



# 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, March 23, 2017, 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](mailto: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](mailto:aorbich@owasa.org)/400 Jones Ferry Road, Carrboro, NC 27510).

Public speakers are encouraged to organize their remarks for delivery within the four-minute time frame allowed each speaker.

### **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.
2. Announcements by Board Members
3. Announcements by Staff
  - A. March 25, 2017 OWASA's Lake Recreation Season Begins (Todd Taylor)
  - B. Audubon Society Recognition of OWASA for Work on the Cane Creek Mitigation Tract (Ruth Rouse/Aimee Tomcho, Conservation Biologist with Audubon North Carolina)

### **Petitions and Requests**

1. Public
2. Board
3. Staff

### **CONSENT AGENDA**

#### **Information and Reports**

1. 12 Month Board Meeting Schedule (Jeff Danner/Ed Kerwin)

#### **Action**

2. Determine Conservation Water Commodity Charges under Mandatory Water Use Restrictions for Multi-Family Master-Metered Customers (Stephen Winters)
3. Resolution Awarding a Construction Contract for the Rogerson Drive Force Main Rehabilitation Project (Simon Lobdell)
4. Minutes of the February 9, 2017 Work Session of the Board of Directors (Andrea Orbich)

5. Minutes of the February 23, 2017 Meeting of the Board of Directors (Andrea Orbich)
6. Minutes of the March 9, 2017 Closed Session of the Board of Directors for the Purpose of Discussing a Personnel Matter (Robert Morgan)

### **REGULAR AGENDA**

#### **Discussion**

7. Action Plan to Improve the Fluoride Feed System (Kenneth Loflin)  
**NOTE:** At its March 9, 2017, meeting the OWASA Board decided to continue the current policy of fluoridating drinking water.
8. Action Plan Resulting from Foxcroft Drive Water Main Break (Vishnu Gangadharan)
9. Fiscal Year 2018 Draft Budget Review and Staff Rate Adjustment Recommendation (Stephen Winters)

#### **Discussion and Action**

10. Proposed Resolution of the Orange Water and Sewer Authority Authorization of a New Utilities Engineer Position in the Engineering and Planning Department to Support the Capital Improvements Program (Mary Darr)

#### **Summary of Board Meeting Action Items**

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

#### **Closed Session**

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

**OWASA Board of Directors – 12 Month Board Meeting Schedule** (March 17, 2017)

Month	Board Meetings		Committee & Other Meetings and Reports
	Work Session	Business Meeting	
March 2017	Whether to Review OWASA’s Current Practice of Fluoridating Drinking Water FY 18 Draft Budget & Rates ( ) Set date for Public Hearings – FY 18 Budget & Rates ( ) Discuss draft Diversity and Inclusion Program Discussion of Board Officers Nomination/ Election Process CS - General Counsel Interim Review ( ) 3/9/2017	FY 18 Draft Budget & Rates ( ) Proposed Action Plan to improve fluoride feed system, including proposed date to resume fluoride Proposed Action Plan as result of 12” water main break Staffing support for the CIP Award the Rogerson Drive Force Main Rehabilitation Contract Determine Conservation Water Commodity Charges under Mandatory Water Use Restrictions for MFMM Customers CS – ED Interim Review ( ) 3/23/2017	
April 2017	<b><i>Discuss Draft Energy Management Plan</i></b> FY 18 Draft Budget, Rates and Reserves ( ) Authorize staff to publish proposed rates ( ) Employee Health and Dental Insurance Update ( ) Award the Eastowne, Eubanks and Meadowmont 1 Pump Station Improvements Contract Approve Action Plan to resume fluoride (if needed) Approve Action Plan as result of 12” water main break (if needed) CS – ED Interim Review ( ) 4/13/2017	<b><i>Approve Energy Management Plan</i></b> <b><i>Discuss AMI Manual Read Option (tentative)</i></b> Discuss Options to Advance Employee Pay Based on Performance Q3 Financial Report ( ) Appoint Audit Firm ( ) Discuss near-term action plan to improve strategic communications during OWASA related emergencies	
May 2017	<b><i>Review AMI System Procurement Contract</i></b> <b><i>Approve AMI Manual Read Option (if needed)</i></b> Discuss Employee Health and Dental Insurance Renewal ( ) Discuss Employee Merit Pay for FY 18 ( ) Award the Rogerson Drive Pump Station Rehabilitation Contract 5/11/2017	<b><i>Approve AMI System Procurement Contract</i></b> Public Hearings – FY 18 Budget and Rates ( ) Approve Employee Health and Dental Insurance Renewal (if needed) ( ) Award the Water Treatment Plant Filter Media and Backwash Improvements Contract 5/25/2017	
June 2017	<b><i>Discuss LRWSP – Demands &amp; Yield</i></b> Approve FY 17 Budget and Rates ( ) Approve Employee Merit/Cost of Labor Pay Increases for FY 17 ( ) Award the Hillsborough Street Water Main Replacement Contract Discuss KPI Trends Award the Brandywine Drive Water Main Replacement Contract Election of Officers 6/8/2017 ( )	TBD 6/22/2017	<i>Progress Report on Diversity and Inclusion</i>
July 2017	TBD 7/13/2017	TBD 7/27/2017	
August 2017	<b><i>Overview of Land Management</i></b> Award the Dobbins Drive Water and Sewer Main Replacement Contract CS – General Counsel Review ( ) 8/10/2017	Preliminary 12 Month Financial Report ( ) CIP Semiannual Report ( ) EEO/Affirmative Action Report ( ) Award the Administration Building HVAC Replacement Contract CS – General Counsel Review ( ) 8/24/2017	

## OWASA Board of Directors – 12 Month Board Meeting Schedule (March 17, 2017)

September 2017	Diversity and Inclusion Progress Report CS – ED Review  <i>9/14/2017</i>	Annual Report and Financial Audit Approve General Counsel Engagement CS – ED Review  <i>9/28/2016</i>	<i>Progress Report on Diversity and Inclusion</i>
October 2017	Discussion of impact on MFMM rate change CS – ED Review  <i>10/12/2017</i>	Q1 Financial Report Strategic Trends Report CS – ED Review  <i>10/26/2017</i>	
November 2017	TBD  <i>11/9/2017</i>	<i>Holiday - no meeting</i>	
December 2017	Discuss KPI Trends  <i>12/14/2017</i>	<i>Holiday - no meeting</i>	
January 2018	FY 18 Budget Calendar and Assumptions Employee Health and Dental Insurance Update CY 17 Biosolids Report  <i>1/11/2018</i>	Annual Lakes Recreation Report (regular agenda) Q2 Financial Report CIP Semiannual Report  <i>1/25/2018</i>	
February 2018	CS - General Counsel Interim Review  <i>2/8/2018</i>	CS - General Counsel Interim Review  <i>2/22/2018</i>	

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 (e.g., continuing our comprehensive asset management work).

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

- Development of a plan and policy framework for OWASA lands is considered a longer-term priority.
- 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 (March 17, 2017)

### Abbreviations Used in Draft Schedule:

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

### Current and Pending Key Projects and Stages

Project	Strategic Initiative	Project Lead	Mar-17	Apr-17	May-17	Jun-16	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18
AMI	6	Taylor			Contract									
				Manual Read										
Total Compensation Study		Glasgow	<i>Schedule To Be Determined</i>											
MFMM Rate Structure Study	4	Winters												
LRWSP	1	Rouse				Demand & Yield								
Energy Plan	5	Tiger												

<b>Stages</b>	<b>Committee Discussion</b>	<b>Feasibility Study</b>	<b>Board Review</b>	<b>Community Engagement</b>	<b>Action</b>	<b>Procurement</b>	<b>Implementation</b>
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**AGENDA ITEM**

- **Determine Conservation Water Commodity Charges Under Mandatory Water Use Restrictions For Multi-Family Master-Metered Customers**

**BACKGROUND**

- In December 2016, the Board of Directors approved changing the water commodity rate for multi-family master-metered (MFMM) customers (such as apartments) from seasonal rates, which vary by time of year, to a year-round rate effective May 1, 2017.
- As a result of the change in water rate for MFMM customers, the Schedule of Rates, Fees and Charges needs be updated to determine the water commodity surcharges applicable under water shortage declaration stages for MFMM customers.
- Staff proposes to use the same multipliers applicable to MFMM customers as for non-residential and irrigation only customers.

**ACTION NEEDED**

- Approve amending OWASA's Schedule of Rates, Fees and Charges to determine the water commodity surcharges applicable under water shortage declaration stages for multi-family master-metered customers.

March 23, 2017



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## MEMORANDUM

**TO:** Board of Directors

**THROUGH:** Ed Kerwin *EK*

**FROM:** Stephen Winters, CPA

**DATE:** March 17, 2017

**SUBJECT:** Determine conservation water commodity charges under mandatory water use restrictions for multi-family master-metered customers

### Background

On December 8, 2016, the Board of Directors approved changing the water rates for multi-family master-metered (MFMM) customers (such as apartments) from seasonal rates, which vary by time of year, to a year-round rate effective May 1, 2017.

As a result of the change in water rate for MFMM customers, the Schedule of Rates, Fees and Charges needs be updated to determine the water commodity surcharges applicable under water shortage declaration stages for MFMM customers.

Staff proposes to use the same multipliers applicable to MFMM customers as for non-residential and irrigation only customers as shown in the following table, to be included in the Schedule of Rates, Fees and Charges (changes noted in red).

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

**Action requested**

Approve amending OWASA's Schedule of Rates, Fees and Charges to determine the water commodity surcharges applicable under water shortage declaration stages for multi-family master-metered customers.



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Stephen Winters, CPA  
Director of Finance and Customer Service



**AGENDA ITEM**

- **Resolution Awarding a Construction Contract for the Rogerson Drive Force Main Rehabilitation Project**

**PURPOSE**

- To request the Board's approval to award a construction contract for the Rogerson Drive Force Main Rehabilitation Project.

**BACKGROUND**

- The Project consists of 700 feet of 24-inch and 30-inch diameter sewer force main to be lined and associated work.
- Plans and specifications for the construction of this project were prepared by CDM - Smith ("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. Six bidders were prequalified.
- Bids from three prequalified contractors were received and opened on March 13, 2017. The apparent low bidder was Carolina Civilworks, Inc. (Carolina Civilworks) with a bid of \$1,350,630.25. The Engineer's estimate was \$1,200,000.00.
- The Engineer evaluated bids and recommended award of the construction contract to Carolina Civilworks.

**STAFF RECOMMENDATION**

- Staff recommends that the Board of Directors adopt the attached resolution awarding the construction contract for the Rogerson Drive Force Main Rehabilitation Project to Carolina Civilworks.

March 23, 2017



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## MEMORANDUM

**TO:** Board of Directors

**THROUGH:** Ed Kerwin *EKL*

**FROM:** Simon Lobdell, P. E.

**DATE:** **March 15, 2017**

**SUBJECT:** **Award of a Construction Contract for the Rogerson Drive Force  
Main Rehabilitation Project**

### Purpose

This memorandum recommends that OWASA Board award a construction contract to Carolina Civilworks, Inc. (“Carolina Civilworks”) for the construction of the Rogerson Drive Force Main Rehabilitation Project (“Project”).

### Background

The Rogerson Drive Force Main is a two-mile long pressurized sewer main (force main) of mainly 24” and 30” diameter pipe, installed in the early to mid-1990’s, which conveys nearly half of the entire service area’s wastewater flow from our Rogerson Drive Pump Station (near Cleland Drive and the Rainbow Soccer Fields) to the Mason Farm Wastewater Treatment Plant. Due to the quantity of flow, potential consequences of failure, and difficulty of potential repairs, this force main has long been one of the highest risk assets that we have in any of our pipeline networks.

Following an emergency repair of about 78 feet of the force main performed in September 2016, we appropriated funds for the expedited rehabilitation of additional sections of the force main between Raleigh Road and Prestwick Road (see Attachment 1). The project was expedited due to the deteriorating pipe conditions observed during the course of the emergency repair and also due to the criticality of this force main.

OWASA staff and its consultant CDM Smith reviewed several options for the rehabilitation of the force main along Prestwick Road, including various lining technologies and direct burial of a new pipe and determined that fiberglass lining the 30” force main was the preferred option. Because of the force main’s criticality, the large investment required to provide bypass flow during construction, and the unknown state of the segment of the force main between Raleigh Road to Prestwick Road, staff determined that this segment of the force main would be inspected and potentially lined as well.

**Advertising and Bidding**

Plans for the project were developed by CDM Smith (“Engineer”). 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.

To screen prospective bidders, staff posted a Request for Qualifications (RFQ) in January 2016. After review, six contractors were prequalified to bid on the project. The invitation for bids was issued to the prequalified contractors on February 8, 2017. A total of three bids were received on March 13, 2017 and opened publicly. Carolina Civilworks was the low, responsive and responsible bidder for the project with a bid of \$1,350,630.25. A copy of the certified bid tabulation is attached with the Engineer’s recommendation to award (Attachment 2), and the results are summarized below:

<b>Carolina Civilworks, Inc.</b>	<b>\$1,350,630.25</b>
Moffat Pipe	\$1,582,250.00
Pipeline Utilities, Inc.	\$2,499,000.00
<hr/>	
<i>Engineer’s Final Estimate</i>	<i>\$1,200,000.00</i>

**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.

The apparent low bidder (Carolina Civilworks) provided documentation of good faith efforts and identified MWBE participation of \$6,810.95 (0.5% of the total bid amount). The selected subcontractor is a women owned business. There were few subcontracting opportunities as the work is primarily driven by the General Contractor’s efforts and the lining subcontractor. The low bidder performed appropriate good faith efforts and the work was advertised both during the original RFQ and during the formal bid phases as an additional effort to solicit participation by subcontractors where it was feasible.

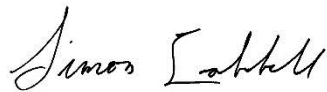
### **Bid Analysis and Recommendation**

The three bids received were spread over a relatively large range (the high bid was 85% higher than the low bid). The low bid was about 13% higher than the Engineer's estimate and reflects a reasonable and competitive cost for the work. The bids were more expensive than anticipated because of higher bypass piping costs. Additionally, there are increases in contractor costs due to fewer bidders pursuing pressurized pipe lining work.

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

CDM Smith's recommendation that the construction contract for this project be awarded to Carolina Civilworks is attached along with the certified bid tabulation (Attachment 2). OWASA staff strongly concurs with this recommendation because of the importance of the project. In order to proceed, we request the Board's adoption of the attached resolution (Attachment 3) awarding the construction contract to Carolina Civilworks.

Please let me know if you have any questions or need additional information. I can be reached at 537-4247 or [smlobdell@owasa.org](mailto:smlobdell@owasa.org). Thank you.



---

Simon Lobdell, P.E.  
Utilities Engineer

Attachment 1 – Site Map

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

Attachment 3 – Resolution



# Attachment 1 - Site Map

North Carolina State Employees Credit Union

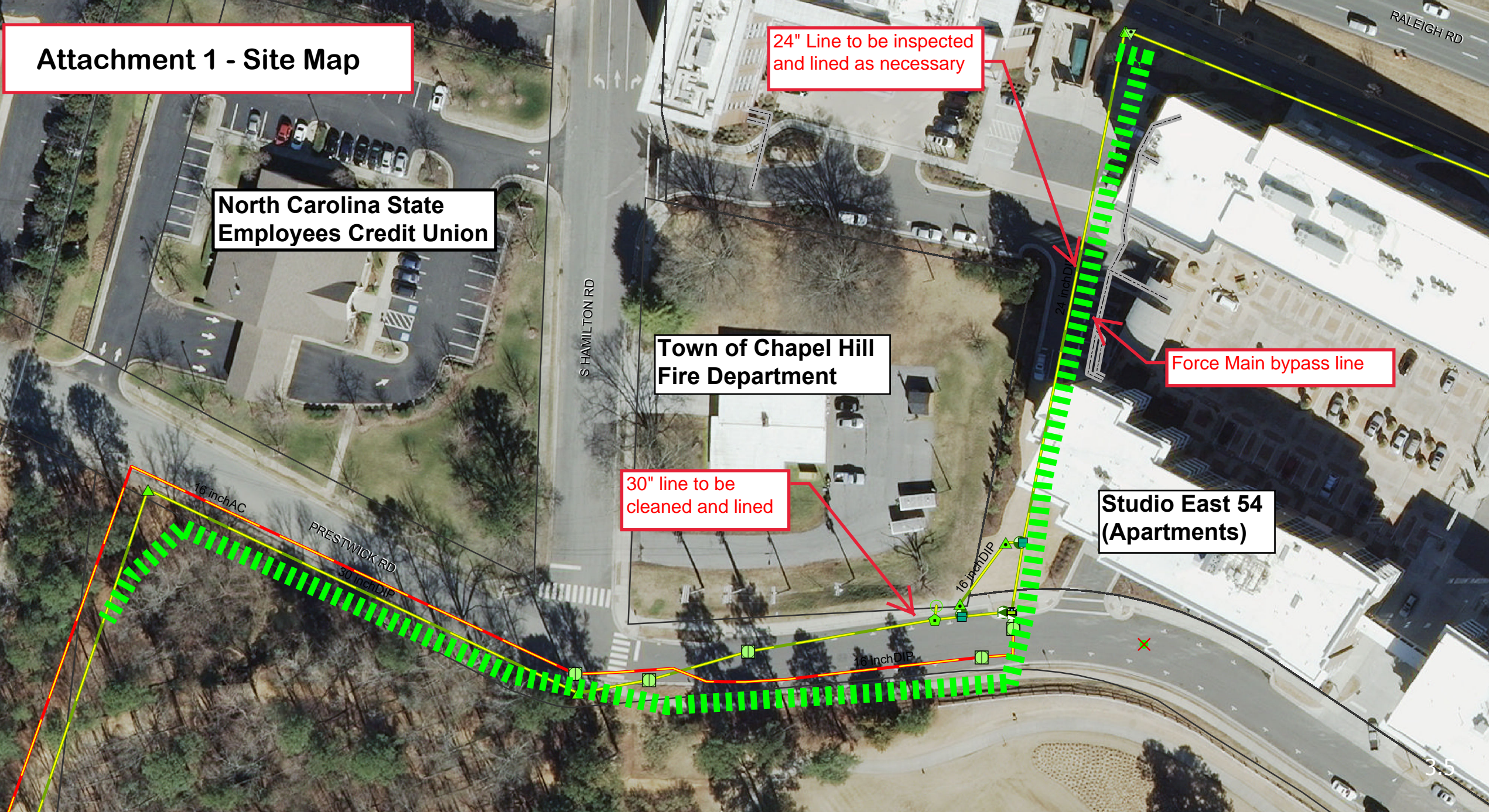
Town of Chapel Hill Fire Department

Studio East 54 (Apartments)

24" Line to be inspected and lined as necessary

30" line to be cleaned and lined

Force Main bypass line





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



5400 Glenwood Avenue, Suite 300  
Raleigh, North Carolina 27612  
tel: 919 325-3500  
fax: 919 781-5730

March 13, 2017

Mr. Simon Lobdell, P.E.  
Orange Water and Sewer Authority  
400 Jones Ferry Road  
Carrboro, North Carolina 27510

Subject: Recommendation of Award  
Orange Water and Sewer Authority  
Rogerson Drive Forcemain Rehabilitation

Dear Simon:

On March 13, 2017, the Orange Water and Sewer Authority (OWASA) received three (3) bids for the referenced project. All three bids were received, opened and the bid amounts were read out by the Engineer of Record to the bid opening attendees. CDM Smith evaluated each bid based on whether the Contractor submitted all information as required in Sections 00 21 15 and 00 41 44 of the project specifications. A matrix is attached as Exhibit 2 to this letter showing all bidders, the information required in the bid and a summary of the bid amounts. The matrix indicates that Carolina Civilworks, Inc., Moffat Pipe, Inc., and Pipeline Utilities, Inc., provided the required information. Carolina Civilworks, Inc. is the lowest bidder.

