



ONWASA Wastewater Facilities Annual Report for 2017

The Onslow Water and Sewer Authority (ONWASA) is required by the North Carolina Clean Water act of 1999 to produce this annual report on the performance of each Publicly Operated Treatment Works (POTW) and Collection System operated and maintained by ONWASA. This report is available for public review via Internet, the ONWASA Office and Member Governments.

ONWASA is pleased to present to you the 2017 Wastewater Facilities Annual Report. This report is a summary of last year's wastewater facilities performance. Included are descriptions of each facilities monthly activity. Our constant goal through wastewater treatment is to protect public health and safety by minimizing the risk of further contamination to surface and ground waters, to protect the quality of surface and ground waters so they will continue to be available as a drinking water source for future generations, and to prevent and abate public health hazards. We want you to understand the effort we make to continually improve the wastewater treatment process and protect our water resources. We are committed to providing you with this information, because informed customers provide support in our continuing efforts.

In 2017, ONWASA managed 6 treatment facilities and 7 collection systems. The facilities were as follows: Northwest Regional Reclamation Facility, Holly Ridge Wastewater Treatment Plant, Swansboro Wastewater Treatment Plant, Summerhouse Wastewater Treatment Plant, Hickory Grove WWTP, and Kenwood WWTP. Springdale and Piney Green are only collection systems operated by ONWASA. This report provides a description and snap shot of the monthly activities of each plant and the collection system operated by ONWASA.

Should you have any questions regarding this report you may contact us at:

ONWASA
228 Georgetown Rd.
Jacksonville, NC 28540
(910) 455-0722

ONWASA Wastewater Facilities Annual Report for 2017

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Swansboro: Summary

Swansboro Wastewater Treatment Facility is located at 199 Williams Street and currently has two employees. The plant is designed to treat 0.6 Million Gallons per Day (MGD) and is rated a Grade 3 facility. The average daily flow received at the plant in 2017 was 0.356 MGD, which is approximately 59% of the design flow at the wastewater plant. The facility treated a total of 130,000,321 gallons during the year, and average of 10,833,360 gallons per month.

General Information

Facility Name: Swansboro Wastewater Treatment Plant

Facility Type/ Operation: Activated Sludge Extended Air

Responsible Entity: ONWASA

Facility Address: 199 Williams Road Swansboro, NC 28584

Facility Phone: (910) 326-4819

Operator in Responsible Charge (ORC): Mike Lutz

ORC Type / Grade License: WW3

Applicable Facility Permit Numbers: WQ0023261

Description of Facility: The Wastewater Facility is located in Swansboro on Williams Road where it was constructed in 1979. A Plant upgrade was completed in July of 2007 and the capacity was increased to .6 MGD. The current plant is equipped with (1) aerated equalization basin, Automatic bar screen and grit removal system, (2) Oxidation ditches, (3) secondary clarifiers, (1) aerobic digester, (1) fine bubble sludge holding tank, (1) return sludge pump station, (1) sludge transfer station, (3) Motor control centers, (2) tertiary filters, (1) triple bank UV light system, (1) effluent pump station, (1) upset pond, and (4) low rate infiltration basins.

Swansboro Collection System

Collection System Name: Town of Swansboro Wastewater Collection System

Collection System Grade/ Type Operation: Grade 2/ Domestic

Responsible Entity: Onslow Water and Sewer Authority (ONWASA)

Facility Address: Town of Swansboro located in the eastern part of Onslow County

Contact Phone: 910-937-7560

Operator in Responsible Charge (ORC): Shawn E. Nason

ORC Type / Grade License: CS Grade 4 License # 990238

Applicable Collection System Permit Numbers: WQCS00249

**2017
Swansboro WWTP
Annual WW Report**

Jan.	
12,182,561	TOTAL GALLONS TREATED
0.393	AVERAGE FLOW (MGD)
0.497	MAX DAY (MGD)
YES	WWTP IN COMPLIANCE (Explanation)
4.85	TOTAL INCHES RAIN FALL
12,182,561	GALLONS APPLIED TO PONDS
0.393	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
0	ACRES MOWED

Feb.	
9,409,976	TOTAL GALLONS TREATED
0.336	AVERAGE FLOW (MGD)
0.508	MAX DAY (MGD)
YES	WWTP IN COMPLIANCE
1.95	TOTAL INCHES RAIN FALL
9,409,976	GALLONS APPLIED TO PONDS
0.336	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
0	COLLECTION SYSTEM OVERFLOWS?
0	ACRES MOWED

Mar.	
12,359,878	TOTAL GALLONS TREATED
0.399	AVERAGE FLOW (MGD)
0.514	MAX DAY (MGD)
YES	WWTP IN COMPLIANCE (Explanation)
5.07	TOTAL INCHES RAIN FALL
12,359,878	GALLONS APPLIED TO PONDS
0.399	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
0	ACRES MOWED

