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, MARCH 10, 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

CONSENT AGENDA

Action

1. Approval of Minutes of the February 11, 2016 Board Work Session of the Board of Directors (Andrea Orbich)
2. Approval of Minutes of the February 25, 2016 Closed Session of the Board of Directors (Robert Morgan)

REGULAR AGENDA

Discussion

3. Receive and Discuss Public Feedback on Advanced Metering Infrastructure (John Young)
4. Fiscal Year 2017 Draft Budget (Stephen Winters)
5. Resolution Setting the Date of May 26, 2016 for a Public Hearing on OWASA's Fiscal Year 2017 Budget (Stephen Winters)
6. Resolution Setting the Date of May 26, 2016 for a Public Hearing on Proposed Revisions to OWASA's Schedule of Rates, Fees and Charges (Stephen Winters)
7. Easement Acquisition and Findings of Pilot Study (Ruth Rouse)
8. Board Work Schedule (John Young/Ed Kerwin)
   a. Request(s) by Board Committees, Board Members and Staff
   b. March 24, 2016 Board Meeting
   c. April 14, 2016 Work Session
   d. 12 Month Board Meeting Schedule

Summary of Work Session Items

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

CLOSED SESSION

10. The Board of Directors will convene Board to go into a Closed Session for the Purpose of Discussing a Personnel Matter (Robert Morgan)

ORANGE WATER AND SEWER AUTHORITY

WORK SESSION OF THE BOARD OF DIRECTORS

FEBRUARY 11, 2016

The Board of Directors of the Orange Water and Sewer Authority (OWASA) held a Work Session on Thursday, February 11, 2016 at 6:00 PM in the OWASA Community Room, 400 Jones Ferry Road, Carrboro.

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

OWASA staff present: Ed Kerwin; Mary Darr; Patrick Davis; Greg Feller; Stephanie Glasgow; Robin Jacobs; Andrea Orbich; Johnny Riley; Ruth Rouse; Kelly Satterfield; Todd Taylor; Mary Tiger; and Robert Epting, Epting and Hackney.

Others present: Tammy Grubb, Chapel Hill News; Ben Poulson, Associate Director of Energy Services and Meg Holton, Water, Wastewater, and Stormwater Manager, University of North Carolina (UNC) at Chapel Hill; Forrest Orr, North Carolina Wildlife Resources Commission; Eric Barnhardt; Jim Flynn, National Wild Turkey Federation; Shadi Eskaf and Lexi Herndon, Environmental Finance Center at UNC; John Anzivino and Ann Antonsen, Springsted Incorporated.

MOTIONS ACTED UPON

1. Terri Buckner made a motion that the Board of Directors' support the intention of the petition but that the fishing day for veterans be held when Cane Creek Reservoir is open for recreation; second by Heather Payne and unanimously approved.

2. Jeff Danner made a motion to edit page 4 of the Executive Director's Performance Goals to replace the acronym "TBD" with "Leadership Initiatives" then accept the Executive Director Performance Goals as revised; second by Dave Moreau and unanimously approved.

3. Terri Buckner made a motion to accept the proposed Draft Philosophy for employee compensation and move forward with the next phase of the Employee Total Compensation Study; second by Robert Morgan and the motion passed with a vote of seven to two with Jeff Danner and John Young opposed.

4. Dave Moreau made a motion that there is not a compelling cost of service or any other basis to separate the University of North Carolina at Chapel Hill in its own rate class; second by Robert Morgan and unanimously approved.

ANNOUNCEMENTS

John Young said any Board Member who knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight is asked to disclose the same; none were disclosed.

DRAFT

Mr. Young said that on February 1, 2016, Dave Moreau, Ed Kerwin and he provided an OWASA orientation for new Chapel Hill Town Council Member Jessica Anderson.

Mr. Young announced that Terri Buckner, Barbara Foushee and he will provide an OWASA annual update to the Orange County Board of Commissioners at their February 16, 2016, meeting.

Mary Tiger, Sustainability Manager, provided an update on discussions with the University of North Carolina, Orange County, Chapel Hill-Carrboro City Schools, the Towns of Carrboro, Chapel Hill, and Hillsborough to partner in generating renewable energy from biogas generated at the Mason Farm Wastewater Treatment Plant.

PETITIONS AND REQUESTS

Forrest Orr petitioned the Board to allow a fishing day for veterans at the Cane Creek Reservoir on Saturday, March 19, 2016. Eric Barnhardt and Alan Tom also petition the Board in supported of Mr. Orr's petition. After discussion, the Board agreed that staff would work with Mr. Orr to find a suitable day for the event when Cane Creek Reservoir is open to public.

Terri Buckner made a motion that the Board of Directors' support the intention of the petition but that the fishing day for veterans be held when Cane Creek Reservoir is open for recreation; second by Heather Payne and unanimously approved. Please see Motion 1 above.

ITEM ONE: APPROVE EXECUTIVE DIRECTOR PERFORMANCE GOALS

Jeff Danner made a motion to edit page 4 of the Executive Director's Performance Goals to replace the acronym "TBD" with "Leadership Initiatives" then accept the Executive Director Performance Goals as revised; second by Dave Moreau and unanimously approved. Please see Motion 2 above.

ITEM TWO: DISCUSSION OF DRAFT EMPLOYEE TOTAL COMPENSATION PHILOSOPHY

After discussion, the Board accepted the philosophy as a draft presented by Springsted Incorporated. Jeff Danner concurred with moving forward with the project but opposed accepting a "draft" philosophy. John Young said the philosophy was generic and additional Board discussion was needed prior to approval.

Staff and Springsted will work together to develop a draft scope of work for the next phase of the Employee Total Compensation Study to include the key work tasks and deliverables for the Board's review.

Terri Buckner made a motion to accept the proposed Draft Philosophy for employee compensation and move forward with the next phase of the Employee Total Compensation Study; second by Robert Morgan and the motion passed with a vote of seven to two with Jeff Danner and John Young opposed. Please see Motion 3 above.

DRAFT

ITEM THREE: DISCUSSION OF POTENTIAL RATE STRUCTURE MODIFICATIONS

Dave Moreau made a motion that there is not a compelling cost of service or any other basis to separate the University of North Carolina at Chapel Hill in its own rate class; second by Robert Morgan and unanimously approved. Please see Motion No. 4 above.

The Board agreed to move forward with four separate rate classes: Single-Family Residential; Multi-Family, Master-Metered; Irrigation; and General Service.

Heather Payne requested information on the number of irrigation meters used by multi-family, master-metered customers; staff will follow up.

After considerable discussion, the Board agreed to evaluate modifications to the seasonal water rates that apply to the new rate class of multi-family, master-metered customers. The purpose of the modifications will be to improve customer understanding and address affordability issues. This will be brought back to the Board at a future meeting.

ITEM FOUR: REVIEW BOARD WORK SCHEDULE

No changes noted.

ITEM FIVE: EXECUTIVE DIRECTOR WILL SUMMARIZE THE KEY STAFF ACTION ITEMS FROM THE WORK SESSION

Ed Kerwin summarized the key action items for staff as follows:

- Staff will work with Forest Orr regarding his petition to have a fishing day for veterans at Cane Creek when Cane Creek is open for recreation.
- Staff will work with Springsted Incorporated to develop a draft scope of work for the next phase of the Employee Total Compensation Study to include the key work tasks and deliverables for the Board's review.
- Staff will provide the Board information on the number of irrigation meters used by multi-family, master-metered customers.
- Staff will prepare an evaluation of modifications to the seasonal water rates that apply to the new rate class of multi-family, master-metered customers for the Board's review.

ITEM SIX: CLOSED SESSION

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

The meeting was adjourned at 9:47 PM.

Respectfully submitted by:

Andrea Orbich
Executive Assistant/Clerk to the Board

DRAFT

ORANGE WATER AND SEWER AUTHORITY

CLOSED SESSION OF THE BOARD OF DIRECTORS

FEBRUARY 25, 2016

The Board of Directors of Orange Water and Sewer Authority met in Closed Session on Thursday, February 25, 2016, following the Board Meeting.

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

Staff present: Robert Epting, General Counsel and Robin Jacobs.

****

ITEM ONE

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

No official action was taken at the meeting.

The meeting was adjourned at 9:35 PM.

DRAFT

_____

Robert Morgan, Vice Chair
Board of Directors

Agenda Item 3:

Receive and Discuss Public Feedback on Advanced Metering Infrastructure

Purpose:

OWASA is considering new meter reading technology called Advanced Metering Infrastructure (AMI), and welcomes customers and stakeholders' thoughts and opinions prior to making this important decision.

Background:

In January 2016, the AMI Feasibility Study was completed and the community engagement effort began.

As of March 4, 2016, we have received comments from 63 citizens. The majority of the respondents support AMI.

Before the Board of Directors makes a final decision on March 24, 2016, customers and stakeholders will have additional opportunities to get information and provide feedback through our website, email, phone, and attendance at the March 24 Board meeting.

Action Requested:

Invite and discuss customers' comments and feedback.

Information:

- Comments from Citizens Regarding the Advanced Metering System Proposal

March 10, 2016

Comments from Citizens Regarding the Advanced Metering System Proposal

March 4, 2016

Summary (Updated 3/10/16):

Total responses: 65

Support: 39

Oppose: 8

Customers who asked questions or commented and neither support nor oppose: 18

NOTE: All comments were received via email unless otherwise noted. OWASA staff responded to all comments and inquiries to thank each respondent for their feedback and invite participation at the Board meetings on February 25, March 10 and March 24 (as applicable). Staff responses to specific inquiries are included below.

February 10, 2016:

Margaret Gourlay
I strongly support that you go forward with your **Advanced Metering Infrastructure** construction. I suggested such an innovation on a feedback form a few months ago, after a plumbing leak led to 3000 gallons of water use in one month in my small single-person household, and I didn't find out until a month later when I was billed. (I appreciate your current usage graphs because the change was obvious, and I knew what the source was because of the time frame). I would definitely use your new system often to monitor my use.

Stevan Stark
If AMI will result in staff reductions then I am in favor of it...if it doesn't then it will result in higher costs to residents who use OWASA. Since I suspect that will be the case, I am not in favor of the "new" AMI.
Stevan R Stark

Staff Response:
Dear Mr. Stark:
Thank you very much for your e-mail! We will share it with the OWASA Board and staff.
Regarding reduction in positions:

- *Our consultant estimates there will be a net reduction of 8 positions. The consultant's report is on our website at http://www.owasa.org/Data/Sites/1/media/customerService/ami-study-combined-documents.pdf. Page 30 has related information includes:*

  6.7 Staff, Vehicle and Other Cost Savings.** AMI implementation will enable savings in staffing costs, as discussed in Section 5.4. The day to-day office-side operation of the AMI system for regular periodic billing is not dissimilar from the operation of OWASA's current handheld meter reading system and would continue to be handled by a billing clerk or CSR. With AMI, OWASA should add a full-time position responsible for AMI system operation and management, business analysis, application development and user training**. Table B10

presents the anticipated net annual staffing cost savings, which is estimated to be approximately $350,000 once the system is completely deployed.

and page 58 has the position reduction table including the estimated annual personnel savings.

- *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*
  Investing in an AMI system will not, by itself, lead to a rate increase for OWASA customers. The estimated $6 million investment in AMI would be offset by avoiding planned investments in our current, less efficient water meter technology and by savings from operational efficiency improvements

Please let us know if you have any additional comments or questions.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Thank you for your response. It appears AMI implementation can reduce costs if OWASA follows the consultant's recommendations. I am out of town and will not be able to attend the meeting but I would support the investment in the new technology.
S R Stark

Carol Petersen
Dear Sirs,
I read the information you shared regarding the new meter reading system. I sounds like it should be helpful in keeping our costs down and improve the carbon usage by keeping vehicle use to a minimum. I have one main question:

If the wi-fi system for reading the meter fails or seems to be inaccurately working, what is your back-up plan and how may the customer address a potential billing problem resulting from a failed meter reading or a water meter failure?
Sincerely,
Carol Petersen

Staff Response:
Ms. Peterson,
Thank you for your questions regarding the proposed AMI system.
There are multiple redundancies built into an AMI system and the systems are self-monitoring as well to detect problems with meters and other components of the system. While there are various manufacturers of these systems and each has their own specific technologies and solutions, the systems have many general features in common.

For example, if an individual meter is not reporting its readings to the data collection for some reason, the data collection system will recognize that the meter is not reporting and automatically generate a work order for an OWASA employee who will physically inspect the meter and resolve the issue. The OWASA employees will also have handheld data collection devices to record any of the missed readings. In the event that one of the data collection units malfunctions, most meters will be

able to communicate with more than one data collection unit so that data recording can continue uninterrupted. In the event an individual meter cannot communicate with any data collection unit, the individual meters are able to record at least several days of meter readings and would upload those readings when communication is reestablished. As a last resort, in the event that a meter reading cannot be transmitted, the meter will still have a visible dial that will be read and recorded by an OWASA employee physically reading the meter dial.

In the unlikely event that an individual meter was sending inaccurate readings, the data management system software reviews the readings to determine unusual readings that may indicate a leak, backflow or possible meter malfunction so that these items can be proactively addressed before any billing process results in an inaccurate bill.

And, finally, any customer that believes their bill may be in error is encouraged to contact OWASA Customer Service so that we may address any possible issues. The features of the AMI system would improve the ability of our Customer Service Representatives in assisting the customer to identify what may have resulted in an erroneous reading or possible additional water consumption.

Please let me know if you have any other questions regarding AMI.
Thank you,
Daniel D. Przybyl

Terry Maguire
Message Subject: Of special value - AMI
For me, the greatest value of having this system in place would be my ability to check on any apparent water leaks when I am out of town, especially in cold weather, but year round as well. Peace of mind is worth a lot.

For example, in another home we own, the hose to the dishwasher one morning simply split, pouring a good deal of water into the kitchen. Fortunately, I was there at the time and could address the problem immediately.

Without having sensors at various places, had the AMI meter been in place there, I would have noted shortly that the water meter was continuing to show usage even though I would have expected none. That could have brought a visit by a friend, etc., that otherwise might have run for much longer.
No doubt apps will emerge that would signal us when we tell it to do so in the event of unexpected water usage. That would be perfect.
Thanks.
Terry MAGUIRE

Lynda Isabel
Thank you for the opportunity to provide feedback on the proposed AMI. I don't have any experience with such a system, but I do know OWASA needs to improve its ability to read meters accurately ! Some months my meter reading is the same for 2 months in a row, even though the date for the last meter reading is the current month (implying that I have not used any water during the current month). Then the next month, the meter reading jumps dramatically... obviously a "catch up" reading.

Hopefully, the cost of installing and testing such a system will not be passed on to OWASA customers. Also, please do adequate "user acceptance testing" with real customers. I have found that other utilities don't do a good job at implementation, which invariably creates customer dissatisfaction. I think most customers will support the new system; but we do want it to work the first time you roll it out.

What is the timeline for implementing the new system?

Thank you !

Lynda B. Isabel

Staff Response:
Dear Ms. Isabel:
Thank you very much for your e-mail!
We will share it with the OWASA Board of Directors and staff.