Each bid was reviewed for mathematical errors and other discrepancies, and the only error was in Carolina Civilworks, Inc., bid on page 00 41 44-10 of the proposal. Carolina Civilworks listed the adjustment to bid item 26 as \$0.00, but there should be a subtract of \$0.18. This error is negligible and does not affect the order of bids from low to high.

The bids are as follows from low to high (not including the bid alternate):

- |                              |                |
|------------------------------|----------------|
| 1. Carolina Civilworks, Inc. | \$1,350,630.25 |
| 2. Moffat Pipe, Inc.         | \$1,562,000.00 |
| 3. Pipeline Utilities, Inc.  | \$2,499,000.00 |

Based on our evaluation of the project bids, Carolina Civilworks, Inc., appears to be the lowest bidder. CDM Smith recommends awarding the project to Carolina Civilworks, Inc.



Mr. Simon Lobdell  
March 13, 2017  
Page 2

If you have any questions, or require additional information, please do not hesitate to call me.

Very truly yours,

A handwritten signature in blue ink, appearing to read "W. Stout" followed by a stylized flourish.

Patrick Stout, P.E.  
CDM Smith Inc.

cc: Chris Nesbit, CDM Smith  
Brent Johnson, CDM Smith

**Exhibit 1  
Bid Tabulation  
OWASA Rogerson Drive Forcemain Rehabilitation**

Item No.	Description	Quantity	Units	Carolina Civilworks, Inc.		Moffat Pipe, Inc.		Pipeline Utilities, Inc.	
				Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
1	Remove and Dispose of Existing Air Release Valve and Associated Structure	LS	1	\$ 2,088.15	\$ 2,088.15	\$ 3,000.00	\$ 3,000.00	\$ 10,000.00	\$ 10,000.00
2	Remove and Dispose of Existing Bio-Filter Manhole	LS	1	\$ 7,458.06	\$ 7,458.06	\$ 3,000.00	\$ 3,000.00	\$ 14,000.00	\$ 14,000.00
3	Remove and Dispose of Existing Plugged 24" Dia. Linestop and Tapping Sleeve and Concrete Blocking	LS	1	\$ 4,221.03	\$ 4,221.03	\$ 9,000.00	\$ 9,000.00	\$ 10,000.00	\$ 10,000.00
4	Remove and Dispose of Existing Plugged 30" Dia. Linestop and Tapping Sleeve and Concrete Blocking	LS	1	\$ 4,031.75	\$ 4,031.75	\$ 9,000.00	\$ 9,000.00	\$ 10,000.00	\$ 10,000.00
5	Remove and Dispose of Existing 16" Gate Valve	EA	2	\$ 2,113.68	\$ 4,227.36	\$ 1,500.00	\$ 3,000.00	\$ 10,000.00	\$ 20,000.00
6	Abandon Existing 16" Forcemain with Pumpable Flowable Fill	CY	3	\$ 6,748.36	\$ 20,245.08	\$ 750.00	\$ 2,250.00	\$ 10,000.00	\$ 30,000.00
7	Furnish and Install 24" Dia. DI Protecto 401 Lined Restrained Forcemain	LF	80	\$ 357.72	\$ 28,617.60	\$ 2,300.00	\$ 184,000.00	\$ 1,500.00	\$ 120,000.00
8	Furnish and Install 24"x24" DI Protecto 401 Tee	EA	5	\$ 4,260.15	\$ 21,300.75	\$ 6,750.00	\$ 33,750.00	\$ 10,000.00	\$ 50,000.00
9	Furnish and Install 30"x30" DI Protecto 401 Tee	EA	1	\$ 6,967.58	\$ 6,967.58	\$ 13,750.00	\$ 13,750.00	\$ 15,000.00	\$ 15,000.00
10	CCTV Inspection of 24" Forcemain	LF	300	\$ 12.62	\$ 3,786.00	\$ 24.00	\$ 7,200.00	\$ 50.00	\$ 15,000.00
11	Furnish and Install 24" Dia. 22.5 Deg. DI Protecto 401 Lined Bend	EA	1	\$ 3,041.81	\$ 3,041.81	\$ 6,000.00	\$ 6,000.00	\$ 10,000.00	\$ 10,000.00
12	Furnish and Install 16" Dia. DI Plug	EA	1	\$ 3,786.35	\$ 3,786.35	\$ 2,600.00	\$ 2,600.00	\$ 10,000.00	\$ 10,000.00
13	Furnish and Install 24" Dia. DI Plug	EA	2	\$ 2,229.59	\$ 4,459.18	\$ 3,400.00	\$ 6,800.00	\$ 10,000.00	\$ 20,000.00
14	Furnish and Install 30" Dia. DI Plug	EA	1	\$ 3,109.50	\$ 3,109.50	\$ 4,200.00	\$ 4,200.00	\$ 10,000.00	\$ 10,000.00
15	Furnish and Install 30"x24" DI Protecto 401 Lined Reducer	EA	1	\$ 4,937.01	\$ 4,937.01	\$ 5,300.00	\$ 5,300.00	\$ 10,000.00	\$ 10,000.00
16	Furnish and Install 24"x16" DI Protecto 401 Lined Reducer	EA	1	\$ 2,568.01	\$ 2,568.01	\$ 4,400.00	\$ 4,400.00	\$ 8,000.00	\$ 8,000.00
17	Furnish and Install 16" Dia. Plug Valves	EA	1	\$ 10,132.64	\$ 10,132.64	\$ 9,800.00	\$ 9,800.00	\$ 13,000.00	\$ 13,000.00
18	Furnish and Install 24" Dia. Plug Valves	EA	5	\$ 20,962.34	\$ 104,811.70	\$ 30,000.00	\$ 150,000.00	\$ 30,000.00	\$ 150,000.00
19	Furnish and Install 30" Dia. Plug Valves	EA	1	\$ 31,792.04	\$ 31,792.04	\$ 82,000.00	\$ 82,000.00	\$ 50,000.00	\$ 50,000.00
20	24" Mechanical Line Stop	LS	1	\$ 115,842.77	\$ 115,842.77	\$ 54,000.00	\$ 54,000.00	\$ 110,000.00	\$ 110,000.00
21	30" Mechanical Line Stop	LS	1	\$ 107,083.69	\$ 107,083.69	\$ 61,000.00	\$ 61,000.00	\$ 128,000.00	\$ 128,000.00
22	Furnish and Install ARV Manhole and Discharge Structure	LS	1	\$ 24,326.42	\$ 24,326.42	\$ 32,000.00	\$ 32,000.00	\$ 37,000.00	\$ 37,000.00
23	CIPP Rehabilitation of Existing 24" Forcemain	LF	300	\$ 406.01	\$ 121,803.00	\$ 400.00	\$ 120,000.00	\$ 500.00	\$ 150,000.00
24	CIPP Rehabilitation of Existing 30" Forcemain	LF	470	\$ 485.01	\$ 227,954.70	\$ 960.00	\$ 451,200.00	\$ 500.00	\$ 235,000.00
25	24" Temporary HDPE Bypass Pipe and Fittings	LF	1000	\$ 271.04	\$ 271,040.00	\$ 90.00	\$ 90,000.00	\$ 300.00	\$ 300,000.00
26	Temporary Concrete/Steel Roadway Ramp & 12" Dia. HDPE Bypass Piping and Appurtenances	LS	1	\$ 42,059.43	\$ 42,059.43	\$ 21,000.00	\$ 21,000.00	\$ 60,000.00	\$ 60,000.00
27	Traffic Control	LS	1	\$ 14,378.69	\$ 14,378.69	\$ 25,000.00	\$ 25,000.00	\$ 500,000.00	\$ 500,000.00
28	Contingency Allowance	LS	1	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00
29	Insurance, Bonds, and Mobilization	LS	1	\$ 64,038.53	\$ 64,038.53	\$ 80,000.00	\$ 80,000.00	\$ 106,940.00	\$ 106,940.00
30	Rock Excavation	CY	50	\$ 327.77	\$ 16,388.50	\$ 230.00	\$ 11,500.00	\$ 1,500.00	\$ 75,000.00
31	Rock Excavation with Geotechnical Monitoring Equipment	CY	50	\$ 126.18	\$ 6,309.00	\$ 250.00	\$ 12,500.00	\$ 2,900.00	\$ 145,000.00
32	Sod Replacement	SY	160	\$ 25.24	\$ 4,038.40	\$ 25.00	\$ 4,000.00	\$ 41.00	\$ 6,560.00
33	Lane Closure and Street Cut Fee Allowance	LS	1	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
34	Remove Existing 3", 4", and 6" diameter Bradford Pear trees and Relocate & Plant 100-ft or less from original location	EA	3	\$ 1,261.84	\$ 3,785.52	\$ 250.00	\$ 750.00	\$ 3,500.00	\$ 10,500.00
Total of all Unit Price Bid Items No. 1-34 Above					\$ 1,350,630.25		\$ 1,562,000.00		\$ 2,499,000.00
35	Item No. 26 Alternate -- Buried 24" Dia. HDPE Bypass Pipe and Fittings	LF	45	\$ 934.65	\$ 42,059.25	\$ 450.00	\$ 20,250.00		\$ 40,500.00
<b>Total:</b>					<b>\$ 1,350,630.25</b>		<b>Total: \$ 1,562,000.00</b>		<b>Total: \$ 2,499,000.00</b>

BID TABULATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.

  
Patrick Stout, P.E.





Exhibit 2

Contractor	Contractor License Number	Addenda 1-3	Proposal	Contractors Affidavit of Organization and Authority	Contractor's Non-Collusion Affidavit	Bid Bond	List of Subcontractors	Power of Attorney	EEO Certificate	Nondiscrimination Clause	MBE Forms
Carolina Civilworks, Inc.	74658	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Moffat Pipe, Inc.	54906	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pipeline Utilities, Inc.	13040	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

**RESOLUTION AWARDING A CONSTRUCTION CONTRACT FOR THE ROGERSON DRIVE FORCE MAIN REHABILITATION PROJECT**

**WHEREAS**, there is a need to repair the Rogerson Drive Force Main along Prestwick Road; and

**WHEREAS**, plans and specifications for the construction of this project have been prepared by CDM Smith; 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 January 17<sup>th</sup>, 2017, and six contractors were qualified to bid; and

**WHEREAS**, on February 8<sup>th</sup>, 2017, the prequalified contractors were formally invited to submit construction bids for the project, and three bids were received; and

**WHEREAS**, Carolina Civilworks, Inc. of Raleigh, North Carolina has been determined to be the low responsive, responsible bidder for the project; and

**WHEREAS**, the Capital Improvements Program (CIP) contains sufficient funds for the expedited rehabilitation of the force main;

**NOW, THEREFORE, BE IT RESOLVED:**

1. That the Orange Water and Sewer Authority Board of Directors awards the construction contract to Carolina Civilworks, Inc., the low responsive, responsible bidder for the Rogerson Drive Force Main Rehabilitation Project, in accordance with the approved plans and specifications, in the amount of \$1,350,630.25, 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 23<sup>rd</sup> day of March, 2017.

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Jeff Danner, Vice Chair

ATTEST:

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Barbara M. Foushee, Secretary

ORANGE WATER AND SEWER AUTHORITY  
WORK SESSION OF THE BOARD OF DIRECTORS

FEBRUARY 9, 2017

The Board of Directors of the Orange Water and Sewer Authority (OWASA) held a work session on Thursday, February 9, 2017 at 6:00 P.M. in Council Chamber at Chapel Hill Town Hall, 405 Martin Luther King Jr Boulevard, Chapel Hill.

Board Members present: John A. Young, Chair; Jeff Danner, Vice Chair; Barbara Foushee, Secretary; Yinka Ayankoya; Terri Buckner; David Moreau; Bob Morgan; Heather Payne; and Ruchir Vora.

OWASA staff present: Ed Kerwin; Mary Darr; Denise Battle; Patrick Davis; Monica Dodson; Thomasina Farrell; Greg Feller; Vishnu Gangadharan; Adam Haggerty; Randy Horton; Stephanie Glasgow; Katie Harrold; John Kiviniemi; Simon Lobdell; Kenneth Loflin; Andrea Orbich; Ruth Rouse; Kelly Satterfield; Mary Tiger; Todd Taylor; Pamela Whitmore; Stephen Winters; Robin Jacobs and Robert Epting, Esq., Epting and Hackney.

Others present: Daria Barazandeh; Chief Chris Blue, Chapel Hill Police; Anita Booth; Gine Borlty and Antony Sherrud, WRAL; Carolyn Briggs; Bill Camp; John Campbell; Linda Carver; Rachel Conerly; Becky Dallke; Zachary Davidson; Pat DeVine; Eleanor Dillon; Parker Emmerson, Bitcoin; Jennette Farrington; Braxton Foushee; Hannah Herzog; Michael Hyland, WNCN; Katherine Hysmith; Brad Ives, Associate Vice Chancellor of Campus Services and Margaret Holton, Water, Sewer and Reclaimed Water Coordinator, University of North Carolina at Chapel Hill; Melody Ivins; Trey C. Homelsy; Anne Johnson, Herald Sun; Gary Kahn; Jonah Kaplan and Aaron Asselin, WTVD; Lucredia Kinney; Earlene Kincad, Carrboro Family Medicine; Alyssa LaFaro; Mayor Lydia Lavelle, Town of Carrboro; Patrick Lastonguay; Meredith McDonald; Kyle Oken; Lemi Otmia; Chapel Hill Town Council Member Michael G. Parker; Joyce Preslar; J. Tristian Routh; Shahila Sriskanda; Corey Sturmer; Claire Viadro; Stephen Wood; Chief Matthew Sullivan, Chapel Hill Fire; and Chris Williams, Time Warner Cable News.

#### MOTIONS

1. BE IT RESOLVED THAT the Orange Water and Sewer Authority Board of Directors adopts the Resolution Awarding a Construction Contract for the Gravity Sewer Rehabilitation Project. (Resolution so titled attached hereto and made a part of these Minutes. Motion by Robert Morgan, second by Heather Payne and unanimously approved.)
2. BE IT RESOLVED THAT Orange Water and Sewer Authority Board of Directors adopts the Resolution of Appreciation to the Staff of the Orange Water and Sewer Authority. (Resolution so titled attached hereto and made a part of these Minutes. Motion by Dave Moreau, second by Yinka Ayankoya and unanimously approved.)

3. Jeff Danner made a motion to adjourn the meeting; second by Terri Buckner and unanimously approved.

### ANNOUNCEMENTS

John Young apologized to the community for the disruption in the water emergency from February 2-4, 2017. He noted that the emergency affected many residents, businesses, employees and visitors. He expressed appreciation to the City of Durham, Chatham County, the Town of Hillsborough, the University and the many other partners who provided strong support during the emergency. Mr. Young recognized elected and appointed officials of the Towns of Chapel Hill and Carrboro and the University of North Carolina at Chapel Hill who were present at the Board meeting.

Mr. Young said the community's response to the emergency was phenomenal, and that the community was well prepared to keep the hospital and other critical care facilities operating, and to maintain fire protection. He encouraged patronage of local restaurants, recycling of bottles, and donations to the Care to Share customer assistance fund.

Mr. Young said that as OWASA begins the review and improvement process, public feedback is needed in OWASA's work to find solutions to such an event to prevent it from happening again. OWASA is committed to promptly investigating what happened, to transparency and to evaluating improving communications with the public in such circumstances.

### Conflict of Interest

John Young said that 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; none were disclosed.

### ITEM ONE: AWARD OF A CONSTRUCTION CONTRACT FOR THE GRAVITY SEWER REHABILITATION PROJECT

Robert Morgan made a motion to approve the resolution; second by Heather Payne and unanimously approved. Please see Motion 1 above.

### ITEM TWO: UPDATE ON THE FEBRUARY 2-5, 2017 WATER EMERGENCY EVENT AND RECOVERY INCLUDING PUBLIC COMMENT

Ed Kerwin also apologized to the community for the disruptions in the water emergency event and said testing confirmed that the drinking water was safe during the emergency. Mr. Kerwin reviewed the water treatment process and the timeline of events in the water emergency including the shutdown of the Jones Ferry Road Water Treatment Plant on February 2<sup>nd</sup> due to the fluoride overfeed, which was contained within the plant with no release of high fluoride water to the distribution system. Mr. Kerwin reviewed the transfer of water from the City of Durham and Chatham County systems; and the decision to direct no drinking or other use of

water on February 3<sup>rd</sup>, when a water line break further reduced water storage levels and pressure, with the resulting potential for bacterial contamination.

The Chair then opened the floor for public comment.

Linda Carver said that she did not see news about the fluoride overfeed until Friday, February 3<sup>rd</sup>, that bottled water sales to individuals should have been limited to assure its availability to everyone, and that many people did not know that free water was available. She stated that in her opinion customers deserve money for suffering and aggravation in the emergency.

Zachary Davidson expressed opposition to fluoridation of drinking water.

John Young said a decision on resuming fluoridation will occur after public input at a future Board meeting.

Corey Sturmer expressed opposition to fluoridation of drinking water and requested the Board conduct a referendum of same.

Robert Epting said that the OWASA Board is not authorized to conduct a referendum.

Hannah Herzog said her apartment was flooded and her belongings were damaged because of the water line break on February 3<sup>rd</sup>. She asked for compensation, and explained that her renter's insurance did not apply to this kind of event.

Shahila Sriskanda said the deductible in her insurance is high.

Bill Camp thanked OWASA for quickly restoring normal water service and asked whether OWASA will develop plans for future severe events.

Parker Emmerson expressed opposition to fluoridation.

Daria Barazandeh expressed opposition to fluoridation and asked that OWASA reconsider adding fluoride to drinking water.

Alyssa LaFaro expressed appreciation for resolving the emergency quickly and opposition to fluoridation.

Johna Caplane, ABC News Channel 11, asked clarifying questions regarding the repair of the water line.

Joyce Preslar commended the Board and staff on their work to resolve this event quickly and suggested that the Board reconsider the use of fluoride in the drinking water.

Rachel Conerly expressed opposition to fluoridation and would like to know when it will be restarted.

Braxton Foushee expressed concern about communication with the public during the water emergency event and stressed the importance of reaching citizens quickly in such events.

Claire Viadro expressed opposition to fluoridation, and noted the money used to purchase fluoride could be saved.

After discussion, the Board agreed to review the consultants' investigative reports on the fluoride overfeed and water line break; to post the consultants' reports on OWASA's website; and to schedule a special Board meeting to discuss the consultants' reports after they are complete, possibly in the week of February 14<sup>th</sup>. Staff will take the actions necessary on the secondary Durham interconnection to ensure full transfer capacity; to evaluate with the Board the desirability of a third-party review of the incident; and to develop action plans on the additional near- and long- term measures for continuous improvement.

Dave Moreau observed that the staff worked tirelessly to meet and overcome the water supply emergency on February 2 and 3, 2017, and has since worked diligently to determine and remedy the causes of that event, and in every respect their work in this regard has been first class. In that regard, Dave Moreau made a motion to express the Board's appreciation to the OWASA employees for their response to the February 2017 water emergency events; second by Yinka Ayankoya and unanimously approved. Please see Motion 2 above.

ITEM THREE: CLOSED SESSION

Due to the late hour, the Board of Directors postponed the Closed Session for the purpose of discussing a personnel matter until February 23, 2017.

Jeff Danner made a motion to adjourn the meeting; second by Terri Buckner and unanimously approved. Please see Motion 3 above.

The work session was adjourned at 9:21 P.M.