Apr.	
13,054,531	TOTAL GALLONS TREATED
0.435	AVERAGE FLOW (MGD)
0.584	MAX DAY (MGD)
YES	WWTP IN COMPLIANCE (Explanation)
5.88	TOTAL INCHES RAIN FALL
13,054,531	GALLONS APPLIED TO PONDS
0.435	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
27.5	ACRES MOWED

May	
12,058,795	TOTAL GALLONS TREATED
0.389	AVERAGE FLOW (MGD)
0.557	MAX DAY (MGD)
YES	WWTP IN COMPLIANCE
5.08	TOTAL INCHES RAIN FALL
12,058,795	GALLONS APPLIED TO PONDS
0.389	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
79	ACRES MOWED

Jun.	
10,856,703	TOTAL GALLONS TREATED
0.362	AVERAGE FLOW (MGD)
0.471	MAX DAY (MGD)
NO	WWTP IN COMPLIANCE
5.78	TOTAL INCHES RAIN FALL
10,856,703	GALLONS APPLIED TO PONDS
0.362	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
64	ACRES MOWED

On 6/21/17 the daily limit for Fecal coliform was exceeded, 49.5. Daily limit is 25.

Jul.			
11,922,888	TOTAL GALLONS TREATED		
0.385	AVERAGE FLOW (MGD)		
0.483	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE		
5.4	TOTAL INCHES RAIN FALL		
11,922,888	GALLONS APPLIED TO PONDS		
0.385	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
8	ACRES MOWED		

Aug.			
10,549,940	TOTAL GALLONS TREATED		
0.340	AVERAGE FLOW (MGD)		
0.473	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE		
8.12	TOTAL INCHES RAIN FALL		
10,549,940	GALLONS APPLIED TO PONDS		
0.340	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
26	ACRES MOWED		

Sep.			
10,548,086	TOTAL GALLONS TREATED		
0.352	AVERAGE FLOW (MGD)		
0.461	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE		
3.64	TOTAL INCHES RAIN FALL		
10,548,086	GALLONS APPLIED TO PONDS		
0.352	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
20	ACRES MOWED		

Oct.			
9,667,326	TOTAL GALLONS TREATED		
0.312	AVERAGE FLOW (MGD)		
0.607	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE	Exceeded application rate for all four basins on Oct. 29th. This was due to excessive rain. The plant received 2.86 inches of rain in six hours.	
7.04	TOTAL INCHES RAIN FALL		
9,667,326	GALLONS APPLIED TO PONDS		
0.312	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
23	ACRES MOWED		

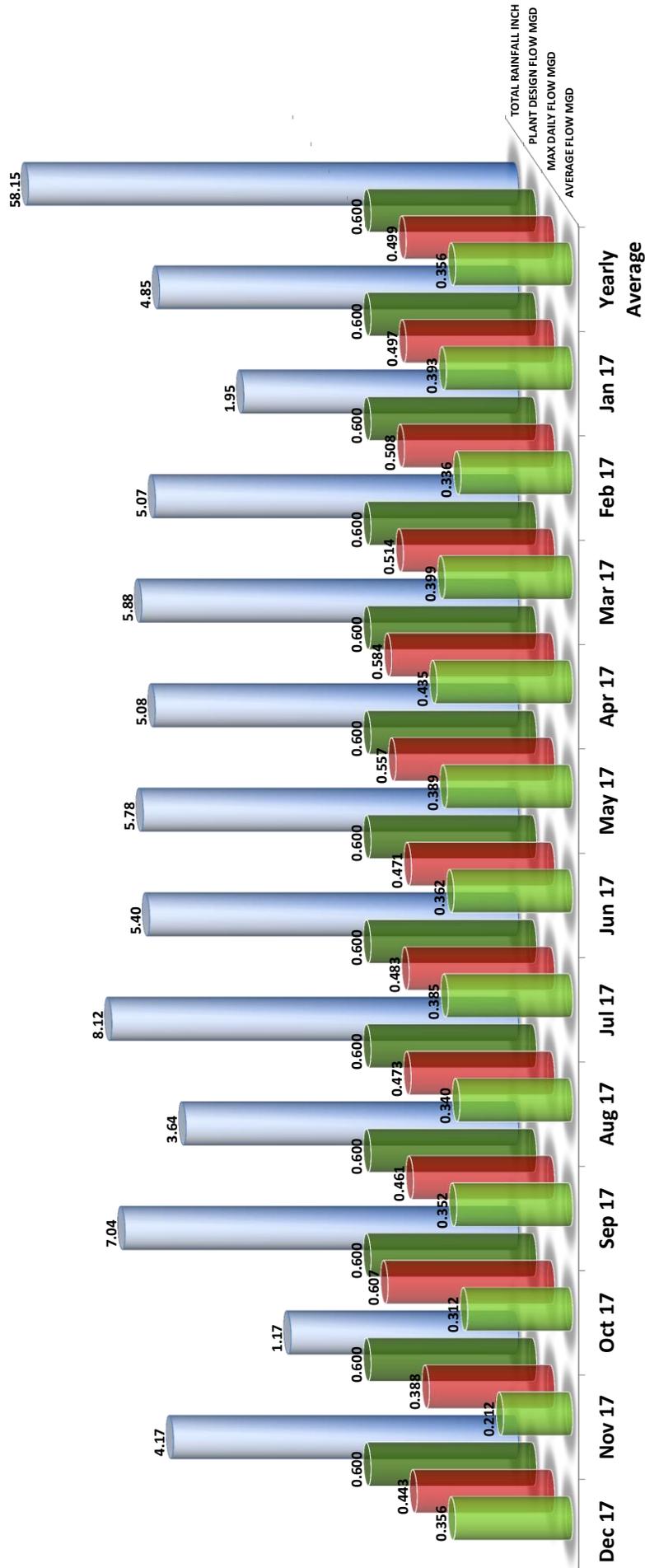
Nov.			
6,361,713	TOTAL GALLONS TREATED		
0.212	AVERAGE FLOW (MGD)		
0.388	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE	Exceeded daily limit for TSS on the 27th. Exceeded daily limit for BOD and TSS on the 30th. The monthly limit for TSS was also exceeded.	
1.17	TOTAL INCHES RAIN FALL		
6,361,713	GALLONS APPLIED TO PONDS		
0.212	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
0	ACRES MOWED		

