the temporary utility electric service; use of existing generator to provide for primary electric power is to be limited to periods of 8 hours or less; Contractor will not be required to provide fuel for the existing generator as long as the generator is operated as herein described.
- Contractor will acquire and pay all fees associated with permits required by authorities having jurisdiction for the temporary utility electric service and temporary power panel.
- Contractor will provide for startup and commissioning services of the temporary facilities as listed in the value engineering proposal, including manned pump watch for a minimum of forty eight (48) continuous hours following startup and commissioning of the pumping system.
- OWASA will continue payment of monthly utility electric service fees to Duke Energy
- OWASA will continue maintenance and repairs to existing pumps, mixers, grinders and other existing equipment, in the event the existing equipment becomes damaged or inoperable due to conditions beyond the control of the Contractor.

The Engineer has reviewed the value engineering proposal as submitted by Turner Murphy Company, Inc., and finds the proposal to be acceptable. The following details the bid amount and consideration for acceptance of the value engineering proposal:

Total Base Bid: $1,867,833.28
Total Add Alternate: $9,084.90
Value Engineering Proposal: ($93,929.00)
Revised Total Base Bid and Add Alternate (including Value Engineering Proposal): $1,782,989.18

The Revised Total Base Bid and Add Alternate results in a revised contract amount, and the amount of the recommendation of award of construction contract to Turner Murphy Company, Inc. is revised to $1,782,989.18, as previously detailed.

The value engineering proposal from Turner Murphy Company, Inc., along with the revised recommendation of award amount is subject to acceptance and approval by the Orange Water & Sewer Authority.

Enclosed you will find the following documents:

- Turner Murphy Company, Inc. Value Engineering Proposal dated April 16, 2018 (10 pages)

Should you have any question or concerns in regards to this letter or any of the enclosures, please do not hesitate to contact our office. We look forward to working with the Orange Water & Sewer Authority to successfully complete the construction phase of this project.

Sincerely,

McKIM & CREED, INC.

K. Jason Savage, PE
Construction Administrator

Enclosures

cc: File, w/encl.
Ben Latino, PE (M&C)

TURNER MURPHY CO., INC.
PO Box 3490
Rock Hill, SC 29732
Office 803-328-3874
Fax 803-328-8243

4/13/18

Simon Lobdell, PE
OWASA

RE: Rogerson Drive PS Bypass

Simon Lobdell,

We are pleased to offer a deduct in the Amount of **$93,929** for an alternate to the traditional bypass pumping as laid out in the bid documents.

We propose to supply and install the following:
Coordinate with Duke Energy for Temporary Power Service
Temporary Power panel to operate, VFDs, Mixers, Grinders and Control Panel
(3) VFDs to run (4) pumps with no more than three pumps running at one time . One the VFDs will be provided with a manual selector switch to operate (2) pumps.
Adder for 4th VFD $14,590
(1) Control Panel by CITI to operate and monitor the pumps and communicate with SCADA.
Start Up and 48 hour commissioning
ATS to utilize the existing Generator in the event of a loss of Utility or Tie Ins.

Exclusions:
Utility Payments
Cost associated with Duke to provide a temporary service.
24 Hour On site monitoring
Maintenance of the pumps

Sincerely,

Robert Murphy
President

	QTY	SUB UNIT PRC	SUB LUMP	EQUIP UNIT PRC	EQUIP LUMP	LABOR UNIT PRC	LABOR LUMP	MAT UNIT PRC	MAT LUMP	TOTAL SUB	TOTAL EQUIP	TOTAL LABOR	TOTAL MAT
Traditional Bypass in Bid													
DEMO & TIE INS										0	0	0	0
BY PASS PUMPING										0	0	0	0
										0	0	0	0
										0	0	0	0
Pump Rental/Months	3							21095.8		0	0	0	63287.4
PE Stamp	1		1500							1500	0	0	0
Freight in	1							4050		0	0	0	4050
Freight/out	1							2150		0	0	0	2150
Set up	1		26729.8			0		0		26729.8	0	0	0
Crane/Trip	2			2500		0		0		0	5000	0	0
Breakdown	1		9865			0		0		9865	0	0	0
Fuel/Day 360 gallons	70	1152				75		0		80640	0	5250	0
Maintenance/Nights 18	50					250		15		0	0	12500	750
Maintenance/Weeken	9					950		15		0	0	8550	135
Discharge Piping/LF	1					0		0		0	0	0	0
Air Bags?	0					175		0		0	0	0	0
Remove Blind Flanges	3					25		175		0	0	75	525
HDPE Discharge	1					0		0		0	0	0	0
36" Casing	30		0			50		154		0	0	1500	4620
Pressure Test	1					500		500		0	0	500	500
Operational Test 48 hr	1					500		500		0	0	500	500
Temp Office/mts	2			1000		150		500		0	2000	300	1000
Temp Elec	1		8000							8000	0	0	0
										0	0	0	0
Platform	1							0	0	0	0		
Bypass TieIns	2					500		250		0	0	1000	500
										126734.8	**7000**	30175	78017.4
												1.25	1.075
												37718.75	**83868.71**
Fuel 360 gal/day @ 3.20/gallon= $1152/day													
											Total		**255322.3**

Temporary VFDs w/ (3) VFDs

DEMO & TIE INS						0	0	0	0
BY PASS PUMPING						0	0	0	0
VFD Rentals	3			35142.32		0	0	0	35142.32
						0	0	0	0
Gear Rental	3		63944	0		0	0	63944	
						0	0	0	0
Temp CP	3	21689				21689	0	0	0
						0	0	0	0
Set Up	1	36000				36000	0	0	0
						0	0	0	0
Temp Drop(Allowance	1					0	0	0	0
						0	0	0	0
Set Up	1		0	0		0	0		
						0	0	0	0
Underwood	1	2500				2500	0	0	0
						0	0	0	0
Permit	1	750				750	0	0	0
Freight	1	4000				4000	0	0	0
						0	0	0	0
						0	0	0	0
						0	0	0	0
						0	0	0	0
						0	0	0	0
						0	0	0	0
						0	0	0	0
						0	0	0	0
						64939	**0**	0	99086.32
								1.25	1.075
								0	**106517.8**

Total	**171,457**
Net Difference	**83,865**
Mark up 12%	10,064
	93,929

Sanford Electrical Contractors, Inc.
P.O. Box 1173
Sanford, NC 27331-1173
Phone # 919-774-4533
Fax # 919-777-0926
E-mail sanfordelectricalcontractors@yahoo.com

Estimate

Date	Estimate #
4/12/2018	403

Name / Address
Turner Murphy Company Inc. P.O. Box 3490 Rock Hill SC 29732

Project

Item	Description	Qty	Rate	Total
	Job Location: OWASA Roberson Drive Pump Station Job to include temporary bypass of existing electrical equipment by utilizing electrical bypass service. Furnish and install of (3) 200 hp rental vfds, main disconnect, automatic transfer switch, and main breaker panel. Furnish and install temporary control/scada panel to operate vfds during shutdown. Scada panel to partially utilize existing transducers for temporary operation as determined by CITI. Furnish all wiring and cord connections between main breaker cabinet, vfds, and motors. Make all terminations to between panels and to motors. Job to include breakers for bitting electric to utilize for low voltage service as well as grinders and mixers. (wiring past this point will be provided by bitting electric) . Job to include furnishing and installing container and handrails for electrical equipment to be mounted above the flood zone. Obtain Permit for temporary service and ensure proper operation of equipment. Remove all equipment at time appointed upon completion of project. Note: Duke service drop or billing cost not included Note:Adder for 4th vfd rental and hookup $13572 Note:tax not included			
Labor		600	60.00	36,000.00T
Materials	3) 200 hp rental vfds		35,142.32	35,142.32T

	Subtotal
	Sales Tax (0.0%)
	Total

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P.O. Box 1173
Sanford, NC 27331-1173
Phone # 919-774-4533
Fax # 919-777-0926
E-mail sanfordelectricalcontractors@yahoo.com

Estimate

Date	Estimate #
4/12/2018	403

Name / Address
Turner Murphy Company Inc. P.O. Box 3490 Rock Hill SC 29732

Project

Item	Description	Qty	Rate	Total
Materials	Switchgear, cords and connectors		63,944.20	63,944.20T
Materials	scada/ control panel		20,464.00	20,464.00T
Permit		750.00	750.00	
freight		4,000.00	4,000.00T	

Subtotal	$160,300.52
Sales Tax (0.0%)	$0.00
Total	$160,300.52

CITI, LLC
SYSTEMS INTEGRATOR
4030 Yancey Road, Charlotte, NC 28217
P.O. Box 33758, Charlotte, NC 28233
PHONE 704.969.2484 FAX 704.969.2480

WWW.CITI-LLC.COM

CITI SCOPE PROPOSAL C17326 Temporary Panel

Date: April 11, 2018

To: Charles Underwood
2000 Boone Trail Road
Sanford, NC 27330

Project: OWASA
Rogerson Drive Pump Station Retrofit Phase 2
Temporary Control Panel

CITI, LLC, an equipment supplier, offers to furnish the following described materials and services in accordance with the attached "Conditions of Sale" and other provisions that are referenced herein. This proposal shall remain in effect for 90 days.

Please note that CITI, LLC is a N.C. Dept. of Administration HUB certified Hispanic owned business.

Please note that CITI, LLC is certified as a SWaM vendor by the Virginia Department of Minority Business Enterprise. Our certification number is 697339.

GENERAL DESCRIPTIONS

This proposal is to provide a temporary control panel that will be capable of controlling the pumps while the main electrical controls have been disconnected.

CITI's proposed solution is to create a temporary control system that will provide OWASA with a similar control strategy that they have now. This system, like the existing system, will allow for variable speed pump control based on the existing radar wet well levels in wet wells #1 and #2. Furthermore this system, like the existing system, will have a backup system. This backup is also based on the radar level sensors and will turn pumps on if the wet wells get higher then the PLC's setpoints.

To reduce cost, some of the components in the existing control system will be utilized in this new panel. Furthermore, some of the items in this panel will be reused in the permanent panel to be installed under this project. The items that will be reused have already been added in to the price of the permanent panel.

On site conversion method:
Since this is the main pump station for OWASA, they will be concerned with how we will be switching from the old panel to the temporary panel. CITI suggests moving the Precision Digital based back up system over first. When this is completed, we can then move the Quantum PLC based primary control over.

CITI Scope Summary

Items to be used from the existing control panel are marked with a "*"
Items to be used in the final permanent control panel are marked with a "+"

Materials

Qty		Description

1		Control Panel with the following:
		• 42”Hx36”Wx12”D NEMA 12 Enclosure with backpanel and holes drilled in the door for the Advantech Touch Screen and two Precision Digital controllers.
		• Modicon Quantum with
		  ○ One (1) 10 slot Modicon Quantum rack
		  ○ One (1) Modicon Quantum Processor*
		  ○ One (1) Modicon Quantum Digital Input Card*
		  ○ One (1) Modicon Quantum Digital Output Card*
		  ○ One (1) Modicon Quantum Analog Input Card*
		  ○ One (1) Modicon Quantum Analog Output Card*
		  ○ One (1) Modicon Quantum Power Supply*
		• Advantech Touch Screen with Ignition SCADA Application*+
		• Two (2) Precision Digital Meters*
		• 1500 VA UPS+
		• Sierra Wireless Modem*+
		• Two 4-20mA signal splitters
		• 120VAC surge Protector
		• Two (2) 4-20mA Surge protectors
		• Terminal Blocks
		• Circuit Breakers

Services		
Qty		**Description**
1		Drawing development of new panel
1		Construction of new panel
1		In Field removal of equipment from existing panel
1		In-Field addition of equipment from existing panel to the temporary panel.
1		Modification of existing PLC program to prepare it for the temporary panel
1		In-Field Downloading of new PLC program and testing of program
1		In-Field testing of temporary panel
1		In-Field removal of equipment from temporary panel to new panel

CITI Price Summary

Total Price for CITI scope of materials and services =	***$20,464.00***
Estimate including taxes (See Clarification #12)	***$21,689.90***

CITI Clarifications:

1. The temporary panel will not be able to monitor or display grinder panel status.
2. This proposal represents the entirety of CITI-LLC’s scope of work. Anything not mentioned is excluded. Some excluded items are:

- Temporary VFD's
- Wiring and Conduit

3. All instruments and panels furnished under the scope of this proposal will be provided with the manufacturers' standard finish.
4. Materials will be released for manufacture and shipment to the job site upon receipt of the approved submittal and your authorization. After your authorization to release, you must accept deliveries when equipment is available. You must assume custody upon delivery and provide suitable facilities in accordance with the specifications for on-site storage until materials are installed and powered. Our hardware submittals will be available within 12 weeks after receipt of an executed order. Materials can be fully delivered in accordance with an agreed upon schedule within 24 weeks after approval of the submittal.
5. After your completion of equipment installation and field wiring terminations, we will begin the field services for commissioning our panels and field instruments. You will need to have qualified staff present during this testing to assist in verifying that each external connection to the equipment is correctly wired and to operate the interconnected field process equipment and panels furnished by others.
6. All materials are warranted for 18 months after delivery, 12 months after completion of their respective acceptance testing, or 12 months after the original project completion date, whichever occurs first. We will be responsible for shipping and repair costs for non-conforming or defective items during the warranty period. You will be responsible for removal, return shipment, receipt, and re-installation of any equipment items which you originally installed.
7. Our insurance coverage is: general liability - $1,000,000/$2,000,000; auto liability - $1,000,000; excess liability - $1,000,000; and workers compensation - $1,000,000. If any additional coverage or endorsements are required, the charges for additions to our policy will be charged to you as an extra expense at actual cost times a multiplier of 1.15.
8. We will retain all rights to Intellectual Property developed under this project and will grant the end user non-transferable rights to its use and modification.
9. Shipping is FOB factory, freight cost allowed. Payment terms for this project are net 30 days after the date of each invoice. Payment to CITI shall not be dependent on you being paid by any third parties. Materials that are delivered or approved for storage in our facility will be billed complete at time of delivery/storage in accordance with a pre-submitted schedule of values. Services will be billed on a percentage completed against this schedule of values.
10. We will accept retainage being withheld from progress payments due to us if the Owner is applying retainage against the prime contract. Five percent retainage may be withheld until our work is 50% complete by approved billings, after which 0% may be withheld. Partial and full retainage releases must be made within the earlier of: seven days of Owner's payment of retainage to you; or 60 days from the completion of our scope of work.
11. If you request for us to start work prior to receipt of an executed purchase order, it will be understood that you accept this proposal with its clarifications and conditions of sale, and negotiation of a purchase order with different terms and conditions will not be considered.
12. We will accept a purchase order for our scope of supply subject to these clarifications and the attached CITI, LLC "Conditions of Sale". A subcontract will not be accepted. The order will need to incorporate this proposal or specifically include within its body the listing of materials, services, and clarifications from this proposal so as to define our scope of supply and terms. Flow down clauses will not be accepted. All terms of our agreement must be specifically listed in the order. Assignment of order is subject to our written consent.
13. We will apply taxes to all invoices for labor and materials as applicable. If a tax exemption is being claimed, all relevant exemption forms must be provided to CITI at the time the purchase order is issued.

If you have any questions about our scope of supply please call us. Thank you for your consideration.

CITI, LLC

Grant Van Hemert, P.E.
Project Manager

Attachment: CITI, LLC Conditions of Sale

CITI, LLC CONDITIONS OF SALE

1. **GENERAL**: Sales by CITI, LLC, (herein CITI) are made solely under the conditions expressly set forth herein. Any proposed changes or exceptions to these conditions, or additional terms and conditions, included or referenced in Purchaser's order or acceptance of this offer, are hereby rejected by CITI, and shall be of no force or effect upon CITI unless expressly accepted in writing by CITI.

This Contract shall bind and inure to the benefit of Purchaser and CITI, as well as their respective successors and assigns; however, neither party may assign this Contract without prior written consent of the other.

Neither party shall be deemed to have waived its rights by failing to enforce any particular provision of this Contract.

If a court invalidates any portion of this Contract, the rest of this Contract shall remain valid and be construed as if not containing the invalidated provision.

North Carolina law shall govern the rights and obligations of the parties.
Either party may pursue any legal means available to resolve disputes or claims arising out of or relating to this Contract. Both parties agree to the jurisdiction for resolution of disputes under this order as Mecklenburg County, North Carolina. Each party shall be responsible for their own legal fees in any matter related to this agreement.

2. **CREDIT APPROVAL**: If at any time information available on Purchaser's financial condition or credit history, in CITI's judgment, does not justify the terms of payment specified herein, CITI may require full or partial payment in advance, or an acceptable form of payment guarantee such as a bank letter of credit, or other modifications to the terms of payment.

3. **PROPRIETARY INFORMATION**: All information, data, drawings, instruction and operation manuals furnished by CITI with this Contract are proprietary to CITI, submitted in strict confidence, and are to be used by Purchaser solely for the purposes of this Contract, and shall not be reproduced, transmitted, disclosed or used in any other manner without CITI's written authorization.

4. **RISK OF LOSS**: Risk of loss or damage to the Products, or any part thereof, shall pass to Purchaser at the f.o.b. ship point stated herein.

5. **EXCUSABLE DELAY**: CITI shall not be liable for failure to perform or for delay in performance due to fire, flood, or any other act of God; strike or other labor difficulty, including the bankruptcy of any suppliers to CITI, act of any civil or military authority or of Purchaser; riot; embargo; delay in or shortage of transportation facilities; or any other delay beyond CITI's reasonable control. In the event CITI's performance is delayed by any such cause, CITI's schedule for performance shall be extended accordingly. If Purchaser's actions delay CITI's performance, Purchaser shall pay CITI any additional costs incurred by CITI resulting from such delay. If Purchaser delays shipment of Products, or any part thereof, in addition to paying CITI for additional costs incurred, Purchaser shall also pay for the Products or the parts on the date CITI is prepared to make shipment.

6. **TAXES AND LICENSES**: The Purchase Price does not include any licenses or State or local taxes of any kind applicable to the sale, use or delivery of the Products or services covered under this Contract. Purchaser shall pay direct or reimburse CITI for any such license fees or taxes that CITI or CITI's subcontractors or suppliers are required to pay. CITI will apply taxes to all invoices for labor and materials as applicable to the State where the work is sold. If an exemption is being claimed, all relevant exemption forms must be provided to CITI at the time of execution of this Contract.

7. **INSPECTION BY PURCHASER**: Purchaser may inspect the Products at Purchaser's expense at the point of manufacture, provided that such inspection is arranged and conducted so as not to unreasonably interfere with CITI's or the manufacturer's operations. Purchaser's inspection of the Products and release for shipment shall constitute Purchaser's acceptance of the Products as conforming to the requirements of this Contract.

8. **WARRANTY**: CITI warrants the Products from defects in material and workmanship for a period of one (1) year from date the Products are initially placed in operation, or eighteen (18) months from date the Products are shipped, whichever occurs first, provided that the Products are stored, installed, maintained and operated in accordance to the manufacturers recommendations and are protected from harm or damage including but not limited to fire, water, physical damage, exposure to inclement weather, extreme temperatures, and not subjected to misuse, neglect or accident. Upon prompt written notice of and determination that such defect is covered under the foregoing warranty, CITI's responsibility is limited to correction of the defect by, at CITI's option, repair or replacement of the defective part or parts, f.o.b. factory. CITI will not accept responsibility for incidental or consequential damages. Unless stated elsewhere herein, CITI provides no warranty of product performance or process results. The foregoing warranties are exclusive and in lieu of all other warranties of any kind, including any implied warranty of merchantability or fitness for a particular purpose.