Respectfully submitted by:

Andrea Orbich  
Executive Assistant/Clerk to the Board

Attachments

## **Resolution of Appreciation to the Staff of the Orange Water and Sewer Authority**

**Whereas**, an overfeed of fluoride at the Jones Ferry Road Water Treatment, owned and operated by the Orange Water and Sewer Authority, was confirmed at 3:00 P.M. on Thursday February 2, 2017;

**Whereas**, staff made the decision to shut down plant and drain the ground level tank that captured the overly fluoridated water;

**Whereas**, staff activated the main interconnection with Durham for an alternate supply;

**Whereas**, customers were alerted and asked to conserve water during this event;

**Whereas**, those actions, without any compounding event, would have been sufficient to avoid major disruptions to OWASA's customers during the approximate 51 hours it took to get the plant back in full operation;

**Whereas**, a compounding event did occur the next morning when a major water main broke in the vicinity of Foxcroft Apartments;

**Whereas**, the water main break led to a rapid loss of 1.5 million gallons of water from elevated storage tanks, leading to dangerously low pressures on the distribution system;

**Whereas**, low pressures can lead to bacterial contamination in the distribution systems;

**Whereas**, staff promptly collected samples from the distribution system to test for any contamination;

**Whereas**, staff immediately initiated processes to activate a second interconnection with Durham and interconnections with Hillsborough and Chatham County;

**Whereas**, the decision was made to notify and cooperate with the Orange County Emergency Operations Center and to the Orange County Health Department to issue a do not use order;

**Whereas**, by 12:30 P.M., Saturday, February 4, 2017, the water main break was repaired, the plant was restored to operation, and results of tests indicated the water was safe to drink;

**Whereas**, the Emergency Operations Center rescinded all restrictions on water use by 2:30 P.M., limiting major disruptions of service to OWASA's customers to about 24 hours;

**Whereas**, staff, on the next business day, initiated independent, professional, and credible investigations of the overfeed of fluoride and the water main break, and immediately published the reports as soon as they were received 4 days later, demonstrating commitment to objectivity, transparency, and prompt implementation of correction actions;

**Whereas**, substantial financial losses and widespread inconveniences that did result from interruption of service could have been much greater without timely and professional responses of the staff;

**Now, Therefore, Be It Resolved by the Orange Water and Sewer Authority:**

That the Board of Directors of OWASA expresses its deep appreciation to staff for its actions to limit the duration of disruption of service and taking steps to assure the safety of water delivered to OWASA's customers.

Adopted this 9<sup>th</sup> day of February 2017.

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John A. Young, Chair

ATTEST:

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Barbara M. Foushee, Secretary



ORANGE WATER AND SEWER AUTHORITY  
MEETING OF THE BOARD OF DIRECTORS  
FEBRUARY 23, 2017

The Board of Directors of the Orange Water and Sewer Authority (OWASA) held a regular meeting on Thursday, February 23, 2017, at 7:00 P.M. in the Council Chamber at the Chapel Hill Town Hall, 405 Martin Luther King Jr. Boulevard, Chapel Hill.

Board Members present: John A. Young (Chair), Jeff Danner (Vice Chair), Yinka Ayankoya, Terri Buckner, David (Dave) Moreau, Robert Morgan and Ruchir Vora. Board Members absent: Barbara Foushee (Secretary) and Heather Payne.

OWASA staff present: Ed Kerwin, Mary Darr, Monica Dodson, Greg Feller, Stephanie Glasgow, Andrea Orbich, Kevin Ray, Todd Taylor, Stephen Winters, Robin Jacobs (Epting and Hackney) and Robert Epting (Epting and Hackney).

Others present: Daria Barazandeh; Jennie Baumann; Bill Camp; Rachel Conerly; Bill Garrity; Meg Holton, Water, Wastewater and Stormwater Manager and Ben Poulson, Associate Director of Energy Services at the University of North Carolina at Chapel Hill; Anna Johnson, Herald Sun; Will Rigby; Wendy Schwade, N.C. Department of Health and Human Services Lisa Stanffer; Corey Sturmer; Lauren Talley, Daily Tarheel; Claire Viadio; and Erin Wygant, Carolina Week.

There being a quorum present, Chair John Young called the meeting to order.

\* \* \* \* \*

MOTION ACTED UPON

1. BE IT RESOLVED THAT the Orange Water and Sewer Authority Board of Directors adopts the Resolution Honoring the Distinguished Service of Ms. Sallie Edwards to the Orange Water and Sewer Authority and the Carrboro-Chapel Hill Community. (Resolution so titled attached hereto and made a part of these Minutes. Motion by Terri Buckner, second by Robert Morgan and unanimously approved.)
2. BE IT RESOLVED THAT the Orange Water and Sewer Authority Board of Directors adopts the Resolution Addressed to the Chapel Hill, Carrboro, University of North Carolina Service Community on the 40<sup>th</sup> Anniversary of OWASA's Beginning Operation. (Resolution so titled attached hereto and made a part of these Minutes. Motion by Terri Buckner, second by Dave Moreau and unanimously approved.)
3. Terri Buckner made a motion to deny the petition to hold a public referendum on the question of OWASA's fluoride policy; second by Jeff Danner and unanimously approved.

4. Jeff Danner made a motion that the Board's consideration and response to the pending petition to initiate a new review of OWASA's current practice of fluoridating drinking water be held on March 9, 2017 instead of March 23, 2017; second by Ruchir Vora, and the motion passed with a vote of 6 to 1 with Robert Morgan opposed.

5. Dave Moreau made a motion to adjourn the meeting; seconded by Yinka Ayankoya and carried by a unanimous vote.

\* \* \* \* \*

## ANNOUNCEMENTS

### Conflict of Interest

John Young said 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 at this time; none were disclosed.

### Change to the Agenda

Without objection, the Board agreed to the following changes to tonight's agenda: agenda item 1 (12 Month Board Meeting Schedule) will follow agenda item 4 (Continued Discussion from the February 17, 2017 Special Work Session about the Consultants' Reports on the February 2, 2017 Fluoride Overfeed and the February 3, 2017 Water Main Break, including public comment), and the Closed Session on this Agenda will be to discuss two personnel matters, instead of one.

### Annual Chlorine Disinfection

Todd Taylor announced that the annual chlorine disinfection of drinking water will begin on March 1, 2017 and will continue through the end of month. Chlorine disinfection ensures a high level of disinfection in the community's network of water mains.

## PETITIONS AND REQUESTS

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

### ITEM TWO: RESOLUTION HONORING THE DISTINGUISHED SERVICE OF MS. SALLIE EDWARDS TO THE ORANGE WATER AND SEWER AUTHORITY AND THE CARRBORO-CHAPEL HILL COMMUNITY

The staff and Board expressed deep and sincere appreciation to Ms. Sallie Edwards for her distinguished service to OWASA.

John Young read aloud the resolution honoring the service of Sallie Edwards, OWASA's Accounting Technician II, who is retiring with more than 39 years of service.

Terri Buckner made a motion to approve the resolution; second by Robert Morgan and unanimously approved. Please see Motion 1 above.

The staff and Board also expressed deep and sincere appreciation to Kevin Ray, Procurement and Finance Manager, for his 28+ years of distinguished service to OWASA. Mr. Ray will retire on March 1, 2017.

ITEM THREE: RESOLUTION BY THE BOARD OF DIRECTORS OF THE ORANGE WATER AND SEWER AUTHORITY ADDRESSED TO THE CHAPEL HILL, CARRBORO, UNIVERSITY OF NORTH CAROLINA SERVICE COMMUNITY ON THE 40<sup>TH</sup> ANNIVERSARY OF OWASA'S BEGINNING OPERATION

Robert Epting provided a few remarks on the 40<sup>th</sup> anniversary of OWASA's beginning operation and read aloud the resolution.

Terri Buckner made a motion to approve the resolution; second by Dave Moreau and unanimously approved. Please see Motion 2 above.

The Board agreed to reschedule the open houses originally planned for April 2017 to the fall of 2017.

ITEM FOUR: CONTINUED DISCUSSION FROM THE FEBRUARY 17, 2017 SPECIAL WORK SESSION ABOUT THE CONSULTANTS' REPORTS ON THE FEBRUARY 2, 2017 FLUORIDE OVERFEED AND THE FEBRUARY 3, 2017 WATER MAIN BREAK, INCLUDING PUBLIC COMMENT

John Young opened the floor for continued discussion on the February water emergency and thanked the community for their continued support. He noted the disruption caused strain to local businesses, and encouraged patronage of local restaurants.

Ed Kerwin provided a summary of the consultants' reports regarding the fluoride overfeed and water main break. He stated the primary cause of the fluoride overfeed was an unintentional operator key stroke that was corrected approximately 12 seconds later, but the pump did not respond to the corrected command. This led to a secondary cause in that the operator observed an abnormally high estimated fluoride, but did not take timely corrective action. Mr. Kerwin said that reason for the water main break the next day was improper installation of the water main too close to a stormwater structure directly beneath the main. The water main and stormwater facility were separately installed more than 44 years ago, before the formation of OWASA.

Bill Garrity said he recently learned that fluoride binds with lead, such as lead pipes, and could then leach lead into the drinking water. He said he knows lead is a neurotoxin and that there is no safe level of lead. Mr. Garrity asked the Board if they knew that fluoride binds with lead and what they would do about it.

Corey Sturmer expressed opposition to fluoridation and petitioned the Board to conduct a public referendum.

Clair Viadro expressed opposition to fluoridation.

Daria Barazandeh expressed opposition to fluoridation.

Mr. Young acknowledged the concerns and comments regarding adding fluoride to drinking water and stated that the Board has received via e-mail significant support to add a controlled amount of fluoride for both public health and social justice benefits. Mr. Young also stated that the Board thoroughly reviewed the addition of fluoride to drinking water within the past 4 years and unanimously agreed to continue the policy of fluoridation at controlled levels.

Mr. Young said that the Board has received a petition to initiate a new review of OWASA's practice of fluoridating drinking water and a petition that the Board hold a referendum on the question of fluoridation of drinking water; he asked the Board if they would like to respond tonight or in a future meeting.

Robert Morgan said he would not be in favor of a public referendum. He supported taking public comment and receiving staff information on fluoride and that he would prefer not deciding tonight.

Jeff Danner asked if the Board could conduct a referendum.

Robert Epting clarified that the Board has no authority to conduct a referendum.

Mr. Danner agreed to delay action on the petition to re-examine the practice of fluoridating drinking water.

Terri Buckner made a motion to deny the petition to hold a public referendum on the question of OWASA's fluoride policy; second by Jeff Danner and unanimously approved. Please see Motion 3 above.

Mr. Young proposed, and the Board agreed, that at the March 23, 2017 meeting, along with the Board's review of Action Plan related to the fluoride system, the Board will also review the question of whether to initiate a new review of the fluoride policy.

Ruchir Vora suggested that the cross-sectional graphic of the water main break be added to OWASA's website to better inform the public.

Terri Buckner clarified that the cost-benefit question she asked during the February 17, 2017 Special Work Session of the Board of Directors was regarding the decision to stop treating/producing water at the plant versus the financial impact on the community.

Mr. Young inquired about the storage tank levels prior to the water emergency event to see the context of their relative cycle and levels.

Jeff Danner suggested highlighting access to OC Alerts in encouraging our customers to update their records with cell phone numbers and asked if we give the reason behind requesting cell phone contact information when noted in newsletters, etc.

After discussion, the Board agreed that it would discuss at its March 23, 2017 meeting its proposed Action Plans addressing the failure of the Fluoride feed system and the separate water main break. The Board will discuss staff's proposed Action Plan to improve emergency communications on April 27, 2017.

ITEM ONE: 12 MONTH BOARD MEETING SCHEDULE

Ed Kerwin suggested that since all Board Members are scheduled to be present on March 9, 2017, that the Board might consider at that meeting the question of whether to initiate a new review of OWASA's fluoride policy.

Dave Moreau recommended that a review be completed, to see if any new changes have been recommended in fluoride policy since 2012, as noted in the literature concerning this issue.

The Board agreed that staff will review and provide an update on recent science regarding fluoridation of drinking water.

Jeff Danner made a motion that the Board's consideration and response to the pending petition to initiate a new review of OWASA's current practice of fluoridating drinking water be held on March 9, 2017 instead of March 23, 2017; second by Ruchir Vora and the motion passed with a vote of 6 to 1 with Robert Morgan opposed. Please see Motion 4 above.

Yinka Ayankoya suggested that due to busy agendas over the next few meetings, that the Appointment of the Nominating Committee scheduled for April 13<sup>th</sup> be noted as tentative; the Board agreed.

ITEM FIVE: 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

Ed Kerwin summarized the meeting as follows:

- Staff will reschedule the open houses originally planned for April 2017 to the fall of 2017;
- Staff will add an item to the March 9, 2017, agenda regarding whether to review the fluoridation policy, and will inform stakeholders;
- Staff will provide answers by e-mail to Board Members' questions raised at the February 23, 2017 meeting related to the water emergency;

- Staff will include additional information on the website which documents that elevated levels of fluoride did not enter the public water supply system;
- Staff will note the Appointment of the Nominating Committee, scheduled for April 13<sup>th</sup>, as tentative on the 12 Month Board Meeting Schedule; and
- The March 9, 2017 Work Session will include the following:
  - Whether to review OWASA’s current practice of fluoridating drinking water;
  - Discuss the initial implementation plan for OWASA’s Employee Diversity and Inclusion Program;
  - Review Fiscal Year (FY) 2018 draft budget and rates;
  - Set date for public hearings on the FY 2018 draft budget and rates; and
  - Discussion of Board officer nomination and election process.

ITEM SIX: CLOSED SESSION

Without objection, the Board convened in a Closed Session for the purpose of discussing two personnel matters.

The Board returned to open session and opened the doors to the meeting.

Dave Moreau made a motion to adjourn the meeting; seconded by Yinka Ayankoya and unanimously approved. See Motion No. 5 above.)

The meeting was adjourned at 9:45 P.M.

Respectfully submitted,

Andrea Orbich  
Executive Assistant/Clerk to the Board

Attachments

ORANGE WATER AND SEWER AUTHORITY  
CLOSED SESSION OF THE BOARD OF DIRECTORS

MARCH 9, 2017

The Board of Directors of Orange Water and Sewer Authority met in Closed Session on Thursday, March 9, 2017, following the Board meeting.

Board Members present: John A. Young, Chair; Barbara M. Foushee, Secretary; Yinka Ayankoya; Terri Buckner; David (Dave) Moreau; Robert Morgan; Heather Payne; and Ruchir Vora. Board Members absent: Jeff Danner, Vice Chair.

Staff present: Robert Epting, General Counsel.

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ITEM ONE

The Board of Directors met in Closed Session to discuss General Counsel's semiannual performance review.

No official action was taken at the meeting.

The meeting was adjourned at 9:50 P.M.

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Robert Morgan, Chair  
Human Resources Committee

**AGENDA ITEM**

- **Action Plan to Improve the Fluoride Feed System**

**PURPOSE**

- Provide Action Plan to ensure safe and reliable operation of the fluoride feed system at the Jones Ferry Road Water Treatment Plant to include a projected date to resume drinking water fluoridation.

**NOTE:** *At their March 9, 2017 meeting, the OWASA Board of Directors decided to continue the current policy of fluoridating drinking water. The Board's discussion and decision followed a public process including comments by more than 40 people in Board meetings, by e-mail, etc. OWASA will continue to monitor scientific developments, best practices and recommendations regarding fluoridation.*

**BACKGROUND**

- On February 2, 2017, OWASA temporarily discontinued fluoridation following an accidental overfeed of fluoride. No drinking water with elevated levels of fluoride entered the public water supply system.
- At its March 23, 2017 meeting, the OWASA Board will discuss staff's Action Plan to improve the safety and reliability of the fluoride feed system.

**STAFF RECOMMENDATION**

- Staff recommends implementation of the Action Plan to ensure a safe and reliable fluoride feed system for our community.
- Should the Board need additional information or have alternative suggestions for the Action Plan, we would appreciate that direction at the March 23, 2017 Board meeting.

**ACTION NEEDED**

- Board questions and feedback about the Action Plan.
- Should the Board determine that the Action Plan meets its expectations, the Board has the option of directing staff to implement its Action Plan at the March 23, 2017 or April 13, 2017 Board meeting.

March 23, 2017






# 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:** Kenneth Loflin

**DATE:** March 17, 2017

**SUBJECT:** **Action Plan to Improve the Fluoride Feed System**

### Purpose

Provide Action Plan to ensure safe and reliable operation of the fluoride feed system at the Jones Ferry Road Water Treatment Plant to include a projected date to resume drinking water fluoridation.

### Note About Fluoridation

*At their March 9, 2017 meeting, the OWASA Board of Directors decided to continue the current policy of fluoridating drinking water. The Board's discussion and decision followed a public process including comments by more than 40 people in Board meetings, by e-mail, etc. OWASA will continue to monitor scientific developments, best practices and recommendations regarding fluoridation.*

### Background

On February 2, 2017, OWASA temporarily discontinued fluoridation following an accidental overfeed of fluoride. No drinking water with elevated levels of fluoride entered the public water supply system.

An independent consultant (CH2M) determined in a February 10, 2017 report that the primary cause of the overfeed was:

- Unintentional operator keystroke increased pump feed rate to higher than desired level.
- Subsequent adjustment made 12 seconds later, but the pump did not respond as expected.

The secondary cause was that during the subsequent routine inspection, the operator failed to take timely corrective action.

At its March 23, 2017 meeting, the OWASA Board will discuss staff's Action Plan to improve the safety and reliability of the fluoride feed system.

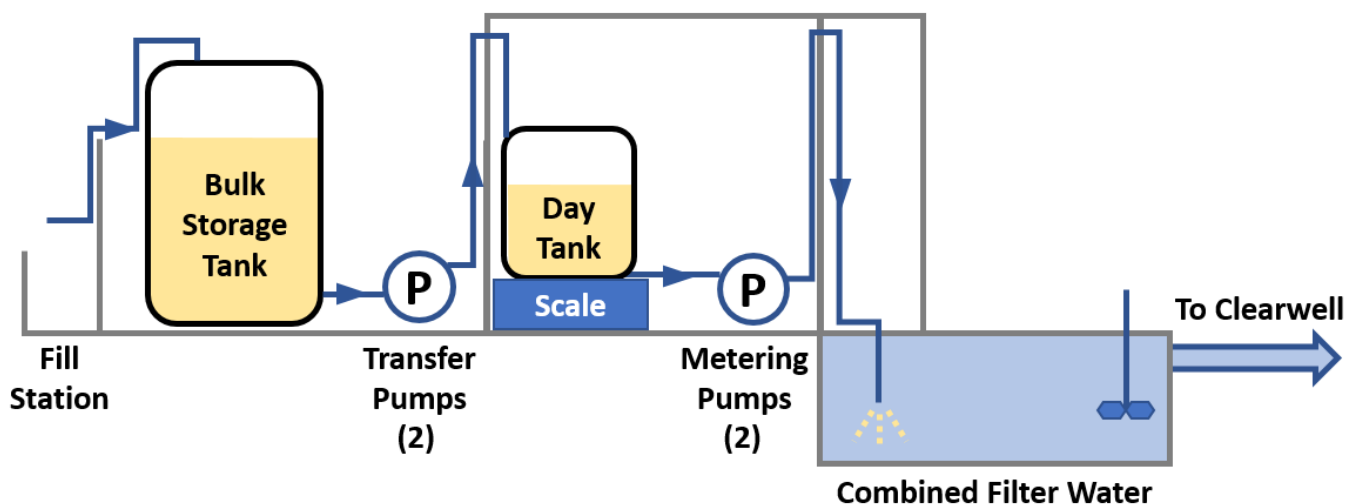
Staff developed the following information (and recommendations) using details provided in a Technical Memorandum on the fluoride feed system evaluation by the professional engineering firm, Hazen.

### Existing System

OWASA stores and feeds fluoride in the form of liquid hydrofluorosilicic acid. This chemical is the most common liquid form of fluoride used for drinking water fluoridation in the US, and it is certified by National Sanitation Foundation (NSF) International as suitable for use in drinking water.