Dec.			
11,027,924	TOTAL GALLONS TREATED		
0.356	AVERAGE FLOW (MGD)		
0.443	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE (Explanation)	Exceed effluent limits on TSS, still waiting on other lab results.	
4.17	TOTAL INCHES RAIN FALL		
11,027,924	GALLONS APPLIED TO PONDS		
0.356	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
0	ACRES MOWED		

130,000,321	Total Treated		
130,000,321	Total Spray	0	Total Footage Pipe Cleaned
0.356	Average Flow MG/day treated	0	Total Footage Pipe Videoed
0.356	Average Flow MG/day to the ponds	59.31%	Percentage of Design Flow
58.15	Total Inches Rainfall	0.600	Plant Design Flow
0.499	MAX Daily Flow		

Swansboro WWTP

■ AVERAGE FLOW MGD
 ■ MAX DAILY FLOW MGD
 ■ PLANT DESIGN FLOW MGD
 ■ TOTAL RAINFALL INCH



TOTAL RAINFALL INCH
 PLANT DESIGN FLOW MGD
 MAX DAILY FLOW MGD
 AVERAGE FLOW MGD

Holly Ridge: Summary

Holly Ridge Wastewater Treatment Plant (WWTP) is located at 286 N. Jenkins Street and is currently staffed by three plant operators. The plant has a design capacity of 0.261 million gallons per day (MGD). The average flow at the plant in 2017 was .163 MGD, which is 62.60% of the permitted design flow of the wastewater plant. The facility treated a total of 59,743,300 gallons during the past year; an average of 4,978,608 gallons per month.

General Information

Facility Name: Holly Ridge WWTP and Wastewater Surface Irrigation

Facility Type/ Operation: Grade 2 WWTP and Surface Irrigation Facility

Responsible Entity: ONWASA

Facility Address: 286 N. Jenkins St. Holly Ridge, N.C. 28445 (WWTP) 220

Dolph Everett Rd. Holly Ridge, N.C. 28445 (Surface Irrigation Facility)

Contact Phone: (910) 545-6877

Operator in Responsible Charge (ORC): Mark C. Young

ORC Type / Grade License: WW4, SI, CS2, SS

Applicable Facility Permit Numbers: WQ0019907

Description of Facility: The Holly Ridge WWTP is a 260,626 GPD Wastewater treatment facility consisting of headworks with manual bar screen and grit chamber, influent flow measurement with ultrasonic flow meter; a 1.82 (MG) treatment lagoon with three (3) aeration cells (cells 1&2 each have 2-25 HP aerators with anti-erosion baffles, cell 3 has 2-25 HP mixers with anti-erosion baffles), a 0.49 MG settling cell; an ultraviolet (UV) disinfection system; a 22,400 gallon aerobic sludge digester with a 2 HP aerator and 3 HP discharge pump; an effluent pump station with duplex 450 GPM pumps; and 17,900 ft. of 8 in. force main to Surface Irrigation Facility. The Surface Irrigation is a 240,179 GPD facility consisting of a 13.30 MG storage lagoon (51 days storage); ten(10) spray fields consisting of 93.42 wetted acres (789 total spray heads); and an irrigation pump station with dual 700 GPM pumps and an effluent flow meter. The Holly Ridge WWTP and Surface Irrigation Facility is a Non-Discharge facility.

Holly Ridge Collection System

Collection System Name: Town of Holly Ridge Wastewater Collection System

Collection System Grade/ Type Operation: Grade 1/ Domestic

Responsible Entity: Onslow Water and Sewer Authority (ONWASA)

Facility Address Town of Holly Ridge located in the southeast part of Onslow County

Contact Phone: (910) 937-7560

Operator in Responsible Charge (ORC): Shawn E. Nason

ORC Type / Grade License: CS Grade 4 License #990238

Applicable Collection System Permit Numbers: WQCS00249

2017
Holly Ridge
Annual WW Report

Jan.