Any products repaired or replaced under this warranty will be warranted for the remainder of the original warranty period. CITI shall have no responsibility for the condition of primed or finish painted surfaces after the Products leave their point of manufacture.

Field touch-up of shop primed or painted surfaces is normal and shall be at Purchaser's expense. Any touch-up or repainting required to shop primed or painted surfaces, for reasons other than improper or incorrect application in the shop, shall be Purchaser's responsibility.

Purchaser shall be responsible for unpacking and inspecting all shipped Products and noting any damage on the shipper's bill of lading. Any damage must be reported to CITI within 48 hours of receipt of shipment by Purchaser.

9. **PAYMENT TERMS.** CITI's payment terms are Net 30 days from date of CITI invoice. If Purchaser is late in paying the Purchase Price or any partial payment due under this Contract, or otherwise breaches this Contract, CITI shall be entitled to interest at 1½% per month on the overdue amount, and on its damages, calculated from the date of default in payment or other breach, plus court costs, reasonable attorneys' fees and other expenses incurred in any effort to collect.

No retainage on the equipment, products, services, or any part thereof, is allowed unless prior approved by CITI. Full retainage release must be made within the earlier of: seven days after purchaser receives payment of retainage, 60 days from the completion of CITI's scope of work, or 180 days after delivery, whichever occurs first.

10. **BACKCHARGES**: CITI shall not be liable for any charges incurred by Purchaser for work, repairs, replacements or alterations to the Products, without CITI's prior written authorization, and any adverse consequences resulting from such unauthorized work shall be Purchaser's full responsibility.

11. **LIMITATION OF LIABILITY:** CITI shall not be liable to purchaser for any special, indirect, incidental or consequential damages arising from CITI's obligations under this contract, whether such damages are based upon breach of contract, breach of warranty, tort, strict liability or otherwise. In any event, CITI's liability to purchaser shall not exceed the purchase price of the products or parts of the products on which such liability is based.

12. **CANCELLATION BY PURCHASER**: If Purchaser cancels this Contract or refuses to accept delivery of the Products, Purchaser shall be liable to CITI for reasonable cancellation charges, including loss of anticipated profits, administrative costs, commissions to sales representatives, costs incurred by CITI for all work performed or in process up to the time of cancellation or refusal to accept delivery, cancellation charges from CITI's suppliers or subcontractors, and any other expenses incurred by CITI in connection with Purchaser's cancellation or refusal to accept delivery.

13. **DEFAULT BY PURCHASER**: Without incurring any liability or waiving any claim for damages CITI may have against Purchaser, CITI may refuse to make or delay making delivery, and/or withhold any service, and/or ship C.O.D., and/or apply payments to open balances at CITI discretion, if:

(a) Purchaser breaches this or any contract with CITI, or; (b) CITI fails to receive payment within 30 days from date of invoice, or; (c) CITI becomes aware of facts which, in its judgment, render Purchaser's financial condition unsatisfactory or cast doubt on Purchaser's willingness or ability to pay for the Products and/or services, or; (d) Purchaser engages in or consents to liquidation, commission of any act of insolvency, appointment of a receiver of assets or assignment for the benefit of creditors, or if Purchaser becomes the subject of any bankruptcy or insolvency proceeding. Rev 12/2017

RESOLUTION OF ORANGE WATER AND SEWER AUTHORITY AWARDING A CONSRUCTION CONTRACT FOR THE ROGERSON DRIVE PUMP STATION REHABILITATION PROJECT – PHASE 2

WHEREAS, there is a need to renovate the Rogerson Drive Pump Station; and

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

WHEREAS, advertisement for contractor qualifications was published on the websites of the North Carolina Institute of Minority Economic Development, North Carolina Department of Administration, and OWASA on December 8, 2016, and 11 contractors were qualified to bid; and

WHEREAS, on March 28, 2018, the prequalified contractors were formally invited to submit construction bids for the project, and three bids were received; and

WHEREAS, Turner Murphy Construction, Inc. of Rock Hill, South Carolina has been determined to be the low responsive, responsible bidder for the project; and

WHEREAS, on June 8, 2017 the Board approved a resolution authorizing funds for Capital Improvement Projects, including funds for this project;

NOW, THEREFORE, BE IT RESOLVED:

1. That the Orange Water and Sewer Authority Board of Directors awards the construction contract to Turner Murphy Construction, Inc., the low responsive, responsible bidder for the Rogerson Drive Pump Station Rehabilitation – Phase 2, in accordance with the approved plans and specifications, in the amount of $1,782,989.18, 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 26th day of April, 2018.

_____
Heather Payne, Vice Chair

ATTEST:

_____
Yinka Ayankoya, Secretary

Agenda Item

- Discuss Draft Fiscal Year (FY) 2019 Budget and Rate Adjustment and Authorize Staff to Publish Proposed Budget and Rates Information

Purpose

- To provide information about:
    - The draft operating, capital improvements program (CIP) and capital equipment budgets for FY 2019.
    - The draft Schedule of Rates, Fees and Charges. All new fees other than System Development Fees would go into effect October 1, 2018.
    - By statute, the new System Development Fees will go into effect on July 1, 2018.

Action Requested

- Review the draft FY 2019 budget and rates information, provide guidance, and authorize staff to publicize budget and rates information.

April 26, 2018

ORANGE WATER AND SEWER AUTHORITY

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

MEMORANDUM

TO: Board of Directors

THROUGH: Ed Kerwin

FROM: Stephen Winters, CPA

DATE: April 20, 2018

SUBJECT: Discuss Draft Fiscal Year (FY) 2019 Budget and Rate Adjustment and Authorize Staff to Publish Proposed Budget and Rates Information

Purpose

The purpose of this discussion is to provide information about the draft FY 2019 operating, capital improvements program (CIP), and capital equipment budgets; the draft Schedule of Rates, Fees and Charges; and to obtain the Board's approval to publish this information in advance of public hearings scheduled for May 24, 2018.

Based on our long-term financial planning, staff is recommending that the Board adopt an increase of 2% on monthly water and sewer rates for FY 2019.

Rationale for a Rate Increase

OWASA is committed to providing high-quality, safe, and reliable water and wastewater services, and our rates reflect the true cost of providing these services. We are a non-profit, community-owned water and wastewater utility and our investments in water and wastewater infrastructure are not supported by taxes nor federal grants. We reinvest the rates and fees paid by our customers directly into the treatment plants, pipes, and people that will serve our community for years to come.

The investments we make in our infrastructure help prevent water main breaks and sewer overflows. They allow us to maintain, replace and upgrade the equipment, facilities and resources we need to make sure that water is available, safe, and good-tasting and that recycled treated wastewater is safe for the environment. They allow us to provide our employees a fair and competitive wage.

Our capital improvements program is a necessary investment in the long-term sustainability of our community. Delivering safe drinking water and recycling clean wastewater is very capital intensive. Each year we take a long-term look at what is needed to sustain the essential services we provide and we prioritize those projects based on their criticality.

We also take a long-term approach to operating expenses and invest in projects like the Agua Vista Metering Initiative and Energy Management Program that will provide the community financial returns in years to come.

The five-year capital improvements program projects nearly $100 million of capital spending needed to maintain nearly 800 miles of underground pipe; invest in the renewal or replacement of existing equipment at our treatment plants, pump stations, and reservoirs; and mitigate operational expenses in future years. This year, about three-

quarters of our capital improvements budget will be spent on repairing and rehabilitating existing infrastructure. No individual project is driving the need for a rate increase; rather it is attributable to an increase in the true costs to provide high-quality, safe, and reliable water and wastewater services, so as not to short-change future generations.

We appreciate our customers for their partnership. Beyond paying their OWASA bill every month, the cost and commitment borne by our community to use water wisely and protect the wastewater system pays dividends, ecologically and economically. A modest increase in rates later this year will help mitigate the need for larger rate increases in future years and helps to maintain our strong credit rating.

OWASA's residential customers average about 4,000 gallons of water use per month and the cost for that level of use is $70.66. OWASA's rates remain competitive in our state and region. The median monthly bill of other area water utilities for 4,000 gallons of water use is $65.60; the highest is $114.23.

The Board is considering a rate increase for FY 2019 of between 2% and 2.75%. A 2% rate increase would increase the average OWASA family's bill by $1.41 per month. The majority of water and wastewater utilities in the state increased their rates within the last two years. The median rate increase for these utilities was 4%.

FY 2019 Draft Budget Information

The Board reviewed the draft FY 2019 budget at its meetings on March 8, March 22 and April 12, 2018 and in an April 18, 2018 Finance Committee meeting.

The following summarizes the draft FY 2019 Budget and assumes a rate increase of 2% (numbers shown in thousands):

	FY 2019 Draft Budget
Water and Sewer Revenue	$35,944
Rents, Royalties, Other	954
System Development Fees	1,194
Total Revenue	38,092
Operating Expenses	(22,524)
Net Income	15,568
Debt Service	(7,156)
Net income less debt service	$8,412

Rate Adjustment Options

Based on the draft budget, staff recommends an increase of 2% for FY 2019 in the rates OWASA charges for monthly water and sewer services. The Board makes rate adjustment decisions each year and as part of our annual long-term financial planning, we project rate adjustments for the succeeding four fiscal years. The following are the four rate adjustment options the Finance Committee agreed the Board should consider for FY 2019; projections of potential rate adjustments for FY 2020-23 are shown for each option.

Option 1 – No Rate Increase in FY 2019

Option 1					
	FY 2019	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Rate Increase	0.0%	3.0%	3.0%	4.5%	6.0%
Drinking Water Sales (mgd)	6.18	6.23	6.28	6.34	6.30
(dollar amounts below in thousands)					
Revenue	$37,574	$38,724	$40,172	$42,397	$44,769
Operating Expenses	22,524	22,920	23,661	24,522	25,447
Net Income	15,050	15,804	16,511	18,256	19,873
Debt Service	7,156	7,720	7,032	9,439	9,962
CIP Expenditures	22,636	25,634	16,844	18,938	13,698
OWASA Policy Stipulates Net Income Should Be At Least Two Times Debt Service					
Debt Service Coverage	2.1	2.0	2.3	1.9	2.0
Projected Borrowing		$21,700		$21,100	

Option 2 – 2% Rate Increase for FY 2019

Option 2					
	FY 2019	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Rate Increase	2.0%	2.0%	3.0%	4.0%	4.0%
Drinking Water Sales (mgd)	6.18	6.23	6.28	6.34	6.30
(dollar amounts below in thousands)					
Revenue	$38,152	$39,173	$40,548	$42,666	$44,462
Operating Expenses	22,524	22,920	23,661	24,522	25,447
Net Income	15,628	16,253	16,887	18,144	19,015
Debt Service	7,156	7,637	6,949	9,259	9,781
CIP Expenditures	22,636	25,634	16,844	18,938	13,698
OWASA Policy Stipulates Net Income Should Be At Least Two Times Debt Service					
Debt Service Coverage	2.2	2.1	2.4	2.0	1.9
Projected Borrowing		$20,500		$20,300	

Option 3 – 2.75% Rate Increase for FY 2019

Option 3					
	FY 2019	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Rate Increase	2.75%	2.75%	2.75%	2.75%	2.75%
Drinking Water Sales (mgd)	6.18	6.23	6.28	6.34	6.30
(dollar amounts below in thousands)					
Revenue	$38,346	$39,641	$41,033	$42,820	$44,154
Operating Expenses	22,524	22,920	23,661	24,522	25,447
Net Income	15,822	16,721	17,372	18,298	18,707
Debt Service	7,156	7,619	6,932	9,248	9,770
CIP Expenditures	22,636	25,634	16,844	18,938	13,698
OWASA Policy Stipulates Net Income Should Be At Least Two Times Debt Service					
Debt Service Coverage	2.2	2.2	2.5	2.0	1.9
Projected Borrowing		$20,000		$19,500	

Option 4 – 2.5% Rate Increase for FY 2019

Option 4					
	FY 2019	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Rate Increase	2.5%	2.5%	2.5%	3.5%	3.5%
Drinking Water Sales (mgd)	6.18	6.23	6.28	6.34	6.30
(dollar amounts below in thousands)					
Revenue	$38,221	$39,485	$40,779	$42,732	$44,346
Operating Expenses	22,524	22,920	23,661	24,522	25,447
Net Income	15,697	16,565	17,118	18,210	18,899
Debt Service	7,156	7,619	6,932	9,250	9,773
CIP Expenditures	22,636	25,634	16,844	18,938	13,698
OWASA Policy Stipulates Net Income Should Be At Least Two Times Debt Service					
Debt Service Coverage	2.2	2.2	2.5	2.0	1.9
Projected Borrowing		$20,200		$19,900	

Rate Adjustment Impact to Individually-Metered Residential Customers:

The dollar impact of the rate increases shown in the table below is for one month's bill for a single-family residence using the system average of 4,000 gallons. The difference is the amount the bill increases from the previous year. The current bill for 4,000 gallons is $70.66.

Rate Increase Options – % Increase and Average Bill Impact												
	FY 2019		FY 2020		FY 2021		FY 2022		FY 2023		5-Year Cumulative	
	%	$	%	$	%	$	%	$	%	$	%	$
Option 1	0.0	0.00	3.0	2.10	3.0	2.18	4.5	3.37	6.0	4.70	17.5	12.35
Option 2	2.0	1.41	2.0	1.44	3.0	2.21	4.0	3.03	4.0	3.15	15.9	11.24
Option 3	2.75	1.95	2.75	1.98	2.75	2.05	2.75	2.11	2.75	2.17	14.5	10.26
Option 4	2.5	1.77	2.5	1.81	2.5	1.86	3.5	2.66	3.5	2.75	15.4	10.85

Draft Schedule of Rates, Fees and Charges

Attachment 3 is a draft of the Schedule of Rates, Fees and Charges. All fees other than the new system development fees (see below) would be effective as of October 1, 2018. By statute, the new system development fees will go into effect on July 1, 2018

The draft reflects how monthly water and sewer rates will change if a 2% increase is implemented. Additionally, several adjustments have been proposed to the fees OWASA charges for miscellaneous services such as meter installations, meter testing, etc. Changes are also proposed for system development fees.

System Development Fees

System development fees are one-time amounts charged for new connections (development) to OWASA's system. They are calculated to recover a portion of the capital costs of providing water and sewer system capacity. System development fees are calculated separately for water and sewer connections.

In July 2017, the North Carolina General Assembly passed a law (NC House Bill 436/Session Law 2017-138) that requires a change to the way water and sewer utilities calculate system development fees. The statute requires that the new fees be effective as of July 1, 2018 and also specifies a process for public notification and input, as well as Board approval.

On January 25, 2018, the Board approved a new method for calculating system development fees, in compliance with the new law. A report on the new fees was posted on our website and the public was invited to comment. To date, we have not received any comments or questions from the public. An additional requirement of the new statute is to hold a public hearing which is scheduled for May 24, 2018.

The new system development fee calculation method results in a decrease in the amount of the fees as shown in the draft rates schedule.

Boat Rental and Lake Use Fees

During its annual review of lake recreation, the Board asked for information comparing OWASA's policy for charging non-Orange County residents higher fees for recreation with other local utility-owned recreation sites. Based on staff's research, Durham is the only local utility that charges an in-County vs. out-of-County fee differential.

OWASA and Durham charge fees for boat rental, motor rental, kayak rental and private-boat launching. In the aggregate:

- OWASA charges 43% more for non-Orange County residents.

- Durham charges 71% more for non-Durham County residents.

However, OWASA charges higher overall fees than Durham for both County and non-County residents:

- OWASA's in-County fees are 84% higher than Durham's
- OWASA's out-of-County fees are 53% higher than Durham's

Observation and staff recommendation – While Durham has a higher in-County vs. out-of-county fee differential than OWASA, OWASA's recreation fees are quite a bit higher than Durham's. Staff does not recommend an increase in OWASA's boat rental and lake use fees.

Next Steps

Public hearings for the budget and rates are scheduled for May 24, 2018 with the Board's final approval tentatively set for June 14, 2018.

Action Requested

Review the draft FY 2019 budget and rates information, provide guidance, and authorize, by motion, staff to publicize budget and rates information.

Proposed Motion to Authorize Staff to Publicize Budget and Rates Information

In advance of public hearings scheduled for May 24, 2018, the Board of Directors hereby authorizes staff of the Orange Water and Sewer Authority to publish information about the Fiscal Year 2019 staff proposed budget and schedule of rates, fees and charges which includes an increase of ___% in monthly water and sewer rates.

Stephen Winters, CPA
Director of Finance and Customer Service

Attachments:

1, Table 1 – Draft FY 2019 Operating Budget
2, Table 1 – Draft FY 2019 CIP Budget
2, Table 2 – Draft FY 2019-23 CIP Budget
3 – Draft Schedule of Rates, Fees and Charges
4, Table 1 – Summary and Comparison Information of Draft FY 2019 Operating Budget
4, Table 2 – Details of Draft FY 2019 Operating Budget
4, Table 3 – Draft FY 2019 Capital Equipment Budget

ORANGE WATER AND SEWER AUTHORITY
PROPOSED FISCAL YEAR 2019 OPERATING BUDGET

Operating Revenue		
Water	$18,224,334	
Sewer	17,265,060	
Reclaimed Water	454,440	
Service Initiation Fee	154,344	
Other	1,006,078	
Refunds and Adjustments	(230,007)	
Total Operating Revenue		**$36,874,250**
Operating Expense		
General and Administrative	7,527,991	
Operations	14,995,990	
Total Operating Expense		**22,523,981**
Net Operating Income		**14,350,269**
Non-operating Revenue		
Customer Fees		**1,194,353**
Interest		**23,678**
Total Net Income		**$15,568,299**
Debt Service		
Existing		**$7,155,554**
New		**0**
Total Debt Service		**7,155,554**
Net Income Less Debt Service		**$8,412,745**