OWASA provides drinking water to its public water supply system with an average fluoride concentration of 0.7 parts per million (ppm) as recommended by the US Public Health Service to promote strong teeth. The maximum concentration of fluoride allowed in drinking water is 4.0 ppm and is called the Maximum Contaminant Level (MCL). The secondary standard for fluoride concentration in drinking water is 2.0 ppm. The fluoride concentration in OWASA's treated water is consistently 0.7 ppm, well below the maximum allowable concentration and the secondary standard. **Figure 1-1** summarizes the existing design of the fluoride feed system.

**Figure 1-1: Existing Fluoride Feed System Design**



Fluoride solution is stored in a 6,000 gallon bulk storage tank located outside in a concrete containment structure. The containment structure can hold the full contents of the bulk storage tank in the event it leaks. The bulk tank level sensor allows the plant to monitor the tank liquid level from the plant control room and is used to provide an alarm in the control room for bulk tank high and low level. The bulk storage area is also equipped with an emergency shower and eyewash station.

The fluoride 68 gallon day tank, weigh scale, and metering pumps are located indoors, in the Fluoride Room. The Fluoride Room includes an emergency shower and eyewash station.

Fluoride solution is transferred to the day tank in the Fluoride Room using one of two manually operated transfer pumps (one serves as a backup) located in the bulk tank containment area. The transfer pump discharge piping includes a valve vent for siphon protection to prevent the bulk tank from overfilling the

day tank while the transfer pumps are off. Each fluoride transfer pump is started with a pushbutton that must be held in place while the pump operates, to avoid the risk of accidental overflow at the day tank. An overflow or leak from the day tank would drain to a containment area within the Fluoride Room.

The day tank sits on a weigh scale which allows the staff to maintain accurate records of the amount of fluoride. The weight of the day tank is displayed in the Fluoride Room as well as in the plant control room.

The fluoride solution is pumped from the day tank with one of two pumps (one pump serves as a backup) to the application point shown in Figure 1-1.

Existing control strategies for monitoring and alarms for the existing fluoride system are summarized in **Table 1-1**.

**Table 1-1: Existing Fluoride System Control Strategies**

Item	Control Strategy
<b>Bulk Tank Liquid Level</b>	Monitor tank level continuously with ultrasonic level sensor Display tank level and stored volume in control room Alarm in control room for high level or low level in tank
<b>Transfer Pumps</b>	Manual operation only, no remote start capacity Must press and hold pushbutton to operate pump to fill day tank
<b>Day Tank Weigh Scale</b>	Monitor weight of solution in day tank continuously Display weight of solution outside of fluoride room and in control room Alarms high and low day tank weight in plant control room
<b>Metering Pumps</b>	Start and stop pumps manually at the pump Pumps are not connected to plant control room for remote start or remote stop Pump accepts speed control signal from program, sending no speed feedback signal to control room Plant staff can select one of three available control modes for metering pump speed: <ol style="list-style-type: none"> <li>1. Automatic flow-paced mode, in which the program sends pump speed signal based on total filtered water flow rate and on the fluoride dose set point entered by plant staff in control room.</li> <li>2. Remote manual speed control mode, in which program sends pump speed signal based on plant staff entering desired pump speed in percent in plant control room. This was the normal operating mode.</li> <li>3. Local manual control of pump speed at pump.</li> </ol>

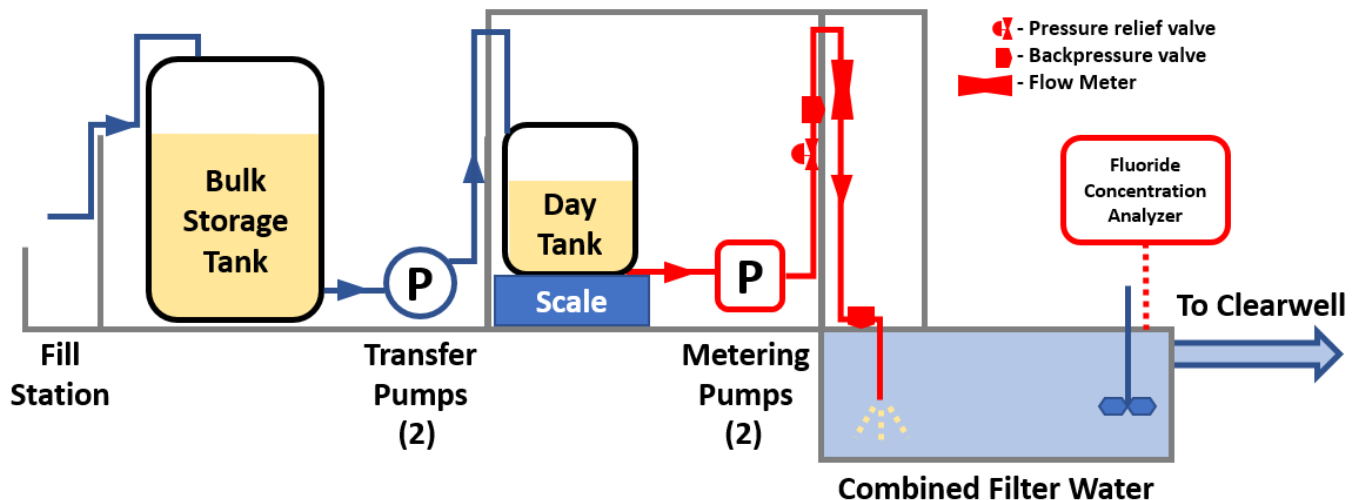
### Action Plan to Improve Fluoride Feed System

Staff prepared the Action Plan in careful consideration of the following information:

1. CH2M (consulting engineers) Technical Memorandum dated February 10, 2017 on the primary and contributing causes of the fluoride overfeed.
2. CH2M (consulting engineers) letter dated February 15, 2017 on the continuous improvement process and additional steps for consideration in response to the fluoride overfeed.
3. After Action Review Report on the fluoride overfeed prepared by staff dated March 10, 2017.
4. Hazen (consulting engineers) Technical Memorandum on the fluoride feed system evaluation.

Improvements prior to restarting the fluoride system are intended to ensure a safe and reliable operation of the system through prevention, detection, and/or mitigation of irregular operating conditions. This Action Plan identifies improvements, summarized in **Figure 1-2** and **Table 1-2**. These improvements include new fluoride feed pumps, control valves, online instrumentation, and programming for monitoring and controls.

**Figure 1-2: Improvements to Fluoride Feed System Design**  
*(Improvements in red)*



**Table 1-2: Action Plan of Improvements to Fluoride Feed System**

Recommended Improvement	Benefit
<p><b>Pumps, Pipe, and Valves</b></p> <ol style="list-style-type: none"> <li>1. Replace current pumps with smaller pumps closer to the maximum needed capacity.</li> <li>2. Install a pressure relief valve and backpressure valves.</li> <li>3. Pressure test existing fluoride piping and valves to check for leaks. Replace if leaks are detected.</li> </ol>	<p>Less fluoride can be transferred in the event of a pump or control system malfunction.</p> <p>Provide overpressure relief and reduces the risk of siphoning from day tank to application point.</p> <p>Identify and reduce risk of pipe leaks.</p>
<p><b>Instrumentation</b></p> <ol style="list-style-type: none"> <li>1. Install a magnetic flow meter.</li> <li>2. Install a continuous fluoride concentration analyzer on sample stream prior to the clearwell.</li> </ol>	<p>Plant control room receives continuous confirmation of the chemical flow rate.</p> <p>Plant control room receives continuous confirmation of actual fluoride concentration before water enters clearwell.</p>
<p><b>Programming &amp; Control System</b></p> <ol style="list-style-type: none"> <li>1. Modify plant control input screens to allow readings only between pre-identified ranges.</li> <li>2. Add alarms and failsafe modes to program for pumps. Continuously compare target values for chemical flow and dose to actual values from chemical flow meter and fluoride concentration analyzer.</li> <li>3. Add alarm for drop in weight of chemical solution in day tank.</li> <li>4. Provide mechanism for positive feedback from pumps to plant control room.</li> </ol>	<p>Program will not accept entries outside of acceptable ranges. Minimize likelihood of unintentional key strokes leading to overfeed situations.</p> <p>Program will issue alarm messages to the plant control room and stop pump when the actual chemical flow or dose varies from the target by more than the allowable variance.</p> <p>Program will issue alarm message to the plant control room and stop pump if weight of stored solution decreases faster than it should.</p> <p>Program will indicate actual pump speed, operational status, input loss of signal, monitor run/fail, tube failure, etc.</p>
<p><b>Administrative</b></p> <ol style="list-style-type: none"> <li>1. Evaluation staffing and training needs.</li> <li>2. Update and provide training on Standard Operating Procedures and Operation &amp; Maintenance Manual.</li> </ol>	<p>Identify staffing needs and ensure adequate training.</p> <p>Provides clear understanding of roles and responsibilities, ensures consistency in the performance of duties and provides knowledge retention.</p>

**Implementation Approach**

Staff will hire a consulting engineer (Hazen) to further design the improvements in the Action Plan. We anticipate these costs will not exceed the formal bidding threshold and therefore will not require Board authorization. There are funds in the Capital Improvements Program for these improvements. In order to expedite the implementation of the recommended improvements, OWASA may pre-purchase certain pieces of equipment such as new pumps and flow meters because they have long lead times. We anticipate that most of the construction work will be completed by outside contractors. The consulting engineer will oversee the work of these contractors.

**Estimated Cost and Time to Complete**

The preliminary estimated cost of equipment and labor is \$125,000 - \$200,000. This cost estimate will be updated once the consulting engineer completes the design criteria.

The improvements are projected to be completed in the Fall 2017. Staff will explore opportunities to expedite the work. However, the instrumentation, pumping and safety related equipment is custom built for fluoride systems and will likely have long lead times.

<b>Preliminary Schedule</b>	
<b>March 2017</b>	Engineer design begin
<b>April 2017</b>	Equipment selection complete and ordered
<b>June 2017</b>	Equipment arrives and design completed
<b>August 2017</b>	Modifications complete
<b>September 2017</b>	System is commissioned and tested
<b>End of September 2017</b>	Fluoride feed resumes

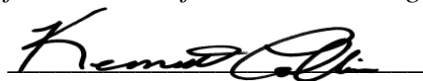
**Staff Recommendation**

Staff believes that successful implementation of the Action Plan will ensure a safe and reliable fluoride feed system for our community. We welcome questions and feedback about the Action Plan from the public and the Board of Directors.

Should the Board need additional information or have alternative suggestions for the Action Plan, we would appreciate that direction at the March 23, 2017 Board meeting.

Should the Board determine that the Action Plan meets its expectations, the Board has the option of approving the motion below at the March 23, 2017 or April 13, 2017 Board meeting.

*Motion directing staff to implement its Action Plan to improve the safety and reliability of the fluoride feed system at the Jones Ferry Road Water Treatment Plant; to keep the Board and public advised as to staff's progress towards completion of the improvements; and to announce in advance the date fluoridation of OWASA drinking water will resume.*

  
Kenneth Loflin  
Water Supply and Treatment Manager

**AGENDA ITEM**

- **Action Plan resulting from Foxcroft Drive Water Main Break**

**PURPOSE**

- To provide an Action Plan to implement actions which were recommended following a review of the February 3, 2017 water main break on Foxcroft Drive

**BACKGROUND**

- On Friday, February 3, 2017, a 12-inch diameter asbestos cement (AC) water main installed in 1972 broke near the intersection of Summerfield Crossing and Foxcroft Drive.
- Staff engaged a consultant to investigate the cause of the main break and subsequently performed an After Action Review (AAR) which identified both the successful staff responses to the water main break as well as areas of response which could be improved.
- The Action Plan was developed to ensure successful implementation of the AAR recommendations. Staff believes that successful implementation of the Action Plan will improve our level of service to the community with respect to prudent management of the risk of future water main breaks.

**ACTION NEEDED**

- Staff recommends that the Board approve and authorize staff to implement the Action Plan resulting from the Foxcroft Drive Water Main Break, and directing that that the Board and public be kept advised as to staff's progress in completing the Action Plan.


March 23, 2017



# 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:** Vishnu Gangadharan, P.E.  
**DATE:** March 17, 2017  
**SUBJECT:** **Action Plan resulting from Foxcroft Drive Water Main Break**

### Purpose

This memorandum provides an Action Plan to implement actions which were recommended following a review of the February 3, 2017 water main break on Foxcroft Drive.

### Background

On Friday, February 3, 2017, a 12-inch diameter water main installed in 1972 broke near the intersection of Summerfield Crossing and Foxcroft Drive. AECOM Technical Services of North Carolina, Inc. (AECOM) evaluated the circumstances surrounding the main break and prepared a February 10 report which determined, among other findings, that the root cause of the main break was the improper installation of the water main over a storm water pipe which crossed underneath it. On February 15, staff conducted an After Action Review (AAR) which identified both the successful staff responses to the water main break as well as areas of response which could be improved. The attached Action Plan was developed to ensure successful implementation of the AAR recommendations.

Staff believes that successful implementation of the Action Plan will improve our level of service to the community with respect to prudent management of the risk of future water main breaks.

Should the Board determine that the Action Plan meets its expectations, the Board has the option of approving the motion below at the March 23, 2017 Board meeting.

*Motion to approve and to authorize staff to implement the Action Plan resulting from the Foxcroft Drive Water Main Break, and directing that that the Board and public be kept advised as to staff's progress in completing the Action Plan.*



Vishnu Gangadharan, P.E.  
Engineering Manager – Capital Projects

Attachments: Table 1 – Action Plan Resulting from Foxcroft Water Main Break



**Table 1**  
**Action Plan Resulting from Foxcroft Drive Water Main Break**

Action Item	Target Completion Date	Person(s) Responsible	Notes
Correct the configuration of the 4-inch valve located on Foxcroft Drive in GIS.	3-31-2017	Leo	Complete
Update the Comprehensive Emergency Management Plan's SharePoint list of contractors as a central repository for emergency contractor contact information.	4-14-2017	Gangadharan	
Provide staff training and/or update standard procedures to ensure that discrepancies about valve size and connectivity discovered during operations and maintenance activity are updated in the GIS inventory.	4-30-2017	Horton	
Train staff on the pipe coupling modification and installation methods used during Foxcroft Drive Water Main Break.	5-31-2017	Horton	
Review the SOP for main break repairs to assess whether additional data collection is warranted and practical, including such documentation as marking the orientation of any removed pipe, performing materials testing, taking photos, and recording dimensions and clearances between utilities.	5-31-2017	Gangadharan, Horton	
When conducting the re-evaluation of the water main replacement program (including the prioritization of mains, rate of replacement, and condition assessment technologies), consider the circumstances and root cause discovered for the Foxcroft Drive Water Main Break.	12-31-2017	Haggerty, Gangadharan	An evaluation of the water main prioritization program, already planned for calendar year 2017, will inform future CIP development.
Consider alternatives for distribution system reinforcement in the Sierra Drive area to improve service under emergency conditions.	9-30-2017	Haggerty	
Provide training to staff on interacting with members of the media.	6-30-2017	Feller	Under the Administrative Guide on Public Information, directors and managers who report to the Executive Director are authorized to provide information in their areas of responsibility and to delegate these tasks to staff.
Investigate how the new AMI system may improve leak and break detection by, for example, incorporating acoustic sensors.	12-31-2017	Taylor	

**AGENDA ITEM**

- **Fiscal Year (FY) 2018 Draft Budget Review and Staff Rate Adjustment Recommendation**

**PURPOSE**

- To provide a draft FY 2018 budget for the Board's review.
- Based on budget information compiled to-date, staff is recommending no increase in the rates OWASA charges for monthly water and sewer services.

**ACTION REQUESTED**

- Provide guidance to staff regarding any additional information the Board would like to review regarding the Draft FY 2018 Budget and staff's rate adjustment recommendation.

March 23, 2017



# 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 *EK*

**FROM:** Stephen Winters, CPA

**DATE:** March 17, 2017

**SUBJECT:** Fiscal Year (FY) 2018 Draft Budget Review and Staff Rate Adjustment Recommendation

### Purpose

The purpose of this discussion is to provide the Board of Directors with information about the draft operating, capital improvements program (CIP) and capital equipment budgets for Fiscal Year (FY) 2018. The Board will continue to discuss these topics, as necessary, in order to be prepared to hold public hearings on May 25, 2017 and make final budget and rates decisions at the June 8, 2017 Board meeting.

### Summary of the draft budget

Expenditures in the draft FY 2018 budget include

Category	Amount (in thousands)
Operating Expenses	\$21,945
Capital Equipment Expenditures	1,231
Capital Improvements Program (CIP)	14,589
Debt Service on Outstanding Bonds	6,930
Total	\$44,695

### Operating Expenses

The draft FY 2018 operating expense budget is about 4.4% greater than the FY 2017 budget. Table 2 in Attachment 1 shows details of the draft budget and includes notations explaining the larger variances between the draft FY 2018 and adopted FY 2017 budgets. The following are some of the assumptions and highlights of the FY 2018 draft budget.

1. 2.5% vacancy allowance – the personnel compensation budget has been reduced by about \$200,000, to account for position vacancies.
2. 15% increase in health insurance. This will be adjusted once we receive information from our health insurance provider.
3. No increase in the rates we are charged for electricity.
4. Small increase in the expected unit costs of chemicals.

5. A placeholder for a 3% merit increase is included (approximately \$230,000). The Board is scheduled to discuss employee merit increases on May 11, 2017 and make a decision on employee raises on June 8, 2017.
6. We continue to consider alternative methods for measuring and compensating employee performance; the Board has discussed implementing a plan to allow for employees to progress through their position's salary range more quickly. However, since no plan has yet been determined, no funding provision is included in the current draft budget.
7. 138 Board authorized positions with 134 funded in the FY 2018 budget. At the March 23, 2017 Board meeting, we are requesting an additional Utilities Engineer position to the CIP group but this potential new position has not yet been factored-in to the budget.
8. While the current draft of the budget does not include provisions for assumptions #6 and #7, our analysis indicates that adding them to the budget will not change staff's rate adjustment recommendation.
9. After Action Reviews related to the February 2017 water emergency event are ongoing and may result in recommendations for CIP projects or other expenditures. Estimates of risk assessment projects at our treatment plants and costs to make improvements to the fluoride feed systems have been included in the draft CIP budget.
10. Recent changes to the rate structure applicable to multi-family master-metered customers are projected to be revenue neutral.
11. Drinking water and reclaimed water sales are not expected to increase or decrease significantly.
12. The budget includes funds for consulting assistance to help in the development and implementation of our Diversity and Inclusion Program.
13. Staff is working to update the fees we charge for new connections to the system (Service Availability Fees). While we plan to recommend Service Availability Fee rate changes, we do not expect the recommendation to significantly impact the budget.

### **Capital Equipment Expenditures**

A list of capital equipment purchases included in the draft budget can be found in Table 3 of Attachment 1. This list has been updated since March 9, 2017 to include justification for vehicle purchases and adjustments to a few line items (which are noted).

### **Capital Improvements Program**

CIP needs are identified by hydraulic models, risk/prioritization models, OWASA's Energy Management Program, master planning studies, condition assessment, staff observations, regulatory or contractual requirements, repair and maintenance work order evaluation, community feedback, and strategic planning. After CIP projects are identified, a staff team prioritizes projects using a weighted criteria model. In addition to the results of this project prioritization, staff accounts for project interrelationships, coordination with other entities (Towns, Department of Transportation, etc.), project urgency, implementation considerations, and other external schedule constraints.

Attachment 2, Table 1 includes brief information about the required and proposed FY 2018 projects. The CIP budget for FY 2018 assumes the Board will approve on March 23, 2017 a third Utilities Engineer. The proposed CIP for FY 2018 also assumes the potential reduced efficiency associated with hiring and training two new staff members. As a result of this and other project schedule and budget refinements, the draft FY 2018 CIP budget totals \$14.6 million, or about two-thirds of the amount we projected last year.