7,623,990 TOTAL GALLONS TREATED
 0.246 AVERAGE FLOW (MGD)
 0.353 MAX DAY (MGD)
 YES **WWTP IN COMPLIANCE**
 3.44 TOTAL INCHES RAIN FALL
 5,358,730 GALLONS SPRAYED
 0.173 AVERAGE FLOW (PERMIT FLOW 0.24 MGD)
 NO OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 NO COLLECTION SYSTEM OVERFLOWS?
 0 ACRES MOWED

Feb.

6,957,000 TOTAL GALLONS TREATED
 0.240 AVERAGE FLOW (MGD)
 0.382 MAX DAY (MGD)
 YES **WWTP IN COMPLIANCE (Explanation)**
 3.1 TOTAL INCHES RAIN FALL
 4,404,280 GALLONS SPRAYED
 0.152 AVERAGE FLOW (PERMIT FLOW 0.24 MGD)
 No OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 0 COLLECTION SYSTEM OVERFLOWS?
 0 ACRES MOWED

Mar.

7,315,600 TOTAL GALLONS TREATED
 0.236 AVERAGE FLOW (MGD)
 0.290 MAX DAY (MGD)
 YES **WWTP IN COMPLIANCE**
 3.76 TOTAL INCHES RAIN FALL
 5,825,305 GALLONS SPRAYED
 0.188 AVERAGE FLOW (PERMIT FLOW 0.24 MGD)
 No OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 0 COLLECTION SYSTEM OVERFLOWS?
 7 ACRES MOWED

Apr.

6,411,530 TOTAL GALLONS TREATED
 0.214 AVERAGE FLOW (MGD)
 0.256 MAX DAY (MGD)
 YES **WWTP IN COMPLIANCE (Explanation)**
 7.62 TOTAL INCHES RAIN FALL
 4,182,195 GALLONS SPRAYED
 0.139 AVERAGE FLOW (PERMIT FLOW 0.24 MGD)
 NO OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 0 COLLECTION SYSTEM OVERFLOWS?
 90.27 ACRES MOWED

Summer House plant was brought on-line.

May

5,408,690 TOTAL GALLONS TREATED
 0.174 AVERAGE FLOW (MGD)
 0.243 MAX DAY (MGD)
 YES **WWTP IN COMPLIANCE (Explanation)**
 6.98 TOTAL INCHES RAIN FALL
 3,582,420 GALLONS SPRAYED
 0.116 AVERAGE FLOW (PERMIT FLOW 0.24 MGD)
 NO OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 NO COLLECTION SYSTEM OVERFLOWS?
 82.5 ACRES MOWED

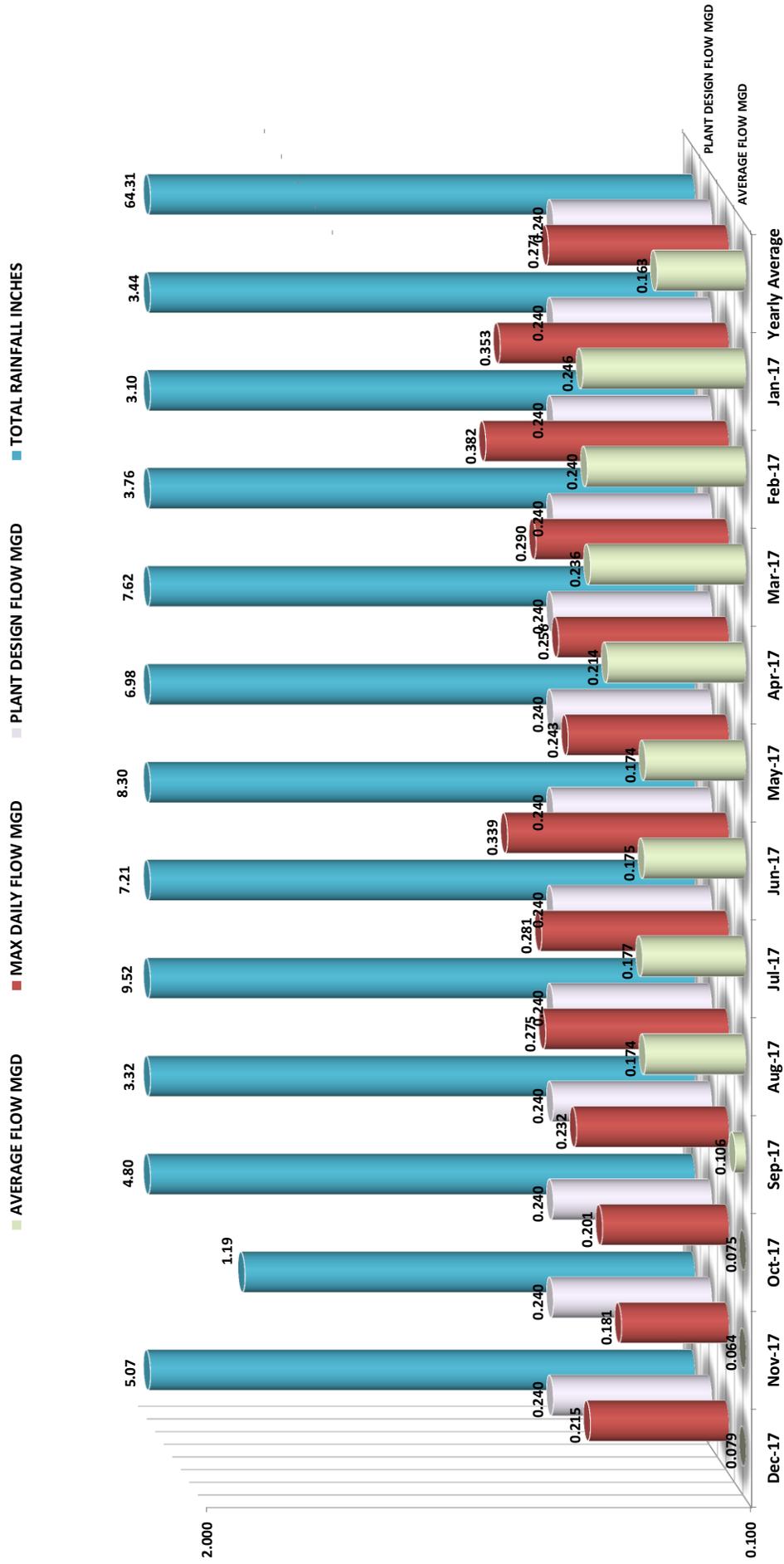
Flow is partially split between Holly Ridge and Summerhouse WRF

