



Orange Water and Sewer Authority

OWASA is Carrboro-Chapel Hill's not-for-profit public service agency delivering high quality water, wastewater, and reclaimed water services.

August 29, 2019

Mayor Pam Hemminger
Town of Chapel Hill
405 Martin Luther King Jr. Blvd
Chapel Hill, NC 27514

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

Chair Penny Rich
Orange County Board of
Commissioners
Post Office Box 8181
Hillsborough, NC 27278

Dear Mayor Hemminger, Mayor Lavelle and Chair Rich:

We are pleased to submit this report on our services, projects and initiatives from May through August 2019. This report includes information on the following items:

1. Agua Vista Web Portal
2. Historic Rogers Road area project completion
3. 10 years of reclaimed water with UNC
4. Forest management program
5. Water quality report card
6. Wastewater report card
7. Rogerson Drive wastewater pipe repair
8. PFAS monitoring
9. Long-range water supply plan
10. 2020 budget and rate information
11. Infrastructure investment
12. Executive Director Search

1. Agua Vista Web Portal

With our meter upgrade project complete, OWASA made its [Agua Vista Web Portal](#) available to all customers in March 2019. Over 28% of OWASA's eligible account holders are now registered for the portal. We continue to encourage more customer to register. Once registered for Agua Vista, customers can set up alerts for leaks and bill forecasts, view hourly water use information, and receive customized water conservation tips.

Even if customers are not yet registered, Agua Vista proactively emails account holders when their water use is indicative of a leak. Over the past five months, Agua Vista has provided customers with notifications of over 3,000 potential leaks ranging from 2 gallons per day to nearly 200,000 gallons per day.



OWASA staff are working with the Towns' and University staff to help ensure that Agua Vista is an effective tool for leak identification and water conservation within their organizations. In addition, we are working with social service agencies across the community to promote Agua Vista as a resource for low-income customers to save money by saving water. We appreciated our partnership earlier this year with the Towns on the Mayors Save Water Challenge to promote Agua Vista as a tool for advancing water conservation.

2. Historic Rogers Road area project completion

The Historic Rogers Road Area Sewer Extension Project was approved and funded jointly by three local governments: Orange County, Town of Carrboro, and Town of Chapel Hill. Beginning September 2017, OWASA provided project management services to oversee the construction of 18,000 feet of sewer pipes in the community. We are pleased to report the installation of the sewer and all associated street restoration is complete.

The Rogers Road sewer extension project team hosted a public meeting in June to provide information about how to connect to the system and public funding assistance programs currently available. The newly constructed sewer system was inspected and certified for public use in July. Property owners in the area are able to begin the process for connecting to the new public sewer system upon request. We wish to express our thanks to the local community and partners for their patience and collaboration throughout the construction process.

3. 10 years of reclaimed water with UNC

OWASA and the University of North Carolina (UNC) at Chapel Hill partnered to develop a [reclaimed water](#) system which began operation in 2009. The system provides UNC with reclaimed water (instead of treated drinking water) to meet university demands for water that is not for human consumption in chiller plants to cool buildings, to irrigate athletic fields on campus, and in some buildings for flushing toilets.

Last year, UNC used an average of 800,000 gallons of reclaimed water a day. That's nearly one million gallons less raw water each day that OWASA needs to source from University Lake and Cane Creek Reservoir. Since 2009, the 2.1 billion gallons of reclaimed water has been used by UNC, which equates to the size of University Lake about five-times over.

UNC pays OWASA the full cost to operate and maintain the reclaimed water system. This enables OWASA to cost-effectively meet UNC's non-drinking water requirements, while freeing up the community's drinking water supply and treatment capacity to meet other essential needs. Overall, the use of reclaimed water decreases the energy used in the community's water treatment process and lowers both OWASA's and UNC's greenhouse gas emissions.

4. Forest management program

OWASA owns approximately 2,400 acres of forested lands to protect watersheds and meet potential future utility needs. The majority of OWASA's forested land was purchased to protect Cane Creek Reservoir, our main water source.

