ORANGE WATER AND SEWER AUTHORITY

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

AGENDA
WORK SESSION OF THE OWASA BOARD OF DIRECTORS
THURSDAY, APRIL 14, 2016, 6:00 P.M.
OWASA COMMUNITY ROOM

The Board of Directors appreciates and invites the public to attend and observe its meetings. For the Board's Work Session, public comments are invited on only items appearing on this agenda. Speakers are invited to submit more detailed comments via written materials, ideally submitted at least three days in advance of the meeting to the Clerk to the Board via email or US Postal Service (aorbich@owasa.org/400 Jones Ferry Road, Carrboro, NC 27510).

Public speakers are encouraged to organize their remarks for delivery within a four minute time frame allowed each speaker. Additional time may be allowed at the discretion of the Board of Directors.

The Board may take action on any item on the agenda.

Announcements

a. Announcements by the Chair
   - Any Board Member who knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight is asked to disclose the same at this time.
   - Board of Directors Tour of Cane Creek Reservoir Mitigation Property is Wednesday, April 20, 2016, at 3:30 PM
   - Chapel Hill Town Council OWASA Committee and Chapel Hill Appointees to the OWASA Board will meet on Thursday, April 21, 2016, at 8:30 AM in the OWASA Board Room

b. Announcements by Board Members
   - Natural Resources and Technical Systems Committee Meeting on April 25, 2016 at 5:30 PM to discuss an Update to the Energy Management Plan Project in the OWASA Board Room (Dave Moreau)

c. Announcements by Staff
   - Update on the April 4, 2016, Inter-Local Energy Working Group Meeting (Mary Tiger)
   - Affordability Outreach Partners will meet on Friday, April 22, 2016 at 11:30 AM in OWASA's Community Room (Mary Tiger)

REGULAR AGENDA

Discussion

1. Review Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment and Long Term Disability Insurance (Stephanie Glasgow/Ellen Tucker, Hill, Chesson and Woody)
2. Review Draft Fiscal Year 2017 Budget and Rates (Stephen Winters)
3. Authorize Staff to Publish Draft Fiscal 2017 Budget and Rates Information (Stephen Winters)
4. Review Draft Consultant Scope of Work for Advanced Metering Infrastructure System Procurement and Implementation Services (Todd Taylor/Don Schlenger, Don Schlenger and Associates, LLC)
5. Proposed Process to Complete New Strategic Plan (Ed Kerwin)

6. Board Work Schedule (John Young/Ed Kerwin)
    a. Request(s) by Board Committees, Board Members and Staff
    b. April 28, 2016 Board Meeting
    c. May 12, 2016 Work Session
    d. 12 Month Board Meeting Schedule

Summary of Work Session Items

7. Executive Director will summarize the key staff action items from the Work Session

CLOSED SESSION

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

Agenda Item 1:

Review Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment and Long Term Disability Insurance

Purpose:

Information and update from staff and Hill, Chesson and Woody to generate Board discussion and guidance regarding employee insurances beginning July 1, 2016.

Background:

The Orange Water and Sewer Authority began using the firm of Hill, Chesson and Woody in April 2014 to manage benefit plans and negotiate premiums for Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment (AD&D) and Long Term Disability (LTD) Insurance.

The current Employee Health, Dental, Life, Dependent Life, AD&D and LTD contracts expire on June 30, 2016.

The Board received a presentation from Hill, Chesson and Woody in January 2016 that included:

- Healthcare Reform Update
- OWASA Executive Summary/Data
- Benchmarking
- Renewal Expectations and Options

Information:

A representative from Hill, Chesson and Woody will be presenting renewal data at the April 14, 2016 Board Work Session.

Agenda Item 2:

Review Draft Fiscal Year (FY) 2017 Budget and Rates

Purpose:

To review additional information about the FY 2017 draft budget.

Overview:

The Board reviewed the draft FY 2017 budget at its meetings on March 10 and 24, 2016 and requested additional information.

Staff has provided the requested information in the attached memo.

Based on long-term financial planning, staff has recommended no increase in OWASA's charges for monthly water, sewer and reclaimed water services. Rates for certain other services are proposed to be adjusted based on OWASA's costs for providing the service.

Action Requested:

Review information, provide feedback, and identify any additional information the Board would like staff to provide.

Information:

- Attachment 1 - Background Information for FY 2017 Draft Budget
- Attachment 1, Table 1 - FY 2014 Budget vs. Actual Consulting Expense Detail
- Attachment 1, Table 2 - FY 2017 Budget Consulting Expense Detail

Background

The Board reviewed the Draft FY 2017 Budget at its meetings on March 10 and 24, 2016 and requested additional information. This memo contains the information requested.

FY 2017 Draft Budget Information

The following is information the Board requested.

- The Draft FY 2017 Budget summary table that was presented to the Board on March 24 including a projection of year-end reserves balance.

Draft FY 2017 Budget
Comparison to FY 2016 Approved Budget

	FY 2016 Approved Budget	FY 2017 Draft Budget	Amount Variance	Percent Variance
	(dollar amounts in thousands)			
Water, Sewer and Reclaimed Water	$35,236	$34,941	($292)	(0.8%)
Rents, Royalties, Other	1,009	927	(82)	(8.1)
Customer Fees	960	996	36	3.8
Total Revenue	37,205	36,864	(341)	(0.9)
Operating Expenses	(20,788)	(21,129)	341	1.6
Net Income	16,417	15,735	(682)	(4.2)
Debt Service	(8,316)	(6,932)	(1,384)	(16.6)
CIP and Capital Equipment	(11,490)	(16,203)	4,713	41.0
Net decrease in reserves from Operating, Debt Service and Capital Investment activities	($3,389)	($7,400)	($4,011)	(118.3)
Approximate year-end reserves balance	$24,200	$16,800		

- A list of actual consulting expenses incurred during FY 2014 – see Attachment 1, Table 1
- An updated list of consulting expenses included in the Draft FY 2017 Budget – see Attachment 1, Table 2

Action requested

Review the draft FY 2017 budget information and provide guidance.

Orange Water and Sewer Authority
FY 2014 Budget vs. Actual Consulting Expense Detail

Attachment 1 - Table 1

Item No.	Description	Dept	FY14 Budget	FY14 Actual	Difference
1	Interpreter service for hearing impaired	Executive Director	1,000		(1,000)
2	Utility Trac - consultant support/software services for an energy billing data management system	Executive Director	1,500		(1,500)
3	Miscellaneous	Executive Director	2,000		(2,000)
4	Recurring annual membership payment to the Jordan Lake Partnership	Engineering and Planning	7,500	7,500	-
5	Project to model interconnections (JLP)	Engineering and Planning	66,087	38,650	(27,437)
6	JLP supplementary project #6, OWASA's cost share for TJCOG development of a template and spreadsheets to ensure consistency among applications submitted by the Jordan Lake Partners	Engineering and Planning	4,812	1,850	(2,962)
7	Easement work (CH Appraisals and Consultants)	Engineering and Planning		5,500	5,500
8	Hill, Chesson and Woody - health insurance consulting	Human Resources		11,689	11,689
9	Frank Horton and Associates (Employee Assistance Program)	Human Resources	4,000		(4,000)
10	South Orange Technical Rescue	Human Resources		5,000	5,000
11	Other (fit for duty testing, investigations, training, etc.)	Human Resources	8,000	6,356	(1,644)
12	Annual rate revenue sufficiency study (Burton & Associates)	Finance	30,000	25,125	(4,875)
13	Cabling installation and replacement	IT	15,000	3,899	(11,101)
14	Dynamics/Cogsdale - training, technical assistance, customization as required for customer billing and financial software	IT	7,000	651	(6,349)
15	Website update - redesign	IT	15,000	24,653	9,653
16	Distributions and Collections software consulting support	IT	25,000	12,600	(12,400)
17	Consulting support for process improvement projects	IT	10,000	8,763	(1,237)
18	Voice over IP requirements and selection consulting	IT	10,000	9,750	(250)
19	PSW membership	Water Treatment and Supply	600	600	-
20	Triangle area water supply monitoring project (Triangle J)	Water Treatment and Supply	42,000	41,399	(601)
21	Water Research Foundation	Water Treatment and Supply	6,000	5,000	(1,000)
22	Urban Water Consortium	Water Treatment and Supply	5,000	5,187	187
23	Cape Fear River Study	Water Treatment and Supply	1,500	2,500	1,000
24	Dams inspections	Water Treatment and Supply	12,000	6,447	(5,553)
25	Upper Cape Fear River Basin Association	Wastewater Treatment	12,000	10,777	(1,223)
26	North Carolina Water Quality Association	Wastewater Treatment	5,000	4,950	(50)
27	CITI - Instrument Calibration Contract	Wastewater Treatment	22,000	21,869	(131)
28	CITI - Instrumentation/SCADA Maintenance Contract	Wastewater Treatment	68,500	62,189	(6,311)
29	Water Resources Research Institute	Wastewater Treatment		5,000	5,000
	Total		381,499	327,904	(53,595)

Orange Water and Sewer Authority Draft
FY 2017 Budget Consulting Expense Detail

Attachment 1, Table 2

Item No.	Description	Total	Dept
1	Energy Management Plan - potential feasibility studies in support of future energy management strategies	35,000	Executive Director
2	Interpreter service for hearing impaired at Board Meetings	1,000	Executive Director
3	Recurring annual membership payment to the Jordan Lake Partnership	7,500	Engineering and Planning
4	Long Range Water Supply Plan (LRWSP) - update cost analysis and yield analysis; additional cost analysis (new legislation on reclaimed water)	60,000	Engineering and Planning
5	LRWSP - climate change analysis	5,000	Engineering and Planning
6	LRWSP - community engagement support (depending on Board guidance on community engagement)	30,000	Engineering and Planning
7	~~Consulting fees for distribution and collection system hydraulic model analyses to evaluate the impact of proposed developments on the distribution and collection systems. (Fees may be reimbursed by others.)~~	Removed	~~Engineering and Planning~~
8	Other - miscellaneous consulting work as needed for Jordan Lake Partnership, LRWSP, distribution and collection system hydraulic model analysis to evaluate the impact of proposed development, etc.	22,700	Engineering and Planning
9	Hill, Chesson and Woody (Provide broker and compliance services for health, dental, vision, life, LTD, AD&D, and COBRA insurance services.)	52,000	Human Resources
10	Frank Horton and Associates - Employee Assistance Program (Provide employees and their family counseling on financial, grief, marital, substance, mental health and work related issues.)	4,000	Human Resources
11	Envirosafe (Provide safety consulting, facility hazard assessment audits, and required safety training services.)	42,000	Human Resources
12	Total compensation study (Currently working with Springsted on the draft scope of work for Board approval.) This is a "placeholder" budget as the fee will not be known until the Board approves the project's scope of work.	130,000	Human Resources
13	HR department administrative support	15,000	Human Resources
14	South Orange Technical Rescue (Contract for Confined Space rescue.)	6,000	Human Resources
15	Diversity/employee development training programs (Employee training and development - approximately $300 per person allocated.)	40,000	Human Resources
16	Other (Fit for Duty medical examinations, Investigations, etc.)	13,500	Human Resources
17	Annual rate revenue sufficiency study (Burton & Associates)	50,000	Finance
18	Cabling installation and replacement - we budget and spend this amount annually to replace existing network and fiber optic cable or to run new cabling to extend the network as needs arise.	15,000	IT
19	Network vulnerability assessment - general security audit of our IT infrastructure: servers, switches, routers, firewalls, policies, etc. Our last general network vulnerability assessment was 2008. We also had PCI security assessments in 2011 and 2014.	60,000	IT
20	Microsoft infrastructure - Microsoft technologies to replace existing solutions. This item is for consulting services to assist us with design and implementation. It is anticipated to save money over time. The two main areas we are looking at are replacing our VMware server virtualization solution with the Microsoft Hyper-V solution and to replace our Citrix desktop and application virtualization solution with the corresponding Microsoft technologies.	30,000	IT
21	Dynamics/Cogsdale - training, technical assistance, customization as required for customer billing and financial software.	10,000	IT
22	Website update - redesign. This is a "placeholder" budget; the scope of the project is to be determined.	20,000	IT
23	Partnership for Safe Water membership dues	600	Water Treatment and Supply
24	Triangle area water supply monitoring project (prorated portion of cost to participate with Triangle J Council of Governments). This funds USGS water quality and stream flow monitoring throughout the region. (More information can be found at http://nc.water.usgs.gov/triangle/objectives.html)	43,000	Water Treatment and Supply
25	Water Research Foundation membership dues	6,000	Water Treatment and Supply
26	Urban Water Consortium membership dues	5,000	Water Treatment and Supply
27	Cape Fear River Study (this study was finished earlier than expected and will be removed from the FY17 budget)	1,500	Water Treatment and Supply
28	Upper Cape Fear River Basin Association membership dues	12,500	Wastewater Treatment
29	North Carolina Water Quality Association membership dues	5,000	Wastewater Treatment
30	Water Environment Research Foundation membership dues	5,000	Wastewater Treatment
31	CITI - instrument calibration contract	25,000	Wastewater Treatment
32	CITI - instrumentation and control maintenance contract	100,000	Wastewater Treatment
33	Water Resources Research Institute membership dues	2,500	Wastewater Treatment
	Total	854,800	

Agenda Item 3:

Authorize Staff to Publish Draft Fiscal Year 2017 Budget and Rates Information

Overview:

Staff has developed a Draft FY 2017 budget and the Board has provided input.