Jun.

5,260,860 TOTAL GALLONS TREATED
 0.175 AVERAGE FLOW (MGD)
 0.339 MAX DAY (MGD)
 YES **WWTP IN COMPLIANCE**
 8.3 TOTAL INCHES RAIN FALL
 3,769,850 GALLONS SPRAYED
 0.126 AVERAGE FLOW (PERMIT FLOW 0.24 MGD)
 NO OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 NO COLLECTION SYSTEM OVERFLOWS?
 120.4 ACRES MOWED

Jul.			
5,493,810	TOTAL GALLONS TREATED		
0.177	AVERAGE FLOW (MGD)		
0.281	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE		
7.21	TOTAL INCHES RAIN FALL		
3,394,255	GALLONS SPRAYED		
0.109	AVERAGE FLOW (PERMIT FLOW 0.24 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
112	ACRES MOWED		
Aug.			
5,399,240	TOTAL GALLONS TREATED		
0.174	AVERAGE FLOW (MGD)		
0.275	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE (Explanation)		
9.52	TOTAL INCHES RAIN FALL		
5,157,600	GALLONS SPRAYED		
0.166	AVERAGE FLOW (PERMIT FLOW 0.24 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
10	ACRES MOWED		
Sep.			
3,167,630	TOTAL GALLONS TREATED		
0.106	AVERAGE FLOW (MGD)		
0.232	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE (Explanation)		
3.32	TOTAL INCHES RAIN FALL		
3,614,220	GALLONS SPRAYED		
0.120	AVERAGE FLOW (PERMIT FLOW 0.24 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
12	ACRES MOWED		
Oct.			
2,335,040	TOTAL GALLONS TREATED		
0.075	AVERAGE FLOW (MGD)		
0.201	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE (Explanation)		
4.8	TOTAL INCHES RAIN FALL		
3,618,820	GALLONS SPRAYED		
0.117	AVERAGE FLOW (PERMIT FLOW 0.24 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
57	ACRES MOWED		
Nov.			
1,908,810	TOTAL GALLONS TREATED		
0.064	AVERAGE FLOW (MGD)		
0.181	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE		
1.19	TOTAL INCHES RAIN FALL		
1,932,105	GALLONS SPRAYED		
0.064	AVERAGE FLOW (PERMIT FLOW 0.24 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
0	ACRES MOWED		
Dec.			
2,461,100	TOTAL GALLONS TREATED		
0.079	AVERAGE FLOW (MGD)		
0.215	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE		
5.07	TOTAL INCHES RAIN FALL		
874,905	GALLONS SPRAYED		
0.028	AVERAGE FLOW (PERMIT FLOW 0.24 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
0	ACRES MOWED		
59,743,300	Total Treated		
45,714,685	Total Spray	0.00	Total Footage Pipe Cleaned
0.163	Average Flow MG/day treated	0	Total Footage Pipe Videoed
0.125	Average Flow MG/day sprayed	62.60%	Percentage of design flow
64.31	Total Inches Rainfall	0.240	Plant Design Flow
0.271	MAX Daily Flow (MGD)		

Holly Ridge WWTP



Northwest Regional Reclamation Facility: Summary

Northwest Regional Reclamation Facility SBR (WWTP) is located at 189 Mills Field Road and is currently staffed by three plant operators. The plant has a design capacity of 1.273 million gallons per day (MGD). The average flow at the plant in 2017 was 0.318 MGD, which is 24.9 % of the permitted design flow of the wastewater plant. The facility treated a total of 115,948,178 gallons during the past year an average of 9,662,348 gallons per month.