We do not have a timeline for implementing AMI, but you may wish to check the AMI part of our website, www.owasa.org.
If AMI is approved, OWASA staff would recommend billing in tens of gallons instead of in thousands of gallons as we do now. Such a change is a policy matter to be decided by the OWASA Board.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Ronnie Graham
AMi sounds like the time is ripe for it! TOO OFTEN i FEEL THAT THE PERSON WHO WALKS IN THE HEAT AND THE SNOW TO READ METERS MAY NOT BE DOING IT EXACTLY ACCURATELY. Human error happens way to often. Give them a good another job and let's let technology work for us. Thanks for opening this up to the public. YEAH OWASA!!! Ronnie Graham

---

Fred Heffron
it was installed in our house in kansas city and was a terrible idea
fred heffron

Louis Giordano
Message Subject: New meter reading system
It sounds like an improved system to me.
Louis B. Giordano

Victor Lancaster
Hi Greg,
These are my comments on the above subject.
I trust the intention of OWASA is to pass on the bulk of the savings to customers. Has there been any preliminary estimates on how much this savings would be?
I assume this will use some form of radio frequency to transmit the data to the central site using cell phone technology?
Is there enough bandwidth on current cell towers to accommodate this?
How is error checking/corrections handled? If there is an error, is there provision for manual backup readings?
What happens if cell tower or power goes down?
These are a few questions that will need addressing.
Best Regards,
Vic Lancaster

Staff Response:
Dear Mr. Lancaster:
Our consultant estimates that AMI would save about $325,000 annually by avoiding continued investment in our current meter reading system and ending the need for meter readers to drive and walk in the community to read meters once a month, with related vehicle and fuel costs. Over time, the annual savings would recover the $6 million investment in AMI.

The OWASA Board of Directors makes decisions on rates and fees as part of the annual budget process each spring. The rates and budget reflect service needs; cost factors; capital projects to renew, replace and improve our facilities; water demand and other factors in a given year.

Regarding your questions about AMI technology, below is information from Dan Przybyl, our Director of Information Technology.

I assume this will use some form of radio frequency to transmit the data to the central site using cell phone technology?

> *There are a variety of AMI technology vendors employing various methods to transfer meter reading data in different parts of the system. While some vendors use cell phone technology to transmit data from the water meter to the data collection device, this is more common in areas covering larger geographic areas with low population densities and is unlikely to be part of our selected system. Another use of cell phone technology to transmit data from the data collection devices to the central database although other network technologies may be used as well such as cabled network connections, point-to-point wireless networking, etc. We will not know the exact technology or configuration used for data transmission until we review and select and specific vendor proposal and the AMI system architecture is designed.*

Is there enough bandwidth on current cell towers to accommodate this?

> *If we implement an AMI system that utilizes cell phone technology for data transmission from data collectors to the central database, we do not anticipate that bandwidth would be an issue due to a number of factors. Firstly, the amount of data transmitted is actually very small; think in terms of text messaging as compared to transmitting video files. Second, the transmission is not continuous but happens periodically, perhaps once or several times a day. Although the meters may record a reading every 15 minutes, it would adversely affect the battery life of the meter*

transmitter to transmit those readings every 15 minutes. Ratner the meter may only transmit readings to the data collectors twice a day which in turn would compress the data and transmit the data to the central database. The data collectors can also be configured to transmit data during times of lower network utilization (e.g., 4 AM).

How is error checking/corrections handled? If there is an error, is there provision for manual backup readings?

Again, while each vendor has developed its own system, AMI systems are designed to be self-monitoring to identify meters that are not transmitting and to identify unusual or erratic readings. These applications, usually called Meter Data Management Systems (MDMS) have the ability to exclude erroneous reading, auto-generate work orders for suspected leaks or faulty meters, etc. Finally, there are handheld data collections for use by utility personnel to physically inspect the meters and record the readings either electronically or manually.

What happens if cell tower or power goes down?

Again, while each vendor has developed its own system, AMI systems are designed to accommodate network outages by locally storing data for an extended period until network communication is restored and data collection units are also equipped with backup power supplies to prevent data loss in the event of a power outage. Additionally, if the data collectors utilize cellular modems for data transmission, the collectors likely would be able to communicate with multiple cell towers so that multiple cell tower outages would be necessary to affect system performance.

Please let us know if you have any additional comments or questions.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Rajkash
Message Subject: AMI comment
AMI should lead to lower costs/rates for customers.

Janet Boren
I am fully against this idea of "smart" meters as
This kind of energy is very bad for many consumers
I would suggest that this issue be 4passed over and thrown out as an idea
Janet Boren

Staff Response:
Dear Ms. Boren:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff. As information, here are comments from our consultant's report on meter reading technologies:

While few scientific studies have specifically focused on water meter AMI technology, the available studies (mainly associated with electric meters) come to the same conclusions as the many peer-reviewed studies of similar technologies using low-level wireless radio frequencies: no adverse health impacts. For example, a World Health Organization survey of published research concluded that there is no convincing scientific evidence that the weak Radio Frequency (RF) signals from wireless meter reading networks cause adverse health effects. Although there is anecdotal information that some individuals may be hypersensitive to radio frequencies, there is no definitive evidence linking such symptoms to low-level wireless transmissions like those associated with AMI meters.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Jay Raval
Message Subject: Advanced Metering Infrastructure: YES
Hi,
Jay Raval here at [deleted]. My wife (Marian) and I fully support (i.e., vote YES) on the proposal to move forward with plans to install and implement use of AMI in our water system. It sounds like a fantastic idea with benefits on multiple fronts (including recording water use data, using water use data in real time, and saving on driving/other current water use measuring costs).
Thanks, and please email with any questions/comments.
Take care,
Jay

John Schmidt
I have a number of questions that could have been answered in your email. I'd like to get the answers before any public information meeting

1. How powerful is the signal from the meter compared to what is generated now?
2. Duke Energy also wants to use a similar system, and could there be intereference?
3. What kind of an antenna is needed. Does it stick up above grade?
4. Does the water meter location need to be changed?
5. How much does the truck and driver (present method) cost compared to the $6 million outlay? There must be something else involved to warrant this kind outlay.

You can answer my questions by email, or by a phone call from Greg Feller. I am at 919-968-0322
Thank you, --- John Schmidt

Staff Response:
Dear Mr. Schmidt:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff. Below are your questions and comment and our information regarding each.

1. How powerful is the signal from the meter compared to what is generated now?
With an AMI system, the signal from the transmitter at our meter would have essentially the same strength as with our present meters transmitting to a meter reader's truck.

(With AMI, our meters would of course transmit more often than with the present system.)

2. *Duke Energy also wants to use a similar system, and could there be interference?* ***No. The use of radio transmitters is licensed by the Federal Communications Commission and systems in the same area are required to have different frequencies (like radio stations).***

3. *What kind of an antenna is needed? Does it stick up above grade?* ***The antenna would be a simple one such as a disc about ¾" high on the meter box.***

4. *Does the water meter location need to be changed?* ***Not in residential areas. Some non–residential meters might be moved.***

5. *How much does the truck and driver (present method) cost compared to the $6 million outlay?* ***For a 10 year period (in which AMI would pay for itself by cutting costs), the present system would cost an average of about $325,000/year more than AMI. If you are interested in reading our consultant's report for the details, the report is at*** *http://www.owasa.org/Data/Sites/1/media/customerService/ami-study-combined-documents.pdf* ***and we suggest going to*** *page 32 of the report.*

6. There must be something else involved to warrant this kind outlay.
AMI would help OWASA and customers more quickly see water use patterns indicating a possible leak, so leaks could be found and fixed sooner, thus conserving water (and saving money).
By eliminating the need to drive in the community to read meters, AMI would reduce our fuel use and costs and related greenhouse gas emissions.
AMI would also be safer for employees and reduce our part of the traffic on local streets.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Great to hear from you again, John!
Best regards,
Greg Feller

Shannon Jordan
I won't be able to make it to a meeting but here's one vote to move over to AMI. Seems like a win-win proposition!

Thanks,
Shannon Jordan

Susan Meyer
Dear Sir,
Many thanks for soliciting comments regarding the proposed new meter reading technology.
I am interested in knowing:

1. How many people will lose their jobs if the new meter reading technology is implemented by OWASA?
2. As a customer who rarely meets the 1000 gallons per month usage minimum, will this new system charge me for exactly the amount of water I use and not the $35.xx I pay monthly (with rare exceptions)?
Thank you again for providing OWASA customers with this opportunity.

Best regards,
Susan Jordan Meyer

Staff Response:
Dear Ms. Meyer:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff.

- ***What will happen to OWASA's employees who read meters?*** *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

- *Whether to change our present billing in whole thousands of gallons is a policy decision to be made by the OWASA Board. With AMI, OWASA staff would recommend billing in tens of gallons in most cases.*

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 25, when AMI will be on the agenda.
Sincerely,
Greg Feller

Fredrick Lee
I am totally for AMI. My rental property is [deleted]
How about installing a monthly budget plan as well as AMI (just sayin')?

Thank you,
Fred Lee

Jan Schochet
Message Subject: no AMI
Please do NOT change to AMI.
There are people who are greatly affected by radio waves.
I am one of them.
Thank you,
Jan Schochet

Staff Response:
Dear Ms. Schochet:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff.

As information, here are comments from our consultant's report on meter reading technologies:

While few scientific studies have specifically focused on water meter AMI technology, the available studies (mainly associated with electric meters) come to the same conclusions as the many peer-reviewed studies of similar technologies using low-level wireless radio frequencies: no adverse health impacts. For example, a World Health Organization survey of published research concluded that there is no convincing scientific evidence that the weak Radio Frequency (RF) signals from wireless meter reading networks cause adverse health effects. Although there is anecdotal information that some individuals may be hypersensitive to radio frequencies, there is no definitive evidence linking such symptoms to low-level wireless transmissions like those associated with AMI meters.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

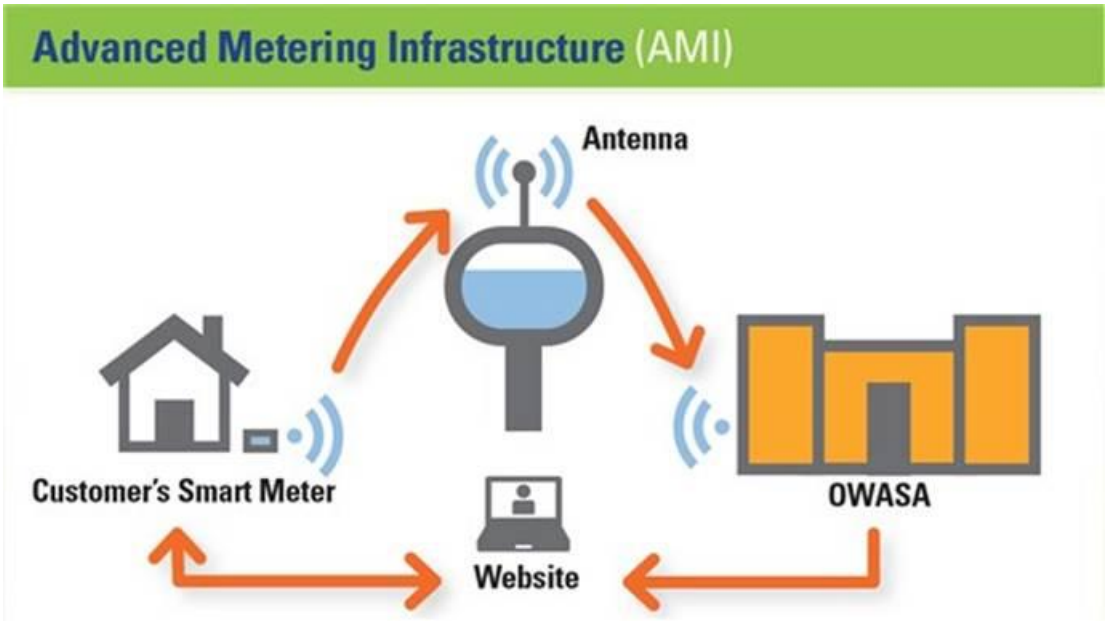
W. Patrick Gale
I welcome this technology especially of users can access their water usage online each day. I have had water leaks in the past so knowing if my water usage has spiked would be helpful.
Cheers

Carol Troutner
Hi Greg,
I do not want AMI meters. They broadcast radiation ALL the time, or every 10-30 seconds. I want an AMR meter, which turns on only when the meter reader drives by to read it. It's important to install only meters that turn on/off the radio frequency device and do NOT broadcast all the time.
Thank you for asking for my comments and please keep me posted.
Carol

I wish I knew more about the remote radio meter reading transmission proposal. Can you tell me how this would work?

Staff Response:
Dear Carol:
Here is some information from the OWASA webpage about AMI which I hope will be helpful:

How does the system work?
Low powered radios installed in the water meter boxes and connected to the water meters will periodically transmit water use information to data collectors on OWASA's water towers, buildings and other facilities, which will relay this information to OWASA's offices.



How does this differ from the current meter reading system?
About two-thirds of our water meters are read by employees who drive to neighborhoods and walk from meter to meter to read them and record the readings. The other one-third of our meters have radio transmitters and these meters are read by employees who drive close enough to the meters to get the readings. We read all of our meters once a month.
In contrast, AMI would not require employees to walk or drive in the community to get meter readings. Small, battery powered transmitters at meters would send information on water use several times a day via antennae in the community to a computer system at OWASA. The computer data would be available to OWASA staff to check for water use patterns that may indicate a leak (so we can quickly alert customers as needed), and customers with Internet access could frequently check their water use on line.
Does this system pose any risk to my health?
While few scientific studies have specifically focused on water meter AMI technology, the available studies (mainly associated with electric meters) come to the same conclusions as the many peer-reviewed studies of similar technologies using low-level wireless radio frequencies: no adverse health impacts. For example, a World Health Organization survey of published research concluded that there is no convincing scientific evidence that the weak Radio Frequency (RF) signals from wireless meter reading networks cause adverse health effects. Although there is anecdotal information that some individuals may be hypersensitive to radio frequencies, there is no definitive evidence linking such symptoms to low-level wireless transmissions like those associated with AMI meters.
Best,
Greg Feller

Message Subject: FW: If you're going to read only one report on Smart Meters, (by Cindy Sage)
Hi Greg,
I thought you might be interested in this information.
Carol
Subject: If you're going to read only one report on Smart Meters, (by Cindy Sage)
...this is it!

We are very fortunate to have earned the support of a number of global EMF experts and one of them is Cindy Sage! You can read her report (attached) which was submitted today to the NC Utilities Commission to help our work for a smart meter opt-out!
Sage Associates is a nationally known environmental sciences consulting firm and Cindy is the co-editor and principal author of the BioInitiative Reports (2007 and 2012) and a founder and organizer of the BioInitiative Working Group, which is dedicated to determining and promoting biologically-based exposure standards for low-intensity electromagnetic radiation.

Robert M Aris
Message Subject: i vote yes for the AMI, time to get into the 21st century
in theory this should SAVE a lot of money over time but may lead to job lay offs
thanks Robert aris

Staff Response:
Dear Mr. Aris:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff.
Regarding your concern about layoffs:

> ***What will happen to OWASA's employees who read meters?*** *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda
Sincerely,
Greg Feller

Ekrols
I have a home in Spain and they use this system since 2 years.
Works fine and we are every month billed for our real consume.