Based on the draft budget and projections of future years' revenue and expenditures, staff has recommended that no increase be made in the monthly water and sewer rates OWASA charges its customers.

Several fees for work OWASA performs are proposed to be adjusted based on the cost associated with providing those services. Staff has prepared a draft of proposed Schedule of Rates, Fees and Charges.

Staff would like to publicize FY 2017 budget and rates information in advance of public hearings scheduled for May 26, 2017.

The OWASA Board will not make a final decision on the FY 2017 budget and rates until its meeting on June 9, 2016 after customers and the public have had an opportunity to comment and provide input.

Background:

Public hearings for the Fiscal Year (FY) 2017 Budget and the rates OWASA charges for its services are scheduled for May 26, 2017. In advance of the public hearings, staff would like to publish information about the Draft FY 2017 Budget and proposed Schedule of Rates, Fees and Charges.

Staff has developed a draft FY 2017 budget and the Board has provided input. See Attachment 1 for the information staff will publish subject to the Board's approval.

Based on the draft budget and projections of future years' revenue and expenditures, staff has recommended that no increase be made in the monthly water and sewer rates OWASA charges its customers. However, several fees for work OWASA performs are proposed to be adjusted based on the costs associated with providing those services.

Staff has prepared a draft of the Schedule of Rates, Fees and Charges that, if approved by the Board, would go into effect on October 1, 2016. See Attachment 2 for the information staff will publish subject to the Board's approval.

The OWASA Board will not make a final decision on the FY 2017 budget and rates until its meeting on June 9, 2016 after customers and the public have had an opportunity to comment and provide input. If the budget is approved as drafted, FY 2017 will be the fifth consecutive year in which OWASA has not increased its monthly rates.

Action Requested:

Authorize Staff to Publish Draft FY 2017 Budget and Rates Information

Information:

- Attachment 1, Table 1 FY 2017 Draft Operating Budget
- Attachment 1, Table 2 FY 2017 Capital Improvement Program Budget
- Attachment 1, Table 3 FY 2017-2021 Capital Improvement Program Budget
- Attachment 2, Schedule of Rate Fees and Charges – October 2016 with comparisons

ORANGE WATER AND SEWER AUTHORITY
DRAFT FISCAL YEAR 2017 OPERATING BUDGET

Operating Revenue		
Water	$17,923,072	
Sewer	16,578,878	
Reclaimed Water	439,110	
Service Initiation Fee	168,898	
Other	1,069,578	
Refunds and Adjustments	(325,766)	
Total Operating Revenue		**$35,853,770**
Operating Expense		
General and Administrative	6,972,532	
Operations	14,156,929	
Total Operating Expense		**21,129,461**
Net Operating Income		**14,724,309**
Non-operating Revenue		
Customer Fees		**995,950**
Interest		**14,708**
Total Net Income		**$15,734,967**
Debt Service		
Existing		**$6,932,059**
New		**0**
Total Debt Service		**6,932,059**
Net Income Less Debt Service		**$8,802,908**

DRAFT FY 2017 - 2021 CIP

Denotes a required project or project underway

No.	CIP No.	Project	FY '17	FY '18	FY '19	FY '20	FY '21	Total Funding FY'17-'21
1	270-04	Jordan Lake Raw Water Supply Allocation	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	**$ 25,000**
2	270-09	Stone Quarry Reservoir Development	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	**$ 75,000**
3	275-15	Water Main - Road Improvement Projects	$ 90,000	$ 250,000	$ -	$ -	$ -	**$ 340,000**
4	276-54	Rogers Road Gravity Sanitary Sewer Extension	$ 1,826,000	$ 3,564,000	$ -	$ -	$ -	**$ 5,390,000**
5	276-99	Credit for Rogers Road Sewer Extension	$ (1,826,000)	$ (3,564,000)	$ -	$ -	$ -	**$ (5,390,000)**
6	278-99	WWTP Main Potable Water Line – Backflow Preventer Installation	$ 80,000	$ -	$ -	$ -	$ -	**$ 80,000**
7	270-26	Cane Creek Permanganate Facility	$ 700,000	$ -	$ -	$ -	$ -	**$ 700,000**
8	272-14	Water Facility Security Upgrades	$ 125,000	$ 125,000	$ 125,000	$ -	$ -	**$ 375,000**
9	272-32	Water Treatment Plant Secondary Chemical Spill Containment	$ 25,000	$ -	$ -	$ -	$ -	**$ 25,000**
10	272-34	WTP Generator Building Louver Replacement	$ 79,000	$ -	$ -	$ -	$ -	**$ 79,000**
11	275-20	Water Main Rehabilitation/Replacement Projects	$ 1,242,000	$ 224,000	$ -	$ -	$ -	**$ 1,466,000**
12	275-71	Rosemary, Henderson, and Hillsborough Streets Water Mains	$ 1,940,000	$ -	$ -	$ -	$ -	**$ 1,940,000**
13	275-76	Advanced Meter Infrastructure (AMI) System	$ 1,410,000	$ 4,610,000	$ -	$ -	$ -	**$ 6,020,000**
14	275-77	Galvanized Water Main Replacements	$ 200,000	$ 400,000	$ 400,000	$ -	$ -	**$ 1,000,000**
15	276-45	Bolinwood Dr Interceptor	$ 550,000	$ -	$ -	$ -	$ -	**$ 550,000**
16	276-53	Creek Crossing Access Improvements	$ 350,000	$ 200,000	$ -	$ -	$ -	**$ 550,000**
17	277-24	Eastowne, Eubanks, Meadowmont 1 Pump Station Rehabilitation	$ 850,000	$ -	$ -	$ -	$ -	**$ 850,000**
18	277-31	Rogerson Drive Pump Station Rehabilitation	$ 1,200,000	$ 1,300,000	$ -	$ -	$ -	**$ 2,500,000**
19	278-52	WWTP Digesters #1 & #2 Rehabilitation	$ 200,000	$ -	$ -	$ -	$ -	**$ 200,000**
20	278-57	WWTP Stormwater Pump Station Electrical System Rehabilitation	$ 50,000	$ -	$ -	$ -	$ -	**$ 50,000**
21	280-06	Administration Building HVAC System Upgrade	$ 420,000	$ 900,000	$ -	$ -	$ -	**$ 1,320,000**
22	270-11	University Lake Pump Station Improvements	$ 50,000	$ 65,000	$ 700,000	$ -	$ -	**$ 815,000**
23	270-99	Water Facilities Building Envelope Rehabilitation	$ 75,000	$ 75,000	$ 75,000	$ -	$ -	**$ 225,000**
24	272-21	WTP Switchgear Upgrade	$ 81,000	$ -	$ -	$ -	$ -	**$ 81,000**
25	272-36	WTP Lighting Improvements	$ 50,000	$ -	$ -	$ -	$ -	**$ 50,000**
26	272-38	WTP Sedimentation Basin Rehabilitation	$ 800,000	$ 400,000	$ -	$ -	$ -	**$ 1,200,000**
27	272-99	WTP Filter Media and Backwash Pump Replacement	$ 250,000	$ 300,000	$ 300,000	$ -	$ -	**$ 850,000**
28	272-99	Water Facilities Concrete Condition Assessment	$ 100,000	$ 125,000	$ 125,000	$ -	$ -	**$ 350,000**
29	272-99	Water Facilities Coatings Program	$ 100,000	$ 100,000	$ -	$ -	$ -	**$ 200,000**
30	275-46	Dobbins Drive Water Main	$ 68,000	$ 1,608,000	$ -	$ -	$ -	**$ 1,676,000**
31	275-53	Water Distribution System Hydraulic Model	$ 30,000	$ 30,000	$ 30,000	$ 190,000	$ 190,000	**$ 470,000**
32	275-99	Hillsborough St Water Main Replacement and MLK Blvd Abandonment	$ 200,000	$ 1,460,000	$ 500,000	$ -	$ -	**$ 2,160,000**
33	276-17	Sanitary Sewer Condition Evaluation	$ 562,000	$ 912,000	$ 510,000	$ 744,000	$ 780,000	**$ 3,508,000**
34	276-18	Sanitary Sewer Rehabilitation	$ 1,324,000	$ 1,423,000	$ 3,121,000	$ 1,436,000	$ 1,267,000	**$ 8,571,000**
35	276-48	Dobbins Drive Interceptor	$ 200,000	$ 2,380,000	$ -	$ -	$ -	**$ 2,580,000**
36	276-99	Sanitary Sewer Hydraulic Model	$ 100,000	$ 200,000	$ -	$ -	$ -	**$ 300,000**
37	277-29x	Rogerson Drive Force Main Redundancy Evaluation	$ 75,000	$ -	$ -	$ -	$ -	**$ 75,000**
38	277-99	Knolls PS Rehab	$ 80,000	$ 500,000	$ -	$ -	$ -	**$ 580,000**
39	278-46	Wastewater Facilities Coatings Program	$ 300,000	$ 300,000	$ 300,000	$ -	$ -	**$ 900,000**
40	278-51	WWTP Gravity Belt Thickener Replacement	$ 300,000	$ 800,000	$ 800,000	$ -	$ -	**$ 1,900,000**
41	278-54	WWTP Intermediate Pump Stations (IPS) Rehabilitation/Replacement	$ 125,000	$ 1,215,000	$ -	$ -	$ -	**$ 1,340,000**
42	278-68	Wastewater Facilities Building Envelope Rehabilitation	$ 50,000	$ 75,000	$ 75,000	$ 75,000	$ -	**$ 275,000**
43	278-99	WWTP SCADA System Upgrade	$ 150,000	$ -	$ -	$ -	$ -	**$ 150,000**
44	278-99	WWTP Secondary Clarifier Rehab and Chlorine Chamber Demo	$ 150,000	$ 970,000	$ -	$ -	$ -	**$ 1,120,000**
45	278-99	WWTP Critical Spare Pumps	$ 125,000	$ -	$ -	$ -	$ -	**$ 125,000**
46	278-99	Wastewater Facilities Concrete Condition Assessment	$ 100,000	$ 175,000	$ 175,000	$ -	$ -	**$ 450,000**
47	270-16	Cane Creek Pump Station Improvements	$ -	$ 65,000	$ 700,000	$ -	$ -	**$ 765,000**
48	270-99	University Lake Permanganate Facility	$ -	$ -	$ 100,000	$ 1,100,000	$ -	**$ 1,200,000**
49	271-05	Cane Creek Raw Water Transmission Main Capacity Study	$ -	$ -	$ 28,000	$ -	$ -	**$ 28,000**
50	272-10	Water Treatment Plant Recapitalization/Rehabilitation Projects	$ -	$ -	$ -	$ 2,216,000	$ 2,481,000	**$ 4,697,000**
51	272-35	WTP Flash Mix Basins Isolation Valve Replacement	$ -	$ 35,000	$ 215,000	$ -	$ -	**$ 250,000**
52	272-37	WTP Solids Conveyor System	$ -	$ 15,000	$ 140,000	$ -	$ -	**$ 155,000**
53	272-99	WTP Track Vac System Rehab	$ -	$ -	$ -	$ 116,000	$ -	**$ 116,000**
54	272-99	WTP Process, Sedimentation Basin, and Pulsator Turbidimeters	$ -	$ -	$ -	$ 150,000	$ -	**$ 150,000**
55	272-99	WTP Finished Water Pump Rehabilitation/Replacement	$ -	$ -	$ -	$ -	$ 125,000	**$ 125,000**
56	275-20x	Water Distribution System Recapitalization	$ -	$ -	$ -	$ 3,668,000	$ 4,915,000	**$ 8,583,000**
57	275-52	Cameron Avenue Water Main	$ -	$ 165,000	$ 1,800,000	$ -	$ -	**$ 1,965,000**
58	275-55	Manning Drive (East) 12" Water Main	$ -	$ 135,000	$ 1,440,000	$ -	$ -	**$ 1,575,000**
59	275-67	Operational Evaluation of Future 740-Foot Zone	$ -	$ -	$ -	$ 46,000	$ -	**$ 46,000**
60	275-72	Oakwood Drive Water Main	$ -	$ -	$ 55,000	$ 500,000	$ -	**$ 555,000**
61	275-78	Barclay Road Water Main	$ -	$ 45,000	$ 492,000	$ -	$ -	**$ 537,000**
62	275-80	Pritchard Drive Water Main	$ -	$ 50,000	$ 533,000	$ -	$ -	**$ 583,000**
63	275-82	Bartram Drive Water Main	$ -	$ -	$ 86,000	$ -	$ -	**$ 86,000**
64	275-83	Country Club Road Water Main	$ -	$ 109,000	$ 383,000	$ -	$ -	**$ 492,000**
65	275-84	Scarlett Drive and Cooper Street Water Mains	$ -	$ 48,000	$ 255,000	$ -	$ -	**$ 303,000**
66	275-86	Rogerson Drive Water Main	$ -	$ -	$ 50,000	$ 513,000	$ -	**$ 563,000**
67	276-01	Bolin Creek Interceptor - Estes to Pathway	$ -	$ -	$ -	$ 390,000	$ 2,200,000	**$ 2,590,000**
68	276-99	Sanitary Sewer Siphon at Glenwood Elementary	$ -	$ 25,000	$ -	$ -	$ -	**$ 25,000**
69	277-01	Pump Station Recapitalization	$ -	$ -	$ -	$ -	$ 326,000	**$ 326,000**
70	277-13	Lake Ellen Force Main Replacement	$ -	$ -	$ 35,000	$ 100,000	$ -	**$ 135,000**
71	277-21	Force Main Condition Evaluation	$ -	$ -	$ 451,000	$ 451,000	$ -	**$ 902,000**
72	277-27	North Lakeshore Drive Pump Station Replacement	$ -	$ -	$ 45,000	$ 386,000	$ -	**$ 431,000**
73	277-33	Chapel Hill North Pump Station Rehabilitation	$ -	$ -	$ 25,000	$ 122,000	$ -	**$ 147,000**
74	278-11	WWTP Recapitalization	$ -	$ -	$ -	$ 4,424,000	$ 4,724,000	**$ 9,148,000**
75	278-43	WWTP Biogas-to-Energy Combined Heat and Power	$ -	$ 100,000	$ -	$ -	$ 250,000	**$ 350,000**
76	278-50	WWTP Warehouse	$ -	$ 25,000	$ 50,000	$ 450,000	$ -	**$ 525,000**
77	278-60	WWTP Scum Pump Station Rehabilitation	$ -	$ 50,000	$ 300,000	$ -	$ -	**$ 350,000**
78	278-70	WWTP Fermenter Tank and Pumps Rehabilitation	$ -	$ 70,000	$ 750,000	$ -	$ -	**$ 820,000**
79	278-99	WWTP Capacity Upgrade	$ -	$ -	$ -	$ 100,000	$ 100,000	**$ 200,000**
80	280-09	Administration Building Recapitalization	$ -	$ -	$ -	$ 177,000	$ 186,000	**$ 363,000**
81	280-10	Operations Center Recapitalization	$ -	$ -	$ -	$ 275,000	$ 288,000	**$ 563,000**
		TOTAL Draft CIP	**$ 14,976,000**	**$ 22,079,000**	**$ 15,189,000**	**$ 17,649,000**	**$ 17,852,000**	**$ 87,745,000**