Table 1
Draft FY 2019 CIP

CIP No.	Project	FY2019	Comments
270-04	Jordan Lake Raw Water Supply Allocation	$ 5,000	Ongoing required payment
270-09	Quarry Reservoir Development	$ 15,000	Ongoing required payment
270-11	University Lake Pump Station Improvements	$ 1,500,000	Replacement of aging pumps #1 - #3 with new, more efficient pumps and variable frequency drives (VFD's)
270-28	University Lake Permanganate Facility	$ 450,000	New chemical storage and feed facility to improve water treatment
272-14	Water Facility Security Upgrades	$ 38,000	Security improvements at remote sites including Cane Creek Reservoir, University Lake, and booster pump stations; construction commenced in FY 2018
272-37	WTP Belt Filter Press Replacement	$ 512,000	Replacement of existing, aging dewatering equipment that does not have redundancy; construction to occur in FY 2019 and FY 2020
272-38	WTP Sedimentation Basin Rehabilitation	$ 1,800,000	Concrete rehabilitation of sedimentation basin walls and channels; construction to occur in FY 2019 and FY 2020
272-40	WTP Filter Media and Backwash Improvements	$ 100,000	Completion of construction which commenced in FY 2018
275-15	Water Main Upgrades - Road Improvement Projects	$ 181,000	Water main upgrades undertaken as part of North Carolina Department of Transportation roadway projects; FY 2019 funds are for payment for prior work along Smith Level Road
275-20	Brandywine Road Water Main Replacement	$ 862,000	Completion of construction expected to commence in FY 2018
275-20	Fordham Service Road Water Main Replacement	$ 250,000	Construction along service road south of Fordham Boulevard; being coordinated with adjacent development
275-21	High Priority Water Main Replacement	$ 2,341,000	FY 2019 funds are primarily for construction of Pritchard Avenue Water Main, and the start of construction for Manning Drive Water Main and Country Club Road Water Main
275-46	Dobbins Drive Water Main Replacement	$ 288,000	Completion of design and start of construction; coordinated with Dobbins Drive Sewer Main project
275-52	West Cameron Avenue Water Main	$ 25,000	Planning, design, and construction; majority of construction to occur in summer of calendar year 2020
275-76	Advanced Metering Infrastructure (AMI) System	$ 1,225,000	Completion of deployment of AMI System
275-77	Galvanized Water Main Replacements	$ 1,100,000	Start of construction to replace or abandon 1.6 miles of galvanized water mains
276-18	Sanitary Sewer Rehabilitation	$ 2,091,000	Near-term identified needs for rehabilitation of collection system
276-45	Bolinwood Drive Interceptor	$ 100,000	Capacity improvements as identified by 2010 Collection System Master Plan; FY 2019 funding is for design
276-48	Dobbins Drive Interceptor Upgrades	$ 315,000	Completion of design and start of construction to increase collection system capacity; coordinated with Dobbins Drive Water Main project
276-53	Creek Crossing Access Improvements	$ 20,000	Sitework to improve vehicular access as needed to maintain facilities (primarily aerial sewer crossings at creeks); FY 2019 funding is for stakeholder engagement and planning
276-57	Sanitary Sewer Hydraulic Model	$ 334,000	Updated capacity analysis and master planning for the collection system; flow monitoring is ongoing as of March 2018
277-31B	Rogerson Drive Pump Station Rehabilitation Phase 2	$ 2,025,000	FY 2019 funds are for Phase 2 construction including electrical, HVAC, and odor control upgrades to improve reliability and odor control at the second largest wastewater pump station
278-46	Comprehensive Coatings Program	$ 150,000	Continuation of programmatic coating of priority equipment and structures to protect assets and extend their useful life
278-51	WWTP Solids Thickening Improvements	$ 1,200,000	Replace aging gravity belt thickeners with new rotary drum thickeners; construction to occur in FY 2019 and FY 2020
278-54	WWTP Intermediate Pump Station (IPS) Rehabilitation	$ 400,000	Completion of construction in FY 2019 for electrical, HVAC, and VFD's
278-58	WWTP Non-potable Water Pump Replacements	$ 50,000	Completion of construction work commencing in FY 2018 to replace aging pumps
278-68	Roofing / Building Envelope Rehabilitation	$ 34,000	FY 2019 includes design funds for roof replacements as prioritized and scoped from a FY 2017 assessment
278-72A	WWTP Secondary Clarifier (SC) Rehabilitation	$ 750,000	Funding is for rehabilitation of concrete and aging equipment in SC #2 and #3
278-72B	WWTP Secondary Clarifier Pumping Improvements	$ 100,000	Improvements to the return activated pumping system for the secondary clarifiers to improve clarifier performance
278-73	Wastewater Treatment Plant (WWTP) SCADA System Upgrade	$ 60,000	Completion of improvements to the WWTP's control system which commenced in FY 2018 to improve functionality and operator awareness
278-78A	WWTP Fermenter Tank and Pumps Rehabilitation	$ 100,000	Funds are for cleaning, draining, inspection and recommendations for fermenter tank rehabilitation; improvements to be included with Solids Thickening construction
278-80A	Primary Sludge Pump Station Reabilitation and Old Lab Building Demolition	$ 25,000	Funding for near-term work that may be identified by FY 2018 study
278-80B	WWTP Chemical Building and Bulk Tank Piping Rehabilitation	$ 100,000	Completion of design and construction as recommended by ongoing FY 2018 study to improve chemical feed and storage facilities
278-80B	WWTP Spray Water System	$ 100,000	Completion of design and construction as recommended by ongoing FY 2018 study to improve operational efficiency
278-82	WWTP Headworks Concrete Rehabilitation	$ 1,700,000	Completion of design and construction on fast-tracked project to rehabilitate a critical WWTP structure; construction to occur in FY 2019 and FY 2020
280-06	Administration Building HVAC System Upgrade	$ 820,000	Completion of construction which commenced in FY 2018
270-new	University Lake Dam Flashboard Replacement	$ 325,000	Flashboard (part of the dam used to increase the depth of the impoundment) replacement as recommended by recent inspection
271-05	Cane Creek Raw Water Transmission Main Capacity Study	$ 40,000	Condition assessment of raw water main
272-42	WTP Finished Water Pump (FWP) Improvements	$ 25,000	Improvements to FWP #5 VFD and electrical, and FWPs #4 and #6 pumps/motors
272-46A	WTP Chemical Feed Upgrades	$ 75,000	Upgrades to several chemical feed systems as identified by risk evaluation and other needs to improve reliability and treatment
272-new	WTP Supervisory Control and Data Acquisition (SCADA) Equipment Replacement	$ 15,000	FY 2019 funds are for design to replace critical process control equipment which will not be supported by manufacturer after 2023
272-new	Heating, Ventilation, and Air Conditioning (HVAC) Replacement Program	$ 45,000	Age, condition, and energy efficiency-based equipment replacement based on Advanced Energy audit
273-09	Barbee Chapel Road Booster Pump Station (BPS) Study	$ 75,000	Study to re-evaluate BPS location, needed improvements, timing, and cost estimate.

Table 1
Draft FY 2019 CIP

CIP No.	Project	FY2019	Comments
275-53	Water Distribution System Hydraulic Model	$ 30,000	Placeholder funding for on-call modeling, plus FY 2020-2021 update of full hydraulic model
275-new	Distribution System SCADA integration	$ 25,000	Upgrades to allow for real-time monitoring of distribution system pressure
275-new	Distribution System Prioritization Model	$ 75,000	Comprehensive overhaul of prioritization model used to determine distribution system rehabilitation; work is planned to occur in FY 2019 and FY 2020
275-new	Distribution System Sampling Stations	$ 85,000	Additional sampling sites to improve water quality monitoring capabilities for the distribution system
275-new	Kensington Drive Water Main Replacement	$ 100,000	Funds for completion of design in FY 2019 and construction in FY 2020
276-46	Willow Drive Interceptor Replacement	$ 25,000	Capacity improvements as identified by 2010 Collection System Master Plan
276-58	Prince Street common service replacement	$ 30,000	FY 2019 funds for design of the replacement of a common (shared by more than one property) service lateral that is in poor condition
277-new	Pump Station Operational Assessments	$ 25,000	Motor and pump efficiency assessments at identified pump stations
277-new	Rogerson Drive Force Main (Highway 54 crossing and northern routing study)	$ 50,000	Initial funding of routing study for future alignment of Rogerson Drive Force Main, including alternatives analysis for crossing Highway 54
278-77	WWTP Bar Screen Replacement	$ 150,000	Replacement of two bar screens at plant headworks
278-new	WWTP Server Room	$ 75,000	Architectural modifications, and installation of equipment and HVAC to support new technology infrastructure
278-new	Fixed Continuous Gas Monitoring Systems	$ 100,000	Installation of gas monitoring systems in identified WWTP structures to provide continuous air monitoring
278-new	WWTP Security Improvements	$ 100,000	FY 2019 funding for plant-wide security assessment and initial improvements
	Total FY 2019	**$ 22,636,000**	

Projects Underway as of 4-4-2018	**$ 21,166,000**

Table 2
Draft FY 2019 - 2023 CIP

CIP No.	Project	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Total FY 2019 - FY 2023
270-04	Jordan Lake Raw Water Supply Allocation	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
270-09	Quarry Reservoir Development	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 75,000
270-11	University Lake Pump Station Improvements	$ 1,500,000	$ 455,000	$ -	$ -	$ -	$ 1,955,000
270-16	Cane Creek Pump Station Improvements	$ -	$ 100,000	$ 1,200,000	$ -	$ -	$ 1,300,000
270-28	University Lake Permanganate Facility	$ 450,000	$ 750,000	$ -	$ -	$ -	$ 1,200,000
270-29	University Lake Fishing Pier and Boat Launch	$ -	$ -	$ 70,000	$ -	$ -	$ 70,000
270-30	Cane Creek Dam Rehabilitation	$ -	$ -	$ 50,000	$ 500,000	$ -	$ 550,000
270-31	Cane Creek Resurfacing	$ -	$ -	$ -	$ 70,000	$ -	$ 70,000
270-new	Cane Creek Solar Photovoltaic System	$ -	$ 25,000	$ 1,600,000	$ -	$ -	$ 1,625,000
270-new	University Lake Dam Flashboard Replacement	$ 325,000	$ 250,000	$ -	$ -	$ -	$ 575,000
271-05	Cane Creek Raw Water Transmission Main Capacity Study	$ 40,000	$ -	$ -	$ -	$ -	$ 40,000
272-10	Long Term Funding for Water Facility Asset Rehabilitation or Replacement	$ -	$ -	$ -	$ 2,083,000	$ 2,714,000	$ 4,797,000
272-14	Water Facility Security Upgrades	$ 38,000	$ -	$ -	$ -	$ -	$ 38,000
272-35	WTP Flash Mix Basins Isolation Valve Replacement	$ -	$ -	$ -	$ 70,000	$ 300,000	$ 370,000
272-37	WTP Belt Filter Press Replacement	$ 512,000	$ 975,000	$ -	$ -	$ -	$ 1,487,000
272-38	WTP Sedimentation Basin Rehabilitation	$ 1,800,000	$ 1,630,000	$ -	$ -	$ -	$ 3,430,000
272-40	WTP Filter Media and Backwash Improvements	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000
272-41	WTP Process, Sedimentation Basin, and Pulsator Turbidimeters	$ -	$ 150,000	$ -	$ -	$ -	$ 150,000
272-42	WTP Finished Water Pump (FWP) Improvements	$ 25,000	$ 150,000	$ 1,200,000	$ -	$ -	$ 1,375,000
272-43	WTP Track Vac System Replacement	$ -	$ -	$ -	$ 116,000	$ -	$ 116,000
272-46A	WTP Chemical Feed Upgrades	$ 75,000	$ 500,000	$ -	$ -	$ -	$ 575,000
272-46B	WTP Chemical Storage Improvements	$ -	$ 25,000	$ -	$ -	$ -	$ 25,000
272-new	WTP Filter Console / Operator Console Replacement	$ -	$ -	$ 25,000	$ 150,000	$ -	$ 175,000
272-new	WTP SCADA Master Plan	$ -	$ 100,000	$ -	$ -	$ -	$ 100,000
272-new	WTP Supervisory Control and Data Acquisition (SCADA) Equipment Replacement	$ 15,000	$ 200,000	$ -	$ -	$ -	$ 215,000
272-new	Heating, Ventilation, and Air Conditioning (HVAC) Replacement Program	$ 45,000	$ 10,000	$ 25,000	$ 125,000	$ -	$ 205,000
273-09	Barbee Chapel Road Booster Pump Station (BPS) Study	$ 75,000	$ -	$ -	$ -	$ -	$ 75,000
274-new	Storage Tank Water Quality Monitors	$ -	$ -	$ 100,000	$ -	$ -	$ 100,000
275-15	Water Main Upgrades - Road Improvement Projects	$ 181,000	$ -	$ -	$ -	$ -	$ 181,000
275-20	Long Term Funding for Water Distribution System Asset Rehabilitation or Replacement	$ -	$ -	$ -	$ 2,259,000	$ 2,497,000	$ 4,756,000
275-20	Fordham Service Road Water Main Replacement	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000
275-20	Brandywine Road Water Main Replacement	$ 862,000	$ -	$ -	$ -	$ -	$ 862,000
275-21	High Priority Water Main Replacement	$ 2,341,000	$ 5,313,000	$ 4,278,000	$ 5,247,000	$ -	$ 17,179,000
275-46	Dobbins Drive Water Main Replacement	$ 288,000	$ 1,150,000	$ -	$ -	$ -	$ 1,438,000
275-52	West Cameron Avenue Water Main	$ 25,000	$ 298,000	$ 1,487,000	$ -	$ -	$ 1,810,000
275-53	Water Distribution System Hydraulic Model	$ 30,000	$ 250,000	$ 50,000	$ 30,000	$ 30,000	$ 390,000
275-76	Advanced Metering Infrastructure (AMI) System	$ 1,225,000	$ -	$ -	$ -	$ -	$ 1,225,000
275-77	Galvanized Water Main Replacements	$ 1,100,000	$ 600,000	$ -	$ -	$ -	$ 1,700,000
275-new	MLK Boulevard Water Main Abandonment	$ -	$ 100,000	$ 1,000,000	$ -	$ -	$ 1,100,000
275-new	Distribution System Large Vault Replacement	$ -	$ 40,000	$ 100,000	$ -	$ -	$ 140,000
275-new	Valve Insertion Program	$ -	$ 30,000	$ 30,000	$ 30,000	$ -	$ 90,000
275-new	Porthole Alley Water Main Abandonment	$ -	$ -	$ 30,000	$ -	$ -	$ 30,000
275-new	Distribution System SCADA integration	$ 25,000	$ 25,000	$ -	$ -	$ -	$ 50,000
275-new	Distribution System Prioritization Model	$ 75,000	$ 100,000	$ -	$ -	$ -	$ 175,000
275-new	Distribution System Sampling Stations	$ 85,000	$ 85,000	$ -	$ -	$ -	$ 170,000
275-new	Kensington Drive Water Main Replacement	$ 100,000	$ 1,220,000	$ -	$ -	$ -	$ 1,320,000
276-17	Sanitary Sewer Condition Evaluation	$ -	$ 744,000	$ -	$ 906,000	$ -	$ 1,650,000
276-18	Long Term Funding for Wastewater Collection System Asset Rehabilitation or Replacement	$ -	$ -	$ -	$ 2,290,000	$ 2,771,000	$ 5,061,000
276-18	Sanitary Sewer Rehabilitation	$ 2,091,000	$ 2,429,000	$ 2,730,000	$ -	$ -	$ 7,250,000
276-45	Bolinwood Drive Interceptor	$ 100,000	$ 900,000	$ -	$ -	$ -	$ 1,000,000

Table 2
Draft FY 2019 - 2023 CIP

CIP No.	Project	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Total FY 2019 - FY 2023
276-46	Willow Drive Interceptor Replacement	$ 25,000	$ 100,000	$ -	$ -	$ -	$ 125,000
276-48	Dobbins Drive Interceptor Upgrades	$ 315,000	$ 1,259,000	$ -	$ -	$ -	$ 1,574,000
276-52	Rocky Branch Interceptor Upgrade (Phase 1)	$ -	$ 62,000	$ 706,000	$ -	$ -	$ 768,000
276-53	Creek Crossing Access Improvements	$ 20,000	$ 563,000	$ 263,000	$ -	$ -	$ 846,000
276-57	Sanitary Sewer Hydraulic Model	$ 334,000	$ 150,000	$ -	$ -	$ -	$ 484,000
276-58	Prince Street common service replacement	$ 30,000	$ 50,000	$ -	$ -	$ -	$ 80,000
276-new	Manhole Installations	$ -	$ 35,000	$ 80,000	$ -	$ -	$ 115,000
277-21	Force Main Condition Evaluation	$ -	$ -	$ 50,000	$ -	$ 300,000	$ 350,000
277-31B	Rogerson Drive Pump Station Rehabilitation Phase 2	$ 2,025,000	$ -	$ -	$ -	$ -	$ 2,025,000
277-37	Knolls PS Rehab	$ -	$ -	$ 15,000	$ -	$ -	$ 15,000
277-39A	North Lakeshore Drive Pump Station	$ -	$ -	$ 15,000	$ -	$ -	$ 15,000
277-39B	Chapel Hill North Pump Station Rehabilitation	$ -	$ 25,000	$ 75,000	$ -	$ -	$ 100,000
277-39C	Clayton Rd Pump Station Replacement	$ -	$ -	$ 15,000	$ -	$ -	$ 15,000
277-39-F	Patterson Place Pump Station	$ -	$ -	$ 15,000	$ -	$ -	$ 15,000
277-new	Rogerson Drive Force Main Gravity Interconnect to Meeting of the Waters Interceptor	$ -	$ -	$ 25,000	$ -	$ -	$ 25,000
277-new	Pump Station Operational Assessments	$ 25,000	$ 25,000	$ -	$ -	$ -	$ 50,000
277-new	Rogerson Drive Force Main (Highway 54 crossing and northern routing study)	$ 50,000	$ 200,000	$ -	$ -	$ -	$ 250,000
278-11	Long Term Funding for Wastewater Facility Asset Rehabilitation or Replacement	$ -	$ -	$ -	$ 4,608,000	$ 4,466,000	$ 9,074,000
278-46	Comprehensive Coatings Program	$ 150,000	$ 100,000	$ -	$ -	$ -	$ 250,000
278-50	WWTP Warehouse	$ -	$ 75,000	$ 600,000	$ -	$ -	$ 675,000
278-51	WWTP Solids Thickening Improvements	$ 1,200,000	$ 2,700,000	$ -	$ -	$ -	$ 3,900,000
278-54	WWTP Intermediate Pump Station (IPS) Rehabilitation	$ 400,000	$ -	$ -	$ 100,000	$ 600,000	$ 1,100,000
278-58	WWTP Non-potable Water Pump Replacements	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000
278-61	WWTP Pavement	$ -	$ -	$ -	$ 25,000	$ -	$ 25,000
278-68	Roofing / Building Envelope Rehabilitation	$ 34,000	$ 226,000	$ 285,000	$ 184,000	$ -	$ 729,000
278-72A	WWTP Secondary Clarifier (SC) Rehabilitation	$ 750,000	$ -	$ -	$ -	$ -	$ 750,000
278-72B	WWTP Secondary Clarifier Pumping Improvements	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000
278-73	Wastewater Treatment Plant (WWTP) SCADA System Upgrade	$ 60,000	$ -	$ -	$ -	$ -	$ 60,000
278-75	WWTP Facilities Planning / Capacity Upgrade	$ -	$ 150,000	$ 150,000	$ -	$ -	$ 300,000
278-77	WWTP Bar Screen Replacement	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000
278-78A	WWTP Fermenter Tank and Pumps Rehabilitation	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000
278-80A	Primary Sludge Pump Station Reabilitation and Old Lab Building Demolition	$ 25,000	$ -	$ -	$ -	$ -	$ 25,000
278-80B	WWTP Chemical Building and Bulk Tank Piping Rehabilitation	$ 100,000	$ 350,000	$ -	$ -	$ -	$ 450,000
278-80B	WWTP Spray Water System	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000
278-80C	WWTP Scum Pump Station Rehabilitation	$ -	$ 200,000	$ -	$ -	$ -	$ 200,000
278-80C	On-Site Biosolids Storage Tanks – Hyperboloid Mixing System	$ -	$ 150,000	$ -	$ -	$ -	$ 150,000
278-82	WWTP Headworks Concrete Rehabilitation	$ 1,700,000	$ 500,000	$ -	$ -	$ -	$ 2,200,000
278-new	Primary Clarifier Rehab	$ -	$ 90,000	$ 500,000	$ -	$ -	$ 590,000
278-new	WWTP Flow Monitoring	$ -	$ -	$ 25,000	$ 125,000	$ -	$ 150,000
278-new	WWTP Server Room	$ 75,000	$ -	$ -	$ -	$ -	$ 75,000
278-new	Fixed Continuous Gas Monitoring Systems	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000
278-new	WWTP Security Improvements	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000
280-06	Administration Building HVAC System Upgrade	$ 820,000	$ -	$ -	$ -	$ -	$ 820,000
280-13	Admin Building Locker Room Rehabilitation and Improvements	$ -	$ -	$ 30,000	$ -	$ -	$ 30,000
	Recommended FY 2019 - 2023 CIP	**$ 22,636,000**	**$ 25,634,000**	**$ 16,844,000**	**$ 18,938,000**	**$ 13,698,000**	**$ 97,750,000**
	With potential program reductions	*$ 22,529,000*	*$ 22,718,000*	*$ 12,366,000*	*$ 18,551,000*	*$ 14,018,000*	***$ 90,182,000***

Rate adjustment Options 1 - 3 are based on funding as shown; Option 4 is based on funding that has been **deleted** or **reduced** for this project.