Faith Kurdi
Message Subject: AMI vs current system for meter reading
My opinion :
Technology sounds good.
Too much money - could be used for employee raises
Do not want technology to get into the way of providing jobs
Is some of the investment monies set aside for employee training in other fields if they are going to lose their jobs?
As far as mistakes...computers and technology have mistakes too just a lot more expensive to fix
I say keep the people working and continue providing the best service at the lowest price possible for clients.
Faith Kurdi

Staff Response:
Dear Ms. Kurdi:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff.

Regarding your concerns about layoffs and the cost of our services:

What will happen to OWASA's employees who read meters? *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

Impact on customers' bills

Keeping our essential services affordable is one of OWASA's most important goals. Investing in an AMI system will not, by itself, lead to a rate increase for OWASA customers.

The estimated $6 million investment in AMI would be offset by avoiding planned investments in our current, less efficient water meter technology and by savings from operational efficiency improvements

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Erica Morehouse
Message Subject: I support AMI system

David Rizzieri, M.D.
Thanks for the AMI notice. I like the idea... would it allow your team to 'flag' residential meters that are using at an inconsistant rate such that a big leak is potentially responsible? that would allow a proactive approach to intervention saving water and the customer money.... i would highlight that in the notice if it is a potential benefit

Staff Response:
Dear Dr. Rizzieri:
Yes, AMI would allow us to identify water use patterns that indicate a possible leak. We would then promptly notify the customer of the need to check for a leak and fix it if there is one.
(As you may know already, OWASA may give an account adjustment once every three years after a leak is repaired, subject to some conditions and limits.)
We agree about emphasizing that AMI would enable us to identify apparent leaks based on water use patterns. Our news release and website, etc. include:

- *OWASA staff will have access to information that empowers them to proactively let customers know when their water-use patterns indicate a potential leak at the customer's premises.*

We invite you to participate in the OWASA Board's meetings when AMI will be discussed (February 25, March 10 and March 24).
Please let us know if you have further comments or questions.
Sincerely,
Greg Feller

Mary Jane Gore
Would this new system also bill us for exact water used rather than approximations each month? My bill is really high sometimes in the year and low at others, but my water use is about even. I don't water my yard much.
thanks for letting me know, Mary Jane gore

Staff Response:
Dear Ms. Gore:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff.

Whether to change our present billing in whole thousands of gallons is a policy decision to be made by the OWASA Board. With AMI, OWASA staff would recommend billing in tens of gallons in most cases.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 25, when AMI will be on the agenda.
Sincerely,
Greg Feller

David Wiener
My input: Do it! Will pay off in many ways over the long run assuming new meters have been tested as fairly bullet proof and long-lasting.

Eric Webb
Hello - This sounds like it reduce the need for many individuals and vehicles for OWASA. I read below that it wouldn't directly impact our bills, but why wouldn't lower them once the $6M (some of which is already budgeted for standard maintenance) is recouped?
Eric

Staff Response:
Dear Mr. Webb:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff.

AMI would reduce our net annual costs by an estimated $325,000. We estimate that the $6 million initial cost of AMI would be recovered in about 10 years through cost savings.

If you are interested in the details, please see our consultant's overall report at http://www.owasa.org/Data/Sites/1/media/customerService/ami-study-combined-documents.pdf and the discussion of AMI costs on page 32 (http://www.owasa.org/Data/Sites/1/media/customerService/ami-study-combined-documents.pdf#page=32)

OWASA's rates and fees are a policy matter which the OWASA Board decides each year in the budget process after a hearing on the proposed rates and budget. Budget and rate decisions take into account various factors including service and project needs as well as costs in a given year.

May I add you to our electronic distribution list for notices about future rate and budget matters including the annual public hearings, which are normally held in May?

Please let us know whenever you have any questions or comments for us.

We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Karl Hawkins
Message Subject: AMI: equipment to be used
Has a decision been made as to which manufacturer's equipment is to be used? If not, it there a list of contenders?

Staff Response:
Dear Mr. Hawkins:
Thank you for your questions.

If there is a decision to implement AMI, OWASA would then use a bid or proposal process to determine who would provide and install the system.

I'm sharing this with other staff here in case they have a list of companies that have provided AMI systems in other communities.

Please let us know whenever you have any questions or comments for us in the future.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Philip C Singer
I strongly endorse the implementation of this advanced remote meter monitoring technology.

Bill Ferrell, Meadowmont Association
Greg,
Before replying…
Q: OWASA installs?
Q: OWASA covers install costs?

Staff Response:
Bill—
If the OWASA Board approves the AMI system, we would make the changes in our meter equipment with OWASA funds. I'm copying this to other people here in case they wish to add or clarify anything.
Please let us know if you have additional questions or comments.
Thanks!
Best regards,
Greg Feller

Joyce Watkins
(Notes on phone call to G. Feller Feb. 10, 2016)

- I cannot participate in a Board meeting due to circumstances.
- I am worried about pipes leaking in my crawlspace. I went to check my meter for a leak and it was dirty but the meter reader helped me.
- I need to be able to check the flow indicator on my meter. Will that still be possible? *(OWASA response: yes.)*
- AMI would be the least expensive way to read meters and I hope others will support it.
- It is good that employees will not lose their jobs if AMI is approved.

Follow up Email
Message Subject: Re: Thank you!

Thanks, Greg, for this abbreviated version. The only other thing I can add is that I would very much support the meter reading being available on my home computer. The fact that readings would be constant with the AMI technology (if my understanding of this is correct) so that I would not have to read the outside meter, which is inconvenient for me at times. I would only have to log into the system and high or unusual water usage would be evident there.
I look forward to reading the input of other residents.
Good luck.
Joyce Watkins

February 11, 2016:

Brennan Bouma - Sustainability Coordinator, Orange County Asset Management Services
As the lead person tracking utilities usage by Orange County operations, I would very much appreciate the detailed and rapidly updating data that the AMI system would provide. I also applaud OWASA for making a plan to move to this technology without the need to increase rates for customers.

I would hope that the operational efficiencies and savings will not come at the expense of too many good jobs. If those people reading meters will need to be let go, I would hope that it be done as gradually and compassionately as possible.

That said, assuming this cost-saving technology will likely become the industry standard, meter reader personnel will be required to transition elsewhere as well.
Thanks for providing the opportunity to comment.

Staff Response:
Dear M. Bouma:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff. Regarding meter reading jobs:

> ***What will happen to OWASA's employees who read meters?*** *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Carol Douglas Henderson
Message Subject: In favor
Since our OWASA bills have been way high--even when we're out of town--and we've had OWASA out to check meter(which was malfunctioning) and have spent a good bit of money looking for leaks, which we don't have, I am in favor of this new system.
I'd like to be able to track out usage carefully.
We work hard to conceive water--always--and despair at the aberrant high bills, which are a time consuming pain to deal with, and battles we often Lise.
Very disappointed with OWASA at this point, though employees are also courteous and seem to be trying to help us.

Mark Soderstrom
OWASA,
As a utility meter reader for Pacific Gas & Electric for many years in California me and almost my coworkers jobs were eliminated due to this kind of technology being rolled out. Still, I feel that it is a necessary and beneficial step towards utilizing the most accurate and efficient manner of monitoring and managing resource usage. It saves time, manpower, fleet resources, increases employee safety, etc. all while generating much more real time useable information on your network. I support it.
-Mark Soderstrom

Staff Response:
Dear Mr. Soderstrom:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff.
Regarding your concern about jobs:
What will happen to OWASA's employees who read meters? *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*
Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

I'm glad to hear that your employees will be reassigned. That sadly was not the case for me and my co-workers. All said though, I loved my meter reading job and loved working for PG&E.
-Mark

Nancy Drozd
Automatic meter reading makes a lot more sense than the human errors that come from manual readings except I don't know how well it works on the old meters you have in Finley Forest part of Chapel Hill. I hope this would not mean more costs for customers.
thanks

Anne Johnson
I am against it. One more device that eliminates human jobs causing our economy to tail spin out of control. Also, computer devices do make errors and cause a lot more problems in the long run than a real human smiling when ya see them reading your meter and representing OWASA as a friendly, helpful company.
NO don't use electronic devices.
Anne

Staff Response:
Dear Ms. Johnson:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff. Regarding your concern about jobs:

> ***What will happen to OWASA's employees who read meters?*** *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Josh Bowman
Message Subject: AMI Privacy and Security Concerns
I am writing in regards to the email I received about the potential use of smart meters by OWASA. There are a couple of potential concerns that I think need to be seriously considered from the consumer's point of view. First and foremost, connecting meters to a network opens them up to a variety of malicious attacks ranging from denial of service to manipulating the data being reported (allowing theft of service, or incurring superfluous charges for the consumer). What is being done to protect these meters from interference?
Second, from a privacy perspective, increasing the frequency of collection can result in data collection that extends beyond simply how much water is being used. When granular enough, it can be used to infer behavior as well (e.g. when people might or might not be home). What guarantees do consumers have about the use of the collected data and it's safe storage? Will it be accessible to outside entities?
Please take these concerns into consideration when evaluating this new technology.
Thanks,
Josh Bowman

Staff Response:
Dear Mr. Bowman:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff.

Below is information I received from Dan Przybyl, our Director of Information technology, in response to your comments.

> *There is no single answer to this question. As far as the security of the network from malicious attacks, each vendor will have its own approach. One example is Sensus (see here http://sensus.com/wp-content/themes/sensus/functions/webdam_download.php?asset_id=22902873). Basically, the AMI is protected similar to any other computer network through the use of encryption, firewalls, intrusion prevention/intrusion detection, etc. As OWASA has not yet selected a vendor, we do not have the specifics of the security measures that will be utilized; however, when soliciting proposals from vendors to implement an AMI system, network and data security requirements will be part of the requirements.*
>
> *Regarding the privacy issues, OWASA does not share non-aggregated customer data with outside organizations. Any data collected will be securely stored to the best of OWASA's abilities, just as we now safeguard customer information. The granularity of the data collected, both in intervals and consumption, is to be determined but the risk of AMI data utilization to determine behavior of occupants is considered to be virtually none.*
>
> *Thank you,*
> *Daniel D. Przybyl*

Please let us know whenever you have any questions or comments.
We encourage you to participate in the OWASA Board of Directors' meetings on February 25, March 10 and March 24.
Sincerely,
Greg Feller

Mr. Feller,

Thank you for the prompt reply. I have read the response from Mr. Przbyl, and appreciate the details he was able to share regarding data privacy. It is reassuring to know that it is a matter being taken seriously. With regard to security, I understand that my question was fairly open ended and ultimately is dependent on your choice of vendor. I do urge you to be thorough in your review of the security measures offered by each potential vendor.

Thank you for your time.

Sincerely,
Josh Bowman

Martha Dill
How many jobs will be eliminated? How many people are employed full time whose jobs will disappear.

I understand the wish to go high tech, but we need to consider the human cost also.
Martha Dill

Staff Response:
Dear Ms. Dill:
Thank you very much for your e-mail! We will share it with the OWASA Board and staff.

Regarding your concern about employees:

What will happen to OWASA's employees who read meters? *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Judith Bergman
My concern, and other's I'm sure, is the health danger of radio transmissions.

Staff Response:
Dear Ms. Bergman:
Thank you very much for your e-mail. We will share it with the OWASA Board and staff.

As information, here are comments from our consultant:

While few scientific studies have specifically focused on water meter AMI technology, the available studies (mainly associated with electric meters) come to the same conclusions as the many peer-reviewed studies of similar technologies using low-level wireless radio frequencies: no adverse health impacts. For example, a World Health Organization survey of published research concluded that there is no convincing scientific evidence that the weak Radio Frequency (RF) signals from wireless meter reading networks cause adverse health effects. Although there is anecdotal information that some individuals may be hypersensitive to radio frequencies, there is no definitive evidence linking such symptoms to low-level wireless transmissions like those associated with AMI meters.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.

Good to hear from you again!
Best regards,
Greg Feller

Catherine Steele
Hello!

This is a comment on the potential new AMI system.

It sounds like a great advantage on all front. I strongly believe, however, that customers should have the option to opt-in to this new infrastructure. There should be a way to maintain both systems so that people who do not want radio-controlled devices attached to their homes should not have to have one.

Thank you!
Catherine Steele

Staff Response:
Dear Ms. Steele:
Thank you very much for your e-mail! We will share it with the OWASA Board and staff.

As information, here are comments from our consultant:

While few scientific studies have specifically focused on water meter AMI technology, the available studies (mainly associated with electric meters) come to the same conclusions as the many peer-reviewed studies of similar technologies using low-level wireless radio frequencies: no adverse health impacts. For example, a World Health Organization survey of published research (http://www.who.int/peh-emf/publications/facts/fs304/en/) concluded that there is no convincing scientific evidence that the weak Radio Frequency (RF) signals from wireless meter reading networks cause adverse health effects. Although there is anecdotal information that some individuals may be hypersensitive to radio frequencies, there is no definitive evidence linking such symptoms to low-level wireless transmissions like those associated with AMI meters.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Allison Schad
Message Subject: Feedback Against Advanced Metering Infrastructure
Dear OWASA,
As a resident of North Carolina and a member of the Chapel Hill community, I am writing to give feedback against the new "Advanced Metering Infrastructure." The United States has lost too many jobs to automation. As such, I am a proponent of keeping Orange County residents employed to physically come into our county's communities to read our water meters. I appreciate the green house gas reductions that would result from AMI, but I would rather OWASA purchase fuel-efficient automobiles than lose jobs to machines.
Sincerely,
Alli Schad

Staff Response:
Dear Ms. Schad:
Thank you very much for your e-mail! We will share it with the OWASA Board and staff.

Regarding your concern about employees:

What will happen to OWASA's employees who read meters? *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

George Koszalka
I fully support OWASA moving to this technology. It can quickly alert the user if an excessive amount of water is being used in case of a water line leak or break and it will eliminate the misreads of physically reading the meter.
George Koszalka

Sharon Fowler
it sounds very efficient to me. I especially like the leak/use detection aspect and less carbon emissions (trucks)

if a person reads this, I've always had a question: why is use represented by blocks (1-2-3-4) instead of actual readings? does it mean we pay fully for each level, even if we're at the bottom of it? if so, not a good way to charge, need a fairer system.

thanks for all you do for us!

best,
Sharon F

Staff Response:
Dear Ms. Fowler:
Thank you very much for your e-mail! We will share it with the OWASA Board and staff.

OWASA has for many years billed for whole thousands of gallons of water use. Unbilled gallons in one month are included in the following bill. For example, if a customer uses 1,500 gallons per month, for a total of 3,000 gallons in two months, the first month's bill would be for 1,000 gallons (500 gallons are not billed) and the second month's bill would be for 2,000 gallons including the 500 gallons not billed in the first bill.

In essence, the present system does not round up a meter reading, but catches up later for gallons that are used but not billed in a given month.

If AMI is approved, staff would recommend billing in tens of gallons. However, this is a policy matter that the OWASA Board would decide.

I hope this information is clear and helpful. Please let me know if you would like further explanation or clarification.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Steve Caiola
Message Subject: AMI - comment & questions
AMI sounds like appropriate use of technology available today - to the benefit of OWASA & its customers.