DRAFT FY 2017 CIP

Denotes a required project or project underway

No.	CIP No.	Project	FY '17	Comment
1	270-04	Jordan Lake Raw Water Supply Allocation	$ 5,000	ongoing required payment
2	270-09	Stone Quarry Reservoir Development	$ 15,000	ongoing required payment
3	275-15	Water Main - Road Improvement Projects	$ 90,000	reimbursement to NCDOT for work completed under roadway contracts
4	276-54	Rogers Road Gravity Sanitary Sewer Extension	$ 1,826,000	gravity sanitary sewer extension to serve the historic Rogers Road area
5	276-99	Credit for Rogers Road Sewer Extension	$ (1,826,000)	reimbursement from Orange County
6	278-99	WWTP Main Potable Water Line – Backflow Preventer Installation	$ 80,000	Required installation to address risk of distribution system contamination
7	270-26	Cane Creek Permanganate Facility	$ 700,000	Completion of construction started in FY'16
8	272-14	Water Facility Security Upgrades	$ 125,000	Completion of installations started in FY'16
9	272-32	Water Treatment Plant Secondary Chemical Spill Containment	$ 25,000	Completion of construction started in FY'16 to mitigate risks during potential chemical spills
10	272-34	WTP Generator Building Louver Replacement	$ 79,000	selection and installation of new louvers to replace the existing ones that do not work
11	275-20	Water Main Rehabilitation/Replacement Projects	$ 1,242,000	Construction by OWASA crews: Emory Drive, Chase Avenue, Chase Park Rd, Hilltop Dr, and Fordham Blvd Service Rd
12	275-71	Rosemary, Henderson, and Hillsborough Streets Water Mains	$ 1,940,000	Completion of construction started in FY'16
13	275-76	Advanced Meter Infrastructure (AMI) System	$ 1,410,000	Specification and implementation costs in FY'17 and '18
14	275-77	Galvanized Water Main Replacements	$ 200,000	system wide program to replace small diameter galvanized mains, which experience relatively high water main break frequencies; we expect it will take at least 3 more years to replace all the mains marked for replacement
15	276-45	Bolinwood Dr Interceptor	$ 550,000	Completion of construction started in FY'16
16	276-53	Creek Crossing Access Improvements	$ 350,000	staff identified needed vehicular creek crossing improvements at several different locations
17	277-24	Eastowne, Eubanks, Meadowmont 1 Pump Station Rehabilitation	$ 850,000	Rehabilitations and enhancement; design commenced in FY'16
18	277-31	Rogerson Drive Pump Station Rehabilitation	$ 1,200,000	Completion of design (FY'17) and construction (FY'18); design commencing in FY'16
19	278-52	WWTP Digesters #1 & #2 Rehabilitation	$ 200,000	Completion of construction started in FY'16
20	278-57	WWTP Stormwater Pump Station Electrical System Rehabilitation	$ 50,000	Completion of construction started in FY'16
21	280-06	Administration Building HVAC System Upgrade	$ 420,000	Preliminary engineering ongoing in FY'16; design completed in FY'17 with construction in FY'17 and '18
22	270-11	University Lake Pump Station Improvements	$ 50,000	Evaluation of potential pumping efficiency improvements (FY17) followed by design and construction of pump replacements
23	270-99	Water Facilities Building Envelope Rehabilitation	$ 75,000	assessment and rehab of building envelope issues (walls, floors, roofs, fenestrations and doors) that fall outside of routine O&M
24	272-21	WTP Switchgear Upgrade	$ 81,000	Modifications to improve transitioning between utility and backup power
25	272-36	WTP Lighting Improvements	$ 50,000	Improves worker safety through improved visibility; some energy efficiency benefits
26	272-38	WTP Sedimentation Basin Rehabilitation	$ 800,000	Rehab of deteriorating concrete walls, floors, and walkways along with valves and appurtenances
27	272-99	WTP Filter Media and Backwash Pump Replacement	$ 250,000	Replacement of components reaching end of useful life
28	272-99	Water Facilities Concrete Condition Assessment	$ 100,000	Assessment and rehabilitation of structural and non-structural concrete structures (buildings, process tanks, etc)
29	272-99	Water Facilities Coatings Program	$ 100,000	Corrosion control of key facilities, components and structures (annual program)
30	275-46	Dobbins Drive Water Main	$ 68,000	Condition-based replacement and capacity upgrade
31	275-53	Water Distribution System Hydraulic Model	$ 30,000	Placeholder funding FY'17-20 for minor modeling assistance; update of all-pipes hydraulic model in FY'21-22 will evaluate need and timing for future projects, including new 740-Zone tank
32	275-99	Hillsborough St Water Main Replacement and MLK Blvd Abandonment	$ 200,000	Condition based replacement (Hillsborough) and water-quality improvements (MLK); programmed in advance of Town reconstruction of Hillsborough St
33	276-17	Sanitary Sewer Condition Evaluation	$ 562,000	ongoing program of sewer main condition evaluation, prioritized by sub-basin
34	276-18	Sanitary Sewer Rehabilitation	$ 1,324,000	ongoing rehabilitation program of defective gravity sewer pipes that have been identified by sanitary sewer eval program (includes visual inspection of mains); FY'17 funding is for known ineeds
35	276-48	Dobbins Drive Interceptor	$ 200,000	Capacity driven sewer replacement; need was verified with 2014 flow monitoring/analysis
36	276-99	Sanitary Sewer Hydraulic Model	$ 100,000	Funds for flow monitoring (FY'17) and analysis (FY'18) to verify need and timing of several capacity-based projects
37	277-29x	Rogerson Drive Force Main Redundancy Evaluation	$ 75,000	Planning study to evaluate alternatives for risk mitigation in this critical area of collection system
38	277-99	Knolls PS Rehab	$ 80,000	Overhaul and enhancements for aging pumping facility; planning evaluation will look at options to eliminate this pump station
39	278-46	Wastewater Facilities Coatings Program	$ 300,000	corrosion control of key facilities, components and structures (annual program)
40	278-51	WWTP Gravity Belt Thickener Replacement	$ 300,000	Preliminary evaluation commencing in FY'16; design in FY'17; construction in FY'18 and '19
41	278-54	WWTP Intermediate Pump Stations (IPS) Rehabilitation/Replacement	$ 125,000	Completion of necessary electrical replacements/upgrades in FY'17 and '18; future pump replacements in 2nd five year period
42	278-68	Wastewater Facilities Building Envelope Rehabilitation	$ 50,000	Rehab of deteriorating concrete walls, floors, and walkways along with valves and appurtenances
43	278-99	WWTP SCADA System Upgrade	$ 150,000	Enhanced information portal to increase operator efficiency; pilot project in FY'17 with follow up funding in FY'18 for expanded system
44	278-99	WWTP Secondary Clarifier Rehab and Chlorine Chamber Demo	$ 150,000	Rehab of deteriorating components; planning study in FY'17 to evaluate replacement alternative
45	278-99	WWTP Critical Spare Pumps	$ 125,000	Backup components to improve operational efficiency and reduce risk during instances of critical component failure
46	278-99	Wastewater Facilities Concrete Condition Assessment	$ 100,000	Assessment and rehab of structural and non-structural concrete structures (buildings, process tanks, etc)
		TOTAL Draft CIP	**$ 14,976,000**	

Subtotal - Required Projects and Projects Underway	**$ 9,531,000**

Attachment 2

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

APPLICABLE TO ALL BILLINGS AND SERVICES ON AND AFTER OCTOBER 1, 2016

Page

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Background and Authorization

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

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

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

The attached Schedule of Rates, Fees, and Charges will replace the schedule adopted on June 11, 2015, which became effective on October 1, 2015.

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

SECTION I: WATER RATES AND FEES

MONTHLY WATER RATES

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

Water Service Charge

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

Meter Size	Monthly Service Charge
5/8"	$14.70
3/4" Combination Fire and Domestic Service Meter	$15.20
1"	$29.53
1" Combination Fire and Domestic Service Meter	$30.03
1-1/2"	$63.86
2"	$96.38
3"	$198.22
4"	$323.58
6"	$704.66
8"	$1,002.06

Water Irrigation Service Charge

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

Meter Size	Monthly Service Charge
5/8"	$23.54
1"	$47.05
1-1/2"	$87.10
2"	$133.96
3"	$265.15
4"	$407.02
6"	$800.67
8"	$1,273.30

Monthly service charges for compound meter arrangements are based on the largest meter in the

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

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

Water Commodity Charge

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

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

Individually Metered Residential Accounts Except Irrigation-Only Accounts

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

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

Conservation Water Commodity Charges Under Mandatory Water Use Restrictions

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

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

WATER COMMODITY SURCHARGES
APPLICABLE UNDER WATER SHORTAGE DECLARATION STAGES

Individually-Metered Residential Accounts						**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 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 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 seasonal and irrigation-only rate.