General Information

Facility Name: Northwest Regional Reclamation Facility
 Type/ Operation: Grade 4 SBR WWTP and High-rate Infiltration Facility
 Responsible Entity: ONWASA
 Facility Address: 189 Mills Field Road Richlands, N.C. 28574
 Facility Phone: (910) 937-7572
 Operator in Responsible Charge (ORC): Mark C. Young
 ORC Type / Grade License: WW4, SI, CS2, SS
 Applicable Facility Permit Numbers: WQ0034367

Description of Facility: The Northwest Regional Reclamation Facility design flow is 1,272,973 (GPD) wastewater treatment, high infiltration and reclaimed water bulk distribution system. The plant has: plant drain station, influent flow meter, 2 fine screen/grit removal systems, flow splitter box, 2 sequencing batch reactors, 2 sludge digesters, post EQ basin, 2 tertiary disc filter units, membrane feed tank, membrane skids for blowers, UV disinfection system, 3 chemical bulk tanks and 4 high –rate infiltration basins,

Richlands Collection System

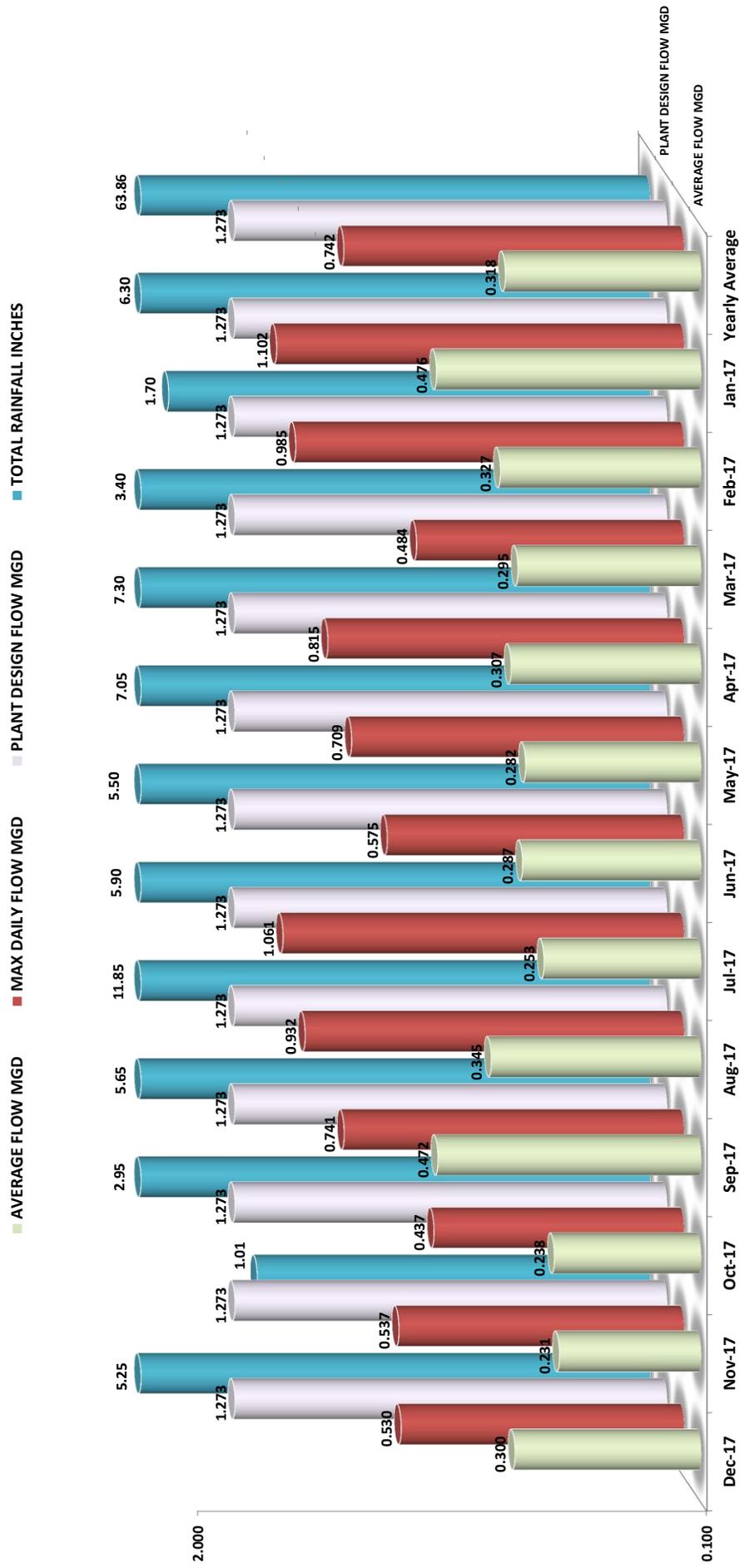
Collection System Name: Richlands Wastewater Collection System
 Collection System Grade/ Type Operation: Grade 2/ Domestic
 Responsible Entity: Onslow Water and Sewer Authority (ONWASA)
 Facility Address: Town of Richlands located in the northwest part of Onslow County
 Contact Phone: (910) 937-7560
 Operator in Responsible Charge (ORC): Shawn E. Nason
 ORC Type / Grade License: CS Grade 4 License #990238
 Applicable Collection System Permit Numbers: WQCS00249