This paragraph needs a bit more explanation:
Keeping our essential services affordable is one of OWASA's most important goals. Investing in an AMI system will not, by itself, lead to a rate increase for OWASA customers. The estimated $6 million investment in AMI would be offset by avoiding planned investments in our current, less efficient water meter technology and by savings from operational efficiency improvements.

$6 million is a lot of $. I can see savings in vehicle & fuel costs, & possibly, personnel who take measurements currently. Is this reasonable for those people now employed to take those measurements - can most be trained to contribute to supporting the AMI or other OWASA initiatives? What is the time-line for making this change? How much cost shifting can be appreciated? Can a $6 million outlay now be managed with current reserves or will a bond issue be required - or some combination of such? I can see savings down the road, but the 2nd sentence in the above paragraph needs more explanation.

Many thanks for requesting feedback. And thank you to OWASA for excellent service to our community!
Steve Caiola

Staff Response:
Dear Mr. Caiola:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff. Below are your questions and comments from your e-mail and our information regarding each.

- *$6 million is a lot of $. I can see savings in vehicle & fuel costs, & possibly, personnel who take measurements currently. Is this reasonable for those people now employed to take those measurements - can most be trained to contribute to supporting the AMI or other OWASA initiatives.*

What will happen to OWASA's employees who read meters? *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

- *What is the time-line for making this change?*

We do not now have a timeline for implementing AMI. The OWASA Board will make a decision on AMI after receiving public comments (on February 25, March 10 and March 24). If there is a decision to proceed with AMI, you may wish to check our website in the future for updates.

- *How much cost shifting can be appreciated? Can a $6 million outlay now be managed with current reserves or will a bond issue be required - or some combination of such? I can see savings down the road, but the 2nd sentence in the above paragraph needs more explanation.*

Savings from implementing AMI would average about $325,000 per year and the majority of the savings would be from avoiding further investment in our current meter reading system. If you are interested in details, you may wish to read our consultant's report on various alternatives at http://www.owasa.org/Data/Sites/1/media/customerService/ami-study-combined-documents.pdf. The section on cost savings starts at Page 32.

We hope this information is clear, helpful and responsive to your questions.
Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Ralf Schmid
Hi,
I want to voice my full and enthusiastic support of your AMI initiative. AMI will allow OWASA to use 21st century cutting edge technology to monitor water distribution and pro-actively identify leaks. This will help to conserve water and protect our environment by cutting down on use of meter reading vehicles, and eventually safe money. Thank you for this proposal and I do hope that it can be implemented soon.
Best,
Ralf Schmid
Homeowner in Carrboro

February 12, 2016:

Maria Darlington
Advance Metering sounds like an excellent program.
My concern: the meter readers jobs.
Will they be given other jobs at OWASA? Please let the public know what you plan for these workers.
Maria Darlington
Carrboro

Staff Response:
Dear Ms. :
Thank you very much for your e-mail! We will share it with the OWASA Board and staff.

Regarding employees, the following is in the questions and answers page of our website section on AMI:

What will happen to OWASA's employees who read meters? *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Thank you. I plan to be at one of your meetings.
I've had it with user names and especially passwords! so wont 'sign up'.
But will go to your web page if no passwprd is needed. I realize...why am
I going on? A computer no doubt reads and answers these messages.
Maria Darlington

Madeline Kalstein
I think it is a wonderful idea. The community should do everything to advance our system with the latest technology possible.

The next step would be to remove the monthly charge. This expense should be added to the per gallon charge. Accordingly, people who use more water & sewage would pay more of the burden.
Madeline Kalstein

John and Mary Thomas
Hi, Greg and all:
What is the potential for getting a grant to offset (some/all) of cost of installation, as it will reduce pollution, etc.?

It should be done, asap, with grant; even without, as financing of bonds is about as low as it's ever going to get.

OWASA needs to control/reduce labor costs in order to control/REDUCE fixed portion of the customer billing structure.
As much as we all hate any job loss, it should be done through attrition as much as possible.

Also, during meter change-over, it would be great if some type of shut-off valve could be installed that would activate in the event of an obvious pipe rupture: say, a very large % increase of flow through the meter.

Although our Carrboro home is for sale (we've retired to FL) we are happy to providing our concise input above.
Here in FL FPL (FL power and light) has "read-out feedback metering, which sends back readout on hourly KWHr usage. It is very handy.

Thanks for asking,
Sincerely, John and Mary Thomas

Staff Response:
John and Laura:
Just a quick note as follow-up to one of your comments.

What will happen to OWASA's employees who read meters? *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*
Sincerely,
Greg Feller

February 13, 2016:

Glenn Wright
AMI is a great idea! I'll be more knowledgeable and in control of my water usage. Go for it
Glenn Wright

William Watson
Hello,
I am in favor of the proposed AIM system. Anything that gives customers better water usage information and could potentially detect water leaks sounds like a good idea.
Sincerely,
William Watson

February 14, 2016:

Sylvia Gazdzinska
Hello
In response to your email about AMI system i am very glad about this idea. I'm hoping my water meter would be read more efficiently. I was looking at my meter some time ago myself and found it thickly covered in dust giving me impression that it was not read for months or probably years. I'm very savvy with water use and there is only two of us in the house most of the time yet my water bills are consistently the very same from month to month $57.79. I found it very peculiar. Please look into this matter at your convenience.
Thank you

Staff Response:
Dear Ms. Gazdzinska:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff. Regarding our water meter and bills, we now read about one-third of our water meters by radio from a vehicle, without having to open the cover of the meter box and see the dial. I believe this is the reason the clear plastic over the meter dials was dirty.
Also, we bill in whole thousands of gallons of water use and carry over unbilled gallons to the next bill. For example, if a customer uses 1,500 gallons per month in two months, the first bill would be for 1,000 gallons and the second bill would be for 2,000 gallons. Similarly, if a customer were to use 3,100 gallons per month, then most bills would be for 3,000 gallons and every tenth bill would be for 4,000 gallons.
However, if AMI is approved, OWASA staff would propose that we bill in tens of gallons instead of thousands of gallons. (This is a policy matter which the OWASA Board would decide.)
I hope this information is helpful and clear. Please let us know if you have additional comments or questions or if we can provide further explanation.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Bob Weickert
To Whom It May Concern:
I'm wondering what impacts on personnel there will be to achieve the "efficiency" that AMI will bring. Are layoffs in-plan? If so, how many? If not, what are the efficiencies envisaged?
Thank you.

Staff Response:
Dear Mr. Weickert:
Thank you very much for your e-mail. We will share it with the OWASA Board of Directors and staff.

Regarding employees and efficiencies:

> ***What will happen to OWASA's employees who read meters?*** *OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.*

We expect to reduce the number of positions with AMI but without laying off employees as noted above. We would also have lower vehicle costs including those for fuel. However, the largest savings would come from no longer investing in our current meter reading system.

We invite you to participate in the Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.

Good to hear from you again!
Best regards,
Greg Feller

Can you tell me what the resolution is and how to find it? I clicked on the url offered, but the msg there was that I did not have access.

Staff Response:
Bob—I'm very sorry the link did not work.
Here is another way to read the feasibility study, which is a pdf file:
Please go to www.owasa.org and click on the link to our AMI webpage, which I highlighted below:

***OWASA welcomes your comments about Advanced Metering Infrastructure (AMI),** a proposed new meter reading system. **Please click here** for information about AMI and opportunities to provide feedback.*

When you get to http://www.owasa.org/advanced-metering-infrastructure, please scroll to the bottom of the page and click on the Feasibility Study link:
Feasibility study
Please let me know if this works—thanks!
I'm sorry but I don't know the resolution of the file.
Best,
Greg Feller

Thanks, Greg. I see the section on staff impacts. It may be optimistic to have all reassigned and none let go, but maybe that assumption is supported by actual OWASA staffing plans. Bob

Staff Response:
Bob—Thanks. This is the staff proposal/commitment in our information on AMI.
We definitely have turnover in our utility mechanic positions.
Best,
Greg

February 15, 2016:

Rob Taylor
As an OWASA customer, I am in favor of the AMI system assuming that the OWASA Board determines that this investment is going to increase the system's efficiency and serve our community for the long term.
Thank you,
Rob Taylor

Staff Response:
Dear Mr. Taylor:
Thank you very much for your e-mail! We will share it with the OWASA Board of Directors and staff.

We had a consultant evaluate AMI and several alternatives. Pages 30 and 31 of the consultant's report at

http://www.owasa.org/Data/Sites/1/media/customerService/ami-study-combined-documents.pdf have a discussion of the cost savings and payback from AMI. Pages 28, 30 and 31 may be of interest.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Ti Harmony
To The Board Members,
My main comment is that both in the email sent to me AND on the website, the only aspects of this that are addressed are potential benefits and that it wouldn't, apparently, cost me/us any more. However, I notice a glaring absence of potential negative impacts of this change, possibly including but of course not limited to, people losing their jobs who check meters, negative impact of that much increased radio transmissions on people or the environment, or other concerns.
Though these may not be concerns, as with any change, there are losses and negative impacts and I'm more concerned that none of these are even mentioned, as if it was only a win-win for everyone concerned. Clearly OWASA wants it to happen, so I assume it is a done deal regardless of any other input or impacts that you have not acknowledged to us the customers who wouldn't know what to ask other than "what's it going to cost?"
I hope the board is more informed and intelligent than me and can address possible concerns that have not been enumerated to the rest of us.
In peace.

Staff Response:
Dear M. Harmony:
Thank you very much for your e-mail. We will share it with the OWASA Board and staff.

Regarding employees who read meters and radio transmissions, below is information from our AMI webpage with answers to frequently asked questions.

What will happen to OWASA's employees who read meters?
OWASA's Utility Mechanics read meters, among other responsibilities. Employees who primarily focus on reading meters will be reassigned to other areas.

Does this system pose any risk to my health?
While few scientific studies have specifically focused on water meter AMI technology, the available studies (mainly associated with electric meters) come to the same conclusions as the many peer-reviewed studies of similar technologies using low-level wireless radio frequencies: no adverse health impacts. For example, a World Health Organization survey of published research concluded that there is no convincing scientific evidence that the weak Radio Frequency (RF) signals from wireless meter reading networks cause adverse health effects. Although there is anecdotal information that some individuals may be hypersensitive to radio frequencies, there is no definitive evidence linking such symptoms to low-level wireless transmissions like those associated with AMI meters.

Please let us know if you have any additional comments of questions.

We encourage you to participate in the February 25, March 10 and March 24 meetings of the OWASA Board, when AMI will be on the agenda.
Sincerely,
Greg Feller

Rick Szymanski
I am an OWASA customer and think AMI is a fantastic idea. I had an undetected water leak not too long ago that ended up being very expensive. If customers could be notified almost immediately of significant changes in water usage (as opposed to waiting for a monthly bill), that would be great. Call me if you would like to discuss.

Staff Response:
Dear Mr. Szymanski:
Thank you very much for your e-mail! We will share it with the OWASA Board and staff.

The frequency of meter readings with an AMI system has not been decided, but we will continue to inform our customers about AMI if there is a decision to proceed with it.

Please let us know whenever you have any questions or comments for us.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.
Sincerely,
Greg Feller

Dan Schnitzer - Sustainability Coordinator, Chapel Hill-Carrboro City Schools
Subject: Re: OWASA Information about Advanced Metering Infrastructure (AMI)
Thanks Ed,

Can we assume that the real time data collected via AMI will also be available to us (not just "residential customers" as listed in the FAQ?)

Will there be a way to set alerts for deviations within certain criteria?

Thanks for sending this along and eliciting feedback. This seems like a helpful tool for the district and valuable for the community as a whole.

Staff Response:
Hi Dan,
Yes and yes. Please let us know if you would like additional info.
Thanks,
Ed Kerwin

February 21, 2016:

Peter Lee
As long as the cost is mitigated as per The Blue Thumb newsletter, the idea is terrific.
Regards,
Peter & Ellen Lee

Carol Troutner
Hi Greg,
I thought you might be interested in this article if you hadn't seen it.
Carol

Ontario pulls plug on 36,000 rural 'Smart' meters: Is big energy imploding?
February 21, 2016 hopegirl 0 Comment energy, meters:, ontario, plug, pulls, rural
Last night I watched *The Big Short* — maybe the most important Hollywood film in years. This true story is a powerful and eloquent invitation to wake up to the sheer depravity at the core of the system of commerce.
The fact that the film got nominated for 5 Oscars including Best Picture is a huge sign that there are way more people waking up than we ever thought. The wrongs may not be getting righted as quickly as we'd like, but it is happening.
The reality of this shift is clearly evidenced by this news last week from Ontario. After years of obvious problems, Hydro One finally **admitted that rural 'smart' meters do not work**, and has decided to pull the plug on 36,000 of them — to start**.** We will see more utilities begin to do likewise. **[UPDATE: BC Hydro just announced plans to remove 88,000 meters suspected of failure.]**
Costing ratepayers billions, smart meters are actually designed to unlawfully harvest detailed data of the in-home activities of occupants without their knowledge or consent.
As reported by the *National Post*:
"Astonishing," was the reaction from Lanark-area MPP Randy Hillier, who has been deluged with complaints about Hydro One billing and smart-meter suspicions.
"I've been banging my head against the wall for the last five years, saying we've got problems with smart meters in rural Ontario." **Since first being elected in 2007, no single issue has attracted as much attention in his riding, he said.**
For the purpose of clarification: at this time Hydro One is not planning to uninstall smart meters and replace with analogs — but rather to manually read rural customers' meters quarterly, and estimate the months in between, because the wireless reporting is simply not working.
More than 10,000 billing complaints have been filed with the Ontario Ombudsman, and the Auditor General of Ontario released a scathing report, calling out the smart metering program as a total flop.
Hydro One was the first major utility in Canada to deploy so-called 'smart' meters upon an unsuspecting customer base. The price tag for rollout, paid for by the people of Ontario, was $2 billion — which was $900M over budget.
Go Green, or Go Greed?
For those new to this topic, here's the skinny. Smart utility meters are being deployed worldwide under the banner of *climate action.* But they typically **increase** energy usage, and a high-level industry executive has admitted that the data collected by the surreptitious devices will be worth "a lot more" than the electricity itself.
Portland State University recently published a brilliant report on the morally-bankrupt surveillance agenda behind smart meters. The industry-gutting report is titled "*The Neoliberal Politics of 'Smart': Electricity Consumption, Household Monitoring, and the Enterprise Form,*" and excerpts can be read at Smart Grid Awareness here.

Customers are not being informed how their constitutional rights are being violated for the purposes of a for-profit home surveillance network. Nor how this technology has caused thousands of fires which have resulted in several deaths. Nor how our bodies are being affected by pulsed microwave radiation exponentially stronger than cell phones, as shown in *Take Back Your Power*.
If there wasn't an avalanche of facts to back all of this up, it might sound too unbelievable to be true. But we live in strange times.