Non-residential Accounts Except Irrigation-Only Accounts

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

Off-peak seasonal rate per 1,000 gallons (October through April)	$4.16
Peak seasonal rate per 1,000 gallons (May through September)	$7.91
Equivalent Uniform Water Commodity Charge	$6.02

Irrigation-Only Accounts

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

$8.51 per thousand gallons

INTERLOCAL WATER TRANSFER CHARGES

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

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

TEMPORARY HYDRANT METER CHARGE

Subject to availability, a Customer may obtain a temporary hydrant meter from OWASA for a period of up to 60 days. A customer may submit a written request to use the hydrant meter for one additional 60 day period but granting said request will be subject to availability and is at OWASA's sole discretion. Service from a fire hydrant is subject to interruption when the hydrant is needed for fire protection, compliance with water conservation standards, and other applicable law. For situations where temporary water service is needed for a period longer than 120 days, the user can purchase a metering device of a size, make and model specified by OWASA. A $300.00 service charge, payable in advance, shall be collected for setting and removing the meter. In addition, a security deposit shall be required in accordance with the following schedule:

Security Deposit
$1,000

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

WATER AVAILABILITY FEE

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

Property Description	Fee
5/8" Meter or 3/4" Combination Fire and Domestic Service, Single-family Residential:	
<1300 square feet	$1,265
1300-1700 square feet	$1,545
1701-2400 square feet	$1,956
2401-3100 square feet	$3,344
3101-3800 square feet	$4,546
>3800 square feet	$7,631
1" Meter, Single-Family Residential (all square footages)	$9,260
5/8" Meter or 3/4" Combination Fire and Domestic Service Meter, Multi-family Residential	$1,363

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

Property Description	Fee
1" Meter, Multi-Family Residential (all square footages)	$9,260
5/8" Meter or 3/4" Combination Fire and Domestic Service Meter, Non-residential*	$3,704
1" Meter, Non-residential*	$9,260
1-1/2" Meter, Non-residential*	$18,519
2" Meter, Non-residential*	$29,631
3" Meter, Non-residential*	$59,262
4" Meter, Non-residential*	$92,596
6" Meter, Non-residential*	$185,192
8" Meter, Non-residential*	$296,308

* Same fee for Irrigation-Only accounts.

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

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

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

WATER SERVICE AND METER INSTALLATION CHARGE

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

Service Description	Fee	
	Existing	**Proposed**
Complete Water Service Installation, 5/8" meter	$3,570	**No change**
Complete Water Service Installation, 3/4" Combination Fire and Domestic Service Meter	$3,695	**$3,650**
Complete Water Service Installation, 1" meter	$3,805	**$3,790**
Meter Only Installation, 5/8" meter	$280	**$260**

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

Service Description	Fee	
	Existing	**Proposed**
Meter Only Installation, 3/4" Combination Fire and Domestic Service Meter	$400	**$360**
Meter Only Installation, 1" Combination Fire and Domestic Service Meter	$420	**$360**
Meter Only Installation, 1" meter	$355	**$360**
Meter Only Installation, 1-1/2" meter	$600	**No change**
Meter Only Installation, 1-1/2" Combination Fire And Domestic Service Meter	$620	**$610**
Meter Only Installation, 2" meter	$790	**No change**
Meter Only Installation, 2" Combination Fire And Domestic Service Meter	$715	**$720**
Remote Read Box with 5/8" Detector Meter	$485	**$470**

Complete installation costs are determined on a time and materials basis for 1-1/2 inch and 2-inch meters. For 3-inch and larger meters, the applicant shall be responsible for providing a meter box or vault constructed to OWASA standards. All meters, regardless of size, shall be purchased from OWASA at cost plus 10%. A $140.00 delivery fee for 3-inch and larger meters shall also apply.

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

WATER MAIN TAPPING FEE

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

The applicant shall be responsible for opening the ditch, providing adequate working clearance at the point of tap, adequately shoring the trench sidewalls, dewatering and such other associated activities as may be needed to provide a suitable and safe condition for OWASA personnel to complete the tap. Additionally, the applicant shall be responsible for providing an appropriate size tapping sleeve and tapping valve, and a backhoe or similar device shall be available on-site for lowering the tapping unit into the ditch line. All permits, bonds and paving shall be the responsibility of the applicant. The charge shall be for time and equipment plus an allowance for overhead, but not less than $340.

The base fee noted above includes one (1) site visit by OWASA to determine if the applicant is ready for OWASA to perform the tap. A re-inspection fee of $120.00 will be charged for each additional site visit required to determine if the water main is accessible and all required material and safety measures are in place. The tap will not be performed until any applicable reinspection fees are paid in full.

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

HYDRAULIC FIRE FLOW TESTING

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

$290 per test

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

SECTION II: SEWER RATES AND FEES

MONTHLY SEWER RATES

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

Sewer Service Charge

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

Meter Size	Monthly Service Charge
5/8" or 3/4" Combination Fire and Domestic Service	$12.00
1"	$20.61
1-1/2"	$35.53
2"	$53.72
3"	$101.58
4"	$155.28
6"	$284.70
8"	$485.82

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

Sewer Commodity Charge

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

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

$6.48 per thousand gallons

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

INTERLOCAL WASTEWATER COLLECTION, TREATMENT AND DISPOSAL CHARGES

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

MONTHLY RATES FOR SEWER-ONLY ACCOUNTS

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

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

plus

(2) a sewer commodity charge of $6.48 per 1,000 gallons times the estimated volume of wastewater expected to be discharged by the customer (using national engineering standards as the basis); provided however, that in no case shall the billable quantity be less than 6,000 gallons per month.

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

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

SEWER AVAILABILITY FEE

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

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

Property Description	Fee
5/8” Meter or 3/4" Combination Fire and Domestic Service, Single-family Residential:	
<1300 square feet	$2,938
1301-1700 square feet	$3,549
1701-2400 square feet	$3,611
2401-3100 square feet	$4,425
3101-3800 square feet	$4,781
>3800 square feet	$5,431
1” Meter, Single-Family Residential (all square footages)	$12,301
5/8” Meter or 3/4" Combination Fire and Domestic Service, Multi-family Residential	$3,183
1” Meter, Multi-Family Residential (all square footages)	$12,301
5/8” Meter or 3/4" Combination Fire and Domestic Service, Nonresidential	$6,317
1” Meter, Nonresidential	$15,792
1-1/2” Meter, Nonresidential	$31,584
2” Meter, Nonresidential	$50,535
3” Meter, Nonresidential	$101,070
4” Meter, Nonresidential	$157,922
6” Meter, Nonresidential	$315,844
8” Meter, Nonresidential	$505,350

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

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

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

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

SEWER TAP CHARGE

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

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

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

The base fee noted above includes one (1) site visit by OWASA to determine if the applicant is ready for OWASA to perform the tap. A re-inspection fee of $120 will be charged for each additional site visit required to determine if the sewer main is accessible and all required material and safety measures are in place. The tap will not be performed until any applicable reinspection fees are paid in full.

HIGH STRENGTH WASTE SURCHARGE

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

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

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

Carbonaceous Biochemical Oxygen Demand (CBOD)	$0.43 per pound for all CBOD in excess of 205 mg/l
Suspended Solids (SS)	$0.52 per pound for all SS in excess of 235 mg/l

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Ammonia Nitrogen (NH_3-N)	$3.04 per pound for all NH_3-N in excess of 25 mg/l
Phosphorus (P)	$12.26 per pound for all P excess of 6.5 mg/l

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SECTION III: RECLAIMED WATER RATES AND CHARGES

MONTHLY RECLAIMED WATER RATES

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

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

Reclaimed Water Service Charge

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

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

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

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

Reclaimed Water Commodity Charge

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

When a billing period includes a change in commodity rates, the charges are prorated based on the ratio of days in the billing period at the old and new rates. Metered monthly consumption will be

billed in thousand gallon increments rounded down to the nearest thousand gallons. Unbilled consumption due to rounding will be carried forward and billed in the month when the next thousand gallon increment is registered by the meter.

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

RECLAIMED WATER SERVICE AVAILABILITY AND CONNECTION FEES

Reclaimed Water Availability Fees

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

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

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

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

Reclaimed Water Service Connection Fees

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

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SECTION IV: MISCELLANEOUS CHARGES

SERVICE INITIATION FEE

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

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

RETURNED CHECK CHARGE

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

Returned Check:	$25
Dishonored Draft:	$25

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

CHARGE FOR DELINQUENT ACCOUNTS

Disconnection of water, sewer and/or reclaimed water service for nonpayment may occur at the option of OWASA no sooner than 21 calendar days after the date of initial billing. The purpose of this charge is to offset the costs of special handling of delinquent accounts, which may include, but is not limited to, the disconnection and reconnection of service due to nonpayment of the customer's bill. This charge applies to all accounts scheduled for disconnection for nonpayment and is applicable on or after the specified disconnect date, regardless of whether the service was disconnected or not. Reconnection resulting from disconnection due to nonpayment will be made within 24 hours of receipt of full payment of the balance due plus the delinquency charge and applicable security deposit.

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

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

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

situation other than those listed above, the charges listed below will apply.

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

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

LATE PAYMENT FEE

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

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

SECURITY DEPOSITS

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

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

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

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

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

Security deposits may be refunded upon written request after the customer has established a satisfactory payment history for twelve (12) consecutive months. Otherwise, security deposits will be

applied to the final bill when a customer's account is terminated with any remaining balance refunded to the customer.

BULK WASTEWATER CHARGES

Normal Domestic Septage

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

Administrative Charge	$30/ trip, plus
Volume Charge and High Strength Surcharge	$140/ thousand gallons

Other High Strength Waste

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

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

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

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

TANK SALES OR BULK WATER SALES

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

Administrative Charge	$25 per trip, plus
Commodity Charge	$6.02 per thousand gallons or portion thereof

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

DIRECT SALES OF SUPPLIES

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

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BOAT RENTAL AND LAKE USE FEES

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

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

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

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

For visitors who are not OWASA Customers or Orange County Residents	
Charge for each flat-bottomed boat or canoe rental	$8.00 for one-half day plus the applicable lake use fee for each person
Trolling motor rental	$22.00 for one-half day
Kayak rental	$20.00 for one-half day plus the applicable lake use fee for each person
Private Boat Launching Fee	$7.00 per boat plus the applicable lake use fee for each person
Lake Use Fee, Under 13 years old	$2.50 per person
Lake Use Fee, 13-64 Years	$5.50 per person
Lake Use Fee, 65 Years and over	$2.50 per person
UNC Men's Crew Club and Women's Rowing Team	By agreement between UNC-Chapel Hill and OWASA

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

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

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

SHOP TESTING OF METER

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

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

FIELD TEST OF LARGE METERS

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

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

REINSPECTION FEE

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

PLAN REVIEW AND CONSTRUCTION OBSERVATION FEES

The purpose of this charge is to recover the operating cost for providing review of construction plans for the extension of water and sewer facilities. The charge also recovers the operating cost for providing field observation, water sampling, laboratory testing, video inspection, pressure testing, etc. associated with the installation of these facilities. The plan review and construction observation fees are applicable to all extensions of the public water and/or sewer system regardless of the party which may be undertaking the improvements. The fees will be applied separately to water main and sewer main extensions, but in no case shall the fee be less than $100.

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

CHARGES FOR MISCELLANEOUS SERVICES

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

TRANSFER OF CHARGES

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

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

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

Agenda Item 4:

Review Draft Consultant Scope of Work for the Advanced Metering Infrastructure (AMI) System Procurement and Implementation Services

Purpose:

To submit the Draft Consultant Scope of Work for the Advanced Metering Infrastructure (AMI) System Procurement and Implementation Services to the Board for review and comment.

Background:

On March 24, 2016, the Board approved a resolution determining that implementation of AMI is in the best interests of its customers and authorized staff to proceed with procurement and implementation planning.

Don Schlenger, President of Don Schlenger and Associates, will attend the work session to answer questions and receive feedback. We will be prepared to discuss the estimated fee for the proposed services at the meeting.

Our current schedule is to seek Board approval of the Scope of Work at the April 28, 2016 Board Meeting.

Action Requested:

Staff requests the Board review the Draft Consultant Scope of Work and provide feedback to staff and the consultant for incorporation into the Final Scope of Work the Board will receive at its regular business meeting on April 28, 2016.