**2017
Northwest WRF
Annual WW Report**

Jan.		
14,769,324	TOTAL GALLONS TREATED	
0.476	AVERAGE FLOW (MGD)	
1.102	MAX DAY (MGD)	
NO	WWTP IN COMPLIANCE (Explanation)	The plant exceeded daily BOD and Fecal limits and Monthly average for TSS.
6.3	TOTAL INCHES RAIN FALL	
14,769,324	GALLONS APPLIED TO PONDS	
0.476	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)	
No	OVERFLOW AT FACILITY?	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
	COLLECTION SYSTEM OVERFLOWS?	
N/A	ACRES MOWED	
Feb.		
9,166,693	TOTAL GALLONS TREATED	
0.327	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)	
0.985	MAX DAY (MGD)	
NO	WWTP IN COMPLIANCE	The plant had a daily TSS limit exceedance due to a malfunction in the Disk Filters. Nitrogen and Nitrates ran high for the month.
1.7	TOTAL INCHES RAIN FALL	
9,166,693	GALLONS APPLIED TO PONDS	
0.327	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)	
No	OVERFLOW AT FACILITY?	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
	COLLECTION SYSTEM OVERFLOWS?	
0	ACRES MOWED	
Mar.		
9,154,743	TOTAL GALLONS TREATED	
0.295	AVERAGE FLOW (MGD)	
0.484	MAX DAY (MGD)	
NO	WWTP IN COMPLIANCE (Explanation)	The plant had violations for TSS and Fecal. Leachate has stopped coming to the plant and new equipment has been ordered to begin plant repairs.
3.4	TOTAL INCHES RAIN FALL	
9,154,743	GALLONS APPLIED TO PONDS	
0.295	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)	
No	OVERFLOW AT FACILITY?	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
	COLLECTION SYSTEM OVERFLOWS?	
45	ACRES MOWED	
Apr.		
9,220,885	TOTAL GALLONS TREATED	
0.307	AVERAGE FLOW (MGD)	
0.815	MAX DAY (MGD)	
NO	WWTP IN COMPLIANCE (Explanation)	The plant had violations for BOD and TSS. Plant staff has begun the process of cleaning the plant from leachate residual and replacing equipment damaged by leachate.
7.3	TOTAL INCHES RAIN FALL	
9,220,885	GALLONS APPLIED TO PONDS	
0.307	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)	
No	OVERFLOW AT FACILITY?	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
	COLLECTION SYSTEM OVERFLOWS?	
40	ACRES MOWED	
May		
8,753,449	TOTAL GALLONS TREATED	
0.282	AVERAGE FLOW (MGD)	
0.709	MAX DAY (MGD)	
No	WWTP IN COMPLIANCE	The plant had violations for BOD, TSS and Fecal this month. We continue to perform cleaning measures and replace equipment damaged by leachate.
7.05	TOTAL INCHES RAIN FALL	
8,753,449	GALLONS APPLIED TO PONDS	
0.282	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)	
No	OVERFLOW AT FACILITY?	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
	COLLECTION SYSTEM OVERFLOWS?	
50	ACRES MOWED	
Jun.		
8,615,717	TOTAL GALLONS TREATED	
0.287	AVERAGE FLOW (MGD)	
0.575	MAX DAY (MGD)	
NO	WWTP IN COMPLIANCE	The plant had one violation for a daily fecal coliform limit exceedance.
5.5	TOTAL INCHES RAIN FALL	
8,615,717	GALLONS APPLIED TO PONDS	
0.287	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)	
No	OVERFLOW AT FACILITY?	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
	COLLECTION SYSTEM OVERFLOWS?	
120	ACRES MOWED	