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF RATES, FEES, AND CHARGES

APPLICABLE TO ALL BILLINGS AND SERVICES ON AND AFTER OCTOBER 1, 2018

Background and Authorization

In providing essential public water, sewer and reclaimed water services to Chapel Hill, Carrboro and portions of southern Orange County, Orange Water and Sewer Authority (OWASA) incurs substantial operating and capital expenses. As a community-owned non-profit public utility, OWASA has no authority to levy taxes, nor does it receive tax revenues from local governments for ongoing operations. OWASA finances its water, sewer and reclaimed water operations and extensive capital improvements almost entirely through customer paid fees and charges.

North Carolina G.S. 162A-9 requires that OWASA's "rates, fees and charges shall be fixed and revised so that the revenues of the Authority, together with any other available funds, will be sufficient at all times" to fund operating and maintenance expenses and to pay the principal and interest on all debt issued or assumed by OWASA. OWASA's rates are established under cost-of-service rate-making methodology. OWASA's customers pay for the cost of providing the services and/or facility capacity required to meet customer demand.

The OWASA Board of Directors has determined that the provisions in this Schedule of Rates, Fees, and Charges are necessary to adequately sustain OWASA's near-term and long-range utility operations. Revenues generated by these rate adjustments will provide OWASA with the financial resources necessary to: (1) fund operating costs; (2) adequately maintain existing water, sewer, and reclaimed water facilities; (3) fully comply with increasingly stringent environmental and public health standards; (4) meet debt service requirements; (5) create additional facility capacity to stay abreast of water, reclaimed water and sewer service demand in a growing, dynamic community; and (6) maintain adequate reserves.

The attached Schedule of Rates, Fees, and Charges will replace the schedule adopted on June 8, 2017, which became effective on October 1, 2017. All fees other than system development fees, shown on pages 6 and 11, go into effect on October 1, 2018. By statute (NC House Bill 436/Session Law 2017-138), the new system development fees go into effect on July 1, 2018.

The proposed monthly water and sewer rates shown in this schedule reflect an increase of two percent.

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF RATES, FEES, AND CHARGES

SECTION I: WATER RATES AND FEES

MONTHLY WATER RATES

Water charges are billed monthly at approximately 30-day intervals. Charges are due upon receipt of the bill, and become delinquent 25 days after the billing date. Monthly water rates consist of two components; a monthly service charge and a commodity (volume) charge.

Water Service Charge

This charge recovers costs related to certain direct and indirect customer service efforts, meter and lateral maintenance, and capital costs associated with supplying water to the customer's property. Applicable to all metered water accounts, independent of the quantity of water consumed, the monthly charge is based on meter size as follows:

Meter Size	Current Monthly Service Charge	Proposed
5/8"	$14.70	$14.99
3/4" Combination Fire and Domestic Service Meter	$15.20	$15.50
1"	$29.53	$30.12
1" Combination Fire and Domestic Service Meter	$30.03	$30.63
1-1/2"	$63.86	$65.14
2"	$96.38	$98.31
3"	$198.22	$202.18
4"	$323.58	$330.05
6"	$704.66	$718.75
8"	$1,002.06	$1022.10

Water Irrigation Service Charge

This charge is calculated to recover certain direct and indirect customer service, meter and lateral maintenance, and capital costs associated with supplying water for irrigation through irrigation-only meters. Applicable to all metered irrigation water accounts, regardless of the quantity of water consumed, the monthly charge is based on meter size as follows:

Meter Size	Current Monthly Service Charge	Proposed
5/8"	$23.54	$24.01
1"	$47.05	$47.99
1-1/2"	$87.10	$88.84
2"	$133.96	$136.64
3"	$265.15	$270.45
4"	$407.02	$415.16
6"	$800.67	$816.68
8"	$1,273.30	$1,298.77

Monthly service charges for compound meter arrangements are based on the largest meter in the grouping. In addition to the applicable charge for the primary meter, existing OWASA-owned sub-meters are billed according to the above schedule. OWASA-owned sub-meters are no longer available and no additional sub-meters will be installed. Meter readings and service charges for first and final bills are prorated based on days of service.

(NOTE: In accordance with State law, all new in-ground irrigation systems installed on lots platted and recorded in the office of the register of deeds in the county or counties in which the real property is located after July 1, 2009 and supplied by a public drinking water system are required to have a separate meter to measure the volume of water used through the irrigation system.)

Water Commodity Charge

This charge recovers the direct and indirect costs of water supply and treatment, water distribution, general administration and capital costs not recovered by the monthly service charge. This charge is applicable to all water accounts based on meter readings of water consumed. When a billing period includes a change in commodity rates, the charges are prorated based on the ratio of days in the billing period at the old and new rates. Metered monthly consumption will be billed in thousand gallon increments rounded down to the nearest thousand gallons. Unbilled consumption due to rounding will be carried forward and billed in the month when the next thousand gallon increment is registered by the meter.

When no meter reading is available due to an inoperative, damaged or inaccessible meter, consumption will be estimated based on prior usage at the location.

Individually Metered Residential Accounts Except Irrigation-only Accounts

Individually metered residential accounts will be billed under an increasing block rate structure designed to encourage efficient water use by applying increasing commodity charges (rate per thousand gallons) to incremental increases in water use.

	Volume of Use (Gallons)	**Current Commodity Rate per 1,000 Gallons**	**Proposed**
Block 1	1,000 to 2,000	$2.63	$2.68
Block 2	3,000 to 5,000	$6.39	$6.52
Block 3	6,000 to 10,000	$7.83	$7.99
Block 4	11,000 to 15,000	$10.94	$11.16
Block 5	All use 16,000 and up	$19.79	$20.19

Multi-family Master-metered Residential Accounts

Multi-family master-metered residential accounts have one (or more) OWASA meter that serves more than one residential dwelling. Examples include apartment complexes, duplexes and condominiums. Multi-family master-metered residential accounts shall be charged the following year-round commodity rate.

Current – $5.67 per thousand gallons
Proposed – $5.78 per thousand gallons

Non-residential Accounts Except Irrigation Accounts

To achieve demand reduction during peak water use periods, a seasonal conservation rate structure will be applied to all non-residential accounts other than irrigation-only accounts. A reduced water commodity charge is in effect during lower demand months (October through April), and a higher commodity charge is in effect during high demand months (May through September).

	Current	**Proposed**
Off-peak seasonal rate per 1,000 gallons (October through April)	$4.16	$4.24
Peak seasonal rate per 1,000 gallons (May through September)	$7.91	$8.07

Irrigation-only Accounts

To promote conservation of water used for irrigation and to achieve greater equity between rates for irrigation-only use and irrigation use through a domestic meter, irrigation-only accounts shall be charged the following year-round commodity rate.

Current charge - $8.51 per thousand gallons
Proposed - $8.68 per thousand gallons

WATER COMMODITY SURCHARGES APPLICABLE UNDER WATER SHORTAGE DECLARATION STAGES

Conservation Water Commodity Charges Under Mandatory Water Use Restrictions

Water commodity charges will be temporarily increased during periods of declared Water Shortages and mandatory water use restrictions regardless of the time of year. These applicable surcharges are summarized in the following table.

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF RATES, FEES, AND CHARGES

Individually-Metered Residential						**Multi-family Master-metered Residential**	**Non-Residential and Irrigation-Only**
Block:	Res. Block 1	Res. Block 2	Res. Block 3	Res. Block 4	Res. Block 5		
Use Level: (gallons)	1,000 to 2,000	3,000 to 5,000	6,000 to 10,000	11,000 to 15,000	16,000 and up		
Stage 1	No surcharge	No surcharge	1.25 times normal Block 3 rate	1.5 times normal Block 4 rate	2 times normal Block 5 rate	1.15 times year-round rate	1.15 times seasonal and irrigation-only rate
Stage 2	No surcharge	1.25 times normal Block 2 rate	1.5 times normal Block 3 rate	2 times normal Block 4 rate	3 times normal Block 5 rate	1.25 times year-round rate	1.25 times seasonal and irrigation-only rate
Stage 3 and Emergency	No surcharge	1.5 times normal Block 2 rate	2 times normal Block 3 rate	3 times normal Block 4 rate	4 times normal Block 5 rate	1.5 times year-round rate	1.5 times seasonal and irrigation-only rate

INTERLOCAL WATER TRANSFER CHARGES

The purpose of this charge is to recover costs associated with the provision of supplemental water supply under contractual agreement with other water purveyors. The specific rates to be charged will be negotiated with the other party based upon specific conditions using the cost-of-service rate-making approach and approved by OWASA.

TEMPORARY HYDRANT METER CHARGE

Subject to availability, a Customer may obtain a temporary hydrant meter from OWASA for a period of up to 60 days. A customer may submit a written request to use the hydrant meter for one additional 60 day period but granting said request will be subject to availability and is at OWASA's sole discretion. Service from a fire hydrant is subject to interruption when the hydrant is needed for fire protection, compliance with water conservation standards, and other applicable law. For situations where temporary water service is needed for a period longer than 120 days, the user can purchase a metering device of a size, make and model specified by OWASA. A $320.00 **($290 proposed)** service charge, payable in advance, shall be collected for setting and removing the meter. In addition, a security deposit shall be required in accordance with the following schedule:

Security Deposit
$1,000

Monthly billings for temporary hydrant meters consist of two charges: (1) a service charge for that size meter, and (2) the seasonal commodity charge, including surcharges where applicable, based on monthly readings of the meter. When the hydrant meter is returned, the security deposit shall be applied to the final bill plus any damages. The Customer is responsible for paying OWASA for damages that exceed the amount of the Security Deposit. Any credit balance will be refunded within thirty (30) days.

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF RATES, FEES, AND CHARGES

WATER SYSTEM DEVELOPMENT FEE

Water system development Fees are calculated to recover a portion of the capital costs of providing water system facility capacity. The system development fee is applicable to each new connection to a water main, regardless of who may have paid for the installation of the water main to which the connection is to be made. For the purpose of system development fees, customer accounts are divided into three categories: (1) Single-family Residential, (2) Multi-family Residential, Individually-metered; and (3) Non-residential. The Non-residential category includes master-metered multi-family customers and all commercial, University, and other institutional accounts. The use of these categories is justified by distinctive patterns of water and sewer consumption.

Property Description	Current Fee	CORRECTED Proposed
5/8” Meter or 3/4" Combination Fire and Domestic Service, Single-family Residential:		
<800 square feet	$1,033	$620
801-1300 square feet	$1,033	$770
1301-1700 square feet	$1,207	$864
1701-2400 square feet	$1,552	$1,142
2401-3100 square feet	$2,470	$1,767
3101-3800 square feet	$3,429	$2,442
>3800 square feet	$5,406	$4,295
1” Meter, Single-Family Residential (all square footages)	$8,143	$7,338
5/8” Meter or 3/4" Combination Fire and Domestic Service Meter, Multi-family Residential	$1,112	$830
1” Meter, Multi-Family Residential (all square footages)	$8,143	$7,338
5/8” Meter or 3/4" Combination Fire and Domestic Service Meter, Non-residential*	$3,255	$2,933
1” Meter, Non-residential*	$8,143	$7,338
1-1/2” Meter, Multi-Family Residential and Non-residential*	$16,275	$14,666
2” Meter, Multi-Family Residential and Non-residential*	$26,040	$23,466
3” Meter, Multi-Family Residential and Non-residential*	$52,081	$46,933
4” Meter, Multi-Family Residential and Non-residential*	$81,376	$73,332
6” Meter, Multi-Family Residential and Non-residential*	$162,752	$146,664
8” Meter, Multi-Family Residential and Non-residential*	$260,403	$234,663

* Same fee for Irrigation-Only accounts.

A person or party completing a development or re-development project may be eligible to request and receive a credit on the water system development Fees due if their project directly results in the permanent abandonment of previously existing water meters which were connected to residences, buildings or facilities connected to and having a documented demand on the OWASA water system.

If OWASA determines that a credit is due, the amount of the credit shall be based on the current water system development Fees that would apply to the size of the water meters that are permanently abandoned as a direct result of the project. However, the credit due shall not exceed the amount of the

water system development Fees that would otherwise apply to the development or re-development project. System development fee credits are not transferrable to any other project or property.

If an existing water meter is removed from service and/or is replaced with a smaller meter, OWASA will not issue any credit or refund to the customer for any previously paid system development fees.

WATER SERVICE AND METER INSTALLATION CHARGE

This charge is to recover costs of extending service from the OWASA distribution system to individual properties, and includes the installation of a service connection from the water main to the meter and the setting of the meter to serve the customer's premises, subject to satisfactory easement or license being provided by the applicant. Where a suitable OWASA stub-out for service has been made and is available, the "meter-only" charge shall apply. Customer requested meter/water service relocations shall be performed on a time and materials basis. Complete new and/or additional water service installation and meter-only charges are as follows:

Service Description	Fee	
	Existing	**Proposed**
Complete Water Service Installation, 5/8" meter	$3,650	$4,110
Complete Water Service Installation, 3/4" Combination Fire and Domestic Service Meter	$3,860	$4,350
Complete Water Service Installation, 1" meter	$3,770	$4,280
Meter Only Installation, 5/8" meter	$270	$260
Meter Only Installation, 3/4" Combination Fire and Domestic Service Meter	$400	$500
Meter Only Installation, 1" Combination Fire and Domestic Service Meter	$360	$540
Meter Only Installation, 1" meter	$360	$340
Meter Only Installation, 1-1/2" meter	$810	$660
Meter Only Installation, 1-1/2" Combination Fire and Domestic Service Meter	$840	$830
Meter Only Installation, 2" meter	$810	$890
Meter Only Installation, 2" Combination Fire and Domestic Service Meter	$740	$1,000
Remote Read Box with 5/8" Detector Meter	$420	$500

Complete installation costs are determined on a time and materials basis for 1-1/2 inch and 2-inch meters. For 3-inch and larger meters, the applicant shall be responsible for providing a meter box or vault constructed to OWASA standards. All meters, regardless of size, shall be purchased from OWASA at cost plus 10%. A $110.00 **($150 proposed)** delivery fee for 3-inch and larger meters shall also apply.

A remote read box and 5/8" detector meter shall be required on all private fire protection service connections. The remote read box shall be purchased from OWASA and installed by the applicant. OWASA shall install the 5/8" detector meter at the applicant's expense.

WATER MAIN TAPPING FEE

This charge is for making a tap into an OWASA water main. The tap fee shall be paid in advance of OWASA performing the work, with a minimum of 48 hours advance notice given to OWASA.

The applicant shall be responsible for opening the ditch, providing adequate working clearance at the point of tap, adequately shoring the trench sidewalls, dewatering and such other associated activities as may be needed to provide a suitable and safe condition for OWASA personnel to complete the tap. Additionally, the applicant shall be responsible for providing an appropriate size tapping sleeve and tapping valve, and a backhoe or similar device shall be available on-site for lowering the tapping unit into the ditch line. All permits, bonds and paving shall be the responsibility of the applicant. The charge shall be for time and equipment plus an allowance for overhead, but not less than $350 **(Proposed $430)**.

The base fee noted above includes one (1) site visit by OWASA to determine if the applicant is ready for OWASA to perform the tap. A re-inspection fee of $125.00 **(Proposed $150)** will be charged for each additional site visit required to determine if the water main is accessible and all required material and safety measures are in place. The tap will not be performed until any applicable reinspection fees are paid in full.

HYDRAULIC FIRE FLOW TESTING

This charge is calculated to recover the cost of hydrant 'fire flow' testing of the water distribution system. Test results provide data to developers and engineers to determine available flows and pressures in the systems they are designing for new developments.

$300 per test **($230 proposed)**

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF RATES, FEES, AND CHARGES

SECTION II: SEWER RATES AND FEES

MONTHLY SEWER RATES

Sewer charges are billed monthly at approximately 30-day intervals. Charges are due upon receipt of the bill, and become delinquent 25 days after the billing date. Monthly sewer rates consist of two components: a monthly service charge and a sewer commodity (volume) charge.

Sewer Service Charge

This charge is calculated to recover the direct and indirect customer service, service and inspection maintenance, and capital costs associated with providing sewer service to the customer's property. Meter readings and service charges for first and final bills are prorated based on days of service**.** Applicable to all sewer accounts, regardless of whether or not there is a commodity charge, the monthly service charge is based on the size of the meter where sewer usage is measured as follows:

Meter Size	Current Monthly Service Charge	Proposed
5/8" or 3/4" Combination Fire and Domestic Service	$12.00	$12.24
1"	$20.61	$21.02
1-1/2"	$35.53	$36.24
2"	$53.72	$54.79
3"	$101.58	$103.61
4"	$155.28	$158.39
6"	$284.70	$290.39
8"	$485.82	$495.54

The monthly sewer service charge shall apply to any meter(s) used to directly or indirectly measure the volume of wastewater discharged from a customer's premises, regardless of whether the water source to the customer is from OWASA's drinking water and/or reclaimed water system, or a non-OWASA water source including but not limited to harvested rainwater or groundwater.

Sewer Commodity Charge

This charge is calculated to recover the remaining direct and indirect costs of wastewater treatment and collection, maintenance, inspection, customer service and administration and sewer capital costs not recovered by the monthly service charge. When a billing period includes a change in commodity rates, the charges are prorated based on the ratio of days in the billing period at the old and new rates. Metered monthly consumption will be billed in thousand gallon increments rounded down to the nearest thousand gallons. Unbilled consumption due to rounding will be carried forward and billed in the month when the next thousand gallon increment is registered by the meter**.** This charge is applicable to all accounts receiving sewer service based on the water meter reading, sewer meter reading if applicable, or estimated volume of discharge as determined by OWASA.

The sewer commodity charge is applicable to all customers discharging wastewater into the OWASA sewer system, regardless of whether or not that discharge results from the customer's use of OWASA's drinking water or reclaimed water, or their use of a non-OWASA water source, including but not limited to harvested rainwater or groundwater.

Current – $6.48 per thousand gallons
Proposed – $6.61 per thousand gallons

Individually-metered residential customers will not be charged for monthly sewer use in excess of 15,000 gallons.

INTERLOCAL WASTEWATER COLLECTION, TREATMENT AND DISPOSAL CHARGES

The purpose of this charge is to recover costs associated with the provision of wastewater collection, treatment and disposal services under contractual agreements with other wastewater service providers. The specific rates to be charged will be negotiated with the other party based upon specific conditions using the cost-of-service rate-making approach and approved by OWASA.

MONTHLY RATES FOR SEWER-ONLY ACCOUNTS

For sewer-only accounts where there is no OWASA meter for directly or indirectly measuring the volume of wastewater discharged by the customer, the monthly sewer service and commodity charges shall be fixed and be the total of:

(1) a monthly service charge which shall be determined by the water meter size which would be required to supply water service to the property,

plus

(2) a sewer commodity charge of $6.48 **($6.61 proposed)** per 1,000 gallons times the estimated volume of wastewater expected to be discharged by the customer (using national engineering standards as the basis); provided however, that in no case shall the billable quantity be less than 4,000 gallons per month.