Information

Attachments:

1. Draft AMI Procurement and Implementation Scope of Services
2. Draft Procurement and Implementation Planning Process Flowchart

AMI Procurement and Implementation Scope of Services

The overall goal of the Orange Water and Sewer Authority (OWASA) is to implement a complete and reliable Advanced Metering Infrastructure (AMI) system and related enhancements to its customer service by the end of FY2018 in a manner that meets or exceeds the expectations of its customers and employees. This Scope of Services describes the tasks DS&A proposes to undertake to support this effort. The objectives are to:

- Ensure that all OWASA staff are collaborating and communicating effectively, to assure the success of the project and related customer service enhancements
- Ensure that the OWASA procurement documents and procedures are aligned with its procurement strategy, purchasing procedures and business requirements as well as with available AMI technology.
- Prepare a Request for Proposals (RFP) package that accurately describes the current situation at OWASA and the expectations for project outcomes.
- Provide a rigorous review of all proposals to ensure that RFP requirements have been met. Lead OWASA in the vendor selection process. Ensure that selection is made in a fair and impartial way.
- Help OWASA obtain an AMI solution that best meets its current and anticipated needs, within its budget.
- Assist OWASA in protecting its investment in meters and reading technology, and in achieving the expected benefits and savings of a system through strong warranties, performance requirements, and other contract provisions, as well as rigorous deployment management.
- Prepare OWASA for a robust deployment through sound implementation planning.
- Provide project management, guidance and QA/QC for the project.
- Support and guide OWASA staff in modifying its customer service processes and policies to maximize the use of AMI-generated data to enhance customer service while reducing costs.
- Provide a set of project management tools to identify and minimize risks, track project progress and key project and customer service performance measures throughout the project, document quality checks, and report and communicate project status and performance.

Following is a description of each of the tasks under this scope of work.

Task 1. Internal Project Team; Internal Communications; Change Management

While DS&A will provide experienced AMI project management, the success of the implementation will depend heavily on OWASA's Customer Service, Information Technology and Operations staff. In addition to an Executive Steering Committee, we will help OWASA form an AMI Project Team comprised of representatives of sections of the OWASA organization that will significantly impact or be impacted by the project.

AMI implementation will require a project administrative assistant and field inspectors. We will review the staffing requirements and job content with OWASA to determine whether these resources are available in-house, or whether they need to be hired or contracted. In addition, OWASA should add a full-time position responsible for overall AMI system management, business analysis, application development and user training. Ideally, this position would be filled before implementation starts, and that person might support project administration and information integration efforts. DS&A will help develop the job description for this position for approval by the Board of Directors.

DS&A would begin this phase with a brief work session to review project objectives, schedule and deliverables, as well as identify and clarify roles and responsibilities.

DS&A will develop an AMI-related Change Management Plan that will help OWASA identify the changes that will take place, how those changes will be implemented, and the effect those changes would have on work groups and individuals within OWASA. Change can be difficult and an unpredictable experience, therefore planning and management of the change will help engage employees and drive positive outcomes. Change is a constant for most organizations, and the ability to manage and adapt to organizational change is a requirement in today's successful workplaces. It entails securing employee buy-in to ensure that changes are smoothly and successfully implemented and achieve lasting benefits. Change management typically encompasses goals and strategies; an analysis of the current situation, leadership styles, culture, stakeholder drivers, and group dynamics; a gap analysis; metrics to assess progress; a communications element to align expectations; orientation and training; personal counseling and attention as needed; and monitoring and feedback. The Change Management Plan will specifically address internal communications and work relationships that are critical for successfully implementing and maximizing the changes and enhancements that AMI affords.

To begin the change management effort, we will conduct an AMI orientation and team building workshop focusing on project issues and concerns, effective internal communications, and a vision for future customer service. The objective is to create a team whose members respect and support one another, listen well, communicate often, and handle conflicts and differences of opinion constructively. Team members must commit to accepting and valuing the differences in skills, work assignments, experience, beliefs and values that exist among team members as well as others within OWASA. The AMI project team must embody good leadership in order to allay the fears and gain the support of OWASA employees, while demonstrating competence and control of all aspects of the project to the OWASA executives and Board of Directors. DS&A will help the project team create a project management plan.

Effective internal communications is a critical part of change management. Successfully changing to AMI requires everyone in OWASA, especially those who interact with customers, receive information about AMI. First, it is important to listen to and address employee concerns and answer questions related to job security, changes in work assignments and job content, potential changes in customer service delivery, etc. Second, a strong internal communication effort will create employee advocates for the new system among customers, friends, family, and acquaintances who read or hear about the AMI project. One of the goals will be to describe, explain, coach and/or train employees to a comfort level that would prepare them to describe AMI's benefits to OWASA's customers. Third, shared knowledge builds trust and fosters

ownership. The greater employee commitment to the success of the project, the easier it will be to make the changes needed to enhance OWASA's customer service. As part of a Change Management Plan, we will help OWASA staff solicit employee opinions, create talking points and work with OWASA staff to develop employee presentations about the project, addressing first their concerns, then moving on to educating them about AMI.

Deliverables: Business analyst and AMI system manager job description; Change Management Plan; project management plan

Task 2. Develop Requirements and Procurement Strategies

DS&A will work with OWASA staff to develop a Request for Proposals (RFP) for AMI Implementation. Participants in this process should include the AMI project team and the executive Steering Committee. Representatives from other areas such as Purchasing, Legal and Public Affairs may need to participate on an ad hoc basis.

To provide a more concrete sense of what AMI will mean for OWASA operations, and to help hone technical requirements, we recommend that OWASA staff interview or visit other utilities that have recently implemented AMI technology. In connection with this, we will develop a draft set of interview questions. We will also identify utilities that have hosted head-end software and meter data management systems (MDMSs), and other major characteristics identified by OWASA staff. We will participate in telephone interviews and post-interview discussions with OWASA staff.

Following the interviews, we will conduct a work session with OWASA staff to discuss requirements and desirable features to incorporate in the RFP for:

- Customer service and field service operations, including installation procedures
- Data management and security, interfaces with the Cogsdale billing system and other major IT systems, the customer portal, and hosting/outsourcing options. This work session will also cover the roles and relationships between the AMI vendor and third parties regarding the interfaces, configuration, programming and customization.
- Distribution system operations, including using AMI-generated data to help manage non-revenue water, the potential for future leak detection

We will also conduct an additional work session with the OWASA team on AMI procurement strategies. Some topics will include:

- OWASA's procurement process. Ideally, the procurement process and the contract should reflect OWASA's standard procurement procedures adapted to the nature of the AMI project (a hybrid of products and materials acquisition, information and communications technology implementation, construction and professional services). Clear and consistent procedures can avoid complications during procurement.
- Single vendor RFP versus "best of breed" procurement (for example, meters or installation contractors might be solicited separately), their advantages and disadvantages, and what this means for OWASA's management

- Weighted evaluative criteria to use in selecting vendors, based on current and future needs. These criteria (such as responsiveness to technical requirements, total life-cycle cost, and experience of the respondents) would be used by the OWASA team to consistently rate vendor proposals.
- Criteria for excluding certain vendors and products.
- Short-listing technology vendors ahead of turnkey proposals incorporating installation subcontractors
- Key draft contract provisions to be included in the RFP

We will provide write-ups of highlights of the work sessions.

Deliverable: Memorandum covering AMI functional requirements and procurement strategies

Task 3. Planning for AMI-Based Customer Service

AMI both enables and requires OWASA to modify its key customer service processes to take advantage of the data created by the system to reduce costs and enhance service to customers. Some OWASA policies (concerning access to meters, adjustments and estimates, and meter management) may need to be modified in conjunction with the AMI deployments. AMI will provide more information about potential tampering, leaks, or unauthorized use, so OWASA needs to determine how to best manage and use this new information.

Once AMI installations are well underway, existing business processes and policies—which were conceptually redesigned in the feasibly study—should be reviewed and redesigned where appropriate to take full advantage of system capabilities. For example, a CSR should direct a customer calling about a high bill to the customer portal or access the consumption data from the MDMS to try to resolve the issue problem before dispatching a field representative or making an adjustment. The CSR should be able assist the customer in accessing the portal. Eventually, OWASA might implement proactive outbound notification of high consumption, eliminating high bill calls.

In a series of short workshops, DS&A will review with OWASA staff the key customer service processes that should be redesigned around the AMI system, identifying those areas most amenable to improvements using AMI data, and create a prioritization (contributing factors may be the degree of integration with additional systems, the availability of key information, changes in policies, etc.) We will review OWASA's vision of customer service and establish guiding principles. We will develop an outline of potential service enhancements and new services (e.g., watchdog service for high consumption, leak detection, load profiling, sub-metering) that could be offered to customers using the capabilities of the AMI system, and the data and support requirements of each. DS&A will create a provisional customer service improvement implementation roadmap.

Deliverable: Provisional customer service improvement implementation roadmap

Task 4. Benchmarking and Process Review

DS&A will provide customer service performance data and guidelines from other water utilities using AMI and help OWASA staff identify what practical customer service enhancements are available using the new AMI system. This will include collecting and reviewing published data, and preparing informal benchmarking requests and surveys. Simple benchmarking metrics from other utilities can be misleading. It is important to put metrics in the context of a particular utility's operating and political environment. Therefore, it is important to also consider the other utility's business processes, technologies, policies and regulations, rates schedule, customer mix, etc. DS&A will compile the results of the benchmarking efforts into a brief summary report.

We will review OWASA's customer service workload and performance statistics, backlogs, policies and procedures related to meter reading. Using water utility best practices, we will work with OWASA to establish enhanced customer service objectives, performance measures (key performance indicators), and measurement tools. A key performance indicator might be percent first call resolution. Another might be the percentage of customers who have signed up for automatic notification of leaks or high consumption. OWASA might need to establish procedures or systems to objectively measure these indicators.

Using simple modeling techniques, DS&A will create revised flowcharts and policy recommendations for each process, focusing on key paths of information and process flow, task and process durations, workloads and bottlenecks. The results of these efforts will be incorporated into the functional and integration requirements for the AMI system.

Deliverables: Compiled benchmarking notes; customer service key performance indicators, revised flow charts; policy recommendations

Task 5. RFP Development

Based upon the work sessions and in coordination with OWASA staff, DS&A will complete the technical specifications and operational requirements for the AMI RFP. The requirements will cover AMI components and system performance, data communications backhaul, a MDMS, a customer portal, interfaces and integration to the customer information system and other IT systems, cyber-security, project controls, training, vendor support, replacement water meters or retrofit meter registers, installation, customer communications, and warranties. It will also include solicitations for hosted software and related services, as well as acoustic leak detection. A hallmark of the RFP should be acceptance "gates" at each stage of the project to ensure system performance and integrity.

We will assist OWASA's Executive Steering Committee in identifying aspects of the RFP and contract that should be reviewed by the Board of Directors. We will assist OWASA's procurement and legal staff with the RFP package, including appropriate instructions to bidders and evaluative criteria (such as total life cycle cost, conformance to technical requirements, experience, and financial strength of the vendor) as well as specific terms and conditions to be incorporated in a draft contract for inclusion in the RFP package. Important AMI-specific contract considerations might include:

- Term. Some contract and warranty provisions cover the installation period; while others must cover the life of the system.
- Bonding. Performance bond requirements or retainage must be addressed.
- Complete and working system. The contractor must provide everything needed for a complete system that meets performance specifications, even if some components are not specifically mentioned in the RFP.
- Pricing protection. Over the life of the system, for additional components.
- Product and service warranties. Any requirements related to extended warranties and remediation of excessive failures.
- Performance standards. Installation accuracy, adherence to schedule and milestones, read success rate; defaults and requirements to cure.
- Service level and security provisions. For hosted software or network management services.
- Standard installation conditions. Definition of included costs of installation, and allowable circumstances for additional costs (e.g., replacing broken valves).
- Software licenses. Specific licensing requirements and third-party licensing considerations.
- Acceptance criteria and payment provisions. Progress payments and payments for completed and confirmed working installations.

Deliverable: RFP package

Task 6. Procurement, Vendor Selection

The objectives of the procurement process should be to obtain an optimum number of well qualified proposals tailored to OWASA's specific requirements, and to make an unambiguous selection through a fair and defensible process of the system that best delivers the best value to OWASA.

DS&A will identify vendors from which to solicit proposals, as a supplement to advertising. We will help plan and participate in a pre-proposal conference to address questions from potential proposers. DS&A will help OWASA prepare RFP addenda and responses to vendors' questions.

