



**ONslow WATER AND SEWER AUTHORITY
WASTEWATER FACILITIES ANNUAL REPORT - 2021**

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ONSWLOW WATER AND SEWER AUTHORITY WASTEWATER FACILITIES ANNUAL REPORT - 2021

INTRODUCTION

Under the requirements of the North Carolina Clean Water Act of 1999, the Onslow Water and Sewer Authority (ONWASA) has prepared this Annual Report on the performance of all domestic/municipal wastewater treatment facilities and wastewater collection systems operated and maintained by ONWASA. The Annual Report provides basic physical and permit information for each facility, along with summaries of monthly activity and overall performance.

During 2021, ONWASA managed a total of five (5) treatment facilities and six (6) collection systems. This includes:

- The Hickory Grove Wastewater Treatment Plant, which is currently inactive and being scheduled for permanent closure.
- The Holly Ridge Wastewater Treatment Plant, with a collection system serving the Town of Holly Ridge and surrounding areas.
- The Northwest Regional Water Reclamation Facility, with a collection system serving the Town of Richlands and northwestern Onslow County.
- The Summerhouse Wastewater Reclamation Facility, with a collection system serving the Summerhouse at Everett Bay residential development.
- The Swansboro Wastewater Treatment Facility, with a collection system serving the Town of Swansboro and surrounding areas.
- The Springdale Area collection system, which sends wastewater to the City of Jacksonville for treatment and disposal.
- The Piney Green Road area collection system, which sends wastewater to Marine Corps Base Camp Lejeune for treatment and disposal.

ONWASA's continuing goal through wastewater collection and treatment is to protect public health and safety by minimizing the risk of contamination to surface and ground waters, so they will continue to be available as a drinking water resource for future generations. We hope this information helps the reader understand the effort ONWASA makes every day to manage and improve the wastewater treatment process.

We are committed to providing you with this information because informed customers better support our continuing efforts.

A copy of this report is available for public review on ONWASA's website at www.onwasa.com as well as at ONWASA's Main Office, 228 Georgetown Road, Jacksonville, NC.

Questions about this report may be addressed to:

ONWASA
228 Georgetown Rd.
Jacksonville, NC 28540
Attn: Wastewater Facilities Annual Report 2021

Or by calling ONWASA's Main Office at (910) 455-0722.

CERTIFICATION

I, David M. Mohr, PE, certify that the information contained within this report represents the configuration and operation of the above-referenced facilities for the reporting period. Data presented on treatment capacity and flow rates are based on readings taken at individual facilities and reported monthly to the North Carolina Department of Environmental Quality in accordance with their operating permits.

David M. Mohr, PE
Signing Official Signature

04/18/2023
Date

Chief Operations Officer
Signing Official Title



TREATMENT FACILITY INFORMATION HICKORY GROVE WASTEWATER TREATMENT PLANT

Facility Description

The Hickory Grove Wastewater Treatment Plant is located adjacent to NC State Road 2335 (Easy Street), east of Jacksonville and within the Hickory Grove Subdivision. This facility is a wastewater stabilization lagoon permitted to treat 0.0225 MGD (million gallons per day) of wastewater from the surrounding development. Treatment equipment includes a 2.9 surface-acre facultative treatment lagoon; a tablet-based chlorination system, and a chlorine contact chamber with de-chlorination capability. The discharge point is into Little Northeast Creek, classified as C-NSW waters in the White Oak River Basin. There are no on-site employee facilities, so this location is monitored by staff from ONWASA's Swansboro Wastewater Treatment Plant.

General Information

Permit Number:	NC 0034991
Permit Type:	NPDES
Facility Type/Operation:	Facultative Lagoon
Operator in Responsible Charge (ORC):	Mark Young
Facility Phone number:	(910) 937-7539

Performance During 2020

Operation of this facility was suspended in June 2015 when a new pump station and force main were completed to send all wastewater flow at this location to another treatment facility, the French Creek Advanced Wastewater Treatment Facility aboard Marine Corps Base Camp Lejeune. The operating permit remains open, however, pending completion of a construction project required by the North Carolina Department of Environmental Quality (NCDEQ) as part of the approved closure plan for this site.

Permit Violations During 2021

None.

Comments

In May 2020 the NCDEQ Division of Water Resources approved an Addendum to the *Action Plan for Closure of Hickory Grove Lagoon*, prepared in 2019, that finalized the specific items of work necessary for closure of this facility. This approval was based on the results of water quality sampling and analysis completed during 2019 and early 2020. Bidding of a construction contract to complete this work is anticipated in March 2022, with all work to be completed later that year.

