



ORANGE WATER AND SEWER AUTHORITY

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

January 23, 2015

Mayor Lydia Lavelle
Town of Carrboro
301 West Main Street
Carrboro, NC 27510

Earl McKee, Chair of the Board
of Commissioners
County of Orange
PO Box 8181
Hillsborough, NC 27278

Mayor Mark Kleinschmidt
Town of Chapel Hill
405 Martin Luther King Jr.
Boulevard
Chapel Hill, NC 27514

Dear Mayor Lavelle, Chair McKee and Mayor Kleinschmidt:

We are pleased to submit this report on our services, projects, initiatives and planning through December 2014. Key items are below, and supplemental information is attached.

Preliminary engineering study for sewers in Historic Rogers Road Area

OWASA entered into an interlocal agreement with Orange County in June 2014 to do a preliminary engineering study for extending sewers in the Historic Rogers Road Area. In the summer and fall of 2014, we worked with the Jackson Center to inform residents about plans for the study and to get permission from 57 owners to go on their land to gather information needed for the study.

Our consultant, URS Corporation (URS), is checking the topography at several locations, getting soil samples and checking the location of underground utilities in the study area. URS will use the information to evaluate the potential routes for sewers and update the preliminary estimate of costs (initial preliminary estimate was about \$5.8 million). Our consultant's overall preliminary engineering report is on schedule for completion in March 2015.

To keep the project moving, our staff is working with County staff to draft a new interlocal agreement for the next phase of the project including design, bidding, permitting and installation of sewers. We understand the importance of this project and we will continue to provide our assistance.

Biosolids Management

We are conducting a two-part study of biosolids management. The first part, which staff recently completed, was a comparison of the social, financial, and environmental performance of land application of liquid biosolids versus dewatering all of our biosolids for recycling at a private compost facility. A copy of staff's report is [here](#).

On January 8, 2015, after receiving comments from several citizens including several Orange County farmers participating in our program, we agreed to continue recycling liquid biosolids on

farmland through 2015 (when conditions and resources permit), and continue recycling about half of our biosolids through composting of dewatered biosolids.

Later this year, staff will evaluate additional options for further optimizing our biosolids management. We will continue to keep our stakeholders informed and to solicit their feedback.

Rates and financial management

We are meeting all of our financial performance objectives and continue to have excellent credit ratings. Our recent refinancing of \$25 million in bonds will save our customers about \$2.5 million over the next 17 years. A news release on this topic is [here](#).

Affordability outreach

As part of our service affordability efforts, in the spring of 2014 we initiated an Affordability Outreach Pilot Project to engage the community/target groups with information about how to reduce OWASA bills. We have been working with representatives from more than a dozen local social service and housing agencies on this initiative, and are very appreciative of participation in this important effort by Orange County, Carrboro and Chapel Hill staff. Work to date has included:

- revising OWASA processes to help customers avoid service disconnection for non-payment while the customer is seeking financial aid;
- giving the agencies water conservation/bill reduction information for their clients; and
- reviewing water use at several affordable housing locations to identify cost-effective opportunities to reduce bills, including conducting field audits at selected properties.

We have completed 19 water use audits in support of this effort, and we have been pleased to see a relatively high percentage of low-flush and high-efficiency toilets installed in several older residences we have visited. We believe that in many of those homes, water leaks and behavioral practices are key factors contributing to high water use and high OWASA bills for those customers.

Care to Share Customer Assistance Program

On August 28, 2014, we changed the name of our customer assistance program to Care to Share as recommended by an inter-agency work group. The change is part of an initiative to increase donations to the program, which helps OWASA customers when they are unable to pay a water/sewer bill.

We are working on graphics for new Care to Share webpages. In 2015, we will implement a marketing plan for Care to Share and will seek assistance from and collaboration with organizations including local governments. Care to Share is funded with donations because we cannot use OWASA revenues to fund or promote Care to Share.

Energy Management

We recently completed major energy efficiency improvements at our Mason Farm Wastewater Treatment Plant (WWTP), which accounts for about 60% of our total use of electricity. Those improvements have resulted in about a 30% reduction in electricity use at the WWTP, thereby enabling us to save more than \$120,000 a year while also reducing the greenhouse gas emissions associated with our energy use. We featured this project in our latest issue of the *Blue Thumb* (our customer newsletter), which is [here](#).

We will soon be developing an Energy Management Plan, which is Strategic Initiative #5 of our Strategic Plan. That plan will guide our future energy management, energy efficiency, and renewable energy decisions, actions, and investments. We will keep you updated and seek your feedback as we proceed with this important effort.

Long-Range Water Supply Plan and Jordan Lake access

We will update OWASA's 2010 Long-Range Water Supply Plan. One of the first steps of this process will be to update our water demand projections. OWASA will work with our local governments and UNC staff to incorporate their growth projections into the analysis.