DS&A will assist the OWASA AMI project team in reviewing and scoring the proposals against the established selection criteria. We recommend that reviewers read and evaluate the proposals without initially looking at prices. Meanwhile, we will analyze the total life cycle costs for each of the proposals, which will then be added to the evaluations. We will facilitate a session to score and rank the proposals, providing information where needed. We will assist OWASA in selecting a short list (if necessary), and developing the schedule for interviews/demonstrations with short-listed proposers. DS&A will attend up to four vendor interviews/demonstrations over two consecutive days. DS&A will facilitate a work session to make the final vendor selection. DS&A will participate in due diligence investigations of the short-listed proposers, including reference checking.

Deliverables: RFP addenda; proposal cost analysis; proposal evaluation score summary

Task 7. Contract Negotiation, Scope of Work

As a practical matter, contract negotiations start during the presentations, when vendors are asked to confirm provisions of their proposals ("coulds") with specificity ("shalls"). DS&A will assist OWASA's project team in developing a contract negotiation strategy once the vendor has been selected. In addition, we will participate in contract negotiation meetings and contract review.

Part of this effort will be to draft Technical Requirements and Scope of Work (SOW) attachments to the contract. We will help OWASA and the vendor craft these documents from the RFP and the selected proposal. These attachments will convert RFP and proposal provisions into more specific actionable items with specific responsibilities.

Deliverables: Vendor contract(s), including technical requirements and Scope of Work, ready for signing

Task 8. Stakeholder Coordination

AMI project deployment requires coordination with other entities. Needed data collection unit (DCU) locations will be determined by the vendor's radio propagation study. Depending on the technology chosen, AMI network components would be installed on OWASA facilities, but may also be installed on power or light poles, building roofs or radio towers. Some power pole access and power costs may be regulated by North Carolina Utilities Commission tariffs. Other poles or towers may be owned by the towns or third parties. Some vendors' DCUs could be powered by solar panels; other vendors' DCUs require AC power. DCU siting and installation may require preconstruction engineering design approval, as well as leases and contracts. Arranging for locations can take months.

Backhaul communications from DCUs is most often provided by cellular carriers, but data collectors can take advantage of other available networks. Use of any networks other than cellular carriers may require design and negotiations, and will be evaluated.

UNC and the UNC Health Care facilities, as well as the towns of Chapel Hill and Carrboro, may have special concerns or needs. Other non-customer stakeholders might include people or organizations concerned about aesthetics or the environment, as well as consumer advocacy groups.

Working with OWASA and the vendor, DS&A will identify non-customer stakeholders, gather information about their needs, clarify the needs of OWASA from them, and develop a project stakeholder coordination plan.

Deliverable: Project stakeholder coordination plan

Task 9. Implementation Plan

DS&A will prepare a draft AMI Implementation Plan and will conduct a work session with OWASA staff to review various elements of the plan, or "sub-plans," including project schedule

and project management, risk management, staffing, data integrity during installation, IT interfaces, testing and acceptance, customer and other stakeholder communications, and customer services processes and policies during deployment. Some other areas of AMI project implementation planning and management include:

- A detailed Project Control and Procedures Manual that will be used by OWASA staff and the vendor/contractor
- Network Deployment and Backhaul Communications Management Plan, to plan and schedule the roll-out of DCUs, and manage submissions and approvals, leases and contracts, engineering design and as-built drawings; and to manage cellular or other network contracts and service level agreements.
- Materials Management Plan for meter and equipment ordering, cross-docking, inventory control and scrapping
- System Operations and Maintenance Plan, defining responsibilities, reports, diagnostic and repair procedures, testing and preventive maintenance
- Training Plan, identifying OWASA staff who will be trained, what they will be trained on, and when they will be trained.
- Human Resources Plan, to manage employee retraining and redeployment or attrition, and revise job descriptions and responsibilities associated with the project
- Project Acceptance and Close-out Plan, to govern phase and final system acceptance, including testing and handoff.

The implementation plan will be finalized based on the Scope of Work negotiated with the selected AMI contractor. However, several aspects of implementation plan development may proceed in parallel with the completion of the vendor contract.

Deliverables: Implementation Plan, including sub-plans

Task 10. Installation Control System

Installation control is critical to success. It ensures that: (1) data related to meter and AMI installations are accurately recorded in OWASA's information systems; (2) the AMI equipment installed by the contractor operates as intended, as confirmed by meter readings obtained by OWASA personnel; (3) billing blackout periods are followed; (4) the work performed by the contractor meets good workmanship standards, as determined by field inspections; and (5) proper coordination is maintained between the current method of collecting meter readings and the new AMI system collection of meter readings. When AMI deployment project control procedures are well designed and followed, data discrepancies are rare, installation errors that escape notice are virtually nonexistent, and OWASA's customer service staff can be confident that they will always know what equipment is at each customer's premises. An installation control system will enable OWASA to:

- Track all installation work orders to closure, including work that is rejected or requires physical inspection.

- Track the status of each account.
- Ensure contractor's invoices are correct.
- Ensure that system components are working before payment is made to the vendor.
- Maintain a firewall for the billing system, so that work order data is verified and installations are confirmed to be working before being uploaded.
- Provide real-time access to the status of all AMI installation work orders.
- Track additional cost items

DS&A will work with OWASA to determine the requirements for an installation control system, and determine whether the OWASA's current work order system will suffice or whether options offered by the AMI vendors will better meet its needs. If necessary, DS&A will develop a simple but effective installation control system database application.

Deliverable: memorandum on installation management; (optional) installation control system database application

Task 11. Software Configuration, Interfaces and Integration Testing

DS&A expects the majority of the work involved in configuring and testing interfaces between the vendor's software (including the head-end control software, the MDMS and the customer portal) and the Cogsdale billing system to be handled by the vendor and Cogsdale/Constellation Software/Harris, guided by OWASA staff and DS&A. Interfaces may also need to be built between the AMI system software and OWASA's CityWorks and GIS applications for AMI system maintenance, work order management and other AMI data applications. We will work with OWASA to develop a technical design document for new software applications, and the data requirements for all interfaces and use cases.

The functional requirements and the technical design document will be used by the vendors to develop technical design documents, including data mapping, from which they will configure and/or develop the application program interfaces between systems. The vendor will also be required to provide test plans for each of these, to be approved by OWASA. DS&A will oversee and help coordinate the vendors' efforts, as well as software testing and acceptance.

After the AMI software and interfaces have been installed and, and before commencing with full-scale deployment of an AMI system, DS&A will manage a point-to-point "proof of concept" pilot with OWASA and the vendor. This consists of installing one or more DCUs and several endpoints, and testing the functionality of the software.

Deliverables: Technical design document, including data requirements; testing acceptance recommendation

Task 12. Pre-production Pilot

DS&A will assist with the development of project control procedures. After the integration testing phase has been successfully concluded, DS&A expects to conduct a "pre-production"

pilot with OWASA and the vendor, consisting of installing 200-400 endpoints to test the integrity of the installation and data collection procedures and protocols to be followed during full-scale installation. In principle, all systems and procedures should have been developed, documented and "bench" tested prior to the pilot, and the pilot should be used as a confirmation that these aspects of the project are working in the field. The pilot should also be an opportunity to practically test how the OWASA staff and its systems handle project control and management functions (inspections, data audit, confirming reads), data anomalies (e.g., meter numbers that don't match records) and problems (for example, service line shut-off valves that have to be replaced during meter installation).

As a practical matter, we expect the procedures and control processes to be adjusted during the pilot. The pre-production pilot should be followed by a short interval to assess installation performance and adjust procedures. Full scale installation should not commence until pilot acceptance.

Deliverables: Project control procedures; pre-production pilot plan; pilot acceptance memorandum

Task 13. Project Management and Oversight

Once the procedural pilot is accepted, full-scale installation can proceed. We will provide project management and oversight commencing with the Notice to Proceed and throughout the implementation period, to ensure that all systems are working smoothly, all parties are working closely together and all ancillary processes are being carried out in accordance with the Contract and Statement of Work.

DS&A will provide several project management tools, including a master critical path schedule integrated with the vendor's schedule, cost and progress tracking, issue tracking and resolution, a meter deployment schedule that is coordinated with OWASA's billing cycles, a network deployment schedule, management reports, punch lists and a risk register. The risk register identifies potential risks at each stage in the project, their likelihood of occurring, estimated cost, and suggested strategies (mitigation, prevention, or acceptance). The risk register will be updated throughout all project phases, and along with issues tracking, should be part of regular project management meeting agendas.

DS&A expects to conduct weekly project progress meetings with OWASA staff and the installation contractor, and to prepare monthly progress reports for OWASA executives and Board of Directors. DS&A will participate in regular AMI Steering Committee meetings to review installation performance and progress as well as AMI system performance. DS&A will also respond to specific requests for review, information gathering, and support related to project-specific issues identified by OWASA staff or Board members.

Installation Sequencing and Schedule. We recommend that installation work be released by geographic area to facilitate efficient project management and maintain meter reading productivity during the transition. The Scope of Work attached to the vendor contract should establish the degree of completion of each area before the contractor is allowed to move into new areas, to enable OWASA to manage inspections and minimize manual meter reading

coordination efforts. The contractor should be required to meet construction schedules through the contract term, since unanticipated changes to the schedule can disrupt project management and OWASA operations.

System Acceptance Testing. Payments and continuation of work should be conditional on passing acceptance tests, including stress tests, at key points in the project. For example, all software and interfaces must be accepted before the pilot commences. The system should pass a final system acceptance test, consisting of meeting all contractual performance requirements for thirty days, before the project is deemed completed. System testing requirements will be specified in the RFP and contract.

Training. The majority of training will be provided by the AMI vendor following requirements incorporated in the SOW. Training should cover all aspects of the system, including installation, operation, data retrieval, database administration, preventive maintenance of hardware and software, and repairs. Training should be "just in time," and incorporate testing to ensure it is effective. We will assist OWASA in monitoring the training plan. We will also assist in training OWASA staff on project control procedures.

Quality Control. The quality and accuracy of the AMI data is critical to instilling employee and customer confidence in the system. Quality control of field installations involves real-time inspection to make sure the work meets specifications and is "workmanlike." The installation contractor must be required to maintain inspection rates, make sure required quality levels are exceeded, correct all deficiencies, and provide quality assurance reports. These provisions are included in the RFP. In addition to helping the contractor locate meters or gain access to sensitive customer sites, shutting valves and providing emergency assistance, OWASA field inspectors must also conduct sample inspections, and inspect any installation where anomalies (such as mismatched meter numbers, plumbing in poor condition, or broken valves) occurred. DS&A recommends that 5-10% of all small meter installations and 100% of all large meter installations be inspected.

DS&A will develop a system quality management plan. Quality control parameters, including initial defect rate, component failure rates and root causes, read success rate, data transfer success, and network redundancy, need to be tracked from the beginning of installations through the life of the system.

Deliverables: master critical path schedule; monthly project management report documenting progress and key performance indicators; issue tracking spreadsheet; network and meter deployment schedule; risk register

Task 14. Community Engagement Plan

With input from DS&A, OWASA staff will prepare for the Board of Directors' approval a Community Engagement Plan (CEP) for the AMI project. The work in this task must support the "to-be-defined" work in the CEP.

The project provides OWASA an opportunity to show customers and the public how it is working to enhance service, reduce costs, operate efficiently, and help conserve water. OWASA

has already reached out to customers to inform them of the AMI Feasibility Study and solicit feedback. While feedback was largely positive, it is important that OWASA not discount nor ignore the comments of the minority who expressed concerns.

A comprehensive CEP entails a phased approach to communicating with target audiences, including customers, the community, the university and other stakeholders. At each phase of the project, from development of the RFP to launching of the customer portal and new features, DS&A will work with OWASA to inform and educate those affected at that stage of the project.

It is particularly important to communicate with customers and other stakeholders around the time of project installation, to refresh messages, encourage "uptake" of customer service benefits, ensure cooperation and address concerns. Typical concerns include privacy and government intrusion, cybersecurity, electromagnetic (EMF) radiation, displacement of meter readers, and increased rates. While all of these can be readily addressed, this should be a priority. Good public relations and effective communications proactively address stakeholder issues and minimize calls to Customer Service, OWASA executives or Board members.

The CEP involves identifying key stakeholder constituencies, including OWASA employees, residential customers (including possible special needs customers, like the elderly), residential and commercial property managers, UNC-CH, governmental and institutional customers, community leaders, and environmental and conservation groups, and assessing the importance of the various AMI-related issues to each group. OWASA may organize informal focus groups to support this assessment. Using this assessment, we will help OWASA adjust messages (such as frequently asked questions) and determine communications channels appropriate to each group.