Approximately 1,900 acres of OWASA's forested lands have not been managed; some of these forested stands are poor quality, damaged, and may pose a wildfire risk. On [January 10, 2019](#), the Board supported a new incremental approach to forest management and a subsequent Community Engagement Plan. On June 20, 2019, OWASA hosted a [community meeting](#) to hear feedback about its proposed forest management program which included draft guiding principles. Forty-one (41) community members participated, as well as representatives from professional agencies, moderators, and OWASA Board Members and staff.

On [August 22, 2019](#), the Board approved the Vision Statement and revised Guiding Principles for forest management:

Vision Statement: Protect water quality now and for future generations by following science-based principles to manage our forest lands so they are healthy, diverse, resilient, and sustainable.

Guiding Principles:

- *Protect Water Quality, OWASA's Highest Priority*
- *Improve Ecological Health of Forested Land*
- *Reduce the Risk of Wildfire*
- *Improve Wildlife Habitat and Species Diversity*
- *Sustainably Manage OWASA's Resources*
- *Engage the Community and Partner Agencies*
- *Minimize Adverse Impacts on Neighbors and Surrounding Community*

The Board authorized staff to develop a process to prioritize our forest land needing active management. Staff's draft process to prioritize forest land for active management will be reviewed by the Board of Directors at a future meeting.

5. Water quality report card

In 2018, OWASA treated approximately 2.5 billion gallons of water serving 83,300 people in Carrboro-Chapel Hill. OWASA routinely monitors for over 150 contaminants, or substances, in the community's drinking water. We are pleased to share that throughout 2018 OWASA met or surpassed all Federal and State standards for drinking water quality, as documented in OWASA's [Water Quality Report Card](#).

The Report Card is a snapshot of OWASA's water quality and provides information about local water sources, what OWASA's water contains, and how it compares to regulatory standards. It was mailed to all OWASA account holders and is available for viewing on owasa.org. Community members can also request a printed copy by contacting 919-968-4421 or info@owasa.org.

6. Wastewater quality report card

From July 2018 to June 2019 (Fiscal Year 2019), OWASA treated about 3 billion gallons of wastewater for the Carrboro-Chapel Hill community. In August, we published our annual [Wastewater Quality Report Card](#) and are pleased to share that we met or surpassed all Federal and State standards for our biosolids and wastewater effluent. In Fiscal Year 2019, we experienced three sewer overflow events due to high volumes of water entering our wastewater system during Hurricane Florence, a blockage in a wastewater pipe, and a pipe failure.

The Report Card is a snapshot of OWASA's wastewater treatment process. It includes tips on how community members can help protect the wastewater system and information on how OWASA maintains the system. It was mailed to all OWASA account holders and is available for viewing on owasa.org. Community members can also request a printed copy by contacting 919-968-4421 or info@owasa.org.

7. Rogerson Drive wastewater pipe repair

On April 12, 2019, OWASA responded to a wastewater overflow due to a pipe break at Rogerson Drive (near Raleigh Road) in Chapel Hill. This pipe is critically important as it delivers about half of the community's wastewater to the Mason Farm Wastewater Treatment Plant.

To ensure reliable service now and in the future, OWASA determined it was necessary to replace about 1,200 feet of pipe, to include new pipe under Raleigh Road and a redundant underground crossing.

OWASA provides [weekly updates](#) on the work which is expected to be complete later this fall.

8. PFAS monitoring

OWASA's treated drinking water is safe and meets all Federal and State regulations and established health advisory levels.

Per- and polyfluoroalkyl substances (PFAS) are considered an emerging contaminant – unregulated chemicals being detected in trace amounts. They are man-made chemicals that include PFOA, PFOS, and GenX. PFAS increases resistance to water and stains, and can be found

in everyday products such as clothing and cookware. As these products are washed or degrade, PFAS can enter wastewater systems and travel onward to lakes and rivers.

OWASA implemented quarterly PFAS testing of our treated drinking water and a raw water source, Cane Creek Reservoir. The summed level of two PFAS (PFOS and PFOA) in our May 2019 sample of treated drinking water was 20.6 ppt (parts per trillion). This result is consistent with our 2018 results and means the levels we have detected in our treated drinking water samples are far below the EPA's non-regulatory Health Advisory Level of 70 ppt for PFOS and PFOA combined (a ppt is comparable to a grain of sand in an Olympic swimming pool).