Required projects and projects underway (highlighted in blue) comprise over 90% of the draft FY 2018 CIP budget, including several larger projects that are expected to enter into a formal construction contract (requiring Board approval) over the next several months. These projects include the Rogerson Drive Pump Station

Rehabilitation, Advanced Meter Infrastructure (AMI) System, Brandywine Road Water Main, Rogerson Drive Force Main Rehabilitation, Administration Building HVAC System Upgrade, Water Treatment Plant (WTP) Filter Media and Backwash Improvements, and the Eastowne, Eubanks, Meadowmont 1 Pump Station Rehabilitation.

The draft FY 2018-2022 CIP is shown in Attachment 2, Table 2, with required projects and projects already underway highlighted in blue. The draft FY 2018-2022 CIP budget totals \$97.2 million, or about \$1.7 million higher than the projections we made last year.

The draft FY 2018-2022 CIP was developed based on the following assumptions:

- Current levels of service will be maintained.
- CIP staffing will include a third Utilities Engineer and replacement of the newly vacant Utilities Engineer position.
- Service area growth will remain within projections.
- Reclaimed water system will not be expanded.
- WWTP will continue to produce Class A biosolids.
- Biosolids recycling will continue at roughly 75% land application and 25% dewatering.
- The AMI system contract will be approved by the Board by the end of FY 2017.
- A biogas-to-energy project meeting strategic parameters will be completed by FY 2022.
- Our Jordan Lake allocation will be maintained, but no funding is included for a regional water intake/treatment facility at Jordan Lake.
- No funding or investments for construction of infrastructure that may be necessary to obtain improved (guaranteed) agreements with City of Durham and Town of Cary for water purchases during extreme droughts or operational emergencies.
- The regulatory environment for water treatment, wastewater treatment, reclaimed water and biosolids recycling will remain substantially as it is today.

We are comfortable that the levels of investment presented in this CIP leaves OWASA well-postured to remain the sustainable, responsible and environmentally focused organization that this community deserves and has come to expect.

**Staff's Rate Adjustment Recommendation**

Based on the current draft of the FY 2018 budget, staff recommends no increase in the rates OWASA charges for monthly water and sewer services. This would position the Board to be able to approve a budget with no increase in monthly rates for the sixth consecutive year. We also project that no rate increase will be needed in FY 2019. Projected rate adjustments over the next five years are:

FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
0.0%	0.0%	3.0%	3.0%	3.0%

In addition to the assumptions and highlights of the FY 2018 draft budget mentioned above, assumptions and highlights in our long-range financial plan include:

- Anticipated operating expense savings, beginning in FY 2019, from implementing Advance Metering Infrastructure (AMI) per the AMI feasibility study.

- A weighted average escalation of operating expenses of between 2.5% and 4% over the 15-year planning period.
- Acceptance of the state of North Carolina's offer of low-interest loans to fund approximately \$14 million of CIP projects. (A final decision has not been made. Staff will review this decision with the Board during the budget discussion scheduled for April.)

### **Next Steps**

We plan to discuss the FY 2018 budget, rate adjustment, and financial reserves at the April 13, 2017 Board meeting. Public hearings for the budget and rates are scheduled for May 25, 2017 with the Board's final approval tentatively set for June 8, 2017.

### **Action Requested**

Provide guidance to staff regarding any additional information the Board would like to review regarding the Draft FY 2018 Budget and staff's rate adjustment recommendation.



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Stephen Winters, CPA

Director of Finance and Customer Service

Attachments: Attachment 1, Table 1 – Summary of draft FY 2018 budget  
Attachment 1, Table 2 – Details of draft FY 2018 budget  
Attachment 1, Table 3 – Draft FY 2018 Capital Equipment Budget  
Attachment 1, Table 4 – Draft FY 2018 Consulting Expense Budget Detail  
Attachment 2, Table 1 – Draft FY 2018 CIP Budget  
Attachment 2, Table 2 – Draft FY 2018-22 CIP Budget

**Orange Water and Sewer Authority  
Draft FY 2018 Budget Information**

**Attachment 1, Table 1**

	<b>FY15 Actual</b>	<b>FY16 Actual</b>	<b>FY17 Forecast</b>	<b>FY17 Budget</b>	<b>FY18 Budget</b>	<b>FY18 Amounts in last year's model</b>	<b>FY18 Budget Compared FY17 Forecast</b>	<b>FY18 Budget Compared FY17 Budget</b>	<b>FY18 Budget compared to amount in last year's model</b>
Operating Expenses	19,463,185	19,793,818	20,907,943	21,007,583	21,945,308	21,313,806	5.0%	4.5%	3.0%
Capital Equipment	1,165,000	332,252	1,627,000	1,227,000	1,231,100	900,000	-24.3%	0.3%	36.8%
CIP	10,842,000	7,538,017	11,191,000	13,648,000	14,589,000	22,505,000	30.4%	6.9%	-35.2%
<b>Total</b>	<b>31,470,185</b>	<b>27,664,087</b>	<b>33,725,943</b>	<b>35,882,583</b>	<b>37,765,408</b>	<b>44,718,806</b>			

EXPENDITURE CLASSIFICATION	FY 2015 Actual	FY 2016 Actual	FY 2017 Budget	FY 2017 Forecast	FY 2018 Request	Dollar variance FY18 v FY17 Budgets	Percent variance FY18 v FY17 Budgets	Dollar variance FY18 Budget v FY17 Forecast	Percent variance FY18 Budget v FY17 Forecast	Notes
<b>SALARIES</b>										
SALARIES AND WAGES, REGULAR	6,966,001	7,343,784	7,445,829	7,425,485	7,736,072	290,242	3.9%	310,586	4.2%	3% merit increase, one IT position that was not included in FY17 budget
SALARIES AND WAGES, OVERTIME	300,974	267,684	217,002	306,422	276,200	59,198	27.3%	(30,222)	-9.9%	Anticipating less OT in FY18
STANDBY PAY	46,538	44,116	42,500	41,189	43,780	1,280	3.0%	2,591	6.3%	
PART-TIME	25,544	80,194	96,433	143,300	144,912	48,479	50.3%	1,612	1.1%	
PER DIEM	14,050	12,750	15,000	15,000	15,000	-	0.0%	-	0.0%	
Total Salaries	7,353,107	7,748,528	7,816,765	7,931,396	8,215,964	399,199	5.1%	284,568	3.6%	
<b>FRINGE BENEFITS</b>										
FICA	557,020	569,007	580,435	587,427	603,245	22,810	3.9%	15,818	2.7%	
RETIREMENT CONTRIBUTION	519,887	510,261	554,099	559,870	595,082	40,983	7.4%	35,212	6.3%	
DEFERRED COMPENSATION	291,868	180,045	162,240	166,240	181,480	19,240	11.9%	15,240	9.2%	
WORKERS COMPENSATION	119,208	158,241	104,500	130,720	121,680	17,180	16.4%	(9,040)	-6.9%	
HEALTH INSURANCE	1,312,419	1,631,609	1,926,413	1,886,390	2,217,523	291,110	15.1%	331,133	17.6%	Estimating a 15% increase
DENTAL INSURANCE	57,976	53,429	73,416	64,780	55,630	(17,786)	-24.2%	(9,149)	-14.1%	
VISION INSURANCE	32,422	31,120	50,000	40,093	40,000	(10,000)	-20.0%	(93)	-0.2%	
WELLNESS PROFRA REIMBURSEMENT	2,080	2,421	2,300	1,915	2,300	-	0.0%	385	20.1%	
RETIRES & COBRA INSURANCE	170,220	209,881	210,725	212,938	213,773	3,048	1.4%	835	0.4%	
DISABILITY INSURANCE	32,080	33,045	31,680	32,436	36,732	5,052	15.9%	4,297	13.2%	
AUTOMOBILE ALLOWANCE	6,250	6,500	6,000	6,000	6,000	-	0.0%	-	0.0%	
UNEMPLOYMENT TAX	11,586	1,486	22,000	14,801	15,000	(7,000)	-31.8%	199	1.3%	
UNIFORMS	54,927	59,251	54,200	55,416	57,183	2,983	5.5%	1,767	3.2%	
GROUP LIFE & A.D. & D.	38,554	39,488	23,760	30,394	7,336	(16,424)	-69.1%	(23,058)	-75.9%	
VACATION ACCRUED	25,133	-	-	-	-	-	-	-	-	
HEALTH INSURANCE DISCOUNT	-	-	-	-	-	-	-	-	-	
Total Fringe Benefits	3,231,630	3,485,784	3,801,769	3,789,421	4,152,965	351,197	9.2%	363,545	9.6%	
<b>UTILITIES</b>										
ELECTRICITY	1,062,455	1,075,156	1,092,972	1,064,530	1,146,420	53,448	4.9%	81,890	7.7%	Increase due to Duke Energy "discount" program ending.
WATER	-	-	-	-	-	-	-	-	-	
TELEPHONE - LOCAL	109,638	110,729	109,260	99,707	110,400	1,140	1.0%	10,693	10.7%	
TELEPHONE - LONG DISTANCE	-	-	-	-	-	-	-	-	-	
CELL PHONES	49,974	50,733	55,600	53,021	58,100	2,500	4.5%	5,079	9.6%	
FUEL	89,271	92,311	85,878	77,621	68,525	(17,354)	-20.2%	(9,096)	-11.7%	
WASTE DISPOSAL	480,255	534,314	200,500	242,727	305,030	104,530	52.1%	62,303	25.7%	Approx. \$100,000 increase in FY18 vs. FY17 budget (\$20,000 increase at water plant due to removal of media material in backwash and equalizing basins. \$80,000 increase at wastewater plant due to liquid land application contractor fees per plan to outsource 25% - contractor fees were not budgeted in FY17.)
Total	1,791,593	1,863,243	1,544,210	1,537,607	1,688,475	144,265	9.3%	150,868	9.8%	
<b>MATERIALS AND SUPPLIES</b>										
CHEMICALS	1,934,688	1,888,609	1,949,458	2,082,502	2,104,897	155,439	8.0%	22,394	1.1%	Small increase in unit costs. Also anticipating volume use similar to FY17 when the quality of raw water supply required higher-than-typical chemical dosages.
CHEMICALS - ODOR CONTROL	-	-	-	-	-	-	-	-	-	



EXPENDITURE CLASSIFICATION	FY 2015 Actual	FY 2016 Actual	FY 2017 Budget	FY 2017 Forecast	FY 2018 Request	Dollar variance FY18 v FY17 Budgets	Percent variance FY18 v FY17 Budgets	Dollar variance FY18 Budget v FY17 Forecast	Percent variance FY18 Budget v FY17 Forecast	Notes
LAND APPLICATION	75,699	25,265	60,000	53,845	50,000	(10,000)	-16.7%	(3,845)	-7.1%	
SMALL TOOLS	15,703	31,586	21,620	22,898	25,155	3,535	16.4%	2,257	9.9%	
SUBSCRIPTIONS	1,129	1,160	2,555	1,790	2,425	(130)	-5.1%	635	35.5%	
LAKE SUPPLIES	18,889	25,485	25,500	24,619	59,328	33,828	132.7%	34,709	141.0%	Increase of \$28,000 due to reclassification of expenses from professional services (in FY17 and prior budgets) to lake supplies in FY18 budget. Expenses more appropriately classified as lake expenses (aquatic weed control, dam inspections)
FUEL - VEHICLES	148,723	95,950	180,350	143,646	151,118	(29,232)	-16.2%	7,473	5.2%	Lower vehicle fuel expense at WWTP to outsourcing 25% of biosolids land application.
OFFICE SUPPLIES	25,472	37,323	41,075	39,467	43,375	2,300	5.6%	3,908	9.9%	
COMPUTER EQUIPMENT & PARTS	72,243	73,146	81,680	81,679	87,700	6,020	7.4%	6,021	7.4%	
LABORATORY EXPENSES	177,856	229,663	205,106	195,849	215,343	10,237	5.0%	19,494	10.0%	
SAFETY SUPPLIES	33,723	48,336	62,619	64,293	61,685	(934)	-1.5%	(2,608)	-4.1%	
OTHER	30,482	26,168	22,850	28,669	24,650	1,800	7.9%	(4,019)	-14.0%	
Total	2,534,607	2,482,691	2,652,813	2,739,258	2,825,676	172,863	6.5%	86,418	3.2%	
<b>MAINTENANCE</b>										
MAINTENANCE - EQUIPMENT	961,766	890,594	1,008,884	1,007,533	1,002,625	(6,259)	-0.6%	(4,908)	-0.5%	
MAINTENANCE - PUMPING EQUIPMENT	255,468	189,510	471,250	430,541	369,450	(101,800)	-21.6%	(61,091)	-14.2%	WWTP budgeting for lower expenses in FY18 based on anticipated maintenance needs.
MAINTENANCE - RESERVOIR & TANK FACILITIES	122,106	148,619	169,700	167,408	170,900	1,200	0.7%	3,493	2.1%	
BUILDINGS	36,236	41,135	34,800	33,420	32,300	(2,500)	-7.2%	(1,120)	-3.4%	
MAINTENANCE - MAINS	305,651	311,601	282,850	277,170	302,725	19,875	7.0%	25,555	9.2%	Budgeting to paint, etc. the boardroom and upgrade furnishings in water plant lab.
MAINTENANCE - METERS	506,518	331,460	423,900	423,900	434,400	10,500	2.5%	10,500	2.5%	
MAINTENANCE - METERS	253,022	295,046	308,090	295,119	439,790	131,700	42.7%	144,671	49.0%	Increase of \$125,000 at WWTP due to reclassification of SCADA instrumentation maintenance contract from consultants expense to meter maintenance.
MAINTENANCE - HYDRANTS	21,618	18,733	19,896	54,174	23,925	4,029	20.3%	(30,249)	-55.8%	Budgeting lower costs for FY18. FY17 costs unusually high due to fire department hydrant inspections and identification of hydrant maintenance needs.
MAINTENANCE - SERVICE LINES	33,144	61,035	43,501	50,979	67,584	24,084	55.4%	16,606	32.6%	
GROUNDS	73,558	81,547	88,000	83,837	82,000	(6,000)	-6.8%	(1,837)	-2.2%	
MOTOR VEHICLES	176,863	177,781	179,560	188,872	185,500	5,940	3.3%	(3,372)	-1.8%	
Total	2,745,950	2,547,061	3,030,431	3,012,952	3,111,199	80,768	2.7%	98,247	3.3%	
<b>PROFESSIONAL SERVICES</b>										
LEGAL	251,452	258,420	240,000	240,000	240,000	-	0.0%	-	0.0%	
ACCOUNTING	29,750	23,688	31,750	31,750	32,000	250	0.8%	250	0.8%	
ENGINEERING	86	1,550	10,500	3,540	12,500	2,000	19.0%	8,960	253.1%	
INSURANCE	287,203	232,405	226,779	229,694	225,798	(981)	-0.4%	(3,895)	-1.7%	
COLLECTION SERVICES	35,144	35,468	45,000	44,872	40,000	(5,000)	-11.1%	(4,872)	-10.9%	

EXPENDITURE CLASSIFICATION	FY 2015 Actual	FY 2016 Actual	FY 2017 Budget	FY 2017 Forecast	FY 2018 Request	Dollar variance FY18 v FY17 Budgets	Percent variance FY18 v FY17 Budgets	Dollar variance FY18 Budget v FY17 Forecast	Percent variance FY18 Budget v FY17 Forecast	Notes
CONSULTANTS	467,489	514,344	853,300	622,953	512,700	(340,600)	-39.9%	(110,253)	-17.7%	Decrease due to reclassification of expenses from consultants to dues expense - expenses are more appropriately classified as dues (e.g. Partnership for Safe Water, Triangle J, etc.). Also reclassified SCADA instrumentation contract from consultants to maintenance.
FINANCIAL SERVICES	233,580	251,042	267,100	267,754	267,100	-	0.0%	(654)	-0.2%	
TRUSTEE SERVICES	22,425	17,050	29,350	29,350	29,350	-	0.0%	-	0.0%	
OTHER	51,838	61,025	77,500	73,000	85,000	7,500	9.7%	12,001	16.4%	
Total	1,378,967	1,394,992	1,781,279	1,542,912	1,444,448	(336,831)	-18.9%	(98,464)	-6.4%	
<b>COMMUNICATIONS</b>										
POSTAGE AND FREIGHT	103,660	105,815	110,835	105,893	112,800	1,965	1.8%	6,907	6.5%	
CUSTOMER INFORMATION	18,468	29,162	30,922	23,348	24,387	(6,535)	-21.1%	1,039	4.5%	
ADVERTISING	34,774	30,952	22,250	30,184	28,950	6,700	30.1%	(1,234)	-4.1%	
OTHER	3,300	4,160	5,040	5,040	4,950	(90)	-1.8%	(90)	-1.8%	
Total	160,202	170,089	169,047	164,465	171,087	2,040	1.2%	6,622	4.0%	
<b>PRINTING AND REPRODUCTION</b>										
PRINTING AND REPRODUCTION	4,659	7,293	10,000	9,546	14,000	4,000	40.0%	4,454	46.7%	
Total	4,659	7,293	10,000	9,546	14,000	4,000	40.0%	4,454	46.7%	
<b>EDUCATION AND DEVELOPMENT</b>										
EDUCATION AND DEVELOPMENT	126,215	105,541	145,520	133,314	154,475	8,955	6.2%	21,161	15.9%	
BOARD TRAVEL	-	-	-	-	-	-	-	-	-	
Total	126,215	105,541	145,520	133,314	154,475	8,955	6.2%	21,161	15.9%	
<b>MISCELLANEOUS</b>										
DUES AND MEMBERSHIPS	41,544	43,110	42,397	45,920	141,531	99,134	233.8%	95,611	208.2%	Increase due to reclassification of expenses from consultants to dues. These expenses are more appropriately classified as dues (Partnership for Safe Water, Triangle J, etc.)
CONSERVATION	2,295	1,459	8,500	8,500	6,000	(2,500)	-29.4%	(2,500)	-29.4%	
OVERAGES AND SHORTAGES	(153)	167	-	-	-	-	-	-	-	
UNCOLLECTABLE ACCOUNTS	31,155	23,197	30,000	30,000	30,000	-	0.0%	-	0.0%	
RENT AND LEASES	53,903	59,351	63,102	62,335	62,838	(264)	-0.4%	503	0.8%	
FOREST MANAGEMENT	87,178	43,960	10,000	3,390	8,200	(1,800)	-18.0%	4,810	141.9%	
BOARD EXPENSES	2,274	2,743	4,500	4,500	4,500	-	0.0%	-	0.0%	
RECRUITMENT	3,943	1,787	4,000	4,000	4,000	-	0.0%	-	0.0%	
OTHER	39,028	45,443	60,250	61,949	69,950	9,700	16.1%	8,001	12.9%	
Total	261,167	221,217	222,749	220,594	327,019	104,270	46.8%	106,425	48.2%	
Total Personnel Services	10,584,737	11,234,312	11,618,533	11,720,816	12,368,929	750,396	6.5%	648,112	5.5%	
Total Operating Services	9,003,360	8,792,127	9,556,049	9,360,648	9,736,379	180,330	1.9%	375,731	4.0%	
Total Operating and Maintenance	19,588,097	20,026,439	21,174,583	21,081,465	22,105,308	930,725	4.4%	1,023,843	4.9%	
CONSTRUCTION CREDIT	(124,912)	(232,621)	(167,000)	(173,522)	(160,000)	7,000	-4.2%	13,522	-7.8%	

EXPENDITURE CLASSIFICATION	FY 2015 Actual	FY 2016 Actual	FY 2017 Budget	FY 2017 Forecast	FY 2018 Request	Dollar variance FY18 v FY17 Budgets	Percent variance FY18 v FY17 Budgets	Dollar variance FY18 Budget v FY17 Forecast	Percent variance FY18 Budget v FY17 Forecast	Notes
Net	19,463,185	19,793,818	21,007,583	20,907,943	21,945,308	937,725	4.5%	1,037,365	5.0%	

Department	Equipment Description	FY 2018 Request	Notes
<b>Engineering Dept 03</b>			
	Replacement truck for Construction Inspector	27,000	Replaces a 2005 Ford Ranger with 175,000 miles.
<b>Engineering total</b>		<u>27,000</u>	
<b>IT Department 07</b>			
	Core Network Switch	16,000	Existing switch has reached end-of-support and needs to be replaced.
	Server for WWTP	10,000	Second server at WWTP for increased capacity and redundancy
<b>IT total</b>		<u>26,000</u>	
<b>WTP Department 11</b>			
	2017 Ford F250 pickup truck, 8,600 lbs. GVWR	31,100	Replaces 1997 Ford F250 with 122,050 miles. Truck is used to move our large generators to remote sites which requires a 3/4 ton truck to safely transport the additional weight.
	Grasshopper 725 DT6 Mower, 25 hp diesel motor with 61" mowing deck.	15,600	During the past two years lake staff has only been able to use the Kubota mower for approximately 50% of the time needed due to lengthy repairs and servicing that have totaled over \$5,000. The mower is approximately 20 years old.
<b>WTP total</b>		<u>46,700</u>	
<b>Dist Department 12</b>			
	CL-12 Tapping Machine	28,000	Replaces and old machine that 23 years old and does not perform well.
	Tool Truck with Utility Bed	60,000	Replaces a 2001 Dodge Truck 12-17 with 166,596 miles and high maintenance costs.
	CAT 420F2 Backhoe	108,800	Replaces a 1999 JCB 214 4WD backhoe/loader with 6,400 hours and high maintenance costs. Parts are obsolete and the equipment has become difficult to operate.
	Mack Dump Truck	125,000	Replaces a 1995 Mitsubishi FK 457 dump truck. Repair/replacement parts are obsolete and therefore difficult to find.
	Mack Boom Truck	275,000	Replaces a 1995 Ford CFT8000 boom and dump truck. Repair/replacement parts are obsolete and therefore difficult to find.