We Can Handle The Truth

Just like the banking system, the energy system has likewise become rotten to the core. To change both will require a complete overhaul and the embrace of a challenge to our comfort zone.
It is both harrowing and exciting for one to discover that there are major societal programs which are simply manufactured lies fueled by the *idea of lack*. That there's not enough energy, food, resources, money. In reality, there is enough for all life to survive — and to thrive. It is provable fact that these truths have been suppressed.
Case in point: a 1971 de-classified US Army briefing actually calls for the secretization of solar technology which has greater than 20% efficiency (see page 14). This was back in 1971! And, of course, it's in the name of *national security* and *property interests*.
Meanwhile, the energy mafia in Nevada just decreed a 40% fee hike for solar-producing customers, while reducing the amount paid for excess power sold to the grid, effectively killing the solar industry there.
There is a war on energy. When we understand the level of corruption involved, the implications are enormous. And we must act to solve this problem.
I believe that the suppression of solutions is a dam ready to burst. And I'm optimistic of our passing through this dark night successfully, as we are learning to connect and serve the higher good. There is really no other choice.
Sources:
National Post – Hydro One pulling plug on 36,000 rural smart meters after years of complaints
The Province – B.C. Hydro must remove more than 88,000 smart meters
Smart Grid Awareness – 'Smart' Meters Represent Industrial Profiteering and Government Sanctioned Surveillance, New Study Says

By Josh del Sol
Josh del Sol is the Director and Producer of ***Take Back Your Power***, winner of the AwareGuide Transformational Film of the Year, the Indie Fest Annual Humanitarian Award, and the 2014 Leo Award for Best Feature Documentary in British Columbia. Watch the film and subscribe to updates at www.takebackyourpower.net, and follow the movement via facebook and twitter @TBYPfilm.
(Source: collective-evolution.com; January 20, 2015; http://tinyurl.com/jumbdmx)

http://www.hopegirlblog.com/ontario-pulls-plug-on-36000-rural-smart-meters-is-big-energy-imploding/

Anita Lang
Hello—
I got a email notice about the AMI meters and I am concerned. Are these like "smart meters" being used by energy companies in other areas of the country? If so, they are hazardous the human health and if installed outside a bedroom, where someone is sleeping 8 hours a night, it is even worst.

https://www.youtube.com/watch?v=eGdAefQ8nbg&feature=share

BUSTED: Smart Meters Emit Constant Microwave Radiation: WUSA9 News

Please watch the above video on smart meters. Please let me know if it is the same type of technology. That said, that don't like any additional wifi in or around my house.
Thanks,
Anita Lang

Dear Ms. Lang:

Thank you very much for your e-mail! We will share it with the OWASA Board of Directors.

Our water meters and transmitters in an AMI system would differ from electric "smart meters" in these ways:

- *The transmitters at our water meters would be battery powered (less than 2 watts).*
- *Transmissions from water meters in AMI systems in most cases transmit for a second seconds once a day.*
- *Our meters are normally at or close to the boundary of private property with street right-of-way.*

Our consultant's study of meter technology included the following on page 34:

While few scientific studies have specifically focused on water meter AMI technology, the available studies come to the same conclusions as the many peer-reviewed studies of similar technologies using radio frequencies (low-level wireless): no adverse health impacts. For example, a World Health Organization survey of published research concluded that there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects. Although there is anecdotal information that some individuals may be hypersensitive to radio frequencies, there is no definitive evidence linking such symptoms to low-level wireless transmissions like those associated with smart meters

Please let us know if you have any additional comments or questions.
We invite you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.

Sincerely,
Greg Feller

February 23, 2016:

Daniel Sumerlin
Message Subject: AMI Questions
Hi there,
I was glancing over the newest "Blue Thumb" newsletter and just had a couple questions about the Advance Metering Infrastructure project, and thought I'd send them your way. I am more curious than anything.

Am I correct that the wireless infrastructure you set up will only be used to transmit data between my meter and OWASA--in other words it cannot be used to turn my water on or off, or otherwise control it?

Specifically, what data will be wirelessly transmitted to OWASA from my meter, and what if any will be transmitted to my meter from OWASA?

What encryption or other methods are you planning to use to keep the transmitted data secure?

Thanks very much!
Daniel Sumerlin

Dear Mr. Sumerlin:
Thank you very much for your e-mail!
We will share it with the OWASA Board.

Regarding your questions:

Typically, AMI systems do not have the ability to turn water off and on remotely. While some vendors do make meters with the option of remotely activated valves these tend to be more expensive and are not the majority of deployed meters. OWASA has not decided if it will use any of these type of meters in an AMI implementation.

Water use information may be sent one or more times per day. Two to four times is probably more common than once. The data transmitted typically consists of a meter equipment number, date/time stamp and meter reading.

Each vendor has its own solution for providing data security. We will not have details until we make a vendor selection. We will be including data security requirements in the RFP we issue for system acquisition and implementation.

Please let us know if you have additional questions or comments.
We encourage you to participate in the OWASA Board's meetings on February 25, March 10 and March 24, when AMI will be on the agenda.

Sincerely,
Greg Feller

February 24, 2016:

Christiana Prince
Message Subject: AMI meter feedback
Just a quick note to say that switching to AMI meters sounds like a good plan to me.
Sincerely,
Christiana Prince
Chapel Hill resident/OWASA customer

Sjacobs18
could you tell me which manufacture of AMR meters you are considering?

Dear M. Jacobs:

Thank you very much for your e-mail! We will share it with the OWASA Board.

If there is a decision to implement AMI, OWASA would use a bidding process to determine who would install an AMI system.

Please let us know if you have additional quetions or comments.

We invite you to participate in the OWASA Board meetings on February 25, March 10 and March 24, when AMI will be on the agenda.

Sincerely,
Greg Feller

February 27, 2016:

Zach Arble
Message Subject: New Meter Reading System
I just wanted to write in to voice my support for the new system. This investment should have been made a long time ago, but it's exciting to hear you are looking to make it now. It will make things so much more efficient and easier for everyone.
Thanks!
Zach Arble

March 1, 2016:

Notes on discussion of Advanced Metering Infrastructure (AMI) with Shannon Brummett, Regional Vice President and Crystal Sorrell, Regional Property Manager with the General Services Corporation. OWASA staff present: Todd Taylor, Stephen Winters, Mary Tiger, Greg Feller

After discussion of the questions below, Mr. Brummett indicated support of AMI.

How would AMI work?
Battery powered units at OWASA meters would send data by radio to antennae located throughout the community. The water use data would then go by internet connections to secure servers accessed by OWASA, and by customers with internet access.

OWASA would then be able to alert customers about water use patterns indicating a potential leak, and customers could also check their water use.

Many specific aspects of AMI would not be known until a contractor and system are selected, if there is a decision to proceed with AMI.

What is the timetable for implementing AMI?
If the OWASA Board approves proceeding with AMI, the bidding and contract award process could take about 6 months. When a contract is awarded, preparations for the start of field installation work could take about 6 months and the installation could take about 12 months.

How often would water use data be transmitted from a given OWASA meter?
Probably twice a day.

Would there be any added charges with AMI?
No.

Additional non-AMI items
Mary Tiger reviewed plans to talk with property managers and landlords about effective methods of promoting water conservation in multi-family complexes. Mr. Brummett said the benefits would need to be similar to those for sub-metering (benefits to the owner, residents and overall community from conservation).

Stephen Winters said the OWASA Board is reviewing seasonal rates, which apply to master-metered apartments, and may make changes. OWASA staff will notify Shannon when this matter is on the Board's agenda.

NEW AGENDA PAGES

March 8, 2016:

Bruce Sampsell
Using OWASA's excellent website I have read the entire consultant's report on OWASA's potential use of AMI technology, and I support the program described and recommended even though the financial return on this substantial investment is modest at about 3%. With an AA bond rating and today's low municipal bond interest rates, such a rate still provides a positive net present value, and since the six million dollars of capital funding is at the front end of the project that cost can be locked in.

I could not find anywhere in the report the answer to this question: Will the equipment installed at the individual residential home permit reading the meter directly as we can today? Will it provide the red spinning indicator that shows even small leaks? When I am adjusting the run time for individual zones on my irrigation system I can now determine the water flow rate accurately by noting the gallons through the meter in a one minute period. Since I know the coverage area in square feet of each zone it is easy to calculate the minutes of runtime needed to put down .5 inch or whatever amount of water I need.

Please tell me whether these readout capabilities will still be present on the meter and/or the sending device located at my home after the conversion to AMI. It does not appear that the data available online will be in real time, as needed for these purposes.

Dear Bruce:
Thank you very much for your e-mail about AMI! We will share it with the OWASA Board of Directors.

Regarding your questions:

Q: Will the equipment installed at the individual residential home permit reading the meter directly as we can today?
A: Yes.

Q: Will it provide the red spinning indicator that shows even small leaks?
A: I understand from Todd Taylor, our General Manager of Operations, that (if AMI is approved) we would require the meter supplier to provide some visual means for detecting low flows, but since we have not selected a vendor and product yet, the exact method that will be used for this is unknown. Different manufacturers use different methods including spinning indicators, digital readouts that display in tenths of a gallon, etc.

Q: When I am adjusting the run time for individual zones on my irrigation system I can now determine the water flow rate accurately by noting the gallons through the meter in a one minute period. Since I know the coverage area in square feet of each zone it is easy to calculate the minutes of runtime needed to put down .5 inch or whatever amount of water I need. Please tell me whether these readout capabilities will still be present on the meter and/or the sending device located at my home after the conversion to AMI. It does not appear that the data available online will be in real time, as needed for these purposes.
A: You will still be able to read our water meter as noted above. You are correct that the data transmitted from a meter in an AMI system to a computer system (for on line access) would not be in real time. The data will be sent once or several times a day (to be determined) to be available on line with the user name/password for a given customer.

We invite you to contact us whenever you have any questions or comments, and we hope you will participate in the Board meetings on March 10th or 24th.
Great to hear from you again!
Best regards,
Greg Feller

March 10, 2016:

Alan Rimer
Subject: AMI Implementation
On December 4, 2009, John Greene wrote a memo to the board on automatic meter reading (AMR), which is the earlier form of AMI. That memo resulted from discussions between John and the writer both at the board meeting and prior to that regarding the efficacy of installing such meters. I believe I was the progenitor of this idea in the 2008 timeframe, so obviously I strongly urge the board to vote to move forward with the AMI Program.

I could go on and on about the benefits, but the varied and widespread support offered by the many respondents to OWASA's request for comments should provide the board sufficient evidence to indicate the value of the implementation of this program.

I attach an article from the Wall Street Journal May 6, 2015 that looks at the issue in an unusual way – conservation of water. Just another reason for implementing the plan.
Thank you for your consideration.

Wall Street Journal 5/6/15

Water Meters Begin to Get Smarter

Utilities hope that the more consumers know, the less they'll consume

BY UCILIA WANG

GETTING CONSUMERS to conserve water isn't easy, but it's even tougher when they don't have a clear picture of how they use it.

The typical water meter tracks just the total amount of water that runs through the pipes in a home—it can't tell consumers anything about how much of that water is going for drinking, washing, watering the lawn or just down the drain from leaks. And most utilities report water use to their customers only every couple of months, which doesn't make it easy for people to track how various changes in their water use affect their consumption.

Enter the smart water meter. Like smart electric meters, these water meters collect data every few minutes or hours and transmit the information to the distributing utility, which can use the data to identify consumption patterns and pinpoint leaks, and can post data online to inform consumers about their water use. For instance, consumers with a smart meter and access to the meter's data online can work out how much water they used for showering or watering the lawn that day.

Smart water meters remain a rarity in the U.S., accounting for less than 20% of the roughly 100 million water meters nationwide, according to Michael Markides, director of the smart-utilities research group at IHS Inc., a research and consulting company. But growing pressure for conservation, especially in light of the extended drought in the western U.S., is prompting more water districts to consider the technology.

"Data empower our customers," says Jason Christensen, water resources manager in Park City, Utah, which completed installing smart meters citywide in 2013. "Most people like to think they are doing a good job of saving water. But it was difficult to give people feedback on that" before the smart meters were in place.

Pushing ahead

Expense is the biggest obstacle to broader adoption of smart meters. Each connected meter can cost as much as $300. Running a full smart meter network can also be expensive, depending on features built into the meters, how frequently data is collected and how much analysis the utility performs. While utilities get some savings from eliminating meter readers, the smart meters are more expensive to repair and maintain than traditional meters—for instance, they have batteries that need to be replaced more often because the meters are frequently collecting and transmitting data.

Still, many water districts are installing or at least testing smart meters, often with a push for conservation from state and local governments. In California, Gov. Jerry Brown issued an executive order on April 1 requiring a 25% reduction in urban water use from 2013 levels by Feb. 28, 2016.

But even before Gov. Brown's executive order—long before, in some cases—several large water districts in California started installing or testing smart meters.

The biggest such effort is in San Francisco, which is wrapping up a five-year, $60 million program to install 178,000 smart meters. The program includes a website where residents can check their daily water use and compare their monthly totals with those of similar households. San Francisco needed to retire meters that were near the end of their 20-year life, so it decided to replace them with smart meters.

The state capital of Sacramento, by contrast, is starting from scratch. It started installing water meters of any kind only 10 years ago as it began moving away from charging its customers a flat rate for water use. It switched to smart meters in midstream, and now has more than 40,000 smart meters among the roughly 74,000 it has installed at homes and businesses. In February, the city council voted to speed up the installation of 61,700 more smart meters.

Other big California districts are running pilot projects to test smart meters' effectiveness in curbing consumption. In a $6 million project, San Diego has installed smart meters for 12,000 business, government and residential customers and plans to launch an online portal in September where customers can view their water use whenever they like.

Meanwhile, Los Angeles, the state's most populous city, is starting a smaller pilot program, with plans to install about 30 smart meters at homes and businesses by the end of the summer.

A pilot program at the East Bay Municipal Water District, which serves 1.4 million people through about 400,000 meters in Northern California, has given officials and consumers a hint of how big a problem leakage might be. The district began installing 4,000 smart meters in 2008 and began providing data to customers two years ago.

The pilot, which targets mostly single-family homes, provides a daily update of hour-by-hour consumption via a website. Consumers can be alerted when water use exceeds a limit they set, and the district sends an email when a meter reports continuous running water for 24 hours, which might indicate a leak.

The data show that about a quarter of customers have some sort of leak, commonly in toilets, irrigation systems or water-softener systems, says Dave Wallenstein, who oversees the district's smart-meter program. "One family tried to conserve water but didn't realize a pipe was broken until they logged in," he says.

Assessing the impact

In most cases, though, it's too early to tell how much all this data contributes to conservation. For one thing, water managers haven't figured out how to separate the impact of their other conservation efforts, such as incentives for water-efficient appliances and drought-resistant plants, from the impact of smart meters.

Districts also are still working out ways to use the data more effectively in conjunction with other information. For instance, the East Bay district is looking at how to use property records and weather data to figure out how much water individual homes should need each month, so that it can give consumers that information.

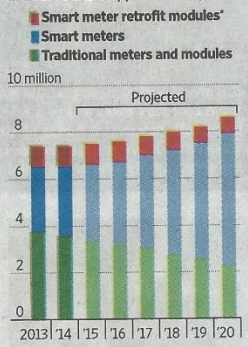
But Mr. Christensen, the Park City water-resources manager, is convinced smart meters are having a big impact. The Utah city, which has installed 5,200 smart meters, contracted with **WaterSmart Software**, a San Francisco company, to provide customers with detailed information about consumption patterns and comparisons with similar households. The company delivers reports from May to August and in November and January (high-water-use periods) and sends email or text alerts about potential leaks.