TREATMENT FACILITY INFORMATION HOLLY RIDGE WASTEWATER TREATMENT PLANT

Facility Description

The Holly Ridge Wastewater Treatment Plant is located at 286 North Jenkins Street within the Town of Holly Ridge. This facility is a wastewater treatment lagoon with a permitted capacity of 0.260 MGD. Treatment equipment includes a headworks with manual bar screen and grit chamber; influent flow measurement via an ultrasonic flow meter; a 1.82-million-gallon capacity lagoon divided into four (4) treatment cells and a settling cell via floating curtain baffles; eleven (11) floating aerators/mixers to enhance sludge digestion; a 22,400-gallon aerobic sludge digester with aerator and discharge pump; an effluent pump station with duplex 450 GPM pumps; and 17,900 ft. of 8-inch diameter. force main to direct effluent to a spray irrigation site for final discharge. The spray irrigation site, located at 220 Dolph Everett Road, is a 0.225 MGD facility consisting of: a 13.30-million-gallon storage lagoon; ten (10) spray fields totaling 99.59 wetted acres; and an irrigation pump station with dual 700 GPM pumps and an effluent flow meter that distributes flow to almost 800 spray heads. There are no on-site employee facilities, so this location is monitored by staff from ONWASA's Summerhouse Wastewater Treatment Plant.

General Information

Permit Number:	WQ0019907
Permit Type:	Wastewater Irrigation System
Facility Type/Operation:	Grade 2 WWTP and Surface Irrigation
Operator in Responsible Charge (ORC):	Kary Herndon
Contact Phone (Summerhouse site):	(910) 937-7575

Performance During 2021

Permitted Capacity:	0.225 MGD ⁽¹⁾
Average Daily Flow Treated:	0.182 MGD
Percent of Permitted Capacity:	80.9 %
Maximum Daily Flow Treated:	0.429 MGD (February 14 th)
Total Gallons Treated:	66,361,630 gallons ⁽²⁾
Percent Change from 2020:	4.7% Decrease

Performance Notes:

- (1) Actual treatment capacity is based on the spray irrigation permitted capacity of 0.225 MGD.*
- (2) Total Gallons Treated annually can vary significantly year to year, depending on the flow volume diverted to the Summerhouse WWTP (see Comments).*

Comments

In early 2020, an engineering firm under contract with ONWASA completed work on a Capacity Evaluation Study of this facility. A copy of this document is available for review at the ONWASA Central Office, 228 Georgetown Road, Jacksonville, NC. This study included an assessment of existing conditions at the Holly Ridge plant, projections of

future population growth and sewer demand in the service area, and the development of alternatives to address that future demand. In November 2020, the ONWASA Board of Directors completed a review of all information prepared for the alternatives and decided to proceed with the option of sending all wastewater flow from the Holly Ridge and Summerhouse collection systems to the French Creek Wastewater Treatment Facility aboard Marine Corps Base Camp LeJeune (MCBCL) for treatment and disposal.

During 2021, the design engineer for this project completed an analysis of the MCBCL collection system to determine its ability to accept the additional flow from ONWASA, and what improvements to this system might be required to do so. Upon completion of this analysis, ONWASA was informed that MCBCL would not be able to accept this connection due to future capacity concerns at their own treatment plant. As a result, the decision was made in late 2021 to abandon this approach and proceed with a new Southeast Service Area wastewater treatment plant that will replace both the existing Holly Ridge and Summerhouse treatment plants. Design work for the new plant, infiltration basin disposal site and pump stations / wastewater force mains necessary to make this connection will begin in early 2022 and the system will be operational in approximately four (4) years.

Permit Violations During 2021

The following is a list of all violations reported to NCDEQ under the operating permit for this facility:

Month:	February
Violation:	Monthly average flow limit exceeded.
Cause:	Excessive rainfall (11.47 inches total) and resulting collection system inflow / infiltration.
Corrective Action Taken:	Utilized Jenkins Street Pump Station and a connection to the Summerhouse plant to reduce influent flow to the treatment lagoon.
Known Environmental Impacts:	None.
Month:	June
Violation:	Monthly average flow limit exceeded.
Cause:	Frequent rainfall (5.00 inches total) and resulting collection system inflow / infiltration.
Corrective Action Taken:	Utilized Jenkins Street Pump Station and a connection to the Summerhouse plant to reduce influent flow to the treatment lagoon.
Known Environmental Impacts:	None.