Department	Equipment Description	FY 2018 Request	Notes
	2 SALA Tripod	23,500	Replacing two old and outdated tripods used by staff when descending into a pit. This is a safety issue.
	Used Mack Tractor	42,500	This is an addition to the fleet and will be used to pull our lowboy trailer. The WTP's tractor has been modified for use at the plant and cannot meet Distribution's needs.
<b>Distribution total</b>		<u>662,800</u>	
<b>WWTP Department 21</b>			
	Emergency/Back-Up Pump	30,000	Need multi-purpose emergency/back-up pump for use at the WWTP; specifically during high-flow (storm) events.
	3/4 ton pick-up truck (inclusive of utility body/boxes/trailer hitch)	40,000	Replaces a 2002 Chevrolet 2500 service truck with 131,586 miles on it. Requesting to replace due to age, mileage and maintenance costs. (1/2 ton trucks cannot accommodate the weight requirements for service bodies outfitted with tools and fuel transfer tanks. We also haul generators and diesel powered pumps to our 21 lift stations throughout the service area and the 3/4 ton trucks are needed to safely accomplish this task.)
	3/4 ton pick-up truck (inclusive of utility body/boxes/trailer hitch)	40,000	Replaces 2000 Dodge 2500 with 126,225 miles on it. Requesting to replace due to age, mileage and maintenance costs. (1/2 ton trucks cannot accommodate the weight requirements for service bodies outfitted with tools and fuel transfer tanks. We also haul generators and diesel powered pumps to our 21 lift stations throughout the service area and the 3/4 ton trucks are needed to safely accomplish this task.)
	Nutrient/Alkalinity Analyzers	35,000	Additional process control nutrient analyzers for 1) total nitrogen and total phosphorus optimization and 2) replacement alkalinity analyzer for reclaimed water operation.
	Autoclave for WWTP lab	15,000	Replacement autoclave for WWTP lab (in use since 1994).
	Tractor and Pull Behind Tank for Biosolids Land Application	195,000	Replacement for old terragator (obsolete, replacement parts no longer commercially available)

Department	Equipment Description	FY 2018 Request	Notes
	Skid Steer	65,000	Need multi-purpose equipment for use around WWTP, remote pump stations, and biosolids sites. Includes variety of attachments - pallet forks, scrape blade, grapple, etc. Most locations at WWTP are too small to get backhoe or other larger equipment in due to tight spaces.
<b>WWTP total</b>		<u>420,000</u>	
<b>Coll Department 22</b>			
	Two Bush Hogs	9,400	Replaces existing units purchased in 2012.
	2017 3/4 Ton 4x4 Pickup Truck	39,200	Replaces 1997 F250 4x4 pickup truck with 249,600 miles and high maintenance costs. Will be used to pull our trailer mounted jet cleaner and our easement reel machine down the OWASA easements. Requires a 3/4 ton truck to safely transport the additional weight.
<b>Collection</b>		<u>48,600</u>	
<b>Grand total</b>		<u>1,231,100</u>	

Item No.	Description	Dept	FY18 Draft Budget Total	FY17 Budget Total	Notes
1	Energy Management Plan	Executive Director	15,000	35,000	
2	Diversity and Inclusion program	Executive Director	60,000	-	Increased by \$20,000 based on Board's guidance at the March 9 Board meeting.
3	Interpreter service for hearing impaired	Executive Director	1,000	1,000	
4	Miscellaneous survey work - easement surveys, boundary surveys, manholes, etc.	Engineering and Planning	7,500	7,500	
5	LRWSP - update cost analysis and yield analysis; additional cost analysis (Burlington option; new legislation on reclaimed water)	Engineering and Planning	60,000	60,000	
6	LRWSP - climate change	Engineering and Planning	5,000	5,000	
7	LRWSP - community engagement (depending on Board guidance on community engagement)	Engineering and Planning	-	30,000	
8	Water and sewer capacity evaluations for new developments	Engineering and Planning	10,000		
9	Other (Jordan Lake Partnership, Miscellaneous LRWSP)	Engineering and Planning	10,000	22,700	
10	Hill, Chesson and Woody	Human Resources	57,200	52,000	
11	Frank Horton and Associates (Employee Assistance Program)	Human Resources	4,000	4,000	
12	Envirosafe (safety consulting (audits of facilities, programs) and safety training services)	Human Resources	52,500	42,000	
13	Total compensation study	Human Resources	-	130,000	
14	HR department - administrative support	Human Resources	15,000	15,000	
15	South Orange Technical Rescue	Human Resources	6,500	6,000	
16	Diversity/employee development training programs	Human Resources	-	40,000	FY18 funding in Executive Director Department's budget
17	Other (drug schreens, fitness for duty testing, background investigations, etc.)	Human Resources	14,000	13,500	
18	Annual rate revenue sufficiency study (Burton & Associates)	Finance	50,000	50,000	
19	Cabling	IT	15,000	15,000	
20	Network vulnerability assessment	IT	60,000	60,000	Instead of doing a Network Vulnerability Assessment in FY17, we did a PCI (credit card security) Standards Assessment because of some major changes we have had in our architecture since the last assessment. We have new card swipe machines and other network changes. As a result, we are not doing the Network Vulnerability Assessment in FY17 and instead want to do it in FY18.
21	Microsoft infrastructure	IT		30,000	
22	Cloud-hosted VoIP Planning and Design	IT	30,000		
23	Dynamics/Cogsdale	IT	10,000	10,000	
24	Website update	IT		20,000	(Removed \$20,000 since March 9 version. We do not believe we have the resources to devote to this due to other projects, including AML.) Web Site update was originally intended for FY17. Since there is so much going on organization-wide, we were considering it for FY18.
25	PSW membership	Water Treatment and Supply		600	Moved to Dues Expense (\$600 for FY18)

Item No.	Description	Dept	FY18 Draft Budget Total	FY17 Budget Total	Notes
26	Triangle area water supply monitoring project (Triangle J)	Water Treatment and Supply		43,000	Moved to Dues Expense (\$48,934 for FY18)
27	Water Research Foundation	Water Treatment and Supply		6,000	Moved to Dues Expense (\$6,000 for FY18)
28	Urban Water Consortium	Water Treatment and Supply		5,000	Moved to Dues Expense (\$5,000 for FY18)
29	Upgrade of Operations and Maintenance Manual	Water Treatment and Supply	30,000		(added since March 9 version)
30	Upper Cape Fear River Basin Association	Wastewater Treatment		12,500	Moved to Dues Expense (\$11,500 for FY18)
31	North Carolina Water Quality Association	Wastewater Treatment		5,000	Moved to Dues Expense (\$5,000 for FY18)
32	WERF	Wastewater Treatment		5,000	Moved to Dues Expense (\$5,000 for FY18)
33	CITI - Instrument Calibration Contract	Wastewater Treatment		25,000	Moved to Meter Maintenance Expense (\$25,000 for FY18)
34	CITI - Instrumentation/SCADA Maintenance Contract	Wastewater Treatment		100,000	Moved to Meter Maintenance Expense (\$100,000 for FY18)
35	WRRI	Wastewater Treatment		2,500	Moved to Dues Expense (\$5,000 for FY18)
<b>Totals</b>			<b>512,700</b>	<b>853,300</b>	



### DRAFT FY 2018 - 2022 CIP

Required project or project underway

CIP No.	Project Name	FY '18 Funding	Comment
270-04	Jordan Lake Raw Water Supply Allocation	\$ 5,000	ongoing required payment
270-09	Stone Quarry Reservoir Development	\$ 15,000	ongoing required payment
270-26	Cane Creek Permanganate Facility	\$ 120,000	Completion of construction started in FY '17
272-14	Water Facility Security Upgrades	\$ 100,000	Completion of construction started in FY '17
272-21	WTP Switchgear Upgrade	\$ 60,000	Completion of construction to be awarded in FY '17
272-34	WTP Generator Building Louver Replacement	\$ 25,000	Completion of construction to be awarded in FY '17
272-38	WTP Sedimentation Basin Rehabilitation	\$ 182,000	Study underway; funds are for initiation of detailed design
272-39	Concrete Condition Assessment	\$ 75,000	Condition assessment is underway; funds are for design and construction of priority rehabilitation needs identified by study.
272-40	WTP Filter Media and Backwash Improvements	\$ 880,000	Completion of construction to be awarded in FY '17
275-20	Lake Ellen Water Main Replacement	\$ 160,000	Design is underway; funds are for completion of construction
275-20	Brandywine Road WM	\$ 985,000	Completion of construction to be awarded in FY '17
275-46	Dobbins Drive Water Main	\$ 60,000	Study underway; funds are for initiation of detailed design
275-53	Water Distribution System Hydraulic Model	\$ 30,000	Minor modeling assistance periodically required to support CIP project needs
275-76	Advanced Meter Infrastructure (AMI) System	\$ 1,000,000	Funds are for initial implementation/installation efforts for system
275-77	Galvanized Water Main Replacements	\$ 150,000	Funds are for completion of design and start of construction for small water main replacements at multiple locations
275-87	Hillsborough St Water Main Replacement	\$ 800,000	Funds are for completion of construction
276-17	Sanitary Sewer Condition Evaluation	\$ 200,000	Funds are completion of prioritized sanitary sewer inspection (currently underway) and programming of rehabilitation
276-18	Sanitary Sewer Rehabilitation	\$ 1,514,000	Funds are for ongoing sewer rehabilitation under existing multi-year contract
276-45	Bolinwood Dr Interceptor	\$ 150,000	Completion of construction to be awarded in FY '17
276-47	Little Creek Interceptor	\$ 25,000	Completion of construction started in FY '16
276-48	Dobbins Drive Interceptor	\$ 65,000	Study underway; funds are for initiation of detailed design
276-53	Creek Crossing Access Improvements	\$ 393,000	vehicular creek crossing improvements at several locations; design is nearly complete
276-57	Sanitary Sewer Hydraulic Model	\$ 130,000	Funds for flow monitoring and analysis to verify need and timing of several capacity-based projects
277-24	Eastowne, Eubanks, Meadowmont 1 Pump Station Rehab	\$ 665,000	Completion of construction to be awarded in FY '17
277-29	Rogerson Drive Force Main Redundancy Evaluation	\$ 20,000	Completion of study commenced in FY '17
277-31	Rogerson Drive Pump Station Rehabilitation	\$ 1,550,000	Completion of construction to be awarded in FY '17
277-37	Knolls PS Rehab	\$ 75,000	Study is underway; funds are for design of recommended improvements
277-38	Rogerson Drive Force Main Emergency Repair and Rehabilitation	\$ 950,000	Completion of construction to be awarded in FY '17
278-46	Comprehensive Coatings Program	\$ 200,000	Corrosion control of key facilities, components and structures (annual program)
278-51	WWTP Solids Thickening Improvements	\$ 300,000	Study is underway; funds are for completion of detailed design
278-52	WWTP Digesters #1 & #2 Rehabilitation	\$ 50,000	Completion of construction started in FY '16
278-54	WWTP IPS Rehabilitation	\$ 535,000	Completion of construction to be awarded in FY '17
278-58	WWTP Non Potable Water Pump Replacements	\$ 120,000	Completion of construction started in FY '17
278-61	WWTP Pavement Improvements	\$ 20,000	Completion of construction to be awarded in FY '17
278-68	Building Envelope Rehabilitation	\$ 250,000	Design is underway; funds are for completion of construction (roof replacements)
278-71	WWTP Main Potable Water Line – Backflow Prevention	\$ 25,000	Completion of construction to be awarded in FY '17
278-72	WWTP Secondary Clarifier Rehab	\$ 250,000	Completion of clarifier rehabilitation and improvements identified by ongoing FY '17 study
278-73	WWTP SCADA System Upgrade	\$ 300,000	Further rollout of system upgrades which were piloted in FY '17
280-06	Administration Building HVAC System Upgrade	\$ 900,000	Commencement of construction to be completed in FY '18 and '19
270-11	University Lake Pump Station Improvements	\$ 65,000	Preliminary engineering study is underway; funds are for completion of detailed design in FY '18
272-35	WTP Flash Mix Basins Isolation Valve Replacement	\$ 25,000	Funds are for preliminary study of alternatives to improve resiliency/redundancy
272-37	Belt Filter Press Rehab	\$ 100,000	Funds are for preliminary study of alternatives and completion of detailed design
272-47	WTP Risk Assessment	\$ 100,000	Analysis of failure modes and risk mitigation measures for plant
272-48	WTP Fluoride System Improvements	\$ 150,000	Completion of capital work as recommended by Action Plan
275-21	High Priority Water Main Replacement	\$ 170,000	Program of ten identified high priority water main replacements, mostly AC pipe and on the eastern side of 640-zone
275-52	Cameron Avenue Water Main	\$ 50,000	FY '18 funds are for updating the alternatives analysis and commencement of detailed design
276-46	Willow Drive Interceptor	\$ 20,000	FY'18 funds are for preliminary engineering
277-39	WWPS Rehabilitation and Replacement FY18-20	\$ 90,000	FY '18 funds are for critical safety improvements identified at wastewater pump stations
278-43	WWTP Biogas-to-Energy Combined Heat and Power	\$ 100,000	FY'18 funds are for a planning/feasibility study
278-50	WWTP Warehouse	\$ 25,000	FY'18 funds are for a planning/feasibility study
278-78	Digester/Fermenter Rehab and Mixing and Pumping Improvements	\$ 40,000	FY'18 funds are for a planning/feasibility study to evaluate potential digester mixing improvements
278-79	Primary Sludge PS Rehab and Old Lab Building Demo	\$ 50,000	FY '18 funds are for structural evaluation, alternatives analysis, and near-term electrical safety work
278-80	WWTP Rehabilitation and Replacement FY18-20	\$ 125,000	Funds are for initiation of design for chemical building and piping improvements
278-81	WWTP Risk Assessment	\$ 100,000	Analysis of failure modes and risk mitigation measures for plant
280-12	Admin Building LED Lighting Retrofit	\$ 45,000	Funds are for a retrofit of all interior incandescent lighting and fluorescent lighting fixtures at the Administration Building with light emitting diodes.
<b>TOTAL Draft CIP</b>		<b>\$ 14,589,000</b>	

**Subtotal - Required Projects and Projects Underway \$ 13,399,000**

## DRAFT FY 2018 - 2022 CIP

Required project or project underway
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CIP No.	Project Name	FY '18 Funding	FY ' 19 Funding	FY ' 20 Funding	FY ' 21 Funding	FY '22 Funding	Total Funding FY '18-'22
270-04	Jordan Lake Raw Water Supply Allocation	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 25,000
270-09	Stone Quarry Reservoir Development	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 300,000	\$ 360,000
270-26	Cane Creek Permanganate Facility	\$ 120,000	\$ -	\$ -	\$ -	\$ -	\$ 120,000
272-14	Water Facility Security Upgrades	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ 100,000
272-21	WTP Switchgear Upgrade	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000
272-34	WTP Generator Building Louver Replacement	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ 25,000
272-38	WTP Sedimentation Basin Rehabilitation	\$ 182,000	\$ 1,648,000	\$ 1,466,000	\$ -	\$ -	\$ 3,296,000
272-39	Concrete Condition Assessment	\$ 75,000	\$ 200,000	\$ -	\$ -	\$ -	\$ 275,000
272-40	WTP Filter Media and Backwash Improvements	\$ 880,000	\$ 220,000	\$ -	\$ -	\$ -	\$ 1,100,000
275-20	Lake Ellen Water Main Replacement	\$ 160,000	\$ -	\$ -	\$ -	\$ -	\$ 160,000
275-20	Brandywine Road WM	\$ 985,000	\$ -	\$ -	\$ -	\$ -	\$ 985,000
275-46	Dobbins Drive Water Main	\$ 60,000	\$ 1,438,000	\$ -	\$ -	\$ -	\$ 1,498,000
275-53	Water Distribution System Hydraulic Model	\$ 30,000	\$ 30,000	\$ 50,000	\$ 150,000	\$ -	\$ 260,000
275-76	Advanced Meter Infrastructure (AMI) System	\$ 1,000,000	\$ 2,500,000	\$ 1,825,000	\$ -	\$ -	\$ 5,325,000
275-77	Galvanized Water Main Replacements	\$ 150,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ -	\$ 1,050,000
275-87	Hillsborough St Water Main Replacement	\$ 800,000	\$ 1,160,000	\$ -	\$ -	\$ -	\$ 1,960,000
276-17	Sanitary Sewer Condition Evaluation	\$ 200,000	\$ 510,000	\$ 744,000	\$ 780,000	\$ 906,000	\$ 3,140,000
276-18	Sanitary Sewer Rehabilitation	\$ 1,514,000	\$ 2,621,000	\$ 1,436,000	\$ 1,267,000	\$ -	\$ 6,838,000
276-45	Bolinwood Dr Interceptor	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ 150,000
276-47	Little Creek Interceptor	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ 25,000
276-48	Dobbins Drive Interceptor	\$ 65,000	\$ 1,574,000	\$ -	\$ -	\$ -	\$ 1,639,000
276-53	Creek Crossing Access Improvements	\$ 393,000	\$ -	\$ 250,000	\$ -	\$ -	\$ 643,000
276-57	Sanitary Sewer Hydraulic Model	\$ 130,000	\$ -	\$ -	\$ -	\$ -	\$ 130,000
277-24	Eastowne, Eubanks, Meadowmont 1 Pump Station Rehab	\$ 665,000	\$ -	\$ -	\$ -	\$ -	\$ 665,000
277-29	Rogerson Drive Force Main Redundancy Evaluation	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 20,000
277-31	Rogerson Drive Pump Station Rehabilitation	\$ 1,550,000	\$ 1,300,000	\$ -	\$ -	\$ -	\$ 2,850,000
277-37	Knolls PS Rehab	\$ 75,000	\$ 400,000	\$ -	\$ -	\$ -	\$ 475,000
277-38	Rogerson Drive Force Main Emergency Repair and Rehabilitation	\$ 950,000	\$ -	\$ -	\$ -	\$ -	\$ 950,000
278-46	Comprehensive Coatings Program	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 1,000,000
278-51	WWTP Solids Thickening Improvements	\$ 300,000	\$ 2,200,000	\$ 1,550,000	\$ -	\$ -	\$ 4,050,000
278-52	WWTP Digesters #1 & #2 Rehabilitation	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ 50,000
278-54	WWTP IPS Rehabilitation	\$ 535,000	\$ -	\$ -	\$ -	\$ -	\$ 535,000
278-58	WWTP Non Potable Water Pump Replacements	\$ 120,000	\$ -	\$ -	\$ -	\$ -	\$ 120,000
278-61	WWTP Pavement Improvements	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 20,000
278-68	Building Envelope Rehabilitation	\$ 250,000	\$ 75,000	\$ 300,000	\$ 75,000	\$ 300,000	\$ 1,000,000
278-71	WWTP Main Potable Water Line – Backflow Prevention	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ 25,000
278-72	WWTP Secondary Clarifier Rehab	\$ 250,000	\$ 100,000	\$ -	\$ -	\$ -	\$ 350,000
278-73	WWTP SCADA System Upgrade	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ 300,000
280-06	Administration Building HVAC System Upgrade	\$ 900,000	\$ 1,050,000	\$ -	\$ -	\$ -	\$ 1,950,000
270-11	University Lake Pump Station Improvements	\$ 65,000	\$ 700,000	\$ -	\$ -	\$ -	\$ 765,000
270-16	Cane Creek Pumping Improvements	\$ -	\$ 100,000	\$ 700,000	\$ -	\$ -	\$ 800,000
270-28	University Lake Permanganate Facility	\$ -	\$ 100,000	\$ 1,100,000	\$ -	\$ -	\$ 1,200,000
270-29	University Lake Fishing Pier and Boat Launch	\$ -	\$ 65,000	\$ -	\$ -	\$ -	\$ 65,000
270-30	Cane Creek Dam Spillway Horizontal Caulking	\$ -	\$ 40,000	\$ 250,000	\$ -	\$ -	\$ 290,000
270-31	Cane Creek Resurfacing	\$ -	\$ 70,000	\$ -	\$ -	\$ -	\$ 70,000
271-05	Cane Creek Raw Water Transmission Main Capacity Study	\$ -	\$ 40,000	\$ -	\$ -	\$ -	\$ 40,000
272-10	Water Facility Recapitalization	\$ -	\$ -	\$ -	\$ 2,460,000	\$ 1,979,000	\$ 4,439,000
272-35	WTP Flash Mix Basins Isolation Valve Replacement	\$ 25,000	\$ 70,000	\$ 215,000	\$ -	\$ -	\$ 310,000