As a result, Mr. Christensen says, the city is on track to meet a statewide goal of reducing water use per person 25% from the 2000 level by 2025.

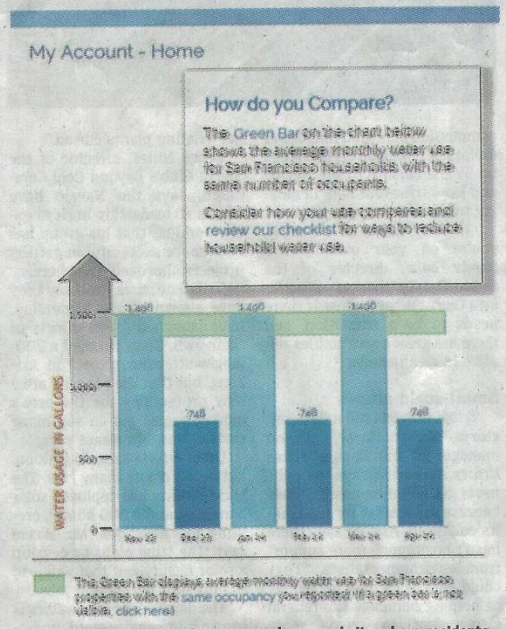
Ms. Wang is a writer in Oakland, Calif. She can be reached at reports@wsj.com.

Streaming Data

Smart water meters and modules are projected to rise to nearly three-quarters of total North American shipments in 2020 from about half in 2013. Units shipped annually:



*To update traditional meters with the radio and other electronics that make a meter smart.
Source: IHS Inc.
THE WALL STREET JOURNAL.



San Francisco's smart-meter program has a website where residents can monitor their water use and compare it with similar households.

SFWPS

Agenda Item 4:

Fiscal Year (FY) 2017 Draft Budget

Purpose:

To review the FY 2017 draft operating, capital improvements program (CIP) and capital equipment budget.

Overview:

The draft FY 2017 budget is consistent with projections in the financial plan we developed last year.

Staff is developing projections for customer demand, revenue, and system growth and will work with our rate consultants to develop a rate adjustment recommendation for the Board's March 24, 2016 meeting.

Action Requested:

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

Information:

- Background Information for Operating and Capital Equipment Budget (Attachment 1)
- Background information for Capital Improvements Program Discussion (Attachment 2)

Purpose

The purpose of this discussion is to provide the Board of Directors with:

- Information about the draft operating and capital equipment budget for Fiscal Year (FY) 2017.
- An overview of the expenditures included in the draft FY 2017 operating budget and comparisons with historical and forecasted results.
- A summary of the next steps in the budget development process.

The Board of Directors will continue to discuss these topics, as necessary, in order to be prepared to hold public hearings on May 26, 2016 and make final budget and rates decisions at the June 9, 2016 Board meeting.

Budget and rate adjustment status

Staff has developed a draft of the FY 2017 operating budget, the 5-year capital improvements program (CIP), and the capital equipment budget. Draft CIP budget information is included in Attachment 2. Draft operating and capital equipment expenditure budgets are presented in this attachment. Staff will make a rate adjustment recommendation at the Board's March 24, 2016 meeting.

Budget preparation efforts to date

Our draft budget is based on the needs of the organization and our continued commitment to provide high value for our customers. We began the process of developing the FY 2017 budget in December 2015. We completed operating budget request worksheets for each department, compiled the information, performed various analyses, and held budget request review meetings. Through this process, we refined the draft budget.

Summary of the draft operating budget

Expenditures in the draft FY 2017 budget include

Category	Amount (in thousands)
Operating Expenses	$21,129
Capital Equipment Expenditures	1,227
Capital Improvements Program	14,976
Debt Service on Outstanding Bonds	8,266
Total	$45,598

Approach to developing the draft FY 2017 budget

We have drafted the FY 2017 budget based on "normal operating conditions" without contingencies. This increases our risk of exceeding the budget if we incur higher than normal costs from, for example, chemical price increases, more instances of equipment failures, etc. However, OWASA has taken deliberate actions over the last several years to improve its financial condition and these efforts have been successful. Our improved financial condition has enhanced our ability to manage the finances of the organization with a leaner budget.

One of the intended outcomes of accumulating reserves and improving our financial condition is to be better prepared for contingencies that can adversely affect the organization and the customers we serve. Without

adequate reserves, we might not be able to react timely and effectively to situations such as a critical asset failure, significant and sudden decrease in water demand, or the effects of a natural disaster. Having adequate reserves also helps us reduce the risk of needing to suddenly increase rates to address unbudgeted expenditures.

Assumptions and highlights

- Staffing to achieve a biosolids recycling mix of 75% land application and 25% dewatered composting; this includes three Solids Handlers and a Solids Handling Supervisor.
- The draft budget includes funding and unfunded but existing Utility Mechanic II position to support our grease trap maintenance program; the program's purpose is to minimize the risk of sewer overflows.
- Waste disposal expenses related to biosolids recycling have been reduced by over $400,000.
- 2.5% vacancy allowance – the personnel compensation budget has been reduced by about $190,000, to allow for position vacancies.
- 20% increase in health insurance. This will be adjusted once we receive information from our health insurance provider.
- No increase in the rates we are charged for electricity or chemicals.
- Based on WorldatWork survey data, a placeholder for a 3% merit increase is included. The Board is scheduled to discuss employee merit increases on May 12, 2016 and make a decision on employee raises on June 9, 2016.

Financial Management Policy Objectives

Based on the assumptions and projections underlying the draft FY 2017 budget described above, we expect to achieve all of our financial management measurements goals. As we have reported previously, reserve levels for FY 2017 are expected to remain above our minimum targets. Based on future years' projected revenues and expenditures, we expect reserve levels to decline to our minimum targets in FY 2018.

Additional data

Attachment 1 – Table 1 shows how the draft FY 2017 budget compares to FY 2014 and 2015 actual results, FY 2016 budget and current forecast, and the FY 2017 budget projection included in last year's financial plan.

Attachment 1 – Table 2 shows details of the draft operating budget.

Attachment 1 – Table 3 summarizes the more significant differences between the draft FY 2017 budget and the adopted FY 2016 budget.

Attachment 1 – Table 4 shows details of the draft professional services budget.

Capital equipment budget

Attachment 1 – Table 5 lists the draft FY 2017 capital equipment budget.

Budget and rate setting process next steps

With the Board's approval, we plan to hold public hearings on the budget and rates on May 26, 2016 and present a final budget and proposed rate schedule for approval at the Board meeting on June 9, 2016.

1. Staff will incorporate feedback from the March 10 Board meeting into the budget and financial plan.
2. Staff will make a rate adjustment recommendation at the Board's March 24 meeting.
3. Staff anticipates presenting an updated draft of the FY 2017 budget and rate adjustment recommendation to the Board of Directors in late April in advance of the public hearings.
4. Staff will prepare a revised (if necessary) draft of the FY 2017 budget and rate adjustment recommendation for presentation at public hearings tentatively scheduled for May 26.
5. At the public hearings, the Board will receive and consider comments from customers and other stakeholders.
6. After considering public input, the Board of Directors will discuss and provide guidance to staff on the final draft of the FY 2017 budget and rate adjustment recommendation.
7. Staff will finalize the FY 2017 budget and rate adjustment recommendation and present it for adoption by the Board of Directors at its meeting on June 9, 2016.

Action requested

Review the draft FY 2017 budget and provide guidance.



Stephen Winters, CPA
Director of Finance and Customer Service

Orange Water and Sewer Authority
Draft FY 2017 Budget

Attachment 1, Table 1

	FY13 Actual	FY14 Actual	FY15 Actual	FY16 Forecast	FY16 Budget	FY17 Budget	FY17 Amounts in last year's model	FY17 Budget Compared FY16 Forecast	FY17 Budget Compared FY16 Budget	FY17 Budget compared to amount in last year's model
Operating Expenses	18,766,549	18,597,663	19,463,185	20,358,288	20,788,457	21,129,461	21,313,806	3.8%	1.6%	-0.9%
Capital Equipment	225,000	525,000	1,165,000	875,000	875,000	1,227,000	896,875	40.2%	40.2%	36.8%
CIP	11,076,000	15,990,000	10,842,000	9,396,000	10,615,000	14,976,000	20,270,000	59.4%	41.1%	-26.1%
Total	30,067,549	35,112,663	31,470,185	30,629,288	32,278,457	37,332,461	42,480,681	21.9%	15.7%	-12.1%

Preliminary budget includes:

2.5% vacancy allowance
3% merit adjustment placeholder
20% increase in health insurance
132.5 positions funded
Funding one existing but unfunded UM II position
Four biosolids positions including three Solids Handler positions and one Supervisor position

Orange Water and Sewer Authority
Draft FY 2017 Budget

Attachment 1, Table 2

EXPENDITURE CLASSIFICATION	FY 2014 Actual	FY 2015 Actual	FY 2016 Budget	FY 2016 Forecast	FY 2017 Request	Dollar variance FY17 v FY16 Budgets	Percent variance FY17 v FY16 Budgets	Dollar variance FY17 Budget v FY16 Forecast	Percent variance FY17 Budget v FY16 Forecast
SALARIES									
SALARIES AND WAGES, REGULAR	6,863,363	6,966,001	7,184,629	7,094,129	7,445,829	261,200	3.6%	351,700	5.0%
SALARIES AND WAGES, OVERTIME	309,037	300,974	203,699	200,316	217,002	13,303	6.5%	16,687	8.3%
SERVICE PAY	-	-	-	-	-	-		-	
STANDBY PAY	43,960	46,538	42,224	41,912	42,500	276	0.7%	588	1.4%
PART-TIME	30,902	25,544	83,800	25,100	96,433	12,633	15.1%	71,333	284.2%
PER DIEM	17,400	14,050	15,000	15,000	15,000	-	0.0%	-	0.0%
Total Salaries	7,264,662	7,353,107	7,529,353	7,376,457	7,816,765	287,412	3.8%	440,308	6.0%
FRINGE BENEFITS									
FICA	550,789	557,020	581,849	566,577	580,435	(1,414)	-0.2%	13,858	2.4%
RETIREMENT CONTRIBUTION	515,184	519,887	511,614	507,698	554,099	42,485	8.3%	46,401	9.1%
DEFERRED COMPENSATION	279,454	291,868	166,400	168,507	162,240	(4,160)	-2.5%	(6,267)	-3.7%
WORKERS COMPENSATION	99,605	119,208	97,000	123,168	104,500	7,500	7.7%	(18,668)	-15.2%
HEALTH INSURANCE	1,183,050	1,312,419	1,691,614	1,652,092	2,010,171	318,557	18.8%	358,079	21.7%
DENTAL INSURANCE	54,664	57,976	75,264	64,997	73,416	(1,848)	-2.5%	8,419	13.0%
VISION INSURANCE	37,067	32,422	50,000	42,044	50,000	-	0.0%	7,956	18.9%
WELLNESS PROFRA REIMBURSEMENT	1,893	2,080	2,300	2,300	2,300	-	0.0%	-	0.0%
RETIREES & COBRA INSURANCE	157,124	170,220	176,744	184,382	210,725	33,981	19.2%	26,344	14.3%
DISABILITY INSURANCE	31,675	32,080	32,833	32,756	31,680	(1,153)	-3.5%	(1,076)	-3.3%
AUTOMOBILE ALLOWANCE	6,000	6,250	6,000	6,250	6,000	-	0.0%	(250)	-4.0%
UNEMPLOYMENT TAX	38,931	11,586	21,000	20,586	22,000	1,000	4.8%	1,414	6.9%
UNIFORMS	58,552	54,927	54,200	55,174	54,200	-	0.0%	(974)	-1.8%
GROUP LIFE & A.D. & D.	42,963	38,554	39,366	39,011	23,760	(15,606)	-39.6%	(15,251)	-39.1%
VACATION ACCRUED	10,526	25,133	-	-	-	-		-	
HEALTH INSURANCE DISCOUNT	-	-	-	-	-	-		-	
Total Fringe Benefits	3,067,477	3,231,630	3,506,185	3,465,539	3,885,526	379,341	10.8%	419,987	12.1%
UTILITIES									
ELECTRICITY	1,345,378	1,062,455	1,090,332	1,057,995	1,092,972	2,640	0.2%	34,977	3.3%
WATER	-	-	-	-	-	-		-	
TELEPHONE - LOCAL	93,535	109,638	106,960	109,308	109,260	2,300	2.2%	(48)	0.0%
TELEPHONE - LONG DISTANCE	-	-	-	-	-	-		-	
CELL PHONES	46,672	49,974	52,850	53,116	55,600	2,750	5.2%	2,484	4.7%
FUEL	78,252	89,271	108,500	87,864	85,878	(22,622)	-20.8%	(1,986)	-2.3%
WASTE DISPOSAL	242,410	480,255	646,371	634,440	200,500	(445,871)	-69.0%	(433,940)	-68.4%
Total	1,806,247	1,791,593	2,005,013	1,942,723	1,544,210	(460,803)	-23.0%	(398,513)	-20.5%
MATERIALS AND SUPPLIES									
CHEMICALS	1,606,193	1,934,688	1,931,608	1,884,083	1,949,458	17,850	0.9%	65,375	3.5%
CHEMICALS - ODOR CONTROL	-	-	-	-	-	-		-	
LAND APPLICATION	102,625	75,699	60,000	55,367	60,000	-	0.0%	4,633	8.4%