For special commercial and industrial customer classifications where the proportion of water consumed to wastewater discharged is extremely large, a metered sewer account may be approved. Metered sewer accounts must also pay the appropriate monthly sewer service charge based on the sewer meter size.

If a customer that has a standard metered water and sewer service (sewer gallons billed are based on the water gallons billed) also discharges wastewater resulting from the use of OWASA reclaimed water, harvested rainwater, groundwater, or sources other than OWASA drinking water, that customer shall be billed a monthly service charge and commodity charges calculated in accordance the *OWASA Rainwater Harvesting Systems Requirements and Charges Policy* for said additional discharge; provided, however, that the minimum threshold for which the charges shall apply is 3,000 gallons per month. For this purpose, such systems serving single-family residential customers are deemed to fall below this threshold, provided there is also a standard metered water and sewer service.

SEWER SYSTEM DEVELOPMENT FEE

The purpose of this fee is to recover a portion of the capital costs of providing sewer system facility capacity. The system development fee is applicable to each new connection to a sewer main, regardless of who may have paid for the installation of the main to which the connection is to be made. For the purpose of the system development fee, customer accounts are divided into three categories: (1)

Single-family Residential; (2) Multi-family Residential, Individually-metered; and (3) Non-residential. The Non-residential category includes master-metered Multi-family customers plus all other commercial, University, and other institutional accounts. The use of these categories is justified by distinctive patterns of water and sewer consumption.

Property Description	Current Fee	CORRECTED Proposed
5/8” Meter or 3/4" Combination Fire and Domestic Service, Single-family Residential:		
<800 square feet	$2,829	$1,632
801-1300 square feet	$2,829	$2,207
1301-1700 square feet	$3,270	$2,251
1701-2400 square feet	$3,384	$2,391
2401-3100 square feet	$3,859	$2,652
3101-3800 square feet	$4,256	$2,912
>3800 square feet	$4,541	$3,466
1” Meter, Single-Family Residential (all square footages)	$13,088	$11,329
5/8” Meter or 3/4" Combination Fire and Domestic Service, Multi-family Residential	$3,064	$2,196
1” Meter, Multi-Family Residential (all square footages)	$13,088	$11,329
5/8” Meter or 3/4" Combination Fire and Domestic Service, Nonresidential	$6,553	$5,673
1” Meter, Nonresidential	$16,392	$14,192
1-1/2” Meter, Multi-family Residential and Nonresidential	$32,763	$28,366
2” Meter, Multi-family Residential and Nonresidential	$52,421	$45,386
3” Meter, Multi-family Residential and Nonresidential	$104,842	$90,773
4” Meter, Multi-family Residential and Nonresidential	$163,816	$141,832
6” Meter, Multi-family Residential and Nonresidential	$327,632	$283,664
8” Meter, Multi-family Residential and Nonresidential	$524,211	$453,863

In addition to the sewer system development fee, an excess sewer capacity fee of four percent (4%) of the applicable sewer system development fee shall be charged to recover the costs of excess sewer capacity installed in an area covered by an agreement between OWASA and a developer for credit payments to the constructing developer. This fee shall apply to residential and non-residential customers.

A person or party completing a development or re-development project may be eligible to request and receive a credit on the sewer system development fees due if their project directly results in the permanent abandonment of previously existing water meters and sewer services which were connected to residences, buildings or facilities connected to and having a documented demand on the OWASA sanitary sewer system.

If OWASA determines that a credit is due, the amount of the credit shall be based on the current sewer system development fees that would apply to the size water meters that are permanently abandoned as a direct result of the project. However, the credit due shall not exceed the amount of the sewer system development fees that would otherwise apply to the development or re-development project. System development fee credits are not transferrable to any other project or property.

If an existing water or sewer meter upon which consumption is based is removed from service and/or is replaced with a smaller meter, OWASA will not issue any credit or refund to the customer for any previously paid system development fees.

SEWER TAP CHARGE

This charge is for making a tap of the applicant's private sewer lateral into the main sewer line or sewer manhole of OWASA. The tap fee must be paid in advance of OWASA performing the work, with a minimum of 48 hours advance notice given to OWASA.

The applicant shall be responsible for opening the ditch, providing adequate working clearance at the point of tap, adequately shoring the trench sidewalls, dewatering and such other associated activities as may be needed to provide a suitable and safe condition for OWASA to connect the service lateral of the applicant into the facilities of OWASA. The minimum charge is based on a standard 4" service tap to the OWASA sewer line. All lines 6" in diameter and larger must be tapped into a manhole. All permits, bonds and pavement repairs are the responsibility of the applicant.

The charge shall be for time and equipment plus an allowance for overhead, but not less than $340 **($520 proposed)**.

The base fee noted above includes one (1) site visit by OWASA to determine if the applicant is ready for OWASA to perform the tap. A re-inspection fee of $125 **($150 proposed)** will be charged for each additional site visit required to determine if the sewer main is accessible and all required material and safety measures are in place. The tap will not be performed until any applicable reinspection fees are paid in full.

HIGH STRENGTH WASTE SURCHARGE

The purpose of this charge is to recover operation and maintenance costs from customers whose wastewater discharge into the system is in excess of certain parameters for normal strength domestic wastewater as determined by OWASA. Based on local sampling and analysis, normal strength domestic wastewater has been determined to have the following pollutant characteristics.

Normal Strength Domestic Wastewater	
Carbonaceous Biochemical Oxygen Demand (CBOD)	205 mg/l
Suspended Solids (SS)	235 mg/l
Ammonia Nitrogen (NH_3-N)	25 mg/l
Phosphorus (P)	6.5 mg/l

High Strength Waste Surcharges shall apply at the following rates to all wastes exceeding the above concentrations:

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF RATES, FEES, AND CHARGES

Current	
Carbonaceous Biochemical Oxygen Demand (CBOD)	$0.43 per pound for all CBOD in excess of 205 mg/l
Suspended Solids (SS)	$0.52 per pound for all SS in excess of 235 mg/l
Ammonia Nitrogen (NH_3-N)	$3.04 per pound for all NH_3-N in excess of 25 mg/l
Phosphorus (P)	$12.26 per pound for all P excess of 6.5 mg/l

Proposed	
Carbonaceous Biochemical Oxygen Demand (CBOD)	$0.44 per pound for all CBOD in excess of 205 mg/l
Suspended Solids (SS)	$0.53 per pound for all SS in excess of 235 mg/l
Ammonia Nitrogen (NH_3-N)	$3.10 per pound for all NH_3-N in excess of 25 mg/l
Phosphorus (P)	$12.51 per pound for all P excess of 6.5 mg/l

SECTION III: RECLAIMED WATER RATES AND CHARGES

MONTHLY RECLAIMED WATER RATES

Reclaimed water (RCW) charges will be billed monthly at approximately 30-day intervals. Charges are due upon receipt of the bill, and become delinquent 21 days after the original billing date. Monthly reclaimed water rates consist of two components: a monthly service charge and a commodity (volume) charge.

The University of North Carolina at Chapel Hill (UNC) funded the construction of the first phase of the reclaimed water system, and the methodology for determining reclaimed water charges applicable to UNC is stipulated by a contract between OWASA and UNC. For this reason, reclaimed water charges have been established for two major customer classes: UNC uses and non-UNC uses. As determined necessary by OWASA, and in accord with OWASA's contractual obligations to UNC, reclaimed water service to non-UNC customers may be temporarily interrupted to ensure the UNC's reclaimed water demand can be met from the facilities and capacity paid for by UNC.

Reclaimed Water Service Charge

This fixed monthly charge is calculated to recover direct and indirect costs including but not limited to customer service and billing, meter and lateral maintenance, general and administrative services, and fixed costs associated with supplying reclaimed water to the customer's property. The Reclaimed Water service charge is applicable to all metered reclaimed water accounts, independent of the quantity of reclaimed water consumed. Meter readings and service charges for first and final bills are prorated based on days of service.

UNC Reclaimed Water Use (covers all UNC reclaimed water uses served by the facilities paid for by UNC) $24,000 per month.

Non-UNC RCW Customers	
Meter Size	**Per Month**
5/8"	$8.37
1"	$16.74
1.5"	$30.96
2"	$47.62

Service charges for non-UNC reclaimed water meters larger than 2" will be determined on a case-by-case basis following an evaluation of the reclaimed water demands of the customer.

Reclaimed Water Commodity Charge

This charge is calculated to recover the direct costs for reclaimed water treatment and distribution and all other direct and indirect costs not recovered by fixed monthly service charges. This charge is applicable to all reclaimed water accounts based on meter readings of reclaimed water consumed.

When a billing period includes a change in commodity rates, the charges are prorated based on the ratio of days in the billing period at the old and new rates. Metered monthly consumption will be billed in thousand gallon increments rounded down to the nearest thousand gallons. Unbilled

consumption due to rounding will be carried forward and billed in the month when the next thousand gallon increment is registered by the meter.

Customer Type	Rate per 1,000 gallons
UNC Accounts	$0.60
Non-UNC Accounts	$2.18
Bulk (tanker) Sales	$0.00

RECLAIMED WATER SYSTEM DEVELOPMENT AND CONNECTION FEES

Reclaimed Water System Development Fees

The purpose of this fee is to recover the capital costs of providing reclaimed water system facility capacity and to fund future expansion of that capacity. Since the University (UNC) has paid to construct the reclaimed water system, UNC will not be required to pay a reclaimed water system development fee for UNC facilities that are connected to and can be served by capacity available in the reclaimed water facilities paid for by the UNC.

Reclaimed water system development fees are applicable to each non-UNC connection to the reclaimed water system, regardless of who may have paid for the installation of the main to which the connection is to be made. Reclaimed water system development fees for non-UNC customers are as follows:

Meter Size	Fee
5/8”	$1,229
1”	$3,073
1-1/2”	$6,146
2”	$9,833

Reclaimed water system development fees for connections to be served by meters larger than 2 inches shall be determined on a case-by-case basis following an evaluation of the reclaimed water demands of the customer.

Reclaimed Water Service Connection Fees

Reclaimed water service connection fees, including meter installation and meter fees, shall be the same as the fees applicable to potable water system service connections, as specified in Section I of this schedule.

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF RATES, FEES, AND CHARGES

SECTION IV: MISCELLANEOUS CHARGES

SERVICE INITIATION FEE

The purpose of this charge is to defray the labor and administrative costs associated with the establishment of a water and/or sewer account. This includes establishing service and account records for billing and is applicable to all accounts.

$45 per event
$80 per event, outside of normal business hours of OWASA

RETURNED CHECK CHARGE

Checks or automatic bank drafts made payable to OWASA are accepted as payment on account subject to collection. When a check or bank draft is not honored for payment by the bank or other institution on which it is drawn, a Returned Check Charge will be applied to the customer's account as follows:

Returned Check:	$25
Dishonored Draft:	$25

The customer will be notified of the returned check charge and instructed to pay the amount due immediately. Failure to respond within the time allowed will result in disconnection of water service and an additional charge for reconnection. The customer may also be required to pay a security deposit or an additional security deposit.

CHARGE FOR DELINQUENT ACCOUNTS

The purpose of this charge is to offset the costs of special handling of delinquent accounts, which may include, but is not limited to, the disconnection and reconnection of service due to nonpayment of the customer's bill. This charge applies to all accounts scheduled for disconnection for nonpayment and is applicable on or after the specified disconnect date, regardless of whether the service was disconnected or not. Reconnection resulting from disconnection due to nonpayment will be made within 24 hours of receipt of full payment of the balance due plus the delinquency charge and applicable security deposit.

$45 per event, during OWASA’s normal business hours
$80 per event, outside OWASA’s normal business hours

CHARGE FOR TEMPORARY DISCONNECTION/SUBSEQUENT RECONNECTION AT CUSTOMER'S REQUEST

OWASA customers may request to have their service temporarily disconnected and subsequently reconnected. In emergency conditions, there will be no charge to the customer for this service. Additionally, no more than once in any twelve-month period, a customer may request to have their service temporarily disconnected and subsequently reconnected at no charge for routine plumbing system maintenance. For requests to temporarily disconnect and subsequently reconnect service in any situation other than those listed above, the charges listed below will apply.

The purpose of this charge is to recover the cost to temporarily disconnect and subsequently reconnect water service at the request of a customer. In situations where charges apply, the charge may be waived if the customer provides documentation that a master cutoff valve has been installed within thirty (30) days of the date of the temporary service disconnection.

$45 per event, during OWASA's normal business hours
$80 per event, outside OWASA's normal business hours

LATE PAYMENT FEE

This fee is designed to recover a portion of the cost of delinquent payment collection efforts that arise prior to service termination and are not recovered by charges for reconnection of delinquent accounts, and to encourage customers to make timely payments, thereby reducing the overall cost of a delinquent account to the customer base. The late payment fee applies when a customer's account is delinquent as defined above.

Late Payment Fee:	For past due balances of $10.00 or more, $2.40 plus 0.42% a month (5% APR) of the outstanding balance.

SECURITY DEPOSITS

OWASA requires security deposits from customers to ensure payment of the final bill. To offset administrative costs in handling these monies, no interest is paid on security deposits.

Security deposits shall be required on all accounts other than those of (1) residential customers, whether detached or attached units, who have a satisfactory credit history as determined by a credit check, and (2) local, State and Federal governments or agencies thereof. Security deposits shall be required for accounts other than those in (1) and (2) above and shall be $50 or $100 depending on credit worthiness for residential customers. All security deposits must be paid at the time application for service is made and in advance of service initiation.

Any residential customer whose service has been disconnected for non-payment of billing charges twice within a six-month period and for whom OWASA does not have a security deposit will be required to pay a $50 or $100 deposit depending on credit worthiness prior to reconnection of service.

Non-residential security deposits are required based on credit worthiness and will be computed as one or two times the average monthly bill of the previous customer at the same location over the past calendar year. If there is no previous customer at the service location, the security deposit will be determined by OWASA based on the best information available, such as OWASA's experience with similar types, sizes, etc. of businesses.

Repeated disconnections will require additional security deposits until the customer has accumulated a security deposit balance, which will cover an average of three months' billing charges.

Security deposits may be refunded upon written request after the customer has established a satisfactory payment history for twelve (12) consecutive months. Otherwise, security deposits will be applied to the final bill when a customer's account is terminated with any remaining balance refunded to the customer.

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF RATES, FEES, AND CHARGES

BULK WASTEWATER CHARGES

Normal Domestic Septage

The purpose of these charges is to recover the costs associated with the service rendered by OWASA to those customers who discharge normal domestic septic tank wastes into the wastewater treatment facilities of OWASA. Applicable to those customers who have an account established at OWASA's Customer Service Office, charges for handling normal domestic septage will be billed to the customer on a monthly basis. The monthly bill will include two components: (1) an administrative charge for special services required to receive this type waste and rendering the monthly bill; and (2) a charge for the treatment of the septage as determined by OWASA. This charge is calculated as follows:

Administrative Charge	$30/ trip, plus
Volume Charge and High Strength Surcharge	Current – $140/ thousand gallons **Proposed - $142.80/ thousand gallons**

Other High Strength Waste

Other wastes may be discharged to OWASA's septage facilities only with prior approval by OWASA and upon OWASA's direct inspection of the actual discharge. The costs associated with these services will be as follows:

NH_3-N = Ammonia Nitrogen
CBOD = Carbonaceous Biochemical Oxygen Demand
TSS = Total Suspended Solids
P = Phosphorus

Administrative Charge of $30 / trip, plus Volume and High Strength Surcharge calculated as follows:

Current
A + B + C + D + E = Calculated Dollars per Thousand Gallons, where:
A = pounds of NH_3-N/thousand gallons in waste x $3.04/pound
B = pounds of CBOD/thousand gallons in waste x $0.43/pound
C = pounds of TSS/thousand gallons in waste x $0.52/pound
D = $6.48/per 1,000 gallons Sewer Commodity Charge
E = pounds of P/thousand gallons in waste x $12.26/pound
Waste concentrations shall be determined by OWASA

Proposed
A + B + C + D + E = Calculated Dollars per Thousand Gallons, where:
A = pounds of NH_3-N/thousand gallons in waste x $3.10/pound
B = pounds of CBOD/thousand gallons in waste x $0.44/pound
C = pounds of TSS/thousand gallons in waste x $0.53/pound
D = $6.61/per 1,000 gallons Sewer Commodity Charge
E = pounds of P/thousand gallons in waste x $12.51/pound
Waste concentrations shall be determined by OWASA

TANK SALES OR BULK WATER SALES

The purpose of this charge is to recover the labor and administrative costs associated with the supply of bulk quantities of water to tank trucks or trailers from a metering point on the premises of OWASA. Applicable to all tank or bulk water sales, the following charges apply for each loading.

Administrative Charge	$25 per trip, plus
Commodity Charge	Current – $6.02 per thousand gallons or portion thereof **Proposed - $6.14** per thousand gallons or portion thereof

Bulk sales are subject to administrative regulations and controls for protection of the wastewater system and efficient operation. Water tank trucks or trailers are only authorized to withdraw water from locations approved by OWASA and for which adequate usage monitoring measures are provided. Charges for bulk sales are not subject to seasonal adjustments.

DIRECT SALES OF SUPPLIES

Applicable to the direct sale of supplies from inventory to municipalities or contractors, the supplies will be billed at the most recent cost plus a handling charge of 10%.

ORANGE WATER AND SEWER AUTHORITY
SCHEDULE OF RATES, FEES, AND CHARGES

BOAT RENTAL AND LAKE USE FEES

Fees are applicable to all persons using row boats and canoes on University Lake and Cane Creek Reservoir during scheduled hours of operation as established by OWASA. Boat rental and lake user charges are:

OWASA Customers and Orange County Residents	
Charge for each flat-bottomed boat or canoe rental	$4.50 for one-half day plus the applicable lake use fee for each person
Trolling motor rental	$15.00 for one-half day
Kayak rental	$15.00 for one-half day plus the applicable lake use fee for each person
Private Boat Launching Fee	$3.50 per boat plus the applicable lake use fee for each person
Lake Use Fee, Under 12 Years Old	$2.00 per person
Lake Use Fee, 12-64 Years	$4.50 per person
Lake Use Fee, 65 Years and over	No charge

Individual Season Pass	
Boat or canoe rental	$82.00 per person. Each additional person pays appropriate lake use fee.
Lake Use Pass – Adult	$46.00
Boat with trolling motor rental	$163.00 per person. Each additional person pays appropriate lake use fee.

Group Season Pass	
Boat or canoe rental	$163.00 (maximum of 3 people per pass.) Each additional person pays appropriate lake use fee.
Boat with trolling motor rental	$245.00 (maximum of 3 people per pass.) Each additional person pays appropriate lake use fee.

For visitors who are not OWASA Customers or Orange County Residents	
Charge for each flat-bottomed boat or canoe rental	$8.00 for one-half day plus the applicable lake use fee for each person
Trolling motor rental	$22.00 for one-half day
Kayak rental	$20.00 for one-half day plus the applicable lake use fee for each person
Private Boat Launching Fee	$7.00 per boat plus the applicable lake use fee for each person
Lake Use Fee, Under 12 years old	$2.50 per person
Lake Use Fee, 12-64 Years	$5.50 per person
Lake Use Fee, 65 Years and over	$2.50 per person
UNC Men's Crew Club and Women's Rowing Team	By agreement between UNC-Chapel Hill and OWASA

FIELD TEST OF 5/8" METER OR 3/4" COMBINATION FIRE AND DOMESTIC SERVICE METER

Upon a customer's written request, OWASA will conduct a special field test of the customer's 5/8" water meter or 3/4" combination fire and domestic service meter. There will be no charge for testing meters (1) which have not been tested during the past five years, or (2) which are found to be over-registering. Over-registering meters will be replaced by OWASA at no charge to the customer.