On November 14, 2014, we applied to the NC Division of Water Resources to retain our Jordan Lake allocation of about 5 million gallons per day (for use in extended droughts and operational emergencies). The NC Environmental Management Commission may decide on allocation requests in November 2015.

On November 13, 2014, we received information from OWASA staff on options to access our Jordan Lake allocation. Staff will incorporate this information in the draft update to our Long-Range Water Supply Plan.

Advanced Metering Infrastructure (AMI)

In accord with our Strategic Plan, we will in coming months evaluate the feasibility of implementing AMI. This wireless technology can read water meters automatically to give customers and OWASA detailed information about individual customers' water use including indications of a potential water leak. Community engagement will be an important part of our process, but we agreed on November 13, 2014 to defer the engagement process until we receive the results of the feasibility study in 2016.

Forestry Management

In accord with the Federal permit for the Cane Creek Reservoir, we are implementing a forestry management plan provided by the NC Wildlife Resources Commission for our 490 acre Cane Creek mitigation tract. From August through November 2014, our contractor carried out the plan on 407 acres of the tract (the remaining acres had been previously managed). The management included no cut areas around streams and at property boundaries near occupied

homes on 151 acres, thinning on 201 acres and final harvest on 43 acres. Small hardwood openings were done on the other 12 acres where the best oak and hickory trees were left to help regenerate those areas.

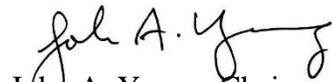
In 2015 we plan to reshape the road and logging decks to ensure proper drainage away from the streams on site and to seed them with a wildlife friendly mix. We will also spot treat a hardwood stand to encourage the development of oak and hickory trees.

The NC Forest Service (NCFS) is monitoring water quality on the mitigation land. The NCFS and US Forest Service will use the data to evaluate the effectiveness of forestry best management practices.

Can we help?

Mayor Lavelle and Mayor Kleinschmidt, we would welcome the opportunity to make brief comments about our work, receive feedback and answer questions in future meetings of the Board of Aldermen and Town Council. On February 3, 2015, we will present our 2014 annual report for Orange County to the Board of Commissioners.

Sincerely,



John A. Young, Chair
OWASA Board of Directors

c: Ms. Bonnie Hammersley, Orange County Manager
Mr. Roger L. Stancil, Chapel Hill Town Manager
Mr. David Andrews, Carrboro Town Manager
OWASA Board of Directors
Ed Kerwin, OWASA Executive Director

Attachments:

1. Supplemental information for OWASA's quarterly report for July - December 2014
2. Information regarding off-site odor elimination at the Mason Farm Wastewater Treatment Plant

Supplemental Information for OWASA's Quarterly Report for July – December 2014

(Some items are updated to mid-January.)

Water demand and supply

As of mid-January, our lakes were about 90% full, or 4% above average for this time of year. Staff estimates that drinking water sales in the first two quarters averaged 6.3 million gallons per day (mgd), compared to 6.4 mgd in the same quarters last year.

Drinking water quality

We continue to meet water quality standards under the Federal Safe Drinking Water Act and related State rules.

Water service reliability

The number of water line breaks in the first two quarters was 27. The average per 100 miles of water line in the year through November 2014 was 6.07, well below our objective of no more than 15.

Wastewater and biosolids quality

We continue to meet regulatory standards for treating wastewater and biosolids.

Minimizing wastewater overflows

There were 2 wastewater overflows in the first two quarters, and the average per 100 miles of sewer line in the year through November 2014 was 1.85.

*Major capital investments**

Type of work	Location	Purpose	Estimated/ actual start	Estimated or actual completion	Estimated/ actual cost
Water pipe replacement	Estes, Willow and Conner Drives, Chapel Hill	Maintain/improve reliability and quality of service	February 2015	November 2014	\$1,749,000
	Ridge Road, Chapel Hill		October 2013	September 2014	\$1,020,000
	Prince Street, Carrboro		August 2014	October 2014	\$61,000

Type of work	Location	Purpose	Estimated/ actual start	Estimated or actual completion	Estimated/ actual cost
Sewer renovation	Rangewood and other areas (multi-year project)	Prevent wastewater overflows	November 2013	June 2015	\$1,829,000
Sewer replacement	Tom's and Morgan Creeks (Carrboro and Chapel Hill)		February 2014	May 2015	\$617,000
Resealing joints in dam	Cane Creek Reservoir	Maintain structural integrity	September 2014	October 2014	\$35,000
Improvements at the Mason Farm WWTP	Old Mason Farm Road, Chapel Hill	Increase energy efficiency, further eliminate off-site odor, enhance treatment	September 2011	September 2014	\$11,600,000
Replace disinfectant tanks and pumps at WWTP		Maintain reliable operation	February 2013	April 2015	\$672,000

* Project start time refers to the start of design and costs include design and project management costs.