EXPENDITURE CLASSIFICATION	FY 2014 Actual	FY 2015 Actual	FY 2016 Budget	FY 2016 Forecast	FY 2017 Request	Dollar variance FY17 v FY16 Budgets	Percent variance FY17 v FY16 Budgets	Dollar variance FY17 Budget v FY16 Forecast	Percent variance FY17 Budget v FY16 Forecast
SMALL TOOLS	13,711	15,703	22,560	30,419	21,620	(940)	-4.2%	(8,799)	-28.9%
SUBSCRIPTIONS	1,928	1,129	1,900	2,084	2,555	655	34.5%	471	22.6%
LAKE SUPPLIES	17,353	18,889	20,200	23,905	25,500	5,300	26.2%	1,595	6.7%
FUEL - VEHICLES	240,769	148,723	157,906	130,756	180,350	22,445	14.2%	49,594	37.9%
OFFICE SUPPLIES	34,332	25,472	46,250	41,014	41,075	(5,175)	-11.2%	61	0.1%
COMPUTER EQUIPMENT & PARTS	99,344	72,243	72,180	71,654	81,680	9,500	13.2%	10,026	14.0%
LABORATORY EXPENSES	187,188	177,856	186,100	185,308	205,106	19,006	10.2%	19,798	10.7%
SAFETY SUPPLIES	43,557	33,723	48,257	49,832	62,619	14,363	29.8%	12,787	25.7%
OTHER	43,354	30,482	28,650	27,912	22,850	(5,800)	-20.2%	(5,062)	-18.1%
Total	2,390,354	2,534,607	2,575,610	2,502,334	2,652,813	77,203	3.0%	150,479	6.0%
MAINTENANCE									
MAINTENANCE - EQUIPMENT	983,413	961,766	900,627	893,194	1,008,884	108,257	12.0%	115,690	13.0%
MAINTENANCE - PUMPING EQUIPMENT	245,314	255,468	493,250	435,042	471,250	(22,000)	-4.5%	36,208	8.3%
MAINTENANCE - RESERVOIR & TANK	355,388	122,106	142,200	143,595	169,700	27,500	19.3%	26,105	18.2%
FACILITIES	23,083	36,236	30,300	33,325	34,800	4,500	14.9%	1,475	4.4%
BUILDINGS	238,695	305,651	364,150	364,261	282,850	(81,300)	-22.3%	(81,411)	-22.3%
MAINTENANCE - MAINS	266,695	506,518	407,185	407,185	423,900	16,715	4.1%	16,715	4.1%
MAINTENANCE - METERS	348,115	253,022	240,710	266,995	308,090	67,380	28.0%	41,095	15.4%
MAINTENANCE - HYDRANTS	21,234	21,618	30,000	30,000	19,896	(10,104)	-33.7%	(10,104)	-33.7%
MAINTENANCE - SERVICE LINES	43,906	33,144	39,500	43,000	43,501	4,001	10.1%	501	1.2%
GROUNDS	68,944	73,558	94,000	94,706	88,000	(6,000)	-6.4%	(6,706)	-7.1%
MOTOR VEHICLES	253,863	176,863	166,026	174,489	179,560	13,534	8.2%	5,071	2.9%
Total	2,848,650	2,745,950	2,907,947	2,885,791	3,030,431	122,483	4.2%	144,640	5.0%
PROFESSIONAL SERVICES									
LEGAL	243,925	251,452	240,000	243,900	240,000	-	0.0%	(3,900)	-1.6%
ACCOUNTING	29,875	29,750	30,000	30,000	31,750	1,750	5.8%	1,750	5.8%
ENGINEERING	6,727	86	5,000	3,550	10,500	5,500	110.0%	6,950	195.8%
ENGINEERING - MASTER PLAN	-	-	-	-	-	-		-	
INSURANCE	220,214	287,203	285,962	233,518	242,000	(43,962)	-15.4%	8,482	3.6%
COLLECTION SERVICES	44,070	35,144	45,000	45,763	45,000	-	0.0%	(763)	-1.7%
CONSULTANTS	320,403	467,489	877,600	836,334	874,800	(2,800)	-0.3%	38,466	4.6%
FINANCIAL SERVICES	216,435	233,580	241,600	242,052	267,100	25,500	10.6%	25,048	10.3%
TRUSTEE SERVICES	20,800	22,425	29,350	29,350	29,350	-	0.0%	-	0.0%
OTHER	46,291	51,838	72,000	72,160	77,500	5,500	7.6%	5,340	7.4%
Total	1,148,740	1,378,967	1,826,512	1,736,627	1,818,000	(8,512)	-0.5%	81,373	4.7%
COMMUNICATIONS									
POSTAGE AND FREIGHT	111,256	103,660	108,455	105,125	110,835	2,380	2.2%	5,710	5.4%
CUSTOMER INFORMATION	21,693	18,468	21,635	24,192	30,922	9,287	42.9%	6,730	27.8%
ADVERTISING	19,228	34,774	23,630	24,384	23,650	20	0.1%	(734)	-3.0%
OTHER	-	3,300	5,280	5,280	5,040	(240)	-4.5%	(240)	-4.5%

EXPENDITURE CLASSIFICATION	FY 2014 Actual	FY 2015 Actual	FY 2016 Budget	FY 2016 Forecast	FY 2017 Request	Dollar variance FY17 v FY16 Budgets	Percent variance FY17 v FY16 Budgets	Dollar variance FY17 Budget v FY16 Forecast	Percent variance FY17 Budget v FY16 Forecast
Total	152,177	160,202	159,000	158,980	170,447	11,447	7.2%	11,467	7.2%
PRINTING AND REPRODUCTION									
PRINTING AND REPRODUCTION	4,984	4,659	8,900	9,353	10,000	1,100	12.4%	647	6.9%
Total	4,984	4,659	8,900	9,353	10,000	1,100	12.4%	647	6.9%
EDUCATION AND DEVELOPMENT									
EDUCATION AND DEVELOPMENT	117,552	126,215	132,685	120,596	145,520	12,835	9.7%	24,924	20.7%
BOARD TRAVEL	25	-	4,500	-	-	(4,500)	-100.0%	-	
Total	117,577	126,215	137,185	120,596	145,520	8,335	6.1%	24,924	20.7%
MISCELLANEOUS									
DUES AND MEMBERSHIPS	49,194	41,544	46,560	45,845	42,397	(4,163)	-8.9%	(3,448)	-7.5%
CONSERVATION	4,436	2,295	25,000	12,500	8,500	(16,500)	-66.0%	(4,000)	-32.0%
OVERAGES AND SHORTAGES	(1,711)	(153)	-	232	-	-		(232)	-100.0%
UNCOLLECTABLE ACCOUNTS	36,004	31,155	30,000	30,293	30,000	-	0.0%	(293)	-1.0%
RENT AND LEASES	43,987	53,903	59,300	58,669	63,102	3,802	6.4%	4,433	7.6%
FOREST MANAGEMENT	6,062	87,178	10,000	60,000	10,000	-	0.0%	(50,000)	-83.3%
BOARD EXPENSES	2,251	2,274	4,500	3,777	4,500	-	0.0%	723	19.1%
RECRUITMENT	1,872	3,943	4,000	3,987	4,000	-	0.0%	13	0.3%
OTHER	31,689	39,028	48,050	48,088	60,250	12,200	25.4%	12,162	25.3%
Total	173,784	261,167	227,410	263,393	222,749	(4,661)	-2.0%	(40,643)	-15.4%
Total Personnel Services	10,332,139	10,584,737	11,035,537	10,841,996	11,702,291	666,753	6.0%	860,294	7.9%
Total Operating Services	8,642,513	9,003,360	9,847,578	9,619,797	9,594,170	(253,408)	-2.6%	(25,626)	-0.3%
Total Operating and Maintenance	18,974,652	19,588,097	20,883,115	20,461,793	21,296,461	413,345	2.0%	834,668	4.1%
CONSTRUCTION CREDIT	(376,989)	(124,912)	(94,658)	(103,505)	(167,000)	(72,342)	76.4%	(63,495)	61.3%
Net	18,597,663	19,463,185	20,788,457	20,358,288	21,129,461	341,003	1.6%	771,173	3.8%

Orange Water and Sewer Authority
Draft FY 2017 Budget

Attachment 1 - Table 3

Expense	Explanation		Select FY16 vs. FY17 Budget Incr (decr)
Wages	Merit increase of 3%, four biosolids positions funded, and one currently unfunded UM II position funded	290,000	
Retirement contribution	The rate employers pay into the Local Government Employee Retirement system increased from 6.67% to 7.25%	42,000	
Health Insurance	Budget assumes a 20% cost increase	335,000	667,000
Utilities	Reduction in cost of fuel for vehicles	(23,000)	
	Decrease in waste disposal for biosolids	(445,000)	(468,000)
Materials and supplies	Increases in vehicle costs related to biosolids program, chemicals, lab expenses, and safety supplies		75,000
Maintenance	Equipment maintenance and repairs		108,000
Net change of various smaller dollar line items			(40,000)
			342,000

Orange Water and Sewer Authority Draft
FY 2017 Budget Professional Fees Detail

Attachment 1 - Table 4

Item No.	Description	Total	Dept
1	Legal	240,000	Executive Director
2	Insurance-Public Officials	26,300	Executive Director
3	Energy Management Plan	35,000	Executive Director
4	Interpreter service for hearing impaired	1,000	Executive Director
5	Insurance-Property & Casualty	215,700	Executive Director and Operations
6	Credit checks, collection fees	45,000	Customer Service
7	Miscellaneous survey work - easement surveys, boundary surveys, manholes, etc.	7,500	Engineering and Planning
8	Easement acquisitions	3,000	Engineering and Planning
9	Recurring annual membership payment to the Jordan Lake Partnership	7,500	Engineering and Planning
10	LRWSP - update cost analysis and yield analysis; additional cost analysis (Burlington option; new legislation on reclaimed water)	60,000	Engineering and Planning
11	LRWSP - climate change	5,000	Engineering and Planning
12	LRWSP - community engagement (depending on Board guidance on community engagement)	30,000	Engineering and Planning
13	Water and sewer capacity evaluations for new developments	20,000	Engineering and Planning
14	Other (Jordan Lake Partnership, CIP evaluation, Misc. LRWSP)	22,700	Engineering and Planning
15	Hill, Chesson and Woody	52,000	Human Resources
16	Frank Horton and Associates (Employee Assistance Program)	4,000	Human Resources
17	Envirosafe (safety consulting (audits of facilities, programs) and safety training services)	42,000	Human Resources
18	Total compensation study	130,000	Human Resources
19	HR department - administrative support	15,000	Human Resources
20	South Orange Technical Rescue	6,000	Human Resources
21	Diversity/employee development training programs	40,000	Human Resources
22	Other (fit for duty testing, investigations, training, etc.)	47,500	Human Resources
23	Annual financial audit	31,750	Finance
24	Annual rate revenue sufficiency study (Burton & Associates)	50,000	Finance
25	Trustee services	29,350	Finance
26	Rating agency fees	13,100	Finance
27	Liquidity facility and remarketing agreement for variable rate bonds	133,500	Finance
28	Credit card processing	94,000	Finance
29	Payroll processing (ADP)	24,000	Finance
30	Other bank fees	26,500	Finance
31	Cabling	15,000	IT
32	Network vulnerability assessment	60,000	IT
33	Microsoft infrastructure	30,000	IT
34	Dynamics/Cogsdale	10,000	IT
35	Website update	20,000	IT
36	PSW membership	600	Water Treatment and Supply
37	Triangle area water supply monitoring project (Triangle J)	43,000	Water Treatment and Supply
38	Water Research Foundation	6,000	Water Treatment and Supply
39	Urban Water Consortium	5,000	Water Treatment and Supply
40	Cape Fear River Study	1,500	Water Treatment and Supply
41	Orange Grove Fire Department	11,000	Water Treatment and Supply
42	Aquatic weed control	4,000	Water Treatment and Supply
43	Aquatic weed survey at lakes	4,500	Water Treatment and Supply
44	Upper Cape Fear River Basin Association	12,500	Wastewater Treatment
45	North Carolina Water Quality Association	5,000	Wastewater Treatment
46	WERF	5,000	Wastewater Treatment
47	CITI - Instrument Calibration Contract	25,000	Wastewater Treatment
48	CITI - Instrumentation/SCADA Maintenance Contract	100,000	Wastewater Treatment
49	WRRI	2,500	Wastewater Treatment
	Total	1,818,000	

Orange Water and Sewer Authority **Attachment 1, Table 5**
Draft FY 2017 Capital Equipment Budget

Department	Equipment Description	FY 2017 Request
Engineering Dept 03		
	4wd Pickup	25,000
Department 03 total		25,000
IT Department 07		
	Three Dell Servers for Virtualization Hosts	30,000
	Router for WWTP	6,000
	Wireless Controllers	8,000
	Two Storage Network Switches	12,000
	Cloud Backup and Archival Solution	30,000
	Connectivity to NCMC Internet Service	50,000
	Cameras for WWTP	20,000
	Smart Board for Engineering Conference Room	8,000
Department 07 total		164,000
WTP Department 11		
	Spectrophotometer	12,000
Department 11 total		12,000
Dist Department 12		
	Utility Truck	24,500
	Locator Truck	27,000
	420 F2 Backhoe	109,000
	308 E2 Excavator	106,000
	Testing Equipment	11,500
Department 12 total		278,000
WWTP Department 21		
	Boom Truck	150,000
	Activated Sludge Process Control Nutrient Analyzers	25,000
	Roll-off Container Truck	200,000
Department 21 total		375,000
Coll Department 22		
	Flush Truck	120,000
	Cat Compact Track Loader	70,000
	Sewer Inspection Van (with video equipment)	183,000
Department 22 total		373,000
Grand total		1,227,000

Capital Improvements Program (CIP)

The draft FY 2017-2021 CIP budget totals nearly $88 million, or about $1.3 million lower than the projections we made last year.

Table 1 lists the draft FY 2017-2021 CIP, with required projects and projects already underway highlighted in blue. The remainder of the projects have been prioritized and programmed using the Comprehensive Asset Management Program (CAMP) prioritization model in conjunction with considerations for project interrelationships, external schedule drivers, urgency, and readiness. In addition, Table 2 includes brief information of all the required and proposed FY 2017 projects.

Approximately 62% of the draft FY 2017 CIP budget is dedicated to be spent on projects already underway, including:

- Water main replacement on Rosemary, Henderson, and Hillsborough Streets, as well as several other smaller water main rehabilitation projects
- A new raw water chemical feed system at Cane Creek Reservoir
- Rehabilitation of the Bolinwood sanitary sewer main
- Equipment rehabilitation and improvements at the Rogerson Drive, Eastowne Drive, Eubanks Road, and Meadowmont I wastewater pump stations
- Rehabilitation of two digesters at the wastewater treatment plant (WWTP)
- Replacement and improvements to the Administration Building HVAC system
- Improvements to vehicular access at several creek crossings
- Security upgrades at the water treatment plant (WTP)

Several larger, new projects not included in the above list are expected to enter into a formal construction contract (requiring Board approval) in FY 2017, including the sewer system extension for the Historic Rogers Road Area, implementation of Advanced Metering Infrastructure (AMI) (if approved by the Board), rehabilitation of sanitary sewer mains and manholes throughout the service area, and rehabilitation of WTP sedimentation basins.

The draft FY 2017-2021 CIP includes the following assumptions:

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

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

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 - 2021 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**

Agenda Item 5:

Resolution Setting the Date of May 26, 2016 for a Public Hearing on OWASA's Fiscal Year (FY) 2017 Budget

Purpose and Background

Section 159-12 of the General Statutes (G.S.) of North Carolina requires that before adopting the annual budget, the Board shall hold a public hearing at which time any persons who wish to be heard on the budget may comment. Historically, the OWASA Board of Directors has conducted the public hearing during the second meeting in May. Statutes also require that the proposed budget be filed with the Clerk to the Board where it shall remain available for public inspection until the budget ordinance is adopted.

Notice of the time and place of the public hearing shall be advertised prior to the date of the public hearing, and a copy of the budget is to be provided to news media in the county. Additionally, the notice is to be mailed to the University of North Carolina at Chapel Hill, the Towns of Chapel Hill and Carrboro, and to Orange County.

The attached resolution sets May 26, 2016 as the date of the public hearing on OWASA's FY 2017 budget. Adoption of the budget is tentatively scheduled for June 9, 2016.