If, however, the meter has been tested within the past five years and the results of the meter test indicate proper or under-registering, the customer will be charged $100 **($90 proposed)** for the meter test.

SHOP TESTING OF METER

Upon a customer's written request, OWASA will conduct a special shop test of water meters that are larger than 3/4 inches. There will be no charge for testing meters (1) which have not been tested during the past five years, or (2) which are found to be over-registering. Over-registering meters will be replaced by OWASA at no charge to the customer.

If, however, the meter has been tested within the past five years and the results of the meter test indicate proper or under-registering, the customer will be charged $160 **($200 proposed)** for the shop meter test.

FIELD TEST OF LARGE METERS

Upon a customer's written request, OWASA will conduct a special field test of water meters that are larger than 5/8 inches. There will be no charge for testing meters (1) which have not been tested during the past five years, or (2) which are found to be over-registering. Over-registering meters will be replaced by OWASA at no charge to the customer.

If, however, the meter has been tested within the past five years and the results of the meter test indicate proper or under-registering, the customer will be charged a meter test fee based on the actual time and equipment required to complete the field test. This charge shall not be less than $260 **($170 proposed)**.

REINSPECTION FEE

OWASA will initially inspect grease traps, cross connections and water and sewer taps at no cost to the customer. Should a subsequent reinspection be required for any of these fixtures, a $125 **($150 proposed)** fee will apply to each reinspection.

PLAN REVIEW AND CONSTRUCTION OBSERVATION FEES

The purpose of this charge is to recover the operating cost for providing review of construction plans for the extension of water and sewer facilities. The charge also recovers the operating cost for providing field observation, water sampling, laboratory testing, video inspection, pressure testing, etc. associated with the installation of these facilities. The plan review and construction observation fees are applicable to all extensions of the public water and/or sewer system regardless of the party which may be undertaking the improvements. The fees will be applied separately to water main and sewer main

extensions, but in no case, shall the fee be less than $100.

Service	Water	Sewer
Plan Review	$3.63/lf	$3.63/lf
Construction Observation	$3.69/lf	$3.69/lf

CHARGES FOR MISCELLANEOUS SERVICES

Charges for miscellaneous services provided by OWASA shall be on a time and materials basis and include out-of-pocket expenses, cost of materials and services supplied by third parties, and overhead. Typical applications would be for repair of damages to water and sewer lines by outside parties, relocation of mains, services and meters, special services for billing information, expenses related to spill containment responses, etc.

TRANSFER OF CHARGES

Any unpaid balance from past due charges for water and/or sewer services of terminated accounts or Charges for Miscellaneous Services will be transferred to any available active account(s) through which the customer is receiving services. The payment status of the active account through which the customer is receiving service will be determined by the payment status of transferred accounts.

OWASA may temporarily withhold service from a customer, or refuse service to a customer when such a customer (including but not limited to individuals, corporations, or partnerships), owes OWASA any past due balance.

Accounts or portions of accounts, including charges for material or damaged property that are disputed and delinquent fees and delinquent assessment charges, may be submitted to the courts by the Executive Director, upon approval by General Counsel, for collection if such amounts do not exceed $1,500. For amounts exceeding $1,500, approval of the Board of Directors shall also be required prior to filing an action for collection.

	FY16 Actual	FY17 Actual	FY18 Budget	FY18 Forecast	FY19 Budget	FY19 Amounts in last year's model	FY19 Budget Compared to FY18 Forecast	FY19 Budget Compared to FY18 Budget	FY19 Budget compared to amount in last year's model
Operating Expenses	19,793,818	20,998,593	21,920,477	21,665,927	22,523,981	22,703,460	4.0%	2.8%	-0.8%
Capital Equipment	332,252	1,724,456	1,231,100	1,231,100	871,135	900,000	-29.2%	-29.2%	-3.2%
CIP	7,538,017	9,692,697	15,085,000	20,246,000	22,636,000	23,189,000	11.8%	50.1%	-2.4%
Total	27,664,087	32,415,746	38,236,577	43,143,027	46,031,116	46,792,460			

Assumptions include:

1	4% combined merit and COLA wage increase
2	A decrease in health insurance of 6%
3	New Safety and Risk Manager position in HR - budget increase for difference in wages between Accounting Tech II position which was reclassified to HR Safety Manager
4	New Communications and Community Relations Officer (CCRO) position in Admin - budget increase for difference in wages between Public Affairs Administrator position which was reclassified to CCRO
5	One new Lab Analyst to meet increasing staffing needs including operating new equipment for managing drinking water taste and odor issues
6	2.5% vacancy allowance
7	135 funded positions
8	140 authorized positions

EXPENDITURE CLASSIFICATION	FY 2016 Actual	FY 2017 Actual	FY 2018 Budget	FY 2018 Forecast (as of Feb. 2018)	FY 2019 Budget Request	Dollar variance FY19 v FY18 Budgets	Percent variance FY19 v FY18 Budgets	Dollar variance FY19 Budget v FY18 Forecast	Percent variance FY19 Budget v FY18 Forecast
SALARIES									
SALARIES AND WAGES, REGULAR	7,343,784	7,564,689	7,773,625	7,776,214	8,161,052	387,427	5.0%	384,839	4.9%
SALARIES AND WAGES, OVERTIME	267,684	339,115	276,200	300,877	295,620	19,420	7.0%	(5,257)	-1.7%
STANDBY PAY	44,116	48,427	43,780	47,107	44,627	847	1.9%	(2,480)	-5.3%
PART-TIME	80,194	158,427	144,912	107,825	93,606	(51,306)	-35.4%	(14,219)	-13.2%
PER DIEM	12,750	11,550	15,000	15,000	15,000	-	0.0%	-	0.0%
Total	7,748,528	8,122,208	8,253,517	8,247,023	8,609,906	356,389	4.3%	362,883	4.4%
PAYROLL TAXES AND EMPLOYEE BENEFITS									
FICA	569,007	619,190	606,091	610,139	636,309	30,219	5.0%	26,170	4.3%
RETIREMENT CONTRIBUTION	510,261	598,985	597,971	607,169	627,773	29,802	5.0%	20,604	3.4%
DEFERRED COMPENSATION	180,045	187,565	181,480	184,502	170,560	(10,920)	-6.0%	(13,942)	-7.6%
WORKERS COMPENSATION	158,241	173,042	121,680	125,340	119,878	(1,802)	-1.5%	(5,462)	-4.4%
HEALTH INSURANCE	1,631,609	1,654,664	2,059,404	1,984,102	1,900,302	(159,102)	-7.7%	(83,800)	-4.2%
DENTAL INSURANCE	53,429	46,651	55,630	54,319	55,563	(67)	-0.1%	1,244	2.3%
VISION INSURANCE	31,120	34,411	40,000	25,453	35,000	(5,000)	-12.5%	9,547	37.5%
WELLNESS PROFRA REIMBURSEMENT	2,421	2,074	2,300	1,797	2,400	100	4.3%	603	33.6%
RETIREES & COBRA INSURANCE	209,881	198,402	213,773	200,372	211,406	(2,367)	-1.1%	11,033	5.5%
DISABILITY INSURANCE	33,045	33,833	36,732	35,411	36,843	111	0.3%	1,432	4.0%
AUTOMOBILE ALLOWANCE	6,500	6,750	6,000	6,000	6,000	-	0.0%	-	0.0%
UNEMPLOYMENT TAX	1,486	1,968	15,000	9,540	10,000	(5,000)	-33.3%	460	4.8%
UNIFORMS	59,251	61,126	57,183	63,110	55,473	(1,710)	-3.0%	(7,637)	-12.1%
GROUP LIFE & A.D. & D.	39,488	41,128	7,336	40,965	42,859	35,522	484.2%	1,894	4.6%
VACATION ACCRUED	-	10,975	-	-	-	-		-	
Total	3,485,784	3,670,764	4,000,581	3,948,220	3,910,367	(90,214)	-2.3%	(37,853)	-1.0%
UTILITIES									
ELECTRICITY	1,075,156	1,148,288	1,146,420	1,111,601	1,150,645	4,224	0.4%	39,044	3.5%
TELEPHONE - LOCAL	110,729	106,991	110,400	118,634	125,440	15,040	13.6%	6,806	5.7%
CELL PHONES	50,733	53,441	58,100	58,100	61,300	3,200	5.5%	3,200	5.5%
FUEL	92,311	108,750	68,525	66,637	69,888	1,364	2.0%	3,251	4.9%
WASTE DISPOSAL	534,314	253,596	305,030	298,484	289,430	(15,600)	-5.1%	(9,054)	-3.0%
Total	1,863,243	1,671,066	1,688,475	1,653,456	1,696,703	8,228	0.5%	43,247	2.6%
MATERIALS AND SUPPLIES									
CHEMICALS	1,888,609	2,190,143	2,104,897	2,188,580	2,235,122	130,225	6.2%	46,541	2.1%
LAND APPLICATION	25,265	54,340	50,000	49,261	50,000	-	0.0%	739	1.5%
SMALL TOOLS	31,586	16,269	25,155	24,557	22,446	(2,710)	-10.8%	(2,111)	-8.6%
SUBSCRIPTIONS	1,160	1,510	2,425	2,355	1,765	(660)	-27.2%	(590)	-25.0%
LAKE SUPPLIES	25,485	21,340	59,328	49,986	35,060	(24,268)	-40.9%	(14,926)	-29.9%
FUEL - VEHICLES	95,950	118,980	151,118	144,108	165,555	14,437	9.6%	21,447	14.9%
OFFICE SUPPLIES	37,323	34,923	43,375	38,087	46,660	3,285	7.6%	8,573	22.5%
COMPUTER EQUIPMENT & PARTS	73,146	90,410	87,700	87,075	87,300	(400)	-0.5%	225	0.3%

EXPENDITURE CLASSIFICATION	FY 2016 Actual	FY 2017 Actual	FY 2018 Budget	FY 2018 Forecast (as of Feb. 2018)	FY 2019 Budget Request	Dollar variance FY19 v FY18 Budgets	Percent variance FY19 v FY18 Budgets	Dollar variance FY19 Budget v FY18 Forecast	Percent variance FY19 Budget v FY18 Forecast
LABORATORY EXPENSES	229,663	233,071	215,343	237,947	240,214	24,871	11.5%	2,267	1.0%
SAFETY SUPPLIES	48,336	59,565	61,685	60,558	87,933	26,248	42.6%	27,375	45.2%
OTHER	26,168	24,967	24,650	18,916	21,400	(3,250)	-13.2%	2,484	13.1%
Total	2,482,691	2,845,518	2,825,676	2,901,431	2,993,454	167,778	5.9%	92,023	3.2%
MAINTENANCE									
MAINTENANCE - EQUIPMENT	890,594	1,235,063	1,002,625	994,119	1,002,665	40	0.0%	8,546	0.9%
MAINTENANCE - PUMPING EQUIPMENT	189,510	336,492	369,450	363,180	384,225	14,775	4.0%	21,045	5.8%
MAINTENANCE - RESERVOIR & TANK	148,619	153,520	170,900	223,155	194,500	23,600	13.8%	(28,655)	-12.8%
FACILITIES	41,135	8,435	32,300	33,325	32,300	-	0.0%	(1,025)	-3.1%
BUILDINGS	311,601	263,700	302,725	296,947	293,225	(9,500)	-3.1%	(3,722)	-1.3%
MAINTENANCE - MAINS	331,460	465,747	434,400	428,618	437,800	3,400	0.8%	9,182	2.1%
MAINTENANCE - METERS	295,046	162,006	439,790	325,641	341,900	(97,890)	-22.3%	16,259	5.0%
MAINTENANCE - HYDRANTS	18,733	37,695	23,925	18,313	23,519	(406)	-1.7%	5,205	28.4%
MAINTENANCE - SERVICE LINES	61,035	83,280	67,584	79,856	82,777	15,193	22.5%	2,921	3.7%
GROUNDS	81,547	75,289	82,000	86,949	87,000	5,000	6.1%	51	0.1%
MOTOR VEHICLES	177,781	201,735	185,500	188,885	186,000	500	0.3%	(2,885)	-1.5%
Total	2,547,061	3,022,962	3,111,199	3,038,988	3,065,911	(45,288)	-1.5%	26,923	0.9%
PROFESSIONAL SERVICES									
LEGAL	258,420	280,300	240,000	261,600	240,000	-	0.0%	(21,600)	-8.3%
ACCOUNTING	23,688	38,263	32,000	31,928	32,000	-	0.0%	72	0.2%
ENGINEERING	1,550	970	12,500	4,151	7,500	(5,000)	-40.0%	3,349	80.7%
INSURANCE	232,405	230,788	225,798	225,314	228,800	3,002	1.3%	3,486	1.5%
COLLECTION SERVICES	35,468	34,624	40,000	40,470	40,000	-	0.0%	(470)	-1.2%
CONSULTANTS	514,344	583,364	602,700	431,472	733,500	130,800	21.7%	302,028	70.0%
FINANCIAL SERVICES	251,042	233,949	267,100	275,755	253,877	(13,223)	-5.0%	(21,879)	-7.9%
TRUSTEE SERVICES	17,050	11,561	29,350	28,600	20,000	(9,350)	-31.9%	(8,600)	-30.1%
OTHER	61,025	61,859	85,000	69,906	86,000	1,000	1.2%	16,095	23.0%
Total	1,394,992	1,475,678	1,534,448	1,369,197	1,641,677	107,228	7.0%	272,480	19.9%
COMMUNICATIONS									
POSTAGE AND FREIGHT	105,815	79,590	112,800	115,327	113,200	400	0.4%	(2,127)	-1.8%
CUSTOMER INFORMATION	29,162	41,575	24,387	24,387	25,387	1,000	4.1%	1,000	4.1%
ADVERTISING	30,952	36,924	28,950	29,081	35,950	7,000	24.2%	6,869	23.6%
OTHER	4,160	5,000	4,950	4,950	8,950	4,000	80.8%	4,000	80.8%
Total	170,089	163,089	171,087	173,745	183,487	12,400	7.2%	9,742	5.6%
PRINTING AND REPRODUCTION									
PRINTING AND REPRODUCTION	7,293	7,980	14,000	11,666	10,850	(3,150)	-22.5%	(816)	-7.0%
Total	7,293	7,980	14,000	11,666	10,850	(3,150)	-22.5%	(816)	-7.0%

EXPENDITURE CLASSIFICATION	FY 2016 Actual	FY 2017 Actual	FY 2018 Budget	FY 2018 Forecast (as of Feb. 2018)	FY 2019 Budget Request	Dollar variance FY19 v FY18 Budgets	Percent variance FY19 v FY18 Budgets	Dollar variance FY19 Budget v FY18 Forecast	Percent variance FY19 Budget v FY18 Forecast
EDUCATION AND DEVELOPMENT									
EDUCATION AND DEVELOPMENT	105,541	103,681	154,475	138,260	173,830	19,355	12.5%	35,570	25.7%
BOARD TRAVEL	-	-	-	300	-	-		(300)	-100.0%
Total	105,541	103,681	154,475	138,560	173,830	19,355	12.5%	35,270	25.5%
MISCELLANEOUS									
DUES AND MEMBERSHIPS	43,110	37,770	141,531	144,381	147,383	5,852	4.1%	3,002	2.1%
CONSERVATION	1,459	3,703	6,000	6,000	6,000	-	0.0%	-	0.0%
EASEMENTS			-	2,000	6,000	6,000		4,000	200.0%
OVERAGES AND SHORTAGES	167	(486)	-	-	-	-		-	
UNCOLLECTABLE ACCOUNTS	23,197	27,717	30,000	30,389	30,000	-	0.0%	(389)	-1.3%
RENT AND LEASES	59,351	66,171	62,838	65,220	113,163	50,325	80.1%	47,943	73.5%
FOREST MANAGEMENT	43,960	(560)	8,200	14,369	12,000	3,800	46.3%	(2,369)	-16.5%
BOARD EXPENSES	2,743	3,378	4,500	4,500	7,000	2,500	55.6%	2,500	55.6%
RECRUITMENT	1,787	-	4,000	10,632	4,000	-	0.0%	(6,632)	-62.4%
OTHER	45,443	60,227	69,950	75,012	72,250	2,300	3.3%	(2,762)	-3.7%
Total	221,217	197,920	327,019	352,503	397,796	70,777	21.6%	45,293	12.8%
Total Personnel Services	11,234,312	11,792,972	12,254,098	12,195,244	12,520,273	266,175	2.2%	325,029	2.7%
Total Operating Services	8,792,127	9,487,894	9,826,379	9,639,547	10,163,708	337,329	3.4%	524,161	5.4%
Total Operating and Maintenance	20,026,439	21,280,866	22,080,477	21,834,791	22,683,981	603,504	2.7%	849,190	3.9%
CONSTRUCTION CREDIT	(232,621)	(282,273)	(160,000)	(168,864)	(160,000)	-	0.0%	8,864	-5.2%
Net	19,793,818	20,998,593	21,920,477	21,665,927	22,523,981	603,504	2.8%	858,054	4.0%

Priority	Department	Equipment Description	FY 2019 Request	Notes
1	Water Treatment and Supply	GC-MS with Gerstel Twister	$245,000	Using in-house analysis for taste/odor compounds, turn-around time compared to using a contract lab is reduced to 2 hours vs 3-5 days. To analyze samples daily via contract lab would cost $200,000 - $241,000 annually (not including jar tests to optimize treatment approach). The new instrument will also allow for in-house screening for non-target compounds. Can also analyze for THMs for special samples (currenlty costs ~$4,320 annually with contract lab).
2	Wastewater Treatment	Biosolids Liquid Tankers	$150,000	Replaces aging tankers 21-29 and 21-38; both have significant corrosion and corresponding leaks. Attempts to repair them have only worked temporarily.
3	IT	Network and Server Equipment	$52,000	University Lake firewall and Cane Creek firewall devices, network edge switches in WTP outbuildings, WWTP Backup device, environmental monitors for server rooms, Test / Dev / Utility Server are all at the end of support and need to be replaced.
4	Distribution	Tool Truck	$32,000	Replaces 2001 model with 104,093 miles. We have spent approximately $19,225 this year in maintenance. The transmission is slipping and the motor is using oil.
5	Distribution	Tool Truck	$53,000	Replaces 2001 model with 163,874 miles. We have spent approximately $28,728 in past few years on maintenance. In 2017, the truck was brought into maintenance shop 20 times for repairs.
6	Engineering and Planning	Small SUV (e.g. Ford Edge)	$25,000	Replaces 2005 Honda Civic with 81,000 miles. The Honda is aging and does not fit use as our vehicle to visit constuciton sites. It was purchased for OWASA's currier to make deliveries and pick-ups. Staff typically won't drive it out of town for training, conferences, etc. because it is shakey at highway speeds. We have spent nearly $7,000 to maintain the car over the last 5 years.
7	Engineering and Planning	GPS Reciever	$13,500	Replaces existing GPS receiver purchased in 2010 that is no longer compatible with the software we use. GPS receiver is used to locate OWASA's assets and improve the accuracy of our GIS. In addition to being compatable with our current software, the replacement receiver will perform better in tree canopies and between tall buildings we encounter on campus.
8	Collection	Diamond Flail Mower	$12,000	New type of equipment for the mowing crew. It would be used on a track loader to help minimize damage to easements.
9	Distribution	Pickup Truck	$30,000	Replaces 2004 model with 146,000 miles. The transmission is slipping and making noise. The whole rear-end has had to be replaced.
10	Water Treatment and Supply	Ferris IS3200Z mower 61" deck 35HP Kawasaki motor	$11,235	Within the past year, two of our oldest mowers were taken out of service due to catastrophic failures. Currently we have two operational riding mowers at Cane Creek and we need three to efficiently maintain the grounds.
11	Wastewater Treatment	3/4T 4WD Pickup Truck	$42,000	Replaces vehicle that supports biosolids recycling program staff.
12	Wastewater Treatment	Emergency Bypass Pump (WWTP)	$50,000	Need high-flow, low-head pump for emergency pumping needs at the WWTP.
13	Water Treatment and Supply	EchoSmart Media Expansion Interface Analyzer by Entech Design, Inc.	$12,000	Adequate filter media expansion and turbidity readings below 10 NTU are important indicators in confirming proper filter washes. This online meter would provide continuous readings that would allow us to optimize our filter washing process. Additionally, this meter would be particularly useful in performing filter condition assessments.
14	Distribution	2 New Kaufman Trailers	$13,400	Existing trailers are too heavy and it is difficult to tie-down equipment. We would like to upgrade to one that's more usable and safer.
15	Wastewater Treatment	Laboratory Equipment Replacements	$20,000	Replaces aging lab equipment - all equipment 12-15 years old. Centrifuge, solids oven and water bath.
16	Water Treatment and Supply	2019 F-250 Extended Cab 4X4 with service body	$42,000	This is a replacement based on Condition Assessment and Replacement schedule. This replaces vehicle # 11-10 which is a 1998 Dodge Ram 3500 service body with 128,706 miles on it.
17	Collection	Pump Off Equipment for Vac-Con	$15,000	Allows pumping water simultaneously with vacuuming.
18	Distribution	New Sediment Truck	$53,000	For sediment control from water main breaks.
	Total Capital Equipment Budget Request		$871,135	

Agenda Item

- Criteria for Request for Proposals for Banking Services

Background

- The Board and staff agree that it's prudent to periodically solicit banking services proposals and evaluate alternatives.