TREATMENT FACILITY INFORMATION NORTHWEST REGIONAL WATER RECLAMATION FACILITY

Facility Description

The Northwest Regional Water Reclamation Facility is located at 189 Mills Field Road, one mile southeast of the Town of Richlands. This facility utilizes a sequencing batch reactor (SBR) treatment process and high-rate infiltration basins for effluent disposal, with a permitted capacity of 1.273 MGD. Treatment equipment includes an elevated headworks with fine screen/grit removal system; two 1,830,000-gallon SBR tanks with aeration equipment and axial flow jet motive pumps; an 822,000-gallon flow equalization basin with axial flow jet motive pumps; two rotating cloth disk filter assemblies with automated backwash for tertiary treatment, and an open-channel ultraviolet light (UV) disinfection system with a sodium hypochlorite back-up and chlorine contact chamber. Treated effluent is sent via an on-site pumping station and force main to one of four (4) high-rate infiltration basins (totaling 6.99 acres) that are located immediately southeast of the plant. Waste sludge from the treatment process is sent to one of two 614,000-gallon aerobic sludge digesters for further treatment and eventual land application for disposal.

General Information

Facility Permit Number:	WQ0034367
Permit Type:	High-Rate infiltration and Reclaimed Water Bulk Distribution System
Facility Type:	Sequencing Batch Reactor (SBR)
Operator in Responsible Charge (ORC):	Mark C. Young
Facility Phone:	(910) 937-7572

Performance During 2021

Permitted Capacity:	1.273 MGD
Average Daily Flow Treated:	0.417 MGD
Percent of Permitted Capacity:	32.8%
Maximum Daily Flow Treated:	1.834 MGD (February 16 th)
Total Gallons Treated:	155,921,383 gallons
Percent Change from 2020:	4.8% Decrease

Comments

This facility was severely damaged in September 2018 as a result of localized flooding during Hurricane Florence. This included the failure of 30 electrical motors for pumps, aerators, and other process equipment, along with the failure of electrical distribution and automated control systems. Both the disk filters and UV disinfection systems were also damaged and rendered unusable. Construction of the first of two flood recovery projects, consisting of restoration of the existing disk filters, elimination of the membrane filtration system and installation of a new, flood-resistant open channel UV system, was completed in January

2021. A construction contract for the second project, restoration of electrical distribution and automation systems along with multiple improvements to protect and reduce risk to critical systems in future flood events, was bid in late 2020. A Notice to Proceed with construction was issued in March 2021, with an original contract completion date in December 2021, however this has been extended until July 2022 due to material availability issues and design changes required by site conditions.

Permit Violations During 2021

The following is a list of all violations reported to NCDEQ under the operating permit for this facility; as noted in prior reports, many treatment and process control systems were damaged or inoperable during 2021 and that was a significant factor in several of these events:

Month:	January
Violation:	Monthly Average Limit for TSS exceeded.
Cause:	Sand within the influent stream, possibly due to collections system damage.
Corrective Action Taken:	Cleaned affected tanks and equipment; implemented additional testing.
Known Environmental Impacts:	None.
Month/Day:	February 17 th
Violation:	Daily Limit for fecal coliform exceeded.
Cause:	Excessive rain (almost 8 inches from 2/13 – 2/19).
Corrective Action Taken:	Ran UV disinfection and sodium hypochlorite systems together during high flow periods.
Known Environmental Impacts:	None.
Month/Day:	February 15 th , 16 th and 27 th
Violation:	Exceeded freeboard limit in upset ponds.
Cause:	Excessive rain (almost 8 inches from 2/13 – 2/19).
Corrective Action Taken:	Ran the plant continuously (24 hours) to process larger volume of wastewater & infiltration.
Known Environmental Impacts:	None.
Month/Day:	March 2 nd and 17 th
Violation:	Daily Limit for fecal coliform exceeded.
Cause:	High flow rates, due to heavy rainfall.
Corrective Action Taken:	Reviewed treatment process and adjusted to compensate.
Known Environmental Impacts:	None.

Month/Day: June 7th and 9th
Violation: Daily Limit for fecal coliform exceeded.
Cause: Changing temperatures promoted bacterial growth.
Corrective Action Taken: Cleaned UV system and effluent contact chamber, increased both UV disinfection intensity and sodium hypochlorite feed.
Known Environmental Impacts: None.