## DRAFT FY 2018 - 2022 CIP

Required project or project underway
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CIP No.	Project Name	FY '18 Funding	FY ' 19 Funding	FY ' 20 Funding	FY ' 21 Funding	FY '22 Funding	Total Funding FY '18-'22
272-37	Belt Filter Press Rehab	\$ 100,000	\$ 743,000	\$ -	\$ -	\$ -	\$ 843,000
272-41	WTP Process, Sedimentation Basin, and Pulsator Turbidimeters	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000
272-42	WTP Finished Water Pump Rehabilitation/Replacement	\$ -	\$ -	\$ -	\$ 125,000	\$ 750,000	\$ 875,000
272-43	WTP Track Vac System Rehab	\$ -	\$ -	\$ 116,000	\$ -	\$ -	\$ 116,000
272-46	WTP Alum Storage and Containment Area	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ 25,000
272-47	WTP Risk Assessment	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ 100,000
272-48	WTP Fluoride System Improvements	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ 150,000
273-09	Barbee Chapel Road Booster Pump Station	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ 75,000
275-20	Fordham Service Road <b>(CREW)</b>	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ 150,000
275-20	Water Distribution System Recapitalization	\$ -	\$ -	\$ -	\$ 3,463,000	\$ 5,535,000	\$ 8,998,000
275-21	High Priority Water Main Replacement	\$ 170,000	\$ 1,718,000	\$ 3,638,000	\$ 1,452,000	\$ -	\$ 6,978,000
275-52	Cameron Avenue Water Main	\$ 50,000	\$ 1,050,000	\$ 900,000	\$ -	\$ -	\$ 2,000,000
275-67	Operational Evaluation of Future 740-Foot Zone	\$ -	\$ -	\$ 46,000	\$ -	\$ -	\$ 46,000
275-88	Stancell Drive Water Main	\$ -	\$ -	\$ -	\$ -	\$ 75,000	\$ 75,000
275-89	Abandon 6" CI in Main Street	\$ -	\$ 50,000	\$ 200,000	\$ -	\$ -	\$ 250,000
276-01	Bolin Creek Interceptor - Estes to Pathway	\$ -	\$ -	\$ 390,000	\$ 2,200,000	\$ 2,000,000	\$ 4,590,000
276-18	Collection System Recapitalization	\$ -	\$ -	\$ -	\$ -	\$ 1,283,000	\$ 1,283,000
276-46	Willow Drive Interceptor	\$ 20,000	\$ 50,000	\$ 225,000	\$ -	\$ -	\$ 295,000
276-52	Rocky Branch Interceptor Upgrade (Phase 1)	\$ -	\$ 62,000	\$ 706,000	\$ -	\$ -	\$ 768,000
276-58	Prince St common service replacement	\$ -	\$ 30,000	\$ 50,000	\$ -	\$ -	\$ 80,000
277-01	Pump Station Recapitalization	\$ -	\$ -	\$ -	\$ 326,000	\$ 343,000	\$ 669,000
277-13	Lake Ellen Force Main Replacement	\$ -	\$ 35,000	\$ 100,000	\$ -	\$ -	\$ 135,000
277-21	Force Main Condition Evaluation	\$ -	\$ -	\$ 338,000	\$ -	\$ -	\$ 338,000
277-23	Eubanks Road Force Main	\$ -	\$ -	\$ -	\$ -	\$ 55,000	\$ 55,000
277-39	WWPS Rehabilitation and Replacement FY18-20	\$ 90,000	\$ 105,000	\$ 608,000	\$ -	\$ -	\$ 803,000
278-11	WWTP Recapitalization	\$ -	\$ -	\$ -	\$ 3,774,000	\$ 4,760,000	\$ 8,534,000
278-43	WWTP Biogas-to-Energy Combined Heat and Power	\$ 100,000	\$ -	\$ -	\$ 250,000	\$ 3,000,000	\$ 3,350,000
278-50	WWTP Warehouse	\$ 25,000	\$ 50,000	\$ 450,000	\$ -	\$ -	\$ 525,000
278-75	WWTP Capacity Upgrade	\$ -	\$ -	\$ 100,000	\$ 100,000	\$ -	\$ 200,000
278-77	Bar Screen Rehab	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ 150,000
278-78	Digester/Fermenter Rehab and Mixing and Pumping Improvements	\$ 40,000	\$ 35,000	\$ 70,000	\$ 750,000	\$ -	\$ 895,000
278-79	Primary Sludge PS Rehab and Old Lab Building Demo	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ 50,000
278-80	WWTP Rehabilitation and Replacement FY18-20	\$ 125,000	\$ 475,000	\$ 300,000	\$ -	\$ -	\$ 900,000
278-81	WWTP Risk Assessment	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ 100,000
279-01	Reclaimed Water Rehabilitation	\$ -	\$ -	\$ -	\$ -	\$ 162,000	\$ 162,000
280-09	Administration Building Recapitalization	\$ -	\$ -	\$ -	\$ 186,000	\$ 195,000	\$ 381,000
280-10	Operations Center Recapitalization	\$ -	\$ -	\$ -	\$ 288,000	\$ 303,000	\$ 591,000
280-12	Admin Building LED Lighting Retrofit	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ 45,000
280-13	Remodeling of the Men's and Women's Locker Rooms at the	\$ -	\$ 30,000	\$ -	\$ -	\$ -	\$ 30,000
<b>TOTAL Draft CIP</b>		<b>\$ 14,589,000</b>	<b>\$ 23,564,000</b>	<b>\$ 18,793,000</b>	<b>\$ 18,166,000</b>	<b>\$ 22,151,000</b>	<b>\$ 97,263,000</b>

**AGENDA ITEM**

- **Proposed Resolution of the Orange Water and Sewer Authority Authorization of a New Utilities Engineer Position in the Engineering and Planning Department to Support the Capital Improvements Program**

**PURPOSE**

- To create a new full-time position, Utilities Engineer (Registered or Non-Registered), within the Engineering and Planning Department to support the renewal and replacement of OWASA's infrastructure through execution of the Capital Improvements Program (CIP).

**BACKGROUND**

- The Engineering and Planning Department's CIP group manages the renewal, replacement, and expansion of the water, wastewater and reclaimed water systems.
- The CIP group's two Utilities Engineers manage 20-25 capital projects at a time and the Engineering Manager for Capital Projects continues to manage projects taking his time and focus away from program management and oversight responsibilities. The Utilities Engineers are managing workloads that are not sustainable resulting in schedule slippage on less urgent, but still important, projects and tasks.
- The proposed Fiscal Year 2018-2022 CIP invests \$97 million in the community's infrastructure and the long-term (15 year) program maintains this level of investment to maintain reliable service.
- We have evaluated staffing needs and recommend adding a third Utilities Engineer to manage capital projects and support CIP execution. The benefits of this new position include:
  - project workloads that are appropriate and achievable;
  - better schedule adherence;
  - improved ability to meet program execution goals;
  - better response on expedited projects;
  - more time for community engagement;
  - resilience for CIP workload; and
  - the Engineering Manager can focus on program management activities such as budgeting and project execution; coordination with local agencies; community engagement; and relationships with the consultant and contractor communities.

**ACTION NEEDED**

- Staff recommends adoption of the Resolution of the Orange Water and Sewer Authority to Approve a New Utilities Engineer Position


March 23, 2017



# 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:** Mary Darr, P.E.  
**DATE:** March 16, 2017  
**SUBJECT:** Staffing Support for the Capital Improvements Program

### Purpose

Staff requests the addition of a third Utilities Engineer position to the Engineering and Planning Department to support the Capital Improvements Program (CIP). This proposed change to the *Schedule of Employee Classification and Authorized Compensation* requires Board action.

### CIP Staffing

The four staff members that make up the Engineering and Planning Department's CIP group oversee the renewal, replacement and expansion of the water, wastewater and reclaimed water systems to provide high quality and reliable service to the Carrboro-Chapel Hill community. The CIP group's two Utilities Engineers each manage a workload of 20 to 25 projects at a time. Because there are more projects than the Utilities Engineers can effectively manage, the Engineering Manager for Capital Projects continues to manage projects (30% of Fiscal Year (FY) 2017 expenditures), which takes time away from his program management and oversight responsibilities. An Engineering Associate assists the Utilities Engineers and Engineering Manager with various project tasks.

The Utilities Engineers are managing workloads that are not sustainable resulting in schedule slippage on less urgent, but still important, projects and tasks. This is one of several factors that contribute to CIP execution (expenditure to budget) being below our 90-105% goal. With the proposed FY 2018-2022 CIP at \$97 million and similar levels of infrastructure investment forecast for the long-term (15 years), we have reviewed CIP staffing and determined that the project management workload will continue to be more than our current staff can support.

We are requesting the addition of a third Utilities Engineer position to manage capital projects and support execution of the CIP. The benefits of adding a third Utilities Engineer include project workloads that are appropriate and achievable; better schedule adherence; improved ability to meet program execution goals; better response on expedited projects; more time for community engagement; and resilience for CIP workload. The addition of this position also frees up the Engineering Manager's time to work on program management activities including improving budgeting, project development, and project execution processes; strengthening the

coordination efforts with other local agencies; refining the processes for stakeholder/community engagement on CIP projects; and further developing our working relationships with the consultant and contractor communities. There were three Utilities Engineer positions from 2002 through 2009, when as a result of the economic downturn and OWASA's financial position, capital investments were deferred reducing the annual CIP budget to \$5-10 million for several years. In response to these conditions, staffing was reduced to two Utilities Engineer positions.

The qualifications for the position are detailed in the attached job descriptions. Utilities Engineer tasks include:

- Selecting, negotiating contracts with, and managing consultants involved with studies and design;
- Completing in-house design (occasionally);
- Acquiring easements and right-of-way;
- Reviewing and approving all project documents;
- Coordinating with other agencies (Towns, NCDOT, DEQ, UNC, etc.) for permit approval;
- Overseeing construction contractors;
- Monitoring construction progress;
- Resolving construction issues and disputes;
- Community engagement and project communication; and
- Responding to customer concerns

The Utilities Engineer is a skill based pay position. A Utilities Engineer (Non-Registered) can advance to a Utilities Engineer (Registered) upon completion of the North Carolina Board of Examiners for Engineers and Land Surveyors licensing requirements of education, good character and reputation, a record of progressive engineering work (typically 4 years), and passing the exam administered by the Board.

The salary range for this position is \$57,839-\$89,070 per year (Non-Registered) or \$63,622-\$97,978 per year (Registered) as of October 31, 2016. The hiring process will begin immediately and will be part of the ongoing recruitment to fill the Utilities Engineer position recently vacated.

**Action Requested**

Staff recommends adoption of the resolution to approve a new Utilities Engineer position.

Please let me know if I can provide additional information.



Mary Dan, P.E.  
Director of Engineering and Planning

Attachments: Job Descriptions  
Resolution



## Title: Utilities Engineer – Non-Registered

FLSA Status: Exempt



### BRIEF DESCRIPTION:

The purpose of this position is to provide professional engineering expertise to complete capital improvement projects. This is accomplished by developing budgets and plans; managing and overseeing all assigned capital improvement projects; ensuring all work is accomplished in accordance with the Federal, State and Local requirements; as well as OWASA's Standards and Specifications.

Duties include:

Assists the Engineering Manager (Capital Projects) in development of the 5-year CIP Budget.

Assist the Engineering Manager (Capital Projects) in development of the 15-year CIP Plan.

Ensures all Federal, State and Local requirements are met for all assigned CIP projects. This includes obtaining all required permits, authorizations to construct and all close-out documents necessary to allow the newly constructed systems to be placed into operation.

Manages all aspects of assigned CIP projects including, but not limited to, development of Requests for Proposals/Qualifications, contract development, cost estimating, project solicitation (advertisement), bid/proposal evaluation, contract award, observation/inspection of construction activities, processing of change orders and project close-out. In all activities he/she will ensure OWASA's efforts are conducted in accordance with all Federal, State and Local requirements.

Manages and oversees all assigned CIP engineering studies and modeling efforts to ensure work is accomplished in accordance with all Federal, State and Local requirements.

Manages and oversees all assigned CIP engineering designs to ensure work is accomplished in accordance with all Federal, State and Local requirements, and OWASA's Standards and Specifications.

Manages and oversees all assigned CIP related construction efforts to ensure all work is accomplished in accordance with the Federal, State and Local requirements, and OWASA's Standards and Specifications.

Acquires all necessary easements, encroachments, etc. for assigned projects. This includes ensuring all necessary easement related documents are developed and recorded to support OWASA's future operational and maintenance requirements for all CIP related projects.

Ensure that as-built and record drawings are developed, maintained and stored on all assigned CIP related projects in a fashion where the information is easily accessible for review/use in the future as approved by the Engineering Manager (Capital Projects).

Performs small-scale in-house designs.

## Orange Water and Sewer Authority

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Assists the Engineering Manager (Capital Projects) in ensuring that OWASA's Standards and Specifications are up to date and in accord with all local, State and Federal guidelines for water, sewer and reclaimed water construction.

Assists the Engineering Manager (Capital Projects) prepare reports to the OWASA Board of Directors including, but not limited to, the Semi-annual CIP Status Report.

Prepares interim and final evaluations on all construction contractors and consultants providing CIP related services through contracts valued at greater than \$30,000 for all assigned projects.

Complies with OWASA policy and or guidelines regarding communication with the public on all matters related to assigned CIP projects and responsibilities.

Ensures that all assigned CIP projects comply with the Minority participation requirements of the State, including all regular reporting requirements.

Reviews and recommends approval of contractor/consultant pay requests to ensure that payments are appropriate relative to services provided.

Interacts regularly with representatives of the Towns of Carrboro and Chapel Hill and NCDOT to ensure that assigned CIP responsibilities are closely coordinated with the Towns' and NCDOT's CIP and Maintenance related efforts.

Plays an essential support role in damage assessment and recovery operations in the aftermath of significant destructive weather and/or man-made disaster events. In accordance with the Orange Water and Sewer Authority (OWASA) Administrative Guide titled "*EMPLOYEE RESPONSIBILITIES FOR REPORTING TO WORK DURING ADVERSE WEATHER OR OTHER EMERGENCY CONDITIONS*", this position is deemed as "essential" during Destructive Weather Condition III (Recovery) conditions.

Meets with consulting engineers, contractors and others to advise them on matters of OWASA policy and to resolve constructability issues and other problem areas associated with assigned CIP projects.

Meets with customers to provide information on OWASA's water, sewer and reclaimed water systems and to provide advice and counsel as necessary to resolve problems related to assigned CIP projects.

Conducts/attends community meetings to provide information on assigned CIP projects.

Provides regular updates to key OWASA staff on assigned CIP projects.

Assists the Engineering Manager (Capital Projects) develop and maintain Standard Operating Procedures, checklists, etc. as necessary to institutionalize CIP procedures and practices.

Maintains performance measures (metrics) for assigned CIP projects.



# Orange Water and Sewer Authority

Maintains hard copy and electronic files for assigned CIP projects in a logical, easy to understand manner that will facilitate use by other OWASA employees (current and future).

Perform other duties as required.

## ESSENTIAL FUNCTIONS:

Note: This information is intended to be descriptive of the key responsibilities of the position. The list of essential functions below does not identify all duties performed by any single incumbent in this position. Additionally, please be aware of the legend below when referring to the physical demands of each essential function.

(S) Sedentary	(L) Light	(M) Medium	(H) Heavy	(V) Very Heavy
Exerting up to 10 lbs. occasionally or negligible weights frequently; sitting most of the time.	Exerting up to 20 lbs. occasionally; 10 lbs. frequently; or negligible amounts constantly; OR requires walking or standing to a significant degree.	Exerting 20-50 lbs. occasionally; 10-25 lbs. frequently; or up to 10 lbs. constantly.	Exerting 50-100 lbs. occasionally; 10-25 lbs. frequently; or up to 10-20 lbs. constantly.	Exerting over 100 lbs. occasionally; 50-100 lbs. frequently; or up to 20-50 lbs. constantly.

#	Code	Essential Functions
1	S	Oversees contract procurement and management by developing requests for proposals, requests for qualifications, and other contract solicitation documents; advertising and soliciting contracts in accordance with applicable regulations and policies; evaluating bidders and awarding contracts; negotiating contract terms; managing changes to contract time or cost; monitoring progress of contracted engineering or construction services through inspection and periodic evaluations and feedback; preparing performance evaluations for contractors and consultants; and managing relationships between OWASA and contractor/consultants.
2	S	Manages project budget and schedule by maintaining and monitoring various schedules in spreadsheets to track project status and progress and forecast future expenditures; coordinating efforts of consultants, contractors, and OWASA staff to meet scheduled completion dates and achieve CIP execution goals; and tracking project budgets to inform capital improvement program development.
3	S	Provides information on different aspects of project status to internal stakeholders including various reports to Engineering Manager (Capital Projects), Engineering and Planning Director, other OWASA staff, and the OWASA Board; providing reports and coordinating project efforts with local municipalities; and providing project updates via community meetings, mail, e-mail, and/or website postings to affected members of the public.
4	S	Determines project scope by gathering internal stakeholder requirements for projects; gaining consensus on project scopes; and managing changes to project scopes.