- Staff has developed information about social responsibility criteria to serve as a starting point for the Board's discussion on the criteria to be included in an RFP.

Action Requested

- Provide guidance to staff regarding social responsibility requirements to be included in a request for proposals for banking services.

April 26, 2018

ORANGE WATER AND SEWER AUTHORITY

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

MEMORANDUM

TO:	Board of Directors
THROUGH:	Ed Kerwin
FROM:	Stephen Winters, CPA
DATE:	April 20, 2018
SUBJECT:	Discuss Criteria for Request for Proposals for Banking Services

Purpose

The purpose of this discussion is to obtain the Board of Directors' input and guidance about social responsibility criteria to be included in a request for proposals (RFP) for banking services.

Background

Staff has been satisfied with services provided by Wells Fargo, our current provider for most of our banking services. However, the Board and staff agree that it's prudent to periodically solicit banking services proposals and evaluate alternatives. Additionally, due to certain Wells Fargo business practices and events, the Board of Directors asked staff to develop a request for proposals (RFP) for banking services that includes social responsibility criteria.

Social Responsibility Criteria

In our research, staff found several municipalities in the western United States that issued banking services RFPs that included questions about community investment and a few that addressed social responsibility. Much of the information contained in our analysis is drawn from our review of information from those governments.

Some of the entities included the following as socially conscious banking practices (also referred to as community investment and social responsibility):

- Commitment and presence in the local community to meet the community's needs, including leadership activities.
- Re-investment into the community.
- Support for small business lending and community development.
- Allow for products and services that are advantageous for the municipality and its residents.
- Adherence to ethical and social responsible practices.
- A review of the banks' Community Reinvestment Act (CRA) ratings. The CRA examines a financial institution's record of meeting the credit needs of its entire community, including low and moderate income neighborhoods.

Some entities included social responsibility criteria in their investment policies. Investment policies that included this type of language related specifically to direct investments of entity funds: not to investments made by prospective banks. The following are excerpts from those policies:

- Investments that support community well-being; promote equality of rights regardless of sex, race, age, disability or sexual orientation; and promote community economic development will be given full consideration.
- The municipality's investment manager shall seek opportunities for investing in companies that have a positive impact on the environment, fair workplace practices, robust corporate governance, high product integrity and positive community involvement.
- No investment is to be made in a company that receives more than 51% of gross revenues from (1) the production or manufacture of fossil fuels, weapons manufacturing, cigarettes, alcohol or gambling products, (2) the ownership or operation of privatized correctional facilities, and (3) non-bank small-dollar credit products such as a payday lender.
- Investments are to be made in entities that support a clean and healthy environment, including following safe and environmentally sound practices.

Traditional Banking Criteria

The RFP will, obviously, include information about the banking services OWASA needs, the nature and quantity of our bank-related transactions, unique requirements for North Carolina entities like OWASA, etc. The Board's stated interest is in providing input and guidance regarding social responsibility criteria to be included in the RFP. For the Board's reference, the following summarizes other banking services requirements.

Electronic

- Balance and transaction-reporting services (image access and usage)
- Stop payments
- Payment capabilities (ACH, wire, bank draft)
- Deposit capabilities (bank draft, remote deposit capture (check), vault (currency), pay-by-phone (IVR), text)
- Analyses and statements
- Digitized storage of paid checks and statements
- Stale-date check management
- Access to investment performance reporting
- Decisioning on handling of un-processable items or returned items (payments and deposits)
- Bill presentment

Accounts

- Controlled disbursement
- Zero-balance
- Interest-bearing
- Investment sweep

Security Features

- Positive pay services
- Reconciliation services
- Automated Clearing House (ACH) blocking/filtering services
- Non-sufficient funds (NSF) re-presentment

Treasury management services

- Lock-box
- Electronic box
- Credit card merchant
- Procurement cards
- Web links for internet payment
- Change order processing
- Point of sale
- Trustee

Proposed Social Responsibility Criteria

The following list of criteria is presented as a starting point for the Board's discussion on social responsibility criteria to be included in the upcoming RFP.

Socially Responsible Banking

1. List any leadership activities that your bank participates in that show your institution's commitment to the Chapel Hill-Carrboro community.
2. Indicate if the bank invests in entities that support community well-being; promote equality of rights regardless of sex, race, age, disability or sexual orientation; and promote community economic development.
3. List your institution's initiatives to address credit needs of Chapel Hill-Carrboro residents and businesses, including low and moderate income and minority residents. Describe your success, in number and dollar amount, for these target groups.
4. Please provide your CRA score and a copy of the most recent evaluation issued by the federal regulatory agency.
5. Please provide details regarding any pending investigation and enforcement action undertaken by federal, state or local agencies against the bank.
6. Indicate if the bank has whistleblower protection policies for bank workers who report suspected illegal banking practices to law enforcement authorities.
7. List your institution's policies, protocols, and trainings in place at both the employee and management levels to help prevent the abuse of sales of consumer financial services and products.

Environmental Sustainability

1. Please indicate if the bank is an investor in the following (provide two or three examples for each, if applicable):
    a. Entities that support a healthy environment
    b. Entities that support clean energy
    c. Fossil fuel companies
    d. Organizations that support the production of weapons, military systems or nuclear power
2. Please explain methods that will be used while conducting business in the Chapel Hill-Carrboro area that encourages the implementation of environmentally friendly practices and procedures.

Timing and Next Steps

Changing banks is a complex undertaking. The entire process for soliciting, evaluating, implementing and transitioning bank services will likely take six to 12 months. The steps in the process include:

1. Obtain input and guidance on social responsibility requirements from the Board
2. Define other objectives
3. Develop business requirements
4. Determine how to evaluate responses (assign "weights" to criteria categories)
5. Assemble relevant data (e.g. types and frequencies of transactions, current costs, etc.)
6. Create a "long-list" of potential vendor banks
7. Develop RFP
    a. Description of OWASA
    b. RFP objectives (incorporating the Board's guidance on social responsibility requirements)
    c. Activity information
    d. Account structure needed
    e. Specific questions
    f. Administrative requirements
8. Issue/distribute RFP
9. Review and score proposal responses
10. Develop "short-list" of potential vendor banks
11. In-person presentations/interviews of short-list selections
12. Make selection
13. Implement

Staff has begun to develop the RFP and will incorporate the Board's guidance regarding social responsibility criteria. We are scheduled (tentatively) to provide the Board a draft of information about the RFP at the May 24, 2018 meeting at which time we will also request the Board's input on how much weight to give social responsibility responses versus other requirements of the RFP.

Action Requested

Provide guidance to staff regarding social responsibility requirements to be included in a request for proposals for banking services.

Stephen Winters, CPA
Director of Finance and Customer Service

Agenda Item

- Financial Report for The Nine-Month Period Ended March 31, 2018

Purpose

- To inform the Board of Directors of OWASA's financial performance and fiscal position.

Background

- The financial report consists of a Statement of Net Position, an Income Statement that includes a budget to actual comparison, graphical presentations of financial performance indicators and a Financial Management Policy Report Card.
- Highlights of the report include:
    - All financial performance targets were met.
    - Operating Revenues for the period were about $615,000 or 2.3% over budget.
    - System Development Fees were about $195,000 or 18.3% over budget.
    - Operating Expenses were under budget by 3.4% or about $550,000.
    - Net Income less Debt Service was 19.5% or roughly $1.3 million over budget.
    - Capital Improvement Program expenditures were over budget for the nine-month period by approximately $1.4 million.

Action Needed

- Receive and discuss the Financial Report for the nine-month period ended March 31, 2018.

April 26, 2018

ORANGE WATER AND SEWER AUTHORITY

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

MEMORANDUM

To: Board of Directors

Through: Ed Kerwin

From: Stephen Winters, CPA

Date: April 20, 2018

Subject: Financial Report for the nine-month period ended March 31, 2018

Purpose

The financial report for the nine-month period ended March 31, 2018 is presented to inform the Board of Directors of OWASA's financial position and financial performance in relation to budget.

Contents

- Statement of Net Position
- Income Statement
- Graphs of Key Performance Indicators
- Financial Management Policy Report Card

Fiscal Performance

- As shown on page 10 of the financial report, all financial performance measurement targets were met for the period.
- Average drinking water sales for the period was 6.24 million gallons per day (MGD), 6.15 was projected. Combined drinking and reclaimed water sales for the period averaged 6.86 MGD versus a projection of 6.83.
- Total Operating Revenue was 2.3% or about $615,000 over budget.
- Revenue from new system connections (System Development Fees) was over budget by about $195,000. Several large meters were set for which revenue was greater than the "average per-meter equivalent price" used in developing the budget.
- Total Operating Expenses for the period were 3.4% or about $550,000 under budget.
    - General and Administrative expenses were under budget by about $337,000 due primarily to not incurring consulting and professional fees when expected and vacancies in the Administration and Finance departments.
    - The Water Supply and Treatment department was over budget by about $120,000 primarily due to higher than expected chemical costs.
    - Water Distribution expenses were under budget by about $62,000 due primarily to meter maintenance expense. Malfunctioning meters are being replaced with automated metering infrastructure meters and are being charged to the Agua Vista capital project rather than being

expensed.

  - Wastewater Treatment expenses were under budget by about $173,000. Maintenance costs were about $120,000 less than projected for the period. Waste Disposal costs were under budget by about $85,000 due to less than projected use of biosolids hauling contractor.
  - Wastewater Collection expenses were under budget by about $99,000. Personnel, energy, materials and supplies, and maintenance costs were lower than budgeted.

- Net Income less Debt Service for the period was approximately 19.5% or $1.3 million more than budget.
- Capital Improvements Program

  Approximately $12.3 million (or 81% of the budgeted CIP funds) was invested in over 50 active capital projects during the first three quarters of FY 2018. Over $8 million of the FY 2018 CIP expenditures can be attributed to ongoing construction on eight capital projects:

  - Agua Vista
  - Hillsborough Street Water Main
  - Little Creek Sewer Interceptor
  - Sanitary Sewer Rehabilitation
  - Rogerson Drive Pump Station
  - Rogerson Drive Force Main Rehabilitation
  - Water Treatment Plant (WTP) Filter Media and Backwash Improvements
  - Eastowne, Eubanks, and Meadowmont 1 Pump Station Rehabilitation

  In addition to the progress made on the major projects above, other notable CIP activity during the third quarter included:

  - Commencement of work on the major upgrade to the Administration Building HVAC system, including installation of the exterior piping.
  - An evaluation of the local bid environment for water main replacement projects, including review of recent bids and input from pipeline contractors about cost drivers.
  - Completion of alternatives analysis and conceptual scoping for the Wastewater Treatment Plant (WWTP) Headworks Rehabilitation project.

  FY 2018 expenditures through March were $12.3 million and represent approximately 113% of the original projection for this same time-period. Projected CIP expenditures for the year are $19.5 million or 129% of budget, above the target range for CIP expenditures of between 90% and 105% of budget. We plan to request approval of a budget amendment at the May 24, 2018 Board meeting.

Stephen Winters, CPA
Director of Finance and Customer Service

Orange Water and Sewer Authority

Financial Report
For the Nine-month Period Ended
March 31, 2018

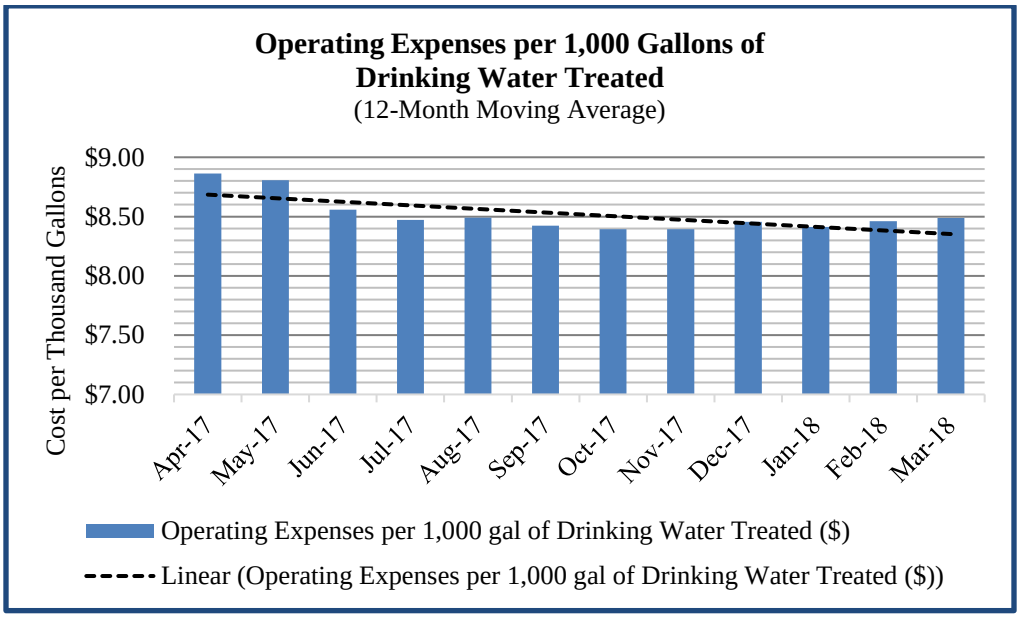
Orange Water and Sewer Authority
Statement of Net Position
March 31, 2018
(unaudited)

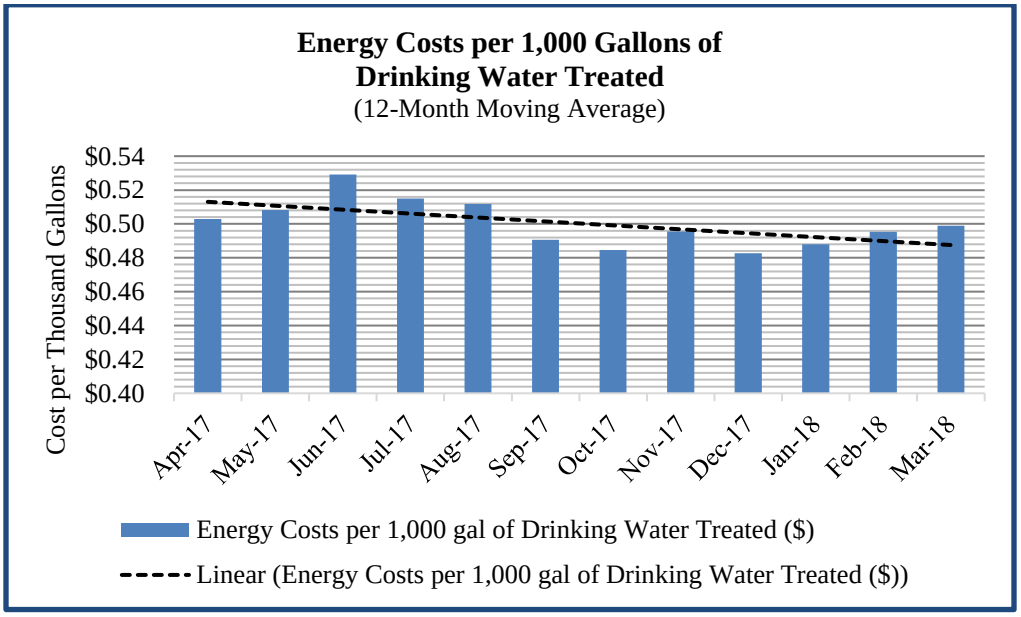
Assets	
Current Assets	
Cash	$18,689,686
Receivables	5,414,984
Inventory	1,915,553
Prepaid expenses	91,376
Restricted cash	4,331,981
Total Current Assets	30,443,580
Noncurrent Assets	
Capital assets (net of depreciation)	273,478,420
Other noncurrent assets	39,602,369
Total Noncurrent Assets	313,080,789
Total Assets	$343,524,369
Liabilities and Net Position	
Current Liabilities	
Accounts payable and accrued expenses	$964,354
Unearned income	267,282
Customer deposits	1,067,333
Total Current Liabilities	2,298,969
Noncurrent Liabilities	
Bonds payable	62,626,000
Other noncurrent liabilities	7,769,058
Total Noncurrent Liabilities	70,395,058
Net Position	
Contributed capital	115,602,126
Net position at the beginning of the year	149,425,983
Year-to-date accrual basis net income	5,802,233
Total Liabilities and Net Position	$343,524,369
Net income reconciliation:	
Accrual basis net income	$5,802,233
Depreciation, other post-employment benefits, and interest expense	7,232,279
Modified accrual basis net income	$13,034,512

Orange Water and Sewer Authority
Income Statement
For the Nine-month Period Ended March 31, 2018
(unaudited)