Month/Day: August 2nd
Violation: Daily Limit for fecal coliform exceeded.
Cause: Corroded sodium hypochlorite feed line coupling.
Corrective Action Taken: Flow temporarily diverted to upset ponds and repair made.
Known Environmental Impacts: None.

Month/Day: September 13th and 22nd
Violation: Daily Limit for fecal coliform exceeded.
Cause: Mechanical issues with sodium hypochlorite feed.
Corrective Action Taken: Flow temporarily diverted to upset ponds and repair made.
Known Environmental Impacts: None.

Month/Day: December 28th
Violation: Daily Limit for BOD exceeded.
Cause: Unknown, possible contaminated sample.
Corrective Action Taken: Notified operators to monitor closely and perform additional sampling.
Known Environmental Impacts: None.

TREATMENT FACILITY INFORMATION SUMMERHOUSE WASTEWATER RECLAMATION FACILITY

Facility Description

The Summerhouse Wastewater Reclamation Facility is located at 351 Holly Ridge Road southeast of the Town of Holly Ridge. This facility utilizes a membrane bioreactor (MBR) treatment system and high-rate infiltration basins for disposal with a design maximum capacity of 0.400 MGD. Treatment equipment includes a headworks consisting of two automated bar screens and a cyclone-style grit removal system; a 184,000-gallon aerated equalization basin supplying four MBR trains rated at 100,000 gallons per day each (currently only two trains are operational); and ultraviolet (UV) light post-treatment disinfection with a sodium hypochlorite back-up system. Treated effluent is then sent to one of two high-rate infiltration basins (totaling 7.1 acres) that are located within the Summerhouse at Everett Bay housing development. Waste sludge from the trains is sent to one of two 129,400-gallon aerated digesters for further treatment and eventual land application for disposal.

General Information

Permit Number:	WQ0029945
Permit Type:	High-Rate Infiltration System
Facility Type / Operation:	Grade 3 MBR with High-Rate Infiltration Basins
Operator in Responsible Charge (ORC):	Kary Herndon
Contact Phone:	(910) 937-7575

Performance During 2021

Permitted Capacity:	0.180 MGD ⁽¹⁾
Average Daily Flow Treated:	0.057 MGD
Percent of Permitted Capacity:	31.7%
Maximum Daily Flow Treated:	0.116 MGD (February 26 th)
Total Gallons Treated:	20,505,399 gallons
Percent Change from 2020:	21.3% Decrease ⁽²⁾

Performance Notes:

- (1) While the design capacity of the Summerhouse facility is 0.400 MGD, actual treatment capacity is limited to the approved capacity of the two effluent infiltration basins (0.180 MGD).*
- (2) Total Gallons Treated can vary significantly from year to year, depending on the flow volume diverted from the Holly Ridge WWTP (see Comments).*

Comments

Due to the low number of completed homes in the Summerhouse at Everett Bay development, which is the sole source of wastewater flow for this treatment facility, and the limited capacity of the Holly Ridge Wastewater Treatment Plant, a portion of the wastewater generated from the Holly Ridge collection system is diverted to the Summerhouse facility for treatment through a pump station on Jenkins Street and an 18,000-foot-long force main that terminates at the plant.

In early 2020, an engineering firm under contract with ONWASA completed work on a Capacity Evaluation Study of this facility. A copy of this document is available for review at the ONWASA Central Office, 228 Georgetown Road, Jacksonville, NC. This study included an assessment of existing conditions at the Summerhouse plant, projections of future population growth and sewer demand in the service area, and the development of alternatives to address that future demand. In November 2020, the ONWASA Board of Directors completed a review of all information prepared for the alternatives and decided to proceed with the option of sending all wastewater flow from both the Holly Ridge and Summerhouse collection systems to the French Creek Wastewater Treatment Facility aboard Marine Corps Base Camp LeJeune (MCBCL) for treatment and disposal.

During 2021, the design engineer for this project completed an analysis of the MCBCL collection system to determine its ability to accept the additional flow from ONWASA, and what improvements to this system might be required to do so. Upon completion of this analysis, ONWASA was informed that MCBCL would not be able to accept this connection due to future capacity concerns at their own treatment plant. As a result, the decision was made in late 2021 to abandon this approach and proceed with a new Southeast Service Area wastewater treatment plant that will replace both the Holly Ridge and Summerhouse treatment plants. Design work for the plant, infiltration basin disposal site and pump stations / wastewater force mains necessary to make this connection will begin in early 2022 and the system will be operational in approximately four (4) years.