Action Requested

Staff recommends adoption of the Resolution Setting the Date of May 26, 2016 for a Public Hearing on OWASA's FY 2017 Budget

Information

- Resolution Setting the Date of May 26, 2016 for a Public Hearing on OWASA's Fiscal Year 2017 Budget

RESOLUTION SETTING THE DATE OF MAY 26, 2016 FOR A PUBLIC HEARING ON OWASA'S FISCAL YEAR 2017 BUDGET

WHEREAS, Section 159-12 of the General Statutes of North Carolina requires a Public Hearing on the budget for the ensuing fiscal year; and

WHEREAS, in accordance with Section 7.05 of the Bond Order, and Section 159-13 of the General Statutes of North Carolina, the Board of Directors of Orange Water and Sewer Authority shall adopt an Annual Budget for the Fiscal Year 2017 on or before the first day of July 2016; and

WHEREAS, said proposed Budget will be placed with the Clerk to the Board and will be available for public inspection;

NOW, THEREFORE, BE IT RESOLVED:

1. That a Public Hearing is hereby set for Thursday, May 26, 2016, at 7:00 P.M., in Chapel Hill Town Hall, for the purpose of receiving public comment on the proposed Fiscal Year 2017 budget.

2. That any interested persons may appear in-person, or by agent or attorney, and present any comments they may have regarding the proposed budget.

3. That notice of the time and place of the Public Hearing shall be advertised and mailed at least ten days prior to the date fixed above for the Public Hearing to The University of North Carolina at Chapel Hill, and to the Towns of Chapel Hill and Carrboro and to Orange County.

Adopted this 10th day of March, 2016.

_____
John A. Young, Chair

ATTEST:

_____
Andrea Orbich, Assistant Secretary

Agenda Item 6:

Resolution Setting the Date of May 26, 2016 for a Public Hearing on Proposed Revisions to OWASA's Schedule of Rates, Fees and Charges

Purpose and Background

Although there is no statutory requirement for a water and sewer authority to hold a public hearing on proposed revisions to rates, OWASA historically holds such a public hearing in conjunction with the public hearing on the annual budget during the Board's second meeting in May. Information on the annual budget and revisions to rates provided by staff during the public hearings is typically combined into a single presentation.

Any proposed adjustment to rates, fees and other charges will be recommended to become effective during the new fiscal year. The Agreement of Sale and Purchase with the University of North Carolina at Chapel Hill requires that the University be provided a 90-day notice prior to implementation of changes in rates, fees and charges.

The attached resolution sets May 26, 2016, as the date for a public hearing on revisions to rates, fees and charges. Receiving public comment on May 26, 2016 will provide sufficient time to consider public input; adopt a revised schedule of rates, fees and other charges before June 30, 2016, and enable us to meet the notification requirements for the University before any new rates go into effect.

Action Requested

Staff recommends adoption of the Resolution Setting the Date of May 26, 2016 for a Public Hearing on Proposed Revisions to OWASA's Rates, Fees and Charges.

Information

- Resolution Setting May 26, 2016 as the Date for a Public Hearing on Proposed Revisions to OWASA's Schedule of Rates, Fees and Charges

RESOLUTION SETTING MAY 26, 2016 AS THE DATE FOR A PUBLIC HEARING ON PROPOSED REVISIONS TO OWASA'S SCHEDULE OF RATES, FEES AND CHARGES

WHEREAS, the Orange Water and Sewer Authority must charge fees sufficient to provide financial resources to recover the cost of ongoing operations, pay for capital improvements, and provide sufficient financial resources to ensure sustainable fiscal strength and stability; and

WHEREAS, Section 162A-6 of the General Statutes of North Carolina and Section 7.04 of the Amended and Restated Bond Order adopted September 13, 2001, provide for the revision of such rates, fees and charges;

NOW, THEREFORE, BE IT RESOLVED:

1. That a Public Hearing is hereby set for Thursday, May 26, 2016 at 7:00 P.M., in Chapel Hill Town Hall, for the purpose of receiving public comment on any proposed adjustments to Orange Water and Sewer Authority's rates, fees and charges.

2. That any interested persons may appear in person, or by agent or attorney, to present comments on the proposed modifications to the current schedule of rates, fees and charges.

3. That notice of the time and place of the Public Hearing shall be advertised and shall be mailed at least ten days prior to the date fixed above for the Public Hearing to the University of North Carolina at Chapel Hill, Town of Carrboro, Town of Chapel Hill, and Orange County.

Adopted this 10th day of March, 2016.

_____
John A. Young, Chair

ATTEST:

_____
Andrea Orbich, Assistant Secretary

Agenda Item 7:

Easement Acquisition and Findings of Pilot Study

Purpose:

The purpose of this agenda item is to provide the Board of Directors a summary of findings from a pilot study to acquire easements and staff's suggested path forward.

Background:

- Deed research indicates that approximately one third of the parcels in our service area which contain a sewer line outside a public right-of-way do not have duly recorded easements. Most of these lines were constructed before OWASA began operating in 1977. New sewer lines constructed by OWASA's Capital Improvements Program or through a private developer are developed with legally recorded easements.

- A lack of easements for these older lines limits our legal authority to prevent encroachments on our sewer lines; property owners may place structures or plantings along the lines.

- Our sewer collection system permit requires OWASA to do a general observation of our entire collection system annually.

- While law allows for prescriptive easements, these do not include specific information such as the width of the easement and uses allowed in it. (A prescriptive easement is an easement upon another's property acquired by continued use of the property without permission of the property owner).

- OWASA obtains easements on these parcels when opportunities arise such as when Town staff notice the sewer line on the parcel during the building permit process or when our field crews learn of willing landowners.

- The Strategic Plan Fiscal Years 2014-2017 included a high priority task to conduct a pilot program to acquire sewer easements where we do not have them. The pilot also allowed OWASA to evaluate the process to acquire easements for CIP projects. This pilot study is nearing completion.

Action Needed:

No action is required by the Board; staff welcomes feedback.

Information:

- Background information on utility easements and the pilot study
- Presentation to be provided by Ruth Rouse, Planning and Development Manager and Sherman Betts, Crew Leader

Background Information on Utility Easements and the Pilot Study

Background on Utility Easements

A utility easement is a defined area which is outside of public street right of way and normally across private property, in which OWASA has the right to:

- keep clear access;
- do maintenance, repairs, inspections, improvements and renovations; and
- install water or sewer pipes, pumps, manholes and related items.

The presence of an easement does not change the ownership of the underlying land, but the owner's use of an easement area is limited by OWASA's right to clear the easement and, construct, inspect, maintain, and repair our lines.

Having an easement helps ensure that no structures or large plantings are located along our sewer lines. Having clear easements enables quick and safe access to sewers for efficient and timely maintenance and repairs, especially if there is a need to respond to a wastewater overflow from a sewer.

When OWASA began operation in 1977 some of the water and sewer infrastructure did not have legally recorded easements and there are 2205 parcels on private property where we have a sewer line and there is no legal easement. We do obtain easements on some of these properties when our staff learn of an interested homeowner or when the Towns process building permit applications on properties with a sewer line. All new sewer lines developed through the Capital Improvements Program or through private developers have recorded easements. OWASA staff has a standard operating procedure it follows to acquire easements for these projects.

Pilot Study

Staff developed a pilot study to:

- evaluate the standard operating procedures to acquire easements;
- identify the resources needed to acquire easements where we have a sewer line without a recorded easement; and
- develop recommendations on how to move forward on this historic lack of easements.

The pilot study was conducted in an area of downtown Carrboro and included eleven properties. The area was selected since there were some recent home sales and new owners were inquiring about the sewer line and there were some encroachments with fences, sheds, and trees near the sewer lines.

OWASA followed its procedures and obtained surveys of the properties and appraisals on the properties in the easement area. Based on the results of the pilot, staff decided to prioritize obtaining easements on the three properties within the pilot area which had manholes on them. The major findings driving that decision were:

1. Developments in pipe rehabilitation and replacement technology enable us to inspect and maintain most of our sewer lines without digging up the entire line. We can inspect our lines using cameras, and re-line our pipes to repair and maintain them by using the manholes as access points.

2. It would be very expensive to acquire all the required easements in advance of our actual need, and our sewer rates would have to be increased to cover expenses. For the most part, lack of easements has not prevented staff from performing essential functions. We must balance cost and relative risk to prioritize our projects and programs. Staff tries to line pipes in areas without easements where encroachments have occurred and sends a letter annually to owners with sewer lines on their property which reminds them of OWASA's activities in the vicinity and what the property owner may and may not do near the sewer line.

3. Property owners have concerns about the loss of the full use of their land within an easement and potentially having portions of their property cleared.

Staff Recommendations

Staff recommends that OWASA not develop a program to systematically obtain easements on private property with sewer lines and no recorded easement. Staff recommends that we continue to obtain easements on these properties when opportunities arise – through staff conversations with property owners and by Town staff asking for OWASA review of projects requiring building permits. Staff proposes to present this issue to area realtors at one of their future meetings so they can educate prospective buyers and sellers. Staff also proposes to meet with local surveyors to remind them of their obligation to look for utility lines on property they are surveying and to include utility locations on survey drawings. Staff will continue to send a letter annually to all property owners with sewer lines on their land which summarizes OWASA's need to access the line and our preferences for activities near the line and will also evaluate other opportunities to educate our customers on this issue. This approach balances the social, environmental, and economic factors regarding sewer lines.

Staff also recommends following our standard operating procedures for obtaining easements. The one major recommended change is that staff will develop a value to compensate property owners for easements that will be similar to how the County plans to compensate landowners in the Rogers Road area based on tax value. Staff will continue to use appraisals for unique circumstances.

Agenda Item 8:

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 March 24, 2016 meeting
c) Review the draft agenda and discuss expectations for the April 14, 2016 work session
d) Review and update the 12 Month Board Meeting Schedule

Information:

- Draft agenda for the March 24, 2016 meeting
- Draft agenda for the April 14, 2016 work session
- Draft 12 Month Board Meeting Schedule

AGENDA
MEETING OF THE OWASA BOARD OF DIRECTORS
THURSDAY, MARCH 24, 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.
2. Announcements by Board Members
3. Announcements by Staff

Petitions and Requests

1. Public
2. Board
3. Staff

REGULAR AGENDA

Discussion and Action

1. Receive and Discuss Public Feedback and Decide Whether to Proceed with Advanced Metering Infrastructure (Todd Taylor/John Young)

Discussion

2. Review Draft Fiscal Year 2017 Budget (if necessary) and Staff's Rate Adjustment Recommendation (Stephen Winters)
3. Review of Alternative Rate Structures for the Multi-Family, Master-Metered Customer Rate Class (Stephen Winters)

CONSENT AGENDA

Action

4. Approval of the Minutes of the February 25, 2016 Meeting of the Board of Directors (Andrea Orbich)

DRAFT

5. Approval of the Minutes of the March 10, 2016 Closed Session of the Board of Directors the Purpose of Discussing a Personnel Matter (Robert Morgan)

Summary of Board Meeting Action Items

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

CLOSED SESSION

7. The Board of Directors will convene in a Closed Session for the purpose of discussing a personnel matter (Robert Morgan)

DRAFT

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.

b. Announcements by Board Members

c. Announcements by Staff

CONSENT AGENDA

Action

1. Resolution Awarding a Construction Contract for the Rosemary, Henderson and Hillsborough Street Water Main Project (Vishnu Gangadharan)
2. Approval of Minutes of the March 24, 2016 Closed Session of the Board of Directors (Robert Morgan)

REGULAR AGENDA

Discussion

3. Review Employee Health and Dental Insurance Renewal Information (Stephanie Glasgow)
4. **If Needed**: Review Consultant Scope of Work for Advanced Metering Infrastructure Procurement Services (Todd Taylor)
5. **If Needed**: Review Draft Fiscal Year 2017 Budget and Rates (Stephen Winters)
6. Authorize Staff to Publish Proposed Budget and Rates for Fiscal Year 2017 (Stephen Winters)
7. Discuss Proposed Process and Scope for New Strategic Plan (Ed Kerwin)
8. 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

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

DRAFT

OWASA Board of Directors – 12 Month Board Meeting Schedule (March 10, 2016)

Month	Board Meetings		Committee & Other Meetings
	Work Session	Business Meeting	
March 2016	***Receive and discuss public feedback on AMI*** Review findings of Easement Pilot FY 17 Draft Budget and Rates ↻ Set date for Public Hearings – FY 17 Budget and Rates ↻ CS – ED Interim Review ↻ *3/10/2016*	***Receive and discuss public feedback and decide whether to proceed with AMI*** FY 17 Draft Budget and Rates and Rate Adjustment Recommendation ↻ Review Alternative Rate Structures for Multi-Family Master Meter Rate Class ↻ CS – ED Interim Review *3/24/2016*	
April 2016	***Review Consultant Scope of Work for AMI Procurement Services*** (if needed) Discuss Proposed Process and Scope for new Strategic Plan Award the Rosemary, Henderson, and Hillsborough St. Water Main Project Contract Review Employee Health and Dental Insurance Renewal ↻ FY 17 Draft Budget and Rates (if needed) ↻ Authorize staff to publish proposed rates ↻ *4/14/2016*	***Approve/Disapprove Consultant Contract for AMI Procurement Services*** (if needed) Information about Common Customer Inquires Q3 Financial Report ↻ Appoint Audit Firm ↻ *4/28/2016*	***Board of Directors Mitigation Tract Tour (4-20-2016)*** ***NRTS – Energy Plan Strategy Evaluation (TBD)***
May 2016	***Review Energy Plan – Strategy Evaluation*** Award the Cane Creek Permanganate Facility Project Contract Discuss Draft Scope of Work for Employee Total Compensation Study Discuss Employee Health and Dental Insurance Renewal (if needed) ↻ Discuss Employee Merit Pay for FY 17 ↻ Appointment of Nominating Committee ↻ *5/12/2016*	Public Hearings – FY 17 Budget and Rates ↻ Approve Employee Health and Dental Insurance ↻ Approve the Proposed Process and Scope for 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*	***NRTS* – Draft *Energy Plan (TBD)***
July 2016	***Review Draft Energy Plan*** *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	***Discuss LRWSP – Goals and Metrics*** ***Public Comment on Draft Energy Plan*** Review FY 2017 Budget Process Discuss Update to Cross Connection Control Ordinance CS - General Counsel Review ↻ CS – ED Review ↻ *9/8/2016*	***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 AMI System Procurement Contract ***Discuss Revised Draft Energy Plan*** *10/13/2016*	***Approve Energy Plan*** Q1 Financial Report ↻ Strategic Trends Report ↻ *10/27/2016*	
November 2016	***Discuss LRWSP - Demands and Yield*** ***Approve AMI System Procurement Contract*** *11/10/2016*	*Holiday - no meeting*	
December 2016	TBD *12/8/2016*	*Holiday - no meeting*	
January 2017	FY 18 Budget Calendar and Assumptions ↻ CY 16 Biosolids Report	Annual Lakes Recreation Report (regular agenda) ↻	

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

OWASA Board of Directors – 12 Month Board Meeting Schedule (March 10, 2016)

Month	Board Meetings		Committee & Other Meetings
	Work Session	**Business Meeting**	
	1/12/2017	Q2 Financial Report ↻ 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.

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
TBD	To Be Determined
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

OWASA Board of Directors – 12 Month Board Meeting Schedule (March 10, 2016)

Current and Pending Key Projects and Stages

Project	Strategic Initiative	Project Lead	Mar-16	Apr-16	May-16	June-16	July-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan - 17	Feb-17
AMI	6	Taylor		If needed	If needed	If needed	If needed	If needed	If needed	If needed	If needed	If needed	If needed	If needed
Total Compensation Study		Glasgow				*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/ Davis		NRTS	Strategy Evaluation	NRTS	Draft Energy Plan							

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