Effective AMI project public communications typically consists of repeated messages through a variety of media, including bill inserts, letters to customers, utility website pages, and mass media. Social media should be used cautiously, as misinformation and reactionary comments are hard to manage. Community meetings are typically not effective, but should be offered to demonstrate a desire for open communication and transparency in the process. Meetings with city mayors and council members tend to be helpful as they provide the information that allows the elected official to respond to constituents' questions with confidence. DS&A will work with OWASA staff to create a FAQ (frequently asked questions) handout for this group of stakeholders.

OWASA employees should be kept informed of project progress, to address concerns about the implications of the project for their own jobs, and to ensure that they are communicating effectively with the public in responding to inquiries and describing the project in terms of its benefits to OWASA and its customers.

Some communication and outreach efforts and costs are typically borne by the AMI vendor/installer. DS&A will work with OWASA to establish plans and timelines for general mass market project publicity, customer notifications coordinated with installation, and content review for all public communications, including FAQs, call center scripts, door hangers, emails, and letters.

Deliverable: Community Engagement Plan

Task 15. Process, Policy and Organizational Changes and Change Management

AMI should precipitate changes in organization and processes for OWASA. Some OWASA policies (related to access to meters, providing contact information, billing adjustments, opting out of the AMI program) should be modified in conjunction with the AMI deployment. Some procedures involving decisions on the part of employees responsible for tasks in a process might also be modified. DS&A will help OWASA establish provisional customer service goals and objectives. Changes in policies and procedures will need to be reviewed and approved by the Board of Directors. OWASA should prioritize potential changes and service enhancements, seek small quick wins, establish transition periods, and inform and educate employees, customers and other stakeholders about these changes.

An AMI system will require persons responsible for system operation and maintenance, meter data management system (MDMS) and customer portal maintenance, report creation and application development, although none of these are expected to be full-time commitments. Customer service employees need to be able to review detailed consumption data to discern problems (like an intermittent running toilet). They need to be empowered and encouraged to try to resolve problems without "rolling a truck." They need to be trained to teach customers how to access and use their own data. In addition to training, both office and field personnel need to be sufficiently coached, adequately monitored and supervised to ensure they are being efficient in using the data and effective in communicating with customers.

While AMI can provide an indication of potential high consumption before a customer gets a high bill, this is only beneficial if the customer can be notified. This requires maintaining customer contact information (cellphone numbers for text messages, or email addresses for emails, or phone numbers for auto-dialer outbound messaging). Efficiently using AMI data may require integration of the AMI and MDMS with OWASA's work order management system, GIS and other systems.

Within a few weeks of the commencement of installations, DS&A will help OWASA staff develop a draft AMI-based Customer Service Transition Plan. DS&A will review OWASA's organization structure, staffing and job descriptions and develop a set of recommendations for modification of the organization to take advantage of the AMI system. These recommendations will encompass areas where additional technology may be needed; modifications to customer service procedures; additional training and organizational development efforts; reorganization and reclassifications; and policy changes as well as the prioritization and timing of initiatives. The recommendations may include some temporary measures as well as longer-term or permanent changes. DS&A will review the recommendations with OWASA staff and revise them as necessary.

We will assist OWASA as necessary in implementing these recommendations, monitoring their progress and making needed adjustments to ensure their effectiveness.

Deliverable: Customer Service Transition Plan

Staffing

DS&A will provide an experienced team to support OWASA with the various aspects of this project. These include:

- Don Schlenger – program management, AMI procurement, implementation planning
- Kevin O'Connor – AMI contract and vendor management, and project management for the duration of the project
- Linda Vaughn – customer service process design, change management, employee and community engagement
- Kendall Smith – application program interface functional design, testing and oversight

DS&A can bring additional specialized resources to bear on the project as needed. Qualifications are shown on the following pages.

Don Schlenger, Ph.D.

Don Schlenger is a customer service technology and processes expert with almost 40 years' experience in utility management and consulting. He is an internationally recognized expert in water AMI. A former utility executive, he founded and served as the first president and executive director of Utilimetrics (formerly the Automatic Meter Reading Association). Don has helped many utilities with AMI/AMR business cases, procurement, implementation and project management, including Boston Water and Sewer Commission, South Central Connecticut Regional Water Authority, Ross County (OH) Water Company, Halifax Water, Connecticut Water Company, Portland (ME) Water Bureau, and the cities of Philadelphia, Chicago, Grand Prairie (TX), Cleveland (OH), Kansas City (MO), Honolulu, Arlington (TX), Tampa, and San Diego. Don led the OWASA AMI Feasibility Study team.

For the Water Research Foundation, Don was principal investigator and author of the 2012 Water Research Foundation (WRF) study *Advanced Metering Infrastructure—Best Practices for Water Utilities*. He served as principal investigator of WRF's first (1992) AMR study, as well as the project *Joint Utility Meter Reading and Customer Service* co-funded with the Electric Power Research Institute. He was also one of the authors of the WRF book *Instrumentation and Computer Integration of Water Utility Operations*.

For the American Water Works Association, Don chaired the national Customer Service and Customer Metering Practices committees, served as a Trustee of the Research Division and a member of Technical and Educational Council, and now serves on the International Council. Don taught Utilimetrics' courses on Project Management and AMI for Water Utilities, and has taught AWWA seminars on AMI, customer service and mobile computing. Don has managed customer service process redesign projects, and worked on CIS acquisitions. He has prepared information technology master plans and competitiveness assessments for several utilities. Other areas of Don's expertise include economic and financial analysis, strategic planning, demand forecasting, and business process redesign. He has managed conservation projects, rate design studies, environmental impact assessments, customer surveys, and market studies.

Kevin O'Connor

Kevin O'Connor has 40 years' experience delivering technology solutions in the energy and water industries, the last 15 years as a program/project manager implementing metering, meter reading, and meter data integration solutions for water, electric, and gas utilities. Kevin recently managed the implementation the 425,000-meter AMI project at Cleveland Water, which included fixed network deployment, an MDMS and interfaces to the CIS. He also oversaw a 165,000-meter AMI deployment for Detroit Water. He has recently been providing with AMI Implementation oversight for the City of Grand Prairie (TX).

Kevin's areas of expertise include program management, preparing and negotiating project scope, project budgeting and scheduling, project coordination and logistics, quality control and risk management, business process change management, establishing professional services teams and managing subcontractors. Kevin has worked for a major metering and software technology company as well as enterprise energy management and consulting firms. Kevin has a solid foundation in management, strategic and tactical planning, project and program management, and multi-disciplinary stakeholder collaboration at all levels. Kevin helped analyze OWASA's data and develop the business case models.

Linda Vaughn, CSPM, PMP

With more than 30 years' experience in utility management and consulting, Linda Vaughn is a recognized subject matter expert in customer service, assisting utilities in customer service personnel development and process improvement. Other areas of expertise include customer communications, public education

and outreach, project management, team building, conflict resolution, personality preferences, change management and customer/employee satisfaction surveys.

Linda was instrumental in establishing the AWWA Customer Service Committee and served as its first chair. She is one of a limited number of AWWA approved trainers for the AWWA Customer Service Representative Certification Program and has trained utility employees in Illinois, Pennsylvania, Kentucky, Tennessee and North Carolina. In addition, Linda chairs the AWWA committee responsible for writing the current AWWA G420 - Communications and Customer Relations Standard. She has served on the AWWA Public Affairs Council and Standards Committees in addition to service to the NC AWWA-WEA.

Linda's practice often focuses on projects with an objective of conflict resolution, team building, and creating a positive work environment. Using tools such as Myers-Briggs and the Conflict-Dynamic Profile, Linda has helped client employees learn about and better understand their own preferences and communication style, which in turn improves interpersonal relations and organizational effectiveness. She has designed instructional and presented programs on communications and customer service as well as facilitated customer service improvement projects for numerous utilities, including Greensboro (NC) Water Resources, Charlotte-Mecklenburg (NC) Utilities, Roanoke Rapids (NC) Sanitary District, Castle Rock (CO) Utilities, the City of Durham (NC), and OWASA. For the recent OWASA AMI Feasibility Study, Linda participated in the process analysis and redesign efforts.

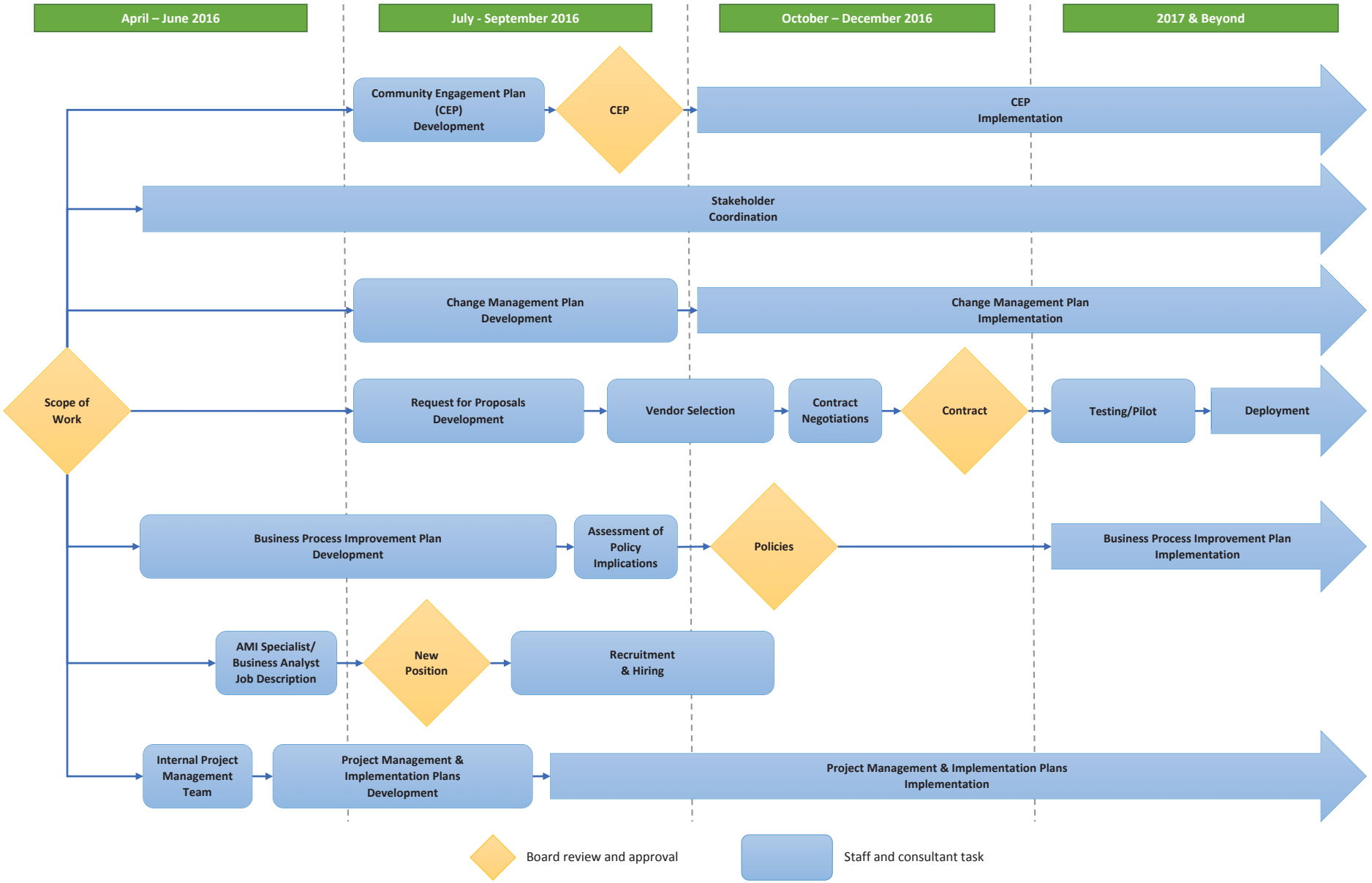
Kendall Smith

Mr. Smith is a consultant with deep utility industry consulting skills in the AMI and MDM area. He has significant technology and business experience and was successful as both an AMI Product and Business Manager. He is active in industry standards and technical efforts.

Mr. Smith has been involved in industry standards development with AMRA, IEEE, ANSI, MC, MultiSpeak, and NIST PAP efforts. Mr. Smith is an expert at planning, implementing, and supporting modern software systems, including Web Services, Data Warehouse, Enterprise Service Bus, and real-time messaging systems. Mr. Smith has started two high-tech companies and remains committed to the utility industry and the development of sophisticated IT systems to support advanced utility applications.