Our second quarter samples were collected at the same time the NC PFAST Network collected a sample from Cane Creek Reservoir as part of the statewide initiative to sample all raw water sources; our results are consistent with their findings. Our results are also consistent with studies showing powder activated carbon, which is used in our drinking water treatment process, is successful in the removal of some but not all PFAS in treated drinking water.

PFAS is also present in wastewater. Treated effluent – the treated wastewater that gets recycled into clean water for return to local waterways – as well as biosolids application have been identified as conveyers of PFAS to the environment. Wastewater treatment plants are not producers of PFAS; they are conveyors of PFAS that enter the community's wastewater stream, for example, from household products or direct discharges from industries (no industries in OWASA's service area). OWASA, along with other utilities, is collaborating with NC PFAST Network to perform PFAS testing.

To help address industrial discharges of PFAS into wastewater systems, the North Carolina Division of Water Resources (DWR) is requiring 25 utilities with pretreatment programs in the Cape Fear River Basin to sample their wastewater influent for PFAS. Depending on these results, utilities will be required to identify potential sources of PFAS in their wastewater collections system and work with them to reduce/eliminate these compounds in their wastewater discharges.

Although OWASA is not required to participate in this program, because we do not have any significant industrial users in our service area and therefore no pretreatment program, we have begun proactively monitoring our wastewater influent for these compounds for four consecutive months this summer. We will evaluate these results before deciding on our next steps.

OWASA supports ongoing research for water quality and will continue to share monitoring results and action plans with the community. We will post [updated PFAS information](#) as it becomes available on our website. Together with community partners, we also plan to host a public education series on water quality this year, which will include information and community conversations on PFAS.

9. Long-range water supply plan

OWASA recently completed its raw water demand projections for its Long-Range Water Supply Plan (LRWSP) update. The projections indicate that under most circumstances, OWASA will have enough water in its local reservoirs (Cane Creek Reservoir, University Lake, and Quarry Reservoir) to meet our 2070 water demands. However, we want to ensure we are prepared given uncertainty in our estimated supply and estimated demands, a changing climate, and potential operational emergencies at one of our reservoirs.

OWASA has an allocation of five percent of the water supply pool of Jordan Lake (approximately five million gallons per day), for use during severe drought or operational emergencies. OWASA does not have facilities to access its Jordan Lake supply, but treated drinking water is available via regional interconnections and mutual aid agreements with the Town of Cary and City of Durham.

We will keep the community informed about this update which we expect to complete in 2020.

10. 2020 budget and rate information

On June 13, 2019, the Board of Directors approved OWASA's Annual Operating and Capital Improvements Program Budgets for July 2019 through June 2020 (Fiscal Year 2020), and the [Schedule of Rates, Fees and Charges](#) effective on or after October 1, 2019. The Annual Budget includes projected operating revenues which are based on a 5% increase in OWASA's monthly water and sewer rates. A 5% increase in monthly water and sewer rates will increase the average OWASA family's bill by \$3.60 per month. The increase will help provide funding for Fiscal Year 2020 expenditures, including \$26.4 million to replace and repair aging water and wastewater infrastructure.

11. Infrastructure investment

OWASA maintains 750 miles of water and wastewater pipes, a water treatment plant, a wastewater treatment plant, pump stations, and other infrastructure. Meeting the community's needs and increasing system resiliency requires ongoing rehabilitation of the water, wastewater, and reclaimed water systems. Capital investments, including debt payments for capital projects, account for about half of our costs. In the last fiscal year, we invested about \$17.3 million to renew, replace and improve infrastructure. Our five-year Capital Improvements Program (CIP) can be viewed [here](#).