Upcoming:

- Replacing water lines at The Glen south of East Franklin Street (Chapel Hill)
- Replacing water lines in Purefoy Road east of South Columbia Street (Chapel Hill)
- Replacing sewers in the Emory Drive area (Chapel Hill)
- Renovation of the WWTP's digesters, which treat solids from wastewater and turn them into recyclable biosolids for use on farmland or for composting.

Human resources and safety

In coming months, we will hire a consultant for a review of both pay and benefits of OWASA employees. In the first two quarters, the employee turnover rate was 2.9% compared to 3.7% in the same quarters of Fiscal Year 2014. There were 3 recordable injuries to employees in the first two quarters. ("Recordable" means reportable under federal safety rules.)

MONTHLY SUMMARY OF CALLS AND E-MAILS TO OWASA
FROM NEIGHBORS REPORTING ODOR
IN THE MASON FARM WASTEWATER TREATMENT PLANT AREA

January-2002 to December-2014

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 Reports	2014 Events
January	11	3	9	0	8	3	8	1	3	3	4	0	4	3
February	7	5	2	0	8	0	4	1	0	3	3	0	5	4
March	9	0	7	1	10	4	1	1	0	2	8	0	0	0
April	9	2	4	0	9	3	1	1	2	1	1	0	0	0
May	6	0	2	5	8	3	2	5	4	0	1	3	0	0
June	4	1	1	1	5	1	8	8	1	2	2	0	0	0
July	1	0	2	0	0	2	6	3	2	4	0	0	2	2
August	1	0	4	3	11	2	9	0	1	1	2	0	2	2
September	2	5	2	2	9	3	1	1	5	1	1	0	3	3
October	2	6	1	1	8	8	2	0	3	3	2	2	3	3
November	0	0	1	7	2	6	7	1	1	4	0	1	0	0
December	3	3	2	5	8	10	2	1	1	6	3	5	0	0
TOTALS	55	25	37	25	86	45	51	23	23	30	27	11	19	17

An “odor event” is defined as: One or more odor reports received during a 24 hour period from WWTP neighbor(s). Each odor event shall be considered to be “verified” unless OWASA determines conclusively that an alternative source other than the WWTP created the odor.

**LOG OF CALLS AND E-MAILS TO OWASA
FROM NEIGHBORS REPORTING ODOR IN THE MASON FARM
WASTEWATER TREATMENT PLANT (WWTP) AREA**

October 2014 – December 2014

Date call received	Time call received	Location
10/9/14	6:04pm	1016 Highland Woods
10/24/14	7:50am	1020 Highland Woods
10/25/14	6:00pm	1002 Highland Woods

SUMMARY OF ON-SITE HYDROGEN SULFIDE (H₂S)
ODOR MONITORING

Month and year	Headworks Monitor			UNC Monitor			Digester Monitor			Switchgear Monitor		
	Average H ₂ S Reading (ppm)	Minimum H ₂ S Reading (ppm)	Maximum H ₂ S Reading (ppm)	Average H ₂ S Reading (ppm)	Minimum H ₂ S Reading (ppm)	Maximum H ₂ S Reading (ppm)	Average H ₂ S Reading (ppm)	Minimum H ₂ S Reading (ppm)	Maximum H ₂ S Reading (ppm)	Average H ₂ S Reading (ppm)	Minimum H ₂ S Reading (ppm)	Maximum H ₂ S Reading (ppm)
October 2014	0.0015	0.0003	0.0963 ¹	0.0004	0.0002	0.0131 ²	0.0003	0.0000	0.2291 ³	0.0002	0.0000	0.5824 ⁴
November 2014	0.0004	0.0001	0.0544 ⁵	0.0000	0.0000	0.0000 ⁶	0.0003	0.0000	0.2979 ⁷	0.0000	0.0000	0.0178 ⁸
December 2014	0.0030	0.0028	0.0261 ⁹	.0007	0.0000	0.0157 ¹⁰	0.0003	0.0000	0.1006 ¹¹	0.0000	0.0000	0.0066 ¹²

Monitor Locations:

Headworks Monitor (#1) – Monitor located between Headworks Facility and Septage Receiving Station on south side of plant property.

Digester Monitor (#2) – Monitor located between Digester #1 and Digester #4 on west side of plant property.

UNC Monitor (#3) – Monitor located between UNC Research Building and Trickling Filter on north side of plant property.

Switchgear Monitor (#4) – Monitor located across from Switchgear building on north side of plant property.