A project to review alternatives and determine the existing capacity of high-rate infiltration Basin #1, which had never been put into service due to construction issues, was also completed in 2021 and submitted to NCDEQ for consideration. This resulted in approval to use this basin for effluent disposal at a rate of up to 80,000 gallons per day (GPD), thereby increasing the overall disposal capacity to 180,000 GPD (0.180 MGD).

Permit Violations During 2021

The following is a list of all violations reported to NCDEQ under the operating permit for this facility:

Month:	May 5 th and 25 th
Violation:	Daily Limit for ammonia exceeded.
Cause:	Air system mechanical failures.
Corrective Action Taken:	Repaired equipment to restore treatment process.
Known Environmental Impacts:	None.

Month/Day:

May 26th

Violation:

Daily Limit for fecal coliform exceeded.

Cause:

UV disinfection system failure, due to low flow and high temperatures after cleaning.

Corrective Action Taken:

Restoration of full flow volume after cleaning.

Known Environmental Impacts:

None.

TREATMENT FACILITY INFORMATION SWANSBORO WASTEWATER TREATMENT FACILITY

Facility Description

The Swansboro Wastewater Treatment Facility is located at 199 Williams Street, just outside the incorporation limits of the Town of Swansboro. This facility utilizes a conventional activated sludge treatment process and high-rate infiltration basins for effluent disposal, with a permitted capacity of 0.600 MGD. Treatment equipment includes an aerated equalization basin and headworks with automatic bar screen and grit removal system rated at 1.5 MGD; two 300,000-gallon capacity oxidation ditches with aeration rotor assemblies; three secondary clarifiers; two rotating cloth disk filters with automatic backwash; and an ultraviolet (UV) post-treatment disinfection system with a sodium hypochlorite back-up. Treated effluent is then sent via an on-site pumping station and force main to one of four high-rate infiltration basins (totaling 15.24 acres) that are located six miles west of the plant on Parkertown Road. Waste sludge from the treatment process is sent to a 46,900-gallon aerated sludge digester and 315,000-gallon aerated sludge holding tank for further treatment and eventual land application for disposal.

General Information

Permit Number:	WQ0023261
Permit Type:	High-Rate Infiltration System
Facility Type:	Activated Sludge with Extended Air
Operator in Responsible Charge (ORC):	Mark Young
Contact Phone:	(910) 937-7539

Performance During 2021

Permitted Capacity:	0.600 MGD
Average Daily Flow Treated:	0.355 MGD
Percent of Permitted Capacity:	59.2%
Maximum Daily Flow Treated:	0.914 MGD (August 4 th)
Total Gallons Treated:	129,542,020 gallons
Percent Change from 2020:	5.4% Decrease

Comments

In early 2020, an environmental engineering firm under contract with ONWASA completed work on a Capacity Evaluation Study of this facility. A copy of this document is available for review at the ONWASA Central Office, 228 Georgetown Road, Jacksonville, NC. This study included an assessment of existing conditions at the plant, projections of future population growth and sewer demand in the service area, and the development of alternatives to address that future demand. Based on the results of this study and guidance from the ONWASA Board of Directors in July 2020, work began in late 2020 on the design of utility infrastructure (pumping stations and force mains) to send all flow from the Swansboro service area to the French Creek WWTP aboard Marine Corps Base

Camp Lejeune for treatment and disposal. The existing Swansboro WWTP would then be decommissioned.

During 2021, an engineering firm under contract to design these facilities conducted extensive site investigations, prepared preliminary layouts and associate construction drawings for both two separate construction contracts, one for the sewer force main installation and the second for construction of two new pumping stations and expansion of two others. Coordination with Camp LeJeune Public Utilities and Real Estate staff was also initiated, as a majority of the sewer force main will be constructed on Federal property. Pending Federal approvals, the new system should be operational in early 2024.

Permit Violations During 2021

The following are all violations reported to NCDEQ under the operating permit for this facility:

Month/Day: February 15th
Violation: Daily Limit for fecal coliform exceeded.
Cause: High rainfall event (over 4 inches).
Corrective Action Taken: Effluent flow routed to upset pond for re-treatment, adjusted treatment process.
Known Environmental Impacts: None.