Key accomplishments include:

- Completed electrical, ventilation, and roofing rehabilitation and improvements at a pump station at the Mason Farm Wastewater Treatment Plant (WWTP)
- Rehabilitated the biosolids dewatering press and influent bar screens at the WWTP

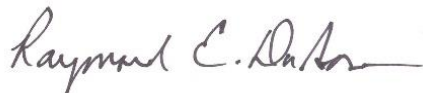
- Replaced the flashboards at the University Lake reservoir, used to increase the lake's water storage capacity
- Began construction of pumping system improvements at the University Lake reservoir
- Began replacement of the water main on Manning Drive between Ridge Road and Fordham Boulevard
- Began a \$6.5 million construction project to upgrade the solids thickening facilities and rehabilitate the plant headworks structure at the WWTP
- Awarded an additional \$8 million in other construction work, including the replacement or rehabilitation of about 2.5 miles of water and sewer mains
- Received approval from the State Water Infrastructure Authority for nearly \$9 million in low-interest loan funding for three CIP projects

12. Executive Director Search

Ed Kerwin, OWASA's Executive Director since 1996, announced his plans to retire in June 2020. The Board of Directors will use a consultant to provide executive search and assessment services.

We would be happy to provide you more detailed information on the items above or other topics of interest as desired. Please feel free to contact Ed Kerwin, Executive Director (ekerwin@owasa.org or 919-537-4211), or me.

Sincerely,



Raymond E. DuBose, Chair
OWASA Board of Directors

Attachments

cc: Mr. David Andrews, Carrboro Town Manager
Ms. Bonnie Hammersley, Orange County Manager
Mr. Maurice Jones, Chapel Hill Town Manager
OWASA Board of Directors
Ed Kerwin, OWASA Executive Director

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

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Events
January	11	3	9	0	8	3	8	1	3	3	4	0	3	0	0	0	0	0
February	7	5	2	0	8	0	4	1	0	3	3	0	4	0	0	1	0	0
March	9	0	7	1	10	4	1	1	0	2	8	0	0	1	0	0	0	0
April	9	2	4	0	9	3	1	1	2	1	1	0	0	0	0	0	0	0
May	6	0	2	5	8	3	2	5	4	0	1	3	0	0	0	0	0	0
June	4	1	1	1	5	1	8	8	1	2	2	0	0	0	0	0	0	0
July	1	0	2	0	0	2	6	3	2	4	0	0	2	0	0	0	0	0
August	1	0	4	3	11	2	9	0	1	1	2	0	2	2	0	0	1	-
September	2	5	2	2	9	3	1	1	5	1	1	0	3	0	0	0	2	-
October	2	6	1	1	8	8	2	0	3	3	2	2	3	0	0	0	0	-
November	0	0	1	7	2	6	7	1	1	4	0	1	0	0	0	0	0	-
December	3	3	2	5	8	10	2	1	1	6	3	5	0	0	0	1	0	-
TOTAL	55	25	37	25	86	45	51	23	23	30	27	11	17	3	0	2	3	0

January-2002 to December-2018 History and Present (2019)

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**

January 2019 – December 2019

Date call received	Time call received	Location
January 2019	No Reported Odors	N/A
February 2019	No Reported Odors	N/A
March 2019	No Reported Odors	N/A
April 2019	No Reported Odors	N/A
May 2019	No Reported Odors	N/A
June 2019	No Reported Odors	N/A
July 2019	No Reported Odors	N/A
August 2019	-	-
September 2019	-	-
October 2019	-	-
November 2019	-	-
December 2019	-	-

DISTRIBUTION OF OWASA E-MAILS ABOUT OFF-SITE ODOR ELIMINATION

Highland Woods	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
	Reed Johnson
	Kay Johnson
	Rex Bartles
	Lisa Bartles
	Ann Alexander
	Nortin Hadler
	Carol Hadler
	Frank P. Rexford
	Scott Brees
	Kendall Brees
	Rainer Blaesius
	Elisabeth Schweins
	Susannah Shearer
	Fred Hall
	Lawanda Rainey-Hall
	Katie Jamieson
	Richard Harrill
	Angel Smith
	Jordon Sharome
	Cameron Williams
	Marian Rice
	Janet McLamb
	Michael Henning
	Benjamin Duan-Porter
	Matthew Mauck
Finley Forest	Adam Kimplead
	Cindy Underwood
	Dan Puckett
	David J. Polewka
	Kathryn Conard
	Michael Sharpe
	Julie Maness
Laurel Hill	Bob Wendell
	Carol David
	Pat Evans