¹ Maximum reading occurred on October 7, 2014

² Maximum reading occurred on October 6, 2014

³ Maximum reading occurred on October 6, 2014

⁴ Maximum reading occurred on October 6, 2014

⁵ Maximum reading occurred on November 5, 2014

⁶ Maximum reading occurred on November 30, 2014

⁷ Maximum reading occurred on November 10, 2014

⁸ Maximum reading occurred on November 11, 2014

⁹ Maximum reading occurred on December 16, 2014

¹⁰ Maximum reading occurred on December 23, 2014

¹¹ Maximum reading occurred on December 2, 2014

¹² Maximum reading occurred on December 15, 2014

DISTRIBUTION LIST FOR OWASA E-MAILS ABOUT WWTP ODOR-RELATED ITEMS
(January 13, 2015)

Area	Resident or owner
Highland Woods	Alice W. Neebe
	Paul Neebe
	Mary Turner
	Malcolm Forbes
	Natalia Lebedeva
	Gary Richman
	Gail Wood
	Robert and Melissa Porter
	Robin Casey
	Joseph Clancy
	Ann Schwab
	Seth Kingsbury
	Amanda Kingsbury
	Freeman and Angela Kirby
	Kay Johnson
	Rex Bartles
	Lisa Bartles
	Barnes Bierck
	Ann Alexander
	Nortin Hadler
	Carol Hadler
	Frank P. Rexford
	Scott Brees
	Kendall Brees
	Ed and Helen Ludwig
	Rainer Blaesius
	Elisabeth Schweins
	Fred Hall
	Lawanda Rainey-Hall
	Katie Jamieson
	Richard Harrill
	Frank Phoenix
	Angel Smith
Smiths	
Finley Forest	Adam Kimplead
	Cindy Underwood
	Dan Puckett
	David J. Polewka
	Kathryn Conard
Laurel Hill	Michael Sharpe
	Julie Maness
	Bob Wendell
	Carol David

Area	Resident or owner
St. Thomas More Church and School	Pat Evans Ewan Rodewald and Sharon Hodge Marcella Grendler Kay Goldstein Ann Wilson Anne Fogleman Louis Fogleman
Morgan Creek area	St. Thomas More Church staff Carlos Lima Ellen Johnson Betsy Malpass Hanson Malpass Jeannie Cox Laura King Moore Jeanne Langley AW Carr Marilyn and Don Hartman
Ronald McDonald House SECU Family House	Robert Huls Shelly Day Greg Kirkpatrick, Executive Director Janice Ross, Operations Manager
Reserve	Matt Hapgood Steve McPhail James F. Howard Steven and Susan Frye Doug Longman Barbara and Edward Paradise Jeanne & David Jarrett Nadine O'Malley Mark Witcher Ralph Abrahams
Bayberry Drive area UNC	Kathy Abrahams William Ware Peter White, NC Botanical Garden (NCBG) Jim Ward, NCBG Jim Ward--home Jennifer Peterson, NCBG Communication Coordinator Phil Barner, Energy Services Director Margaret Holton, Water, Sewer & Stormwater Coordinator Mary Beth Koza, Director, Environment, Health and Safety Ross Fowler, Finley Golf Course Willie Scroggs, Athletic Department Michael Wilkinson, golf pro Andrew Sapp, Men's Golf Coach Ms. Jan Mann, Women's Golf Coach UNC Tennis Center

Area	Resident or owner	
UNC Healthcare Town of Chapel Hill	UNC parking Karen Moon, News Services Mike McFarland, Corporate Relations Scott Ragland, Local Relations Linda Convissor, Corporate Relations UNC Farm (Faculty Staff Recreation Association) Frank Maynard, Athletics/ Finley Golf Course Robert Costa, Athletics/ Finley Golf Course Mark Steffer, Athletics/ Finley Golf Course Jeff McCracken, Public Safety	
	Mel Hurston Karen McCall Roger Stancil, Town Manager Florentine A. Miller, Deputy Town Manager Bruce Heflin Ralph Karpinos, Town Attorney Lance Norris, Public Works Director Jay Gibson, Town Engineer Richard Terrell, Public Works Operations Superintendent Dan Jones, Fire Chief Catherine Lazorko, Public Information Mary Jane Nirdlinger, Exec. Director-Planning/Sustainability David Bonk, Long Range/Transportation Planning Manager Phil Mason, Development Mgr., Planning & Sustainability Amy Harvey, Public Affairs and Communications Larry Tucker, Engineering Chris Blue, Police Chief Jeff Clark, Patrol Captain Bryan Walker, Captain/Police Information Josh Mecimore, Police Information Officer	
	City Schools	Tom Forcella, Superintendent Bill Mullin Todd LoFrese, Asst. Superintendent for Support Services Jeff Nash, Community Relations
	Other Utilities	Indira Everett, Duke Energy Brenda Duke, Duke Energy Steve Small, Duke Energy Billy Miller, PSNC Time Warner Cable
	Orange County	Orange 911 Center Supervisor on duty Connie Pixley, Environmental Health Supervisor
	Other	Bill Ferrell, Meadowmont Community Association Chamber of Commerce