Month/Day: March 15th, 29th and 30th
Violation: Daily Limit for fecal coliform exceeded.
Cause: UV system failures.
Corrective Action Taken: Effluent flow routed to upset pond for re-treatment, cleaned process equipment, increased UV disinfection.
Known Environmental Impacts: None.

Month/Day: March 29th and 31st
Violation: Daily Limit for total suspended solids (TSS) exceeded.
Cause: Not identified; possibly ongoing maintenance and tank cleaning activity.
Corrective Action Taken: Effluent flow routed to upset pond for re-treatment, cleaned process equipment and increased sludge wasting activity.
Known Environmental Impacts: None.

Month/Day:	April 5 th and 26 th
Violation:	Daily and Monthly Limits for total suspended solids (TSS) exceeded.
Cause:	Not identified; possibly ongoing maintenance and tank cleaning activity.
Corrective Action Taken:	Completed cleaning activities.
Known Environmental Impacts:	None.
Month/Day:	June 14 th
Violation:	Daily Limits for fecal coliform and ammonia exceeded.
Cause:	Treatment process upset (low dissolved oxygen).
Corrective Action Taken:	Effluent flow routed to upset pond for re-treatment, adjusted treatment process and, cleaned UV system.
Known Environmental Impacts:	None.
Month/Day:	July 19 th
Violation:	Daily Limit for biological oxygen demand (BOD5) exceeded.
Cause:	Not identified; possible bad sample.
Corrective Action Taken:	None; subsequent sample within limits.
Known Environmental Impacts:	None.

2021 - COLLECTION SYSTEM SUMMARY

Facility Description

The ONWASA sanitary sewer collection system consists of four independent regional systems associated with treatment facilities operated by ONWASA, and two systems where wastewater is pumped to a third party for treatment and disposal. Existing facilities (mains, manholes, and pumping stations) are of a wide range of materials, ages, and physical conditions since they were originally constructed by various local governments or private developers and later consolidated into ONWASA. The following spreadsheet provides basic information on each regional system and the number of customers served.

General Information

Permit Number: WQCS00249
Permit Type: System-Wide Collection System
Operator in Responsible Charge (ORC): Justin Sanderson
Contact Phone: (910) 937-7560

System Operation and Maintenance

In addition to regular maintenance and cleaning of sewage pumping stations and force main air release valves, a total of 57,850 LF of gravity sewer main was cleaned at various locations throughout the system.

System Expansion

A total of 8,550 LF of new sewer mains were added to various regional collection systems in 2021:

<u>Collection System</u>	<u>Length</u>
Piney Green	6,500 feet
Northwest	1,100 feet
Holly Ridge	950 feet

Sewer Overflow Events in 2021

The following is a list of the reported sewer overflow events that occurred within all regional collection systems during calendar year 2021. Discharges over 1,000 gallons in volume, or those entering surface waters, are reported to the North Carolina Department of Environmental Quality.

Month/Day: August 11th
Regional Collection System Affected: Swansboro
Location: Manhole near 640 W. Corbett Avenue
Cause: Cap failed on end of force main within the manhole.
Corrective Action: Installed a valve outside of the manhole to stop flow.
Estimated Volume: 31,560 gallons
Receiving Stream: Ward Creek
Long-Term Environmental Impact: None observed.

ONWASA COLLECTION SYSTEM INFORMATION

(Statistics as of 12/31/2021)

Area	Grade / Type	Total Piping Length (Feet)	Number of Pumping Stations	Number of Service Connections		Receiving Treatment Facility
				Residential	Commercial	
Holly Ridge	Grade 1 / Domestic	118,660	8	1,326	51	Holly Ridge WWTP (1)
Piney Green	Grade 1 / Domestic	188,930	12	1,693	26	French Creek WWTP (2)
Richlands	Grade 2 / Domestic	315,100	17	1,072	153	Northwest RWRF
Springdale	Grade 1 / Domestic	30,896	2	300	6	City of Jacksonville WWTP
Swansboro	Grade 2 / Domestic	262,215	33	1,889	201	Swansboro WWTF
Summerhouse	Grade 1 / Domestic	74,350	5	400	5	Summerhouse WWRF
TOTALS		990,151	77	6,680	442	

Notes: (1) A portion of the flow from the Holly Ridge Collection System is sent to the Summerhouse WRF via force main interconnection.

(2) This facility is aboard Marine Corps Base Camp LeJeune.