Mr. Smith led the development of the STAR system, a fixed network radio AMI offering that supports water, gas, and electric utilities. This system is currently installed at more than 400 utilities ranging from 4,000 to 4,700,000 meters. He has been responsible for engineering, marketing, sales, and business development for Hexagram and Aclara. Being involved in every major deployment, he has direct experience in planning and executing successful AMI projects. Kendall provided IT and functional capability insights for the OWASA AMI Feasibility Study.

Advanced Metering Infrastructure (AMI) System Procurement and Implementation Planning Process Flowchart (April 8, 2016)



Agenda Item 5:

Proposed Process to Complete New Strategic Plan

Purpose:

To propose a high-level process to complete the new Strategic Plan by February 2017.

Background:

Work on the current Strategic Plan started in earnest in February 2013 and included seven (7) work sessions between the Board and senior staff. The Strategic Plan was adopted on March 13, 2014 for Fiscal Years 2014 – 2017.

At the February 25, 2016 meeting, the Board agreed to staff's proposed schedule for developing our new Strategic Plan as follows:

1) April 14, 2016 Board Meeting – discussion on staff's proposed strategic planning process

2) May 26, 2016 Board Meeting – discussion and approval of the strategic planning process

3) September 2016 – start work on the new Strategic Plan (with new Board Members in place, if applicable)

4) February 2017 – complete the new Strategic Plan

Process Matters:

Our proposed process is intended to serve as a starting place for the Board's discussion with staff. The process of developing a Strategic Plan is perhaps as valuable as the Strategic Plan document itself. We believe it is important to have a collaborative process between the Board and staff (and perhaps other stakeholders) to develop OWASA's new Strategic Plan.

We further believe it would be useful to use an outside professional to facilitate our strategic planning process.

Proposed Key Steps to Prepare the New Strategic Plan:

We think our Strategic Plan should answer these basic questions:

1) Where are we?
2) Where do we want to go?
3) How will we get there?

Where are we?

- Review data – learn from the past
- Identify what's working well and should be continued
- Identify what hasn't worked well and should be stopped or modified
- Evaluate current priorities and workload and organizational capacity for change

Where do we want to go?

- Identify key issues (internal and external) facing the organization now, and into the future
- Assess the organization's strengths and opportunities to improve
- Identify key strategic themes to be addressed by future strategic initiatives
- Determine the resources needed for future strategic initiatives

How will we get there?

- Identify key strategic initiatives
- Determine SMART goals that are specific, measurable, attainable, realistic, and timebound
- Provide the resources necessary to achieve goals
- Develop plan for implementation, review and revision

Closing Thoughts:

An important element in developing our process is to determine the scale and scope of stakeholder input and involvement. We believe it is important to provide opportunities for employees throughout the organization to be involved since our employees are our most important resource.

Again, the development process is perhaps as important as the Strategic Plan document itself. We look forward to working with the Board to develop and agree on our strategic planning process.

Action Needed:

Board guidance and feedback on proposed process to complete a new Strategic Plan.

Agenda Item 6:

Review Board Work Schedule

Purpose:

a) Request(s) by Board Committees, Board Members and Staff
b) Review the draft agenda and discuss expectations for the April 28, 2016 meeting
c) Review the draft agenda and discuss expectations for the May 12, 2016 work session
d) Review and update the 12 Month Board Meeting Schedule

Information:

- Draft agenda for the April 28, 2016 meeting
- Draft agenda for the May 12, 2016 work session
- Draft 12 Month Board Meeting Schedule

AGENDA
MEETING OF THE OWASA BOARD OF DIRECTORS
THURSDAY, APRIL 28, 2016, 7:00 P.M.
CHAPEL HILL TOWN HALL

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

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

Public speakers are encouraged to organize their remarks for delivery within the four minute time frame allowed each speaker. Additional time may be allowed at the discretion of the Board of Directors.

Announcements

1. Announcements by the Chair
   A. Any Board Member who knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight is asked to disclose the same at this time.
   B. Update on the April 21, 2016 Meeting Between the Chapel Hill Town Council OWASA Committee and Chapel Hill Appointees to the OWASA Board of Directors
2. Announcements by Board Members
   A. Update on the April XX, 2016 Natural Resources and Technical Systems Committee Meeting (Dave Moreau)
3. Announcements by Staff

Petitions and Requests

1. Public
2. Board
3. Staff

CONSENT AGENDA

Information and Reports

1. Quarterly Report on Attendance at Board and Committee Meetings (Andrea Orbich)

Action

2. Approval of the Minutes of the March 10, 2016 Work Session of the Board of Directors (Andrea Orbich)
3. Approval of the Minutes of the March 24, 2016 Meeting of the Board of Directors (Andrea Orbich)
4. Approval of the Minutes of the April 14, 2016 Closed Session of the Board of Directors the Purpose of Discussing a Personnel Matter (Robert Morgan)

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REGULAR AGENDA

Information and Reports

5. Information about Common Customer Inquiries (Katie Harrold)
6. Financial Report for the Nine-Month Period Ended March 31, 2016 (Stephen Winters)

Discussion and Action

7. Resolution Awarding a Construction Contract for the Rosemary, Henderson and Hillsborough Street Water Main Project (Jeremy Fireline)
8. Approve Consultant Scope of Work for Advanced Metering Infrastructure System Procurement and Implementation Services (Todd Taylor)
9. Resolution Awarding an Audit Contract to Martin Starnes & Associates and Authorizing the Chair of the Board of Directors and the Finance Officer to Execute Said Contract (Stephen Winters)

Summary of Board Meeting Action Items

10. 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

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AGENDA
WORK SESSION OF THE OWASA BOARD OF DIRECTORS
THURSDAY, MAY 12, 2016, 6:00 P.M.
OWASA COMMUNITY ROOM

The Board of Directors appreciates and invites the public to attend and observe its meetings. For the Board's Work Session, public comments are invited on only items appearing on this agenda. Speakers are invited to submit more detailed comments via written materials, ideally submitted at least three days in advance of the meeting to the Clerk to the Board via email or US Postal Service (aorbich@owasa.org/400 Jones Ferry Road, Carrboro, NC 27510).

Public speakers are encouraged to organize their remarks for delivery within a four minute time frame allowed each speaker. Additional time may be allowed at the discretion of the Board of Directors.

The Board may take action on any item on the agenda.

Announcements

a. Announcements by the Chair
   - Any Board Member who knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight is asked to disclose the same at this time.

b. Announcements by Board Members

c. Announcements by Staff

REGULAR AGENDA

Discussion and Action

1. Award a Construction Contract for the Cane Creek Permanganate Facility Project (Simon Lobdell)
2. Appointment of the Nominating Committee (John Young)

Discussion

3. Review Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment, and Long Term Disability Insurance (Stephanie Glasgow/Ellen Tucker, Hill, Chesson and Woody)
4. Discuss Employee Merit Pay for Fiscal Year 2017 (Stephanie Glasgow)
5. Discuss Draft Scope of Work for Employee Total Compensation Study (Stephanie Glasgow)
6. Review Revised Charter for the Energy Management Plan (Mary Tiger)
7. Board Work Schedule (John Young/Ed Kerwin)
   a. Request(s) by Board Committees, Board Members and Staff
   b. May 26, 2016 Board Meeting
   c. June 9, 2016 Work Session
   d. 12 Month Board Meeting Schedule

Summary of Work Session Items

8. Executive Director will summarize the key staff action items from the Work Session

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OWASA Board of Directors – 12 Month Board Meeting Schedule (April 14, 2016)

Month	Board Meetings		Committee & Other Meetings
	Work Session	Business Meeting	
April 2016	Review Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment, and Long Term Disability Insurance Renewal ***Review Draft Consultant Scope of Work for AMI System Procurement and Implementation Services*** FY 17 Draft Budget and Rates Authorize staff to publish proposed rates Discuss Proposed Process to Complete New Strategic Plan CS – ED Review *4/14/2016*	Information about Common Customer Inquires Q3 Financial Report Award the Rosemary, Henderson, and Hillsborough St. Water Main Project Contract ***Approve Consultant Scope of Work for AMI System Procurement and Implementation Services*** Appoint Audit Firm *4/28/2016*	***Board of Directors Mitigation Tract Tour (4-20-2016)*** ***NRTS – Energy Plan Charter Revision (4-25-2016)***
May 2016	Award the Cane Creek Permanganate Facility Project Contract Appointment of Nominating Committee Discuss Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment, and Long Term Disability Insurance Renewal (if needed) Discuss Employee Merit Pay for FY 17 ***Discuss Draft Scope of Work for Employee Total Compensation Study*** ***Review Energy Plan – Charter Revision*** *5/12/2016*	Public Hearings – FY 17 Budget and Rates Approve Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment, and Long Term Disability Insurance Renewal Approve the Proposed Process to Complete New Strategic Plan *5/26/2016*	
June 2016	Approve Employee Merit Pay for FY 17 Approve FY 17 Budget and Rates Election of Officers *6/9/2016*	To Be Determined *6/23/2016*	
July 2016	Review and Approve New Positions *7/14/2016*	To Be Determined *7/28/2016*	
August 2016	CS – General Counsel Review *8/11/2016*	12 Month Financial Report CIP Semiannual Report CS – General Counsel Review *8/25/2016*	
September 2016	***Review Draft AMI System Community Engagement Plan*** ***Discuss LRWSP – Goals and Metrics*** Review FY 2017 Budget Process Discuss Update to Cross Connection Control Ordinance CS - General Counsel Review CS – ED Review *9/8/2016*	***Approve AMI System Community Engagement Plan*** ***Approve LRWSP – Goals and Metrics*** Annual Report and Financial Audit Approve General Counsel Engagement CS – ED Review *9/22/2016*	***Begin work on new Strategic Plan (TBD)***
October 2016	***Review Draft AMI System Policy Recommendations*** *10/13/2016*	***Approve AMI System Policy Recommendations*** Q1 Financial Report Strategic Trends Report *10/27/2016*	
November 2016	***Review AMI System Procurement Contract*** ***Discuss LRWSP - Demands and Yield*** *Update on the Affordability Plan and Year 2* *11/10/2016*	*Holiday - no meeting*	
December 2016	***Approve AMI System Procurement Contract*** *12/8/2016*	*Holiday - no meeting*	
January 2017	FY 18 Budget Calendar and Assumptions CY 16 Biosolids Report	Annual Lakes Recreation Report (regular agenda) Q2 Financial Report	

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

✓indicates a change to the Schedule

OWASA Board of Directors – 12 Month Board Meeting Schedule (April 14, 2016)

Month	Board Meetings		Committee & Other Meetings
	Work Session	Business Meeting	
	1/12/2017	CIP Semiannual Report ↻ *1/26/2017*	
February 2017	CS - General Counsel Interim Review ↻ *2/9/2017*	Approve New Strategic Plan CS - General Counsel Interim Review ↻ *2/23/2017*	
March 2017	FY 18 Draft Budget & Rates ↻ Set date for Public Hearings – FY 18 Budget & Rates ↻ CS – ED Interim Review ↻ *3/9/2017*	FY 18 Draft Budget & Rates and Discussion of Reserves ↻ CS – ED Interim Review ↻ *3/23/2017*	

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 (April 14, 2016)

Abbreviations Used in Draft Schedule:

↻	Recurring agenda item (generally these are "required" items)
AMI	Advanced Metering Infrastructure
CE	Community Engagement
CIP	Capital Improvements Program
COLA	Cost of Labor Adjustment
CS	Closed Session of the Board
CY	Calendar Year
ED	Executive Director
FY	Fiscal Year
JLP	Jordan Lake Partnership
LRWSP	Long-Range Water Supply Plan
NRTS	Natural Resources/Technical Systems
Q	Quarter
SOW	Scope of Work
TBD	To Be Determined
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Current and Pending Key Projects and Stages

Project	Strategic Initiative	Project Lead	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan - 17	Feb-17	Mar-17
AMI	6	Taylor	SOW / SOW			Positions		CEP / CEP	Policy / Policy	Contract	Contract	If needed		
												If needed		
Total Compensation Study		Glasgow		SOW	*Schedule To Be Determined*									
Rate Structure Study	4	Winters	*Schedule To Be Determined*											
LRWSP	1	Rouse						Goals & Metrics	Goals & Metrics		Demands & Yields	*Schedule TBD*		
Energy Plan	5	Tiger	**NRTS**	Charter Revision	*Schedule To Be Determined*									

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