	Ewan Rodewald and Sharon Hodge
	Marcella Grendler
	Kay Goldstein
	Ann Wilson
	Louis Fogleman
St. Thomas More Church and School	St. Thomas More Church staff
Morgan Creek area	Ellen Johnson
	Aldersgate United Methodist Church
	Betsy Malpass
	Hanson Malpass
	Jeannie Cox
	Laura King Moore
	Jeanne Langley
	AW Carr
	Marilyn and Don Hartman
	Robert Huls
Ronald McDonald House Family House	Shelly Day
	Greg Kirkpatrick, Executive Director
	Janice Ross, Operations Manager
	Matt Hapgood
Reserve	Steve McPhail
	James F. Howard
	Steven and Susan Frye
	Doug Longman
	Barbara and Edward Paradise
	Jeanne and David Jarrett
	Nadine O'Malley
	Mark Witcher
	Ralph Abrahams
	Kathy Abrahams
Bayberry Drive area UNC	William Ware
	Johnny Randall, NC Botanical Garden
	Jennifer Peterson, NC Botanical Garden
	Phil Barner, Energy Services Director
	Margaret Holton, Water, Sewer & Stormwater Coordinator
	Mary Beth Koza, Director, Environment, Health and Safety
	Ross Fowler, Finley Golf Course
	Michael Wilkinson, golf pro
	Andrew Sapp, Men's Golf Coach
	UNC Tennis Center
	UNC parking
	Mike McFarland, University Communications
	Scott Ragland, News Services
	Linda Convisor, Director of Local 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

Distribution of OWASA E-mails About Off-Site Odor Elimination

Page 3

	Jeff McCracken, Public Safety
	Kate Luck
UNC Healthcare	Mel Hurston
	Karen McCall
	Keith Morris
Town of Chapel Hill	Roger Stancil, Town Manager
	Florentine A. Miller, Deputy Town Manager
	Ralph Karpinos, Town Attorney
	Lance Norris, Public Works Director
	Chris Roberts, Town Engineer
	Richard Terrell, Public Works Operations Superintendent
	Catherine Lazorko, Public Information Officer
	Jeanne Brown, Assistant to the Mayor
	Phil Mason, Planner
	Sabrina Oliver, Town Clerk
	Amy Harvey, Public Affairs and Communications
	Chris Blue, Police Chief
	Bryan Walker, Captain/Police Information
	Josh Mecimore, Police Information Officer
	Allison Weakley
	Kiel Harms
	Ran Northam
	Ross Tompkins
City Schools	Bill Mullin
	Todd LoFrese, Assistant Superintendent for Support Services
	Jeff Nash, Community Relations
	Crystal Jones
	Chris Liles
	Darlene Ryan
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
	Michael Hughes
	Post Office

**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)
April 2019¹	-	-	-	-	-	-	-	-	-	-	-	-
May 2019	0.0002	0.0000	0.0247 ²	0.0010	0.0000	0.00117 ³	0.0000	0.0000	0.0000 ⁴	0.0018	0.0000	0.0259 ⁵
June 2019	0.0021	0.0000	0.0996 ⁶	0.0009	0.0000	0.00117 ⁷	0.0000	0.0000	0.0000 ⁸	0.0011	0.0000	0.0098 ⁹

Monitor Locations:

Headworks Monitor (#1) – Monitor located at Headworks Facility.

Digester Monitor (#2) – Monitor located between Digester #1 and Digester #4.

UNC Monitor (#3) – Monitor located at Primary Sludge PS.

Switchgear Monitor (#4) – Monitor located at Switchgear Building.

¹ Monitors were out of service for Maintenance during April 2019

² Maximum reading occurred on May 21, 2019

³ Maximum reading occurred on May 23, 2019

⁴ Maximum reading zero all of May 2019

⁵ Maximum reading occurred on May 27, 2019

⁶ Maximum reading occurred on June 24, 2019

⁷ Maximum reading occurred on June 8, 2019

⁸ Maximum reading zero all of June 2019

⁹ Maximum reading occurred June 10, 2019