**JOB REQUIREMENTS:**

-Description of Minimum Job Requirements-	
Formal Education	Work requires broad knowledge in a general professional or technical field. Knowledge is normally acquired through four years of college resulting in a Bachelor's degree or equivalent and through earning certification as an Engineer-in Training (EIT) (also referred to as an Engineering Intern (EI) and Fundamentals of Engineering (FE).
Experience	Under and including one year.
Supervision	Work requires the occasional direction of helpers, assistants, seasonal employees, interns, or temporary employees.
Human Collaboration Skills	Interactions resulting in decisions regarding implementation of policies may be made. Contact may involve support of controversial positions or the negotiation of sensitive issues or important presentations. Contacts may involve stressful, negative interactions with the public requiring high levels of tact and the ability to respond to aggressive interpersonal interactions.
Freedom to Act	Receives Limited Direction: The employee normally performs the duty assignment according to his or her own judgment, requesting supervisory assistance only when necessary. Special projects are managed with little oversight and assignments may be reviewed upon completion. Performance reviewed periodically.
Technical Skills	Skilled: Work requires a comprehensive, practical knowledge of a technical field with use of analytical judgment and decision-making abilities appropriate to the work environment of the organization.
Fiscal Responsibility	This job title does research for documents, compiles data for computer entry, and/or enters or oversees data entry. Has responsibility for monitoring budget/fiscal expenditures (typically non-discretionary expenditures) for a work unit of less than department size (programs, activities, projects or small organizational units) or responsibility for fiscal management of capital project(s).
Reading	Advanced - Ability to read literature, books, reviews, scientific or technical journals, abstracts, financial reports, and/or legal documents. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study.
Math	Advanced - Ability to apply fundamental concepts of theories, work with advanced mathematical operations methods, and functions of real and complex variables. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study.
Writing	Advanced - Ability to write editorials, journals, speeches, manuals, or critiques. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study.
Certification & Other Requirements	Valid Class C Driver's License and must be a be certified as an Engineer-in Training (EIT) (also referred to as an Engineering Intern (EI) and Fundamentals of Engineering (FE))

## OVERALL PHYSICAL STRENGTH DEMANDS:

-Physical strength for this position is indicated below with "X"-				
Sedentary	Light	Medium	Heavy	Very Heavy
Exerting up to 10 lbs. occasionally or negligible weights frequently; sitting most of the time.	Exerting up to 20 lbs. occasionally, 10 lbs. frequently, or negligible amounts constantly OR requires walking or standing to a significant degree.	Exerting 20-50 lbs. occasionally, 10-25 lbs. frequently, or up to 10 lbs. constantly.	Exerting 50-100 lbs. occasionally, 10-25 lbs. frequently, or up to 10-20 lbs. constantly.	Exerting over 100 lbs. occasionally, 50-100 lbs. frequently, or up to 20-50 lbs. constantly.

## PHYSICAL DEMANDS:

C	F	O	R	N
Constantly 2/3 or more of the time.	Frequently From 1/3 to 2/3 of the time.	Occasionally Up to 1/3 of the time.	Rarely Less than 1 hour per week.	Never Never occurs.

Note: This is intended as a description of the way the job is currently performed. It does not address the potential for accommodation.

-Physical Demand-	-Frequency-	-Brief Description-
Standing	O	communicating with co-workers, making presentations, observing work duties, observing work site
Sitting	F	desk work, driving, meetings
Walking	O	around work site, to other departments/offices/office equipment
Lifting	R	files
Carrying	R	files
Pushing/Pulling	R	file drawers, tables and chairs
Reaching	O	for files
Handling	O	paperwork
Fine Dexterity	O	calculator, computer keyboard
Kneeling	R	filing in lower drawers, retrieving items from lower shelves/ground
Crouching	R	filing in lower drawers, retrieving items from lower shelves/ground
Crawling	R	
Bending	R	filing in lower drawers, retrieving items from lower shelves/ground
Twisting	R	from computer to telephone, getting inside vehicle
Climbing	R	stairs
Balancing	N	
Vision	C	computer screen, driving, observing work site, reading
Hearing	F	communicating with co-workers and public and on telephone, listening to equipment
Talking	F	communicating with co-workers and public and on telephone
Foot Controls	R	driving
Other (specified if applicable)		

# Orange Water and Sewer Authority

## MACHINES, TOOLS, EQUIPMENT, SOFTWARE, AND HARDWARE:

Telephone, fax machine, calculator, copier/scanner, vehicle, printer, plotter, level.

## ENVIRONMENTAL FACTORS:

<b>C</b> Continuously	<b>F</b> Frequently	<b>O</b> Occasionally	<b>R</b> Rarely	<b>N</b> Never
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<b>D</b> Daily	<b>W</b> Several Times Per Week	<b>M</b> Several Times Per Month	<b>S</b> Seasonally	<b>N</b> Never
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<b>-Health and Safety Factors-</b>	
Mechanical Hazards	R
Chemical Hazards	R
Electrical Hazards	R
Fire Hazards	R
Explosives	N
Communicable Diseases	N
Physical Danger or Abuse	N
Other	

<b>-Environmental Factors-</b>	
Respiratory Hazards	S
Extreme Temperatures	S
Noise and Vibration	S
Wetness/Humidity	S
Physical Hazards	S

## PROTECTIVE EQUIPMENT REQUIRED:

Safety glasses, hard hat, steel toe boots, hearing protection.

## NON-PHYSICAL DEMANDS:

<b>F</b> Frequently From 1/3 to 2/3 of the time	<b>O</b> Occasionally Up to 1/3 of the time	<b>R</b> Rarely Less than 1 hour per week	<b>N</b> Never Never occurs
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<b>-Description of Non-Physical Demands-</b>	<b>-Frequency-</b>
Time Pressure	F
Emergency Situation	R
Frequent Change of Tasks	F
Irregular Work Schedule/Overtime	O
Performing Multiple Tasks Simultaneously	F
Working Closely with Others as Part of a Team	F
Tedious or Exacting Work	O
Noisy/Distracting Environment	O
Other	

## PRIMARY WORK LOCATION:

Office Environment	X	Vehicle	
Warehouse		Outdoors	
Shop		Other	
Recreation/Neighborhood Center			

The above statements are intended to describe the general nature and level of work being performed by individuals assigned to this position. They are not intended to be an exhaustive list of all responsibilities, duties, and skills required. This description is subject to modification as the needs and requirements of the position change.

## Title: Utilities Engineer - Registered

FLSA Status: Exempt



### BRIEF DESCRIPTION:

The purpose of this position is to provide professional engineering expertise to complete capital improvement projects. This is accomplished by developing budgets and plans; managing and overseeing all assigned capital improvement projects; ensuring all work is accomplished in accordance with the Federal, State and Local requirements; as well as OWASA's Standards and Specifications.

Duties include:

Assists the Engineering Manager (Capital Projects) in development of the 5-year CIP Budget.

Assist the Engineering Manager (Capital Projects) in development of the 15-year CIP Plan.

Ensures all Federal, State and Local requirements are met for all assigned CIP projects. This includes obtaining all required permits, authorizations to construct and all close-out documents necessary to allow the newly constructed systems to be placed into operation.

Manages all aspects of assigned CIP projects including, but not limited to, development of Requests for Proposals/Qualifications, contract development, cost estimating, project solicitation (advertisement), bid/proposal evaluation, contract award, observation/inspection of construction activities, processing of change orders and project close-out. In all activities he/she will ensure OWASA's efforts are conducted in accordance with all Federal, State and Local requirements.

Manages and oversees all assigned CIP engineering studies and modeling efforts to ensure work is accomplished in accordance with all Federal, State and Local requirements.

Manages and oversees all assigned CIP engineering designs to ensure work is accomplished in accordance with all Federal, State and Local requirements, and OWASA's Standards and Specifications.

Manages and oversees all assigned CIP related construction efforts to ensure all work is accomplished in accordance with the Federal, State and Local requirements, and OWASA's Standards and Specifications.

Acquires all necessary easements, encroachments, etc. for assigned projects. This includes ensuring all necessary easement related documents are developed and recorded to support OWASA's future operational and maintenance requirements for all CIP related projects.

Ensure that as-built and record drawings are developed, maintained and stored on all assigned CIP related projects in a fashion where the information is easily accessible for review/use in the future as approved by the Engineering Manager (Capital Projects).

Performs small-scale in-house designs.

## Orange Water and Sewer Authority

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Assists the Engineering Manager (Capital Projects) in ensuring that OWASA's Standards and Specifications are up to date and in accord with all local, State and Federal guidelines for water, sewer and reclaimed water construction.

Assists the Engineering Manager (Capital Projects) prepare reports to the OWASA Board of Directors including, but not limited to, the Semi-annual CIP Status Report.

Prepares interim and final evaluations on all construction contractors and consultants providing CIP related services through contracts valued at greater than \$30,000 for all assigned projects.

Complies with OWASA policy and or guidelines regarding communication with the public on all matters related to assigned CIP projects and responsibilities.

Ensures that all assigned CIP projects comply with the Minority participation requirements of the State, including all regular reporting requirements.

Reviews and recommends approval of contractor/consultant pay requests to ensure that payments are appropriate relative to services provided.

Interacts regularly with representatives of the Towns of Carrboro and Chapel Hill and NCDOT to ensure that assigned CIP responsibilities are closely coordinated with the Towns' and NCDOT's CIP and Maintenance related efforts.

Plays an essential support role in damage assessment and recovery operations in the aftermath of significant destructive weather and/or man-made disaster events. In accordance with the Orange Water and Sewer Authority (OWASA) Administrative Guide titled "*EMPLOYEE RESPONSIBILITIES FOR REPORTING TO WORK DURING ADVERSE WEATHER OR OTHER EMERGENCY CONDITIONS*", this position is deemed as "essential" during Destructive Weather Condition III (Recovery) conditions.

Meets with consulting engineers, contractors and others to advise them on matters of OWASA policy and to resolve constructability issues and other problem areas associated with assigned CIP projects.

Meets with customers to provide information on OWASA's water, sewer and reclaimed water systems and to provide advice and counsel as necessary to resolve problems related to assigned CIP projects.

Conducts/attends community meetings to provide information on assigned CIP projects.

Provides regular updates to key OWASA staff on assigned CIP projects.

Assists the Engineering Manager (Capital Projects) develop and maintain Standard Operating Procedures, checklists, etc. as necessary to institutionalize CIP procedures and practices.

Maintains performance measures (metrics) for assigned CIP projects.

# Orange Water and Sewer Authority

Maintains hard copy and electronic files for assigned CIP projects in a logical, easy to understand manner that will facilitate use by other OWASA employees (current and future).

Performs other duties as required.

## ESSENTIAL FUNCTIONS:

Note: This information is intended to be descriptive of the key responsibilities of the position. The list of essential functions below does not identify all duties performed by any single incumbent in this position. Additionally, please be aware of the legend below when referring to the physical demands of each essential function.

(S) Sedentary	(L) Light	(M) Medium	(H) Heavy	(V) Very Heavy
Exerting up to 10 lbs. occasionally or negligible weights frequently; sitting most of the time.	Exerting up to 20 lbs. occasionally; 10 lbs. frequently; or negligible amounts constantly; OR requires walking or standing to a significant degree.	Exerting 20-50 lbs. occasionally; 10-25 lbs. frequently; or up to 10 lbs. constantly.	Exerting 50-100 lbs. occasionally; 10-25 lbs. frequently; or up to 10-20 lbs. constantly.	Exerting over 100 lbs. occasionally; 50-100 lbs. frequently; or up to 20-50 lbs. constantly.

#	Code	Essential Functions
1	S	Oversees contract procurement and management by developing requests for proposals, requests for qualifications, and other contract solicitation documents; advertising and soliciting contracts in accordance with applicable regulations and policies; evaluating bidders and awarding contracts; negotiating contract terms; managing changes to contract time or cost; monitoring progress of contracted engineering or construction services through inspection and periodic evaluations and feedback; preparing performance evaluations for contractors and consultants; and managing relationships between OWASA and contractor/consultants.
2	S	Manages project budget and schedule by maintaining and monitoring various schedules in spreadsheets to track project status and progress and forecast future expenditures; coordinating efforts of consultants, contractors, and OWASA staff to meet scheduled completion dates and achieve CIP execution goals; and tracking project budgets to inform capital improvement program development.
3	S	Provides information on different aspects of project status to internal stakeholders including various reports to Engineering Manager (Capital Projects), Engineering and Planning Director, other OWASA staff, and the OWASA Board; providing reports and coordinating project efforts with local municipalities; and providing project updates via community meetings, mail, e-mail, and/or website postings to affected members of the public.
4	S	Determines project scope by gathering internal stakeholder requirements for projects; gaining consensus on project scopes; and managing changes to project scopes.

**JOB REQUIREMENTS:**

-Description of Minimum Job Requirements-	
Formal Education	Work requires specialized knowledge in a professional or technical field. Work requires professional level of knowledge of a discipline equivalent to that which is acquired in a Masters degree-level of study or appropriate certification such as a Professional Engineer, Law Degree, or Certified Public Accountant.
Experience	Over three years up to and including five years.
Supervision	Work requires the occasional direction of helpers, assistants, seasonal employees, interns, or temporary employees.
Human Collaboration Skills	Interactions resulting in decisions regarding implementation of policies may be made. Contact may involve support of controversial positions or the negotiation of sensitive issues or important presentations. Contacts may involve stressful, negative interactions with the public requiring high levels of tact and the ability to respond to aggressive interpersonal interactions.
Freedom to Act	Receives Limited Direction: The employee normally performs the duty assignment according to his or her own judgment, requesting supervisory assistance only when necessary. Special projects are managed with little oversight and assignments may be reviewed upon completion. Performance reviewed periodically.
Technical Skills	Advanced: Work requires advanced skills and knowledge in approaches and systems, which affect the design and implementation of major programs and/or processes organization-wide. Independent judgment and decision-making abilities are necessary to apply technical skills effectively.
Fiscal Responsibility	This job title does research for documents, compiles data for computer entry, and/or enters or oversees data entry. Has responsibility for monitoring budget/fiscal expenditures (typically non-discretionary expenditures) for a work unit of less than department size (programs, activities, projects or small organizational units) or responsibility for fiscal management of capital project(s).
Reading	Advanced - Ability to read literature, books, reviews, scientific or technical journals, abstracts, financial reports, and/or legal documents. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study.
Math	Advanced - Ability to apply fundamental concepts of theories, work with advanced mathematical operations methods, and functions of real and complex variables. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study.
Writing	Advanced - Ability to write editorials, journals, speeches, manuals, or critiques. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study.
Certification & Other Requirements	Valid Class C Driver's License and must be a licensed professional engineer (PE).



## OVERALL PHYSICAL STRENGTH DEMANDS:

-Physical strength for this position is indicated below with "X"-				
Sedentary <b>X</b>	Light	Medium	Heavy	Very Heavy
Exerting up to 10 lbs. occasionally or negligible weights frequently; sitting most of the time.	Exerting up to 20 lbs. occasionally, 10 lbs. frequently, or negligible amounts constantly OR requires walking or standing to a significant degree.	Exerting 20-50 lbs. occasionally, 10-25 lbs. frequently, or up to 10 lbs. constantly.	Exerting 50-100 lbs. occasionally, 10-25 lbs. frequently, or up to 10-20 lbs. constantly.	Exerting over 100 lbs. occasionally, 50-100 lbs. frequently, or up to 20-50 lbs. constantly.

## PHYSICAL DEMANDS:

C Constantly 2/3 or more of the time.	F Frequently From 1/3 to 2/3 of the time.	O Occasionally Up to 1/3 of the time.	R Rarely Less than 1 hour per week.	N Never Never occurs.
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Note: This is intended as a description of the way the job is currently performed. It does not address the potential for accommodation.

-Physical Demand-	-Frequency-	-Brief Description-
Standing	O	communicating with co-workers, making presentations, observing work duties, observing work site
Sitting	F	desk work, driving, meetings
Walking	O	around work site, to other departments/offices/office equipment
Lifting	R	files
Carrying	R	files
Pushing/Pulling	R	file drawers, tables and chairs
Reaching	O	for files
Handling	O	paperwork
Fine Dexterity	O	calculator, computer keyboard
Kneeling	R	filing in lower drawers, retrieving items from lower shelves/ground
Crouching	R	filing in lower drawers, retrieving items from lower shelves/ground
Crawling	R	
Bending	R	filing in lower drawers, retrieving items from lower shelves/ground
Twisting	R	from computer to telephone, getting inside vehicle
Climbing	R	stairs
Balancing	N	
Vision	C	computer screen, driving, observing work site, reading
Hearing	F	communicating with co-workers and public and on telephone, listening to equipment
Talking	F	communicating with co-workers and public and on telephone
Foot Controls	R	driving
Other (specified if applicable)		

# Orange Water and Sewer Authority

## MACHINES, TOOLS, EQUIPMENT, SOFTWARE, AND HARDWARE:

Telephone, fax machine, calculator, copier/scanner, vehicle, printer, plotter, level, computer, MS Office, CAD, GIS

## ENVIRONMENTAL FACTORS:

<b>C</b> Continuously	<b>F</b> Frequently	<b>O</b> Occasionally	<b>R</b> Rarely	<b>N</b> Never
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<b>D</b> Daily	<b>W</b> Several Times Per Week	<b>M</b> Several Times Per Month	<b>S</b> Seasonally	<b>N</b> Never
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<b>-Health and Safety Factors-</b>	
Mechanical Hazards	R
Chemical Hazards	R
Electrical Hazards	R
Fire Hazards	R
Explosives	N
Communicable Diseases	N
Physical Danger or Abuse	N
Other	

<b>-Environmental Factors-</b>	
Respiratory Hazards	S
Extreme Temperatures	S
Noise and Vibration	S
Wetness/Humidity	S
Physical Hazards	S

## PROTECTIVE EQUIPMENT REQUIRED:

Safety glasses, hard hat, steel toe boots, hearing protection.

## NON-PHYSICAL DEMANDS:

<b>F</b> Frequently From 1/3 to 2/3 of the time	<b>O</b> Occasionally Up to 1/3 of the time	<b>R</b> Rarely Less than 1 hour per week	<b>N</b> Never Never occurs
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<b>-Description of Non-Physical Demands-</b>	<b>-Frequency-</b>
Time Pressure	F
Emergency Situation	R
Frequent Change of Tasks	F
Irregular Work Schedule/Overtime	O
Performing Multiple Tasks Simultaneously	F
Working Closely with Others as Part of a Team	F
Tedious or Exacting Work	O
Noisy/Distracting Environment	O
Other (see 2 below)	N

(2) N/A

## PRIMARY WORK LOCATION:

Office Environment	X	Vehicle	
Warehouse		Outdoors	
Shop		Other	
Recreation/Neighborhood Center			

The above statements are intended to describe the general nature and level of work being performed by individuals assigned to this position. They are not intended to be an exhaustive list of all responsibilities, duties, and skills required. This description is subject to modification as the needs and requirements of the position change.



**RESOLUTION OF ORANGE WATER AND SEWER AUTHORITY TO APPROVE A  
NEW UTILITIES ENGINEER POSITION**

**WHEREAS**, to adequately and appropriately execute the Capital Improvements Program to maintain high quality and reliable water, sewer, and reclaimed water services to the Carrboro-Chapel Hill community, a sufficient and competent staff is necessary; and

**WHEREAS**, the Engineering and Planning Department has evaluated the Capital Improvements Program workload and available staff resources and found that an additional Utilities Engineer position is needed in order to accomplish the work load of the Department; and

**WHEREAS**, the Utilities Engineer position is a skill based pay position classified as Grade 619 (Utilities Engineer Non-Registered) and Grade 620 (Utilities Engineer Registered); and

**WHEREAS**, the Executive Director recommends adding a Utilities Engineer position at Grade 619/620 (annual salary range \$57,839-\$89,070/\$63,622-\$97,978) on the OWASA Schedule of Employee Classification and Authorized Compensation; and

**NOW, THEREFORE, BE IT RESOLVED:**

1. That in order to accomplish the workload of the Department, an additional Utilities Engineer position is needed, and the Board authorizes creation of such a position at a Grade 619/620 on the OWASA Schedule of Employee Classification and Authorized Compensation.

Adopted this 23<sup>rd</sup> day of March, 2017

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Jeff Danner, Vice Chair

ATTEST:

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Barbara M. Foushee, Secretary