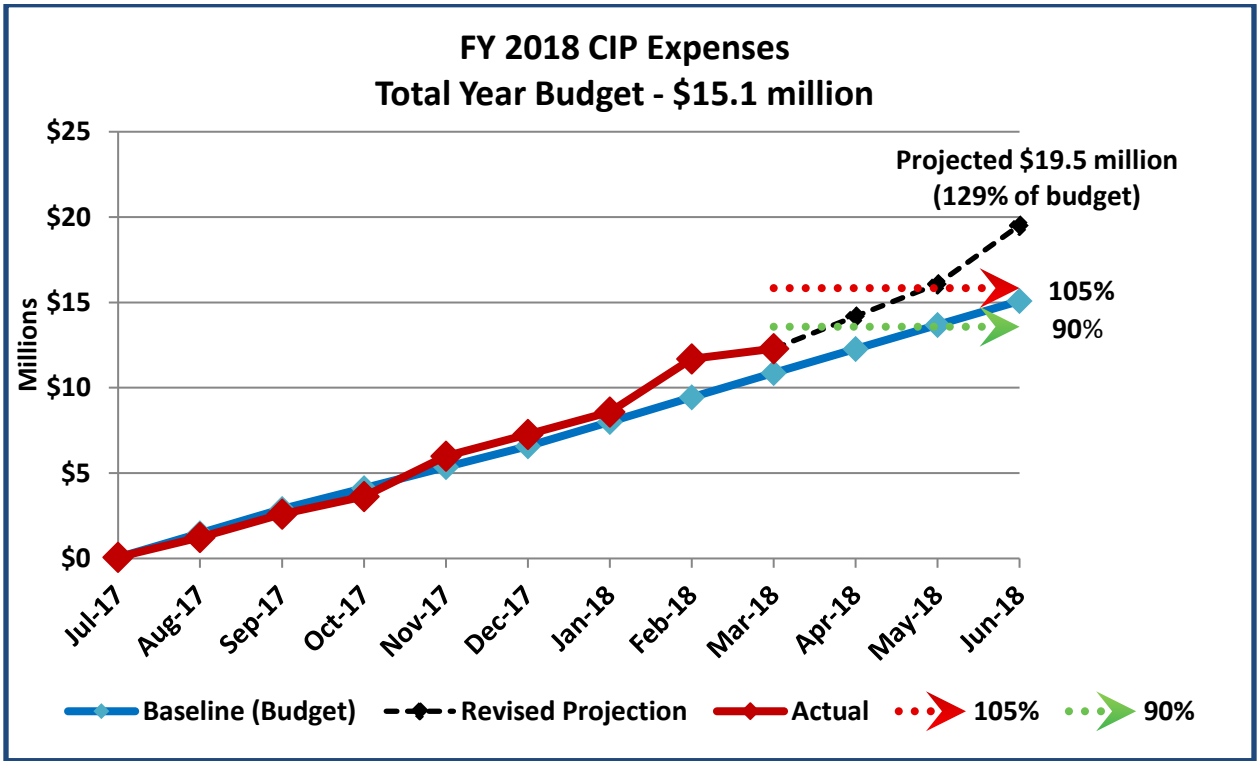
	Actual through March 31, 2018	Budget through March 31, 2018	Variance (effect on net change in Fund Balance)	Percent Variance
Operating Revenue:				
Water	$13,511,956	$13,225,533	$286,423	2.2%
Sewer	12,907,217	12,567,439	339,778	2.7
Reclaimed Water	330,394	327,692	2,702	0.8
Service Initiation Fees	103,360	124,536	(20,876)	(16.8)
Other	699,852	714,136	(14,284)	(2.0)
Refunds and Allowances	(163,004)	(184,563)	21,559	11.7
Total Operating Revenue	27,389,775	26,774,473	615,302	2.3
Non-Operating Income:				
System Development Fees	1,257,133	1,062,495	194,638	18.3
Interest	40,452	28,827	11,625	40.3
Total Non-Operating Income	1,297,585	1,091,322	206,263	18.9
Total Income	28,687,360	27,865,795	821,565	2.9
Operating Expense:				
General and Administrative	4,982,440	5,319,527	337,087	6.3
Water Supply and Treatment	3,996,674	3,876,688	(119,986)	(3.1)
Water Distribution	2,315,736	2,377,551	61,815	2.6
Wastewater Treatment	3,361,459	3,534,172	172,713	4.9
Wastewater Collection	996,539	1,095,433	98,894	9.0
Total Operating Expense	15,652,848	16,203,371	550,523	3.4
Net Income (modified accrual)	13,034,512	11,662,424	1,372,088	11.8
Debt Service	5,030,485	4,966,153	(64,332)	(1.3)
Net Income less Debt Service	8,004,027	6,696,271	1,307,756	19.5
Less: CIP Expenditures	12,291,000	10,866,000	(1,425,000)	(13.1)
Capital Equipment Expenditures	550,998	1,231,100	680,102	55.2
Net Change in Fund Balance	($4,837,971)	($5,400,829)	$562,858	(10.4)

Orange Water and Sewer Authority
Select Financial Data
For the Nine-month Period Ended March 31, 2018





Orange Water and Sewer Authority
Select Financial Data
For the Nine-month Period Ended March 31, 2018

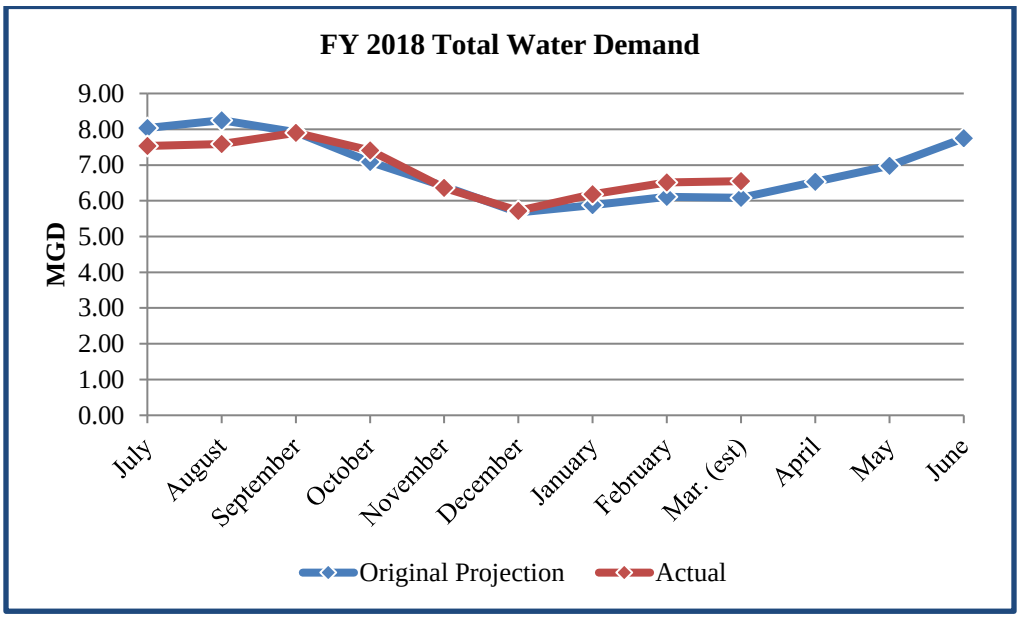


Orange Water and Sewer Authority
Select Financial Data
For the Nine-month Period Ended March 31, 2018

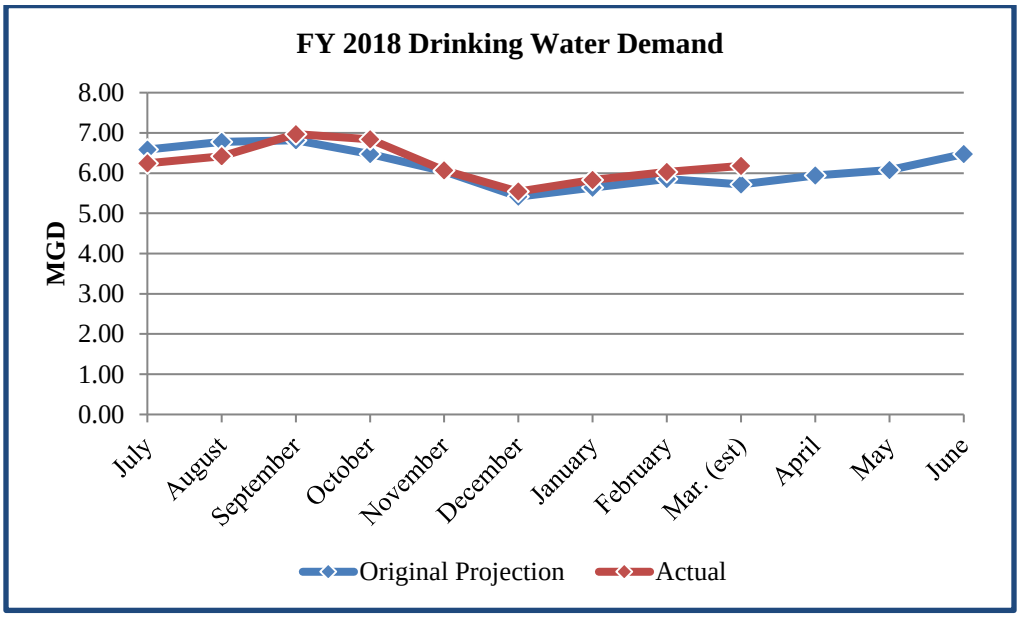
FY 2018 Water Sales Projection (Average Day)

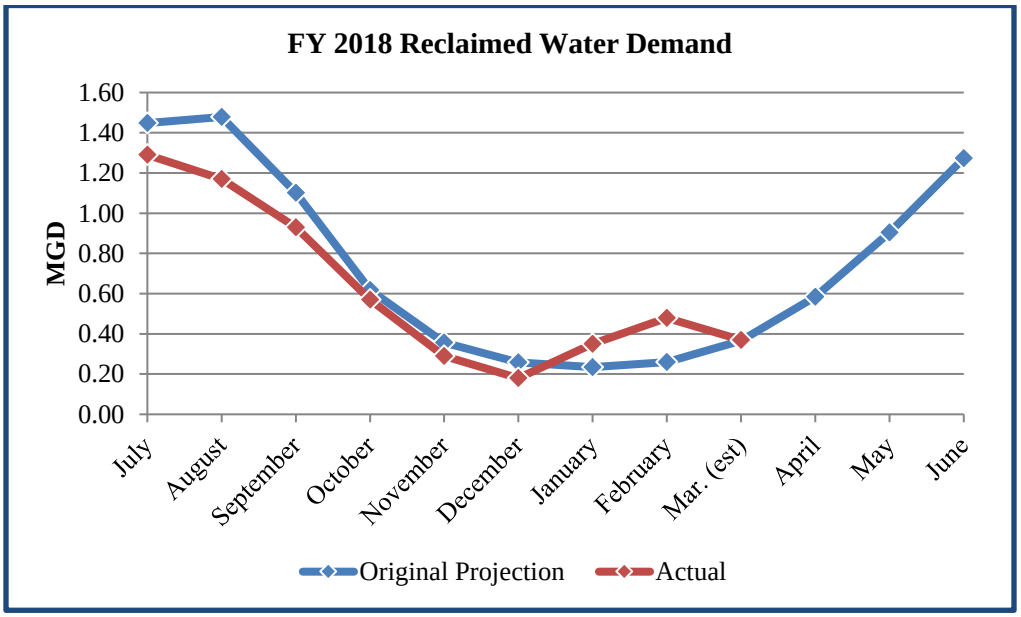
	Original FY 2018 Sales Projections		Actual FY 2018 Water Sales		Revised FY 2018 Sales Projections	
	DW	RCW	DW	RCW	DW	RCW
July	6.59	1.45	6.24	1.29	6.24	1.29
August	6.77	1.48	6.42	1.17	6.42	1.17
September	6.82	1.10	6.97	0.93	6.97	0.93
October	6.47	0.62	6.84	0.57	6.84	0.57
November	6.05	0.36	6.07	0.29	6.07	0.29
December	5.41	0.26	5.54	0.18	5.54	0.18
January	5.64	0.23	5.83	0.35	5.83	0.35
February	5.85	0.26	6.03	0.48	6.03	0.48
March	5.72	0.37	6.18	0.37	5.72	0.37
April	5.94	0.58			5.95	0.58
May	6.07	0.90			6.07	0.90
June	6.47	1.27			6.47	1.27
Average	6.15	0.74	6.24	0.63	6.18	0.70

Estimates shown in red

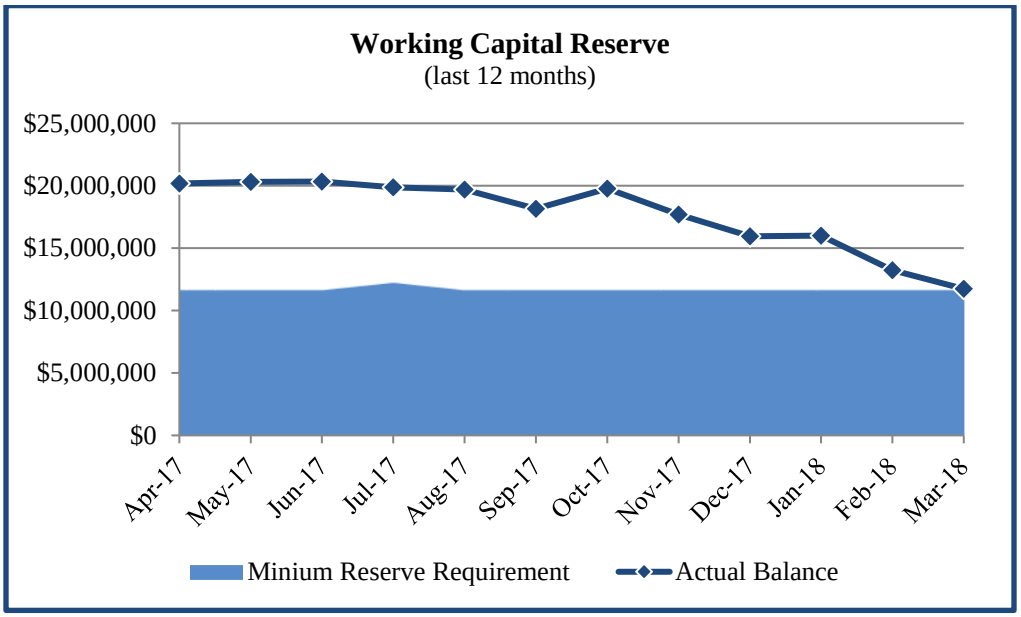


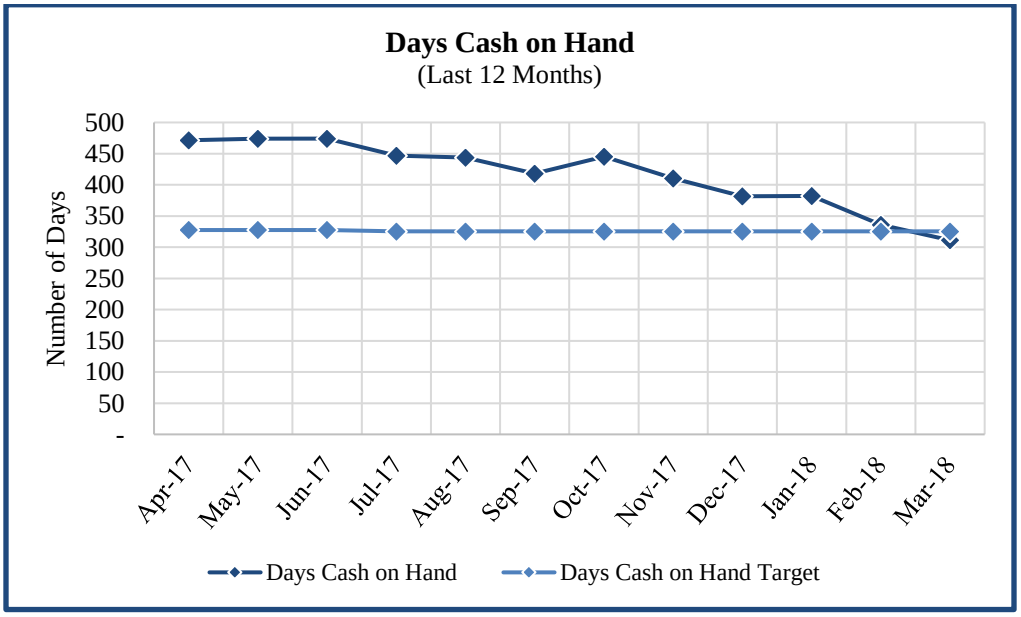
Orange Water and Sewer Authority
Select Financial Data
For the Nine-month Period Ended March 31, 2018





Orange Water and Sewer Authority
Select Financial Data
For the Nine-month Period Ended March 31, 2018





Orange Water and Sewer Authority
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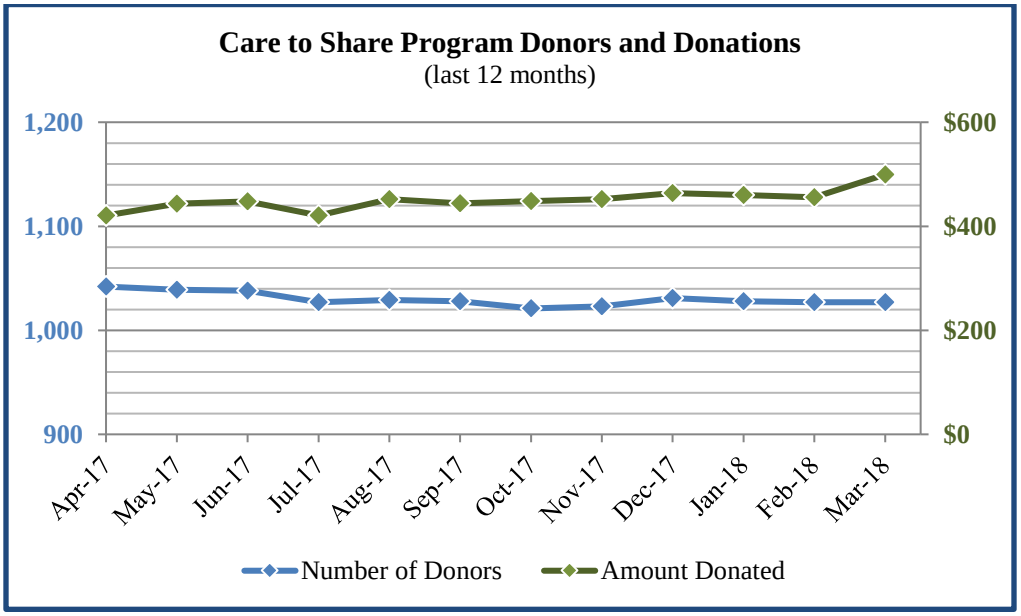
For the Nine-month Period Ended March 31, 2018



Orange Water and Sewer Authority
Financial Management Policy Report Card
For the Nine-month Period Ended March 31, 2018

Measurement	Objective	FY17 Results	FY18 Goal	YTD FY18 Results
Working Capital Reserves	Greater of four months Operating expenses or 20% of succeeding three years CIP	$19.5M	$11.6M	$11.7M
Capital Improvements Reserve	2% of Net Capital Assets (Funding $400,000 per year until reach goal of approximately $6M)	$3.2M	$3.6M	$3.6M
Rate/Revenue Stabilization Reserve	5% of annual Water and Sewer Revenue	$1.7M	$1.7M	$1.7M
Debt Burden to Asset Value	Total Debt not more than 50% of Total Assets	23%	≤ 50%	21%
Sufficiency of Revenues above Debt Requirements [1]	Annual Debt Service no more than 35% of Gross Revenue	18%	≤ 35%	19%
Cash Financing of Capital [2]	Annual revenues and reserves provide at least 30% of CIP funding	50%	≥ 30%	49%
Debt Service Coverage Ratio [1]	Annual Net Income not less than two times Annual Debt Service	2.4	2.0	2.2
Service Affordability Ratio [3]	Average annual OWASA bill not more than 1.5% of area median household income	1.35%	1.5%	1.35%

M = million

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[1] Calculation based on the FY 2018 Annual Budget until full-year results are available.
[2] Cash Financing of Capital based on 5-Year CIP Budget and potential borrowing during the same period.
[3] FY 2018 Calculation based on median household income of $62,620 (per 2015 U.S. Census Bureau, American Community Survey, 5-Year Estimates) and average monthly household water use of 4,000 gallons.