Jul.				
7,833,321	TOTAL GALLONS TREATED			
0.253	AVERAGE FLOW (MGD)			
1.061	MAX DAY (MGD)			
NO	WWTP IN COMPLIANCE			The plant had violation for Fecal, TSS, and Phosphorus this month. The plant was changed to 1 SBR operation due to low flows. We continue to work with WK Dickson on adjusting the plant. 102 New membranes were installed.
5.9	TOTAL INCHES RAIN FALL			
7,833,321	GALLONS APPLIED TO PONDS			
0.253	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)			
NO	OVERFLOW AT FACILITY?			
0	COLLECTION SYSTEM PIPE CLEANED			
0	COLLECTION SYSTEM PIPE VIDEOED			
	COLLECTION SYSTEM OVERFLOWS?			
140	ACRES MOWED			
Aug.				
10,682,303	TOTAL GALLONS TREATED			
0.345	AVERAGE FLOW (MGD)			
0.932	MAX DAY (MGD)			
NO	WWTP IN COMPLIANCE			The plant exceeded limits for TSS, Fecal, BOD, and Phos. Several changes were made to the plant operations per Evoqua and WK Dickson recommendations. Water Quality was poor in the beginning of the month and no dscharge occurred until it improved.
11.85	TOTAL INCHES RAIN FALL			
10,682,303	GALLONS APPLIED TO PONDS			
0.345	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)			
No	OVERFLOW AT FACILITY?			
0	COLLECTION SYSTEM PIPE CLEANED			
0	COLLECTION SYSTEM PIPE VIDEOED			
	COLLECTION SYSTEM OVERFLOWS?			
140	ACRES MOWED			
Sep.				
14,145,786	TOTAL GALLONS TREATED			
0.472	AVERAGE FLOW (MGD)			
0.741	MAX DAY (MGD)			
NO	WWTP IN COMPLIANCE			The plant continues to improve from the removal of Leachate. There were 3 daily violations for Fecal this month. All Monthly limits were in compliance.
5.65	TOTAL INCHES RAIN FALL			
14,145,786	GALLONS APPLIED TO PONDS			
0.472	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)			
No	OVERFLOW AT FACILITY?			
0	COLLECTION SYSTEM PIPE CLEANED			
0	COLLECTION SYSTEM PIPE VIDEOED			
	COLLECTION SYSTEM OVERFLOWS?			
160	ACRES MOWED			
Oct.				
7,381,482	TOTAL GALLONS TREATED			
0.238	AVERAGE FLOW (MGD)			
0.437	MAX DAY (MGD)			
NO	WWTP IN COMPLIANCE			There was 1 daily violations for Fecal this month. All Monthly limits were in compliance.
2.95	TOTAL INCHES RAIN FALL			
7,381,482	GALLONS APPLIED TO PONDS			
0.238	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)			
No	OVERFLOW AT FACILITY?			
0	COLLECTION SYSTEM PIPE CLEANED			
0	COLLECTION SYSTEM PIPE VIDEOED			
	COLLECTION SYSTEM OVERFLOWS?			
200	ACRES MOWED			
Nov.				
6,920,318	TOTAL GALLONS TREATED			
0.231	AVERAGE FLOW (MGD)			
0.537	MAX DAY (MGD)			
NO	WWTP IN COMPLIANCE			The plant had exceedances for 2 BOD and 1 effluent results.
1.01	TOTAL INCHES RAIN FALL			
6,920,318	GALLONS APPLIED TO PONDS			
0.231	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)			
No	OVERFLOW AT FACILITY?			
0	COLLECTION SYSTEM PIPE CLEANED			
0	COLLECTION SYSTEM PIPE VIDEOED			
	COLLECTION SYSTEM OVERFLOWS?			
0	ACRES MOWED			
Dec.				
9,304,157	TOTAL GALLONS TREATED			
0.300	AVERAGE FLOW (MGD)			
0.530	MAX DAY (MGD)			
YES	WWTP IN COMPLIANCE			
5.25	TOTAL INCHES RAIN FALL			
9,304,157	GALLONS APPLIED TO PONDS			
0.300	AVERAGE FLOW (PERMIT FLOW 1.27 MGD)			
No	OVERFLOW AT FACILITY?			
0	COLLECTION SYSTEM PIPE CLEANED			
0	COLLECTION SYSTEM PIPE VIDEOED			
	COLLECTION SYSTEM OVERFLOWS?			
0	ACRES MOWED			
115,948,178	Total Treated			
115,948,178	Total Infiltrated	0		Total Footage Pipe Cleaned
0.318	Average Flow MG/day treated	0		Total Footage Pipe Videoed
0.318	Average Flow MG/day sprayed	24.97%		Percentage of Design Flow
63.86	Total Inches Rainfall	1.273		Plant Design Flow (MGD)
0.742	MAX Daily Flow (MGD)			

Northwest Regional Water Reclamation Facility



Summerhouse: Summary

Summerhouse Wastewater Treatment Plant (WWRF) is located at 351 Holly Ridge Rd in Holly Ridge and is currently staffed by three plant operators. The plant has a design capacity of 400,000 gallons per day (MGD). The average flow at the plant in 2017 was 0.097 MGD, which is 27.97 % of the permitted design flow of the wastewater plant. The facility treated a total of 25,895,995 gallons during the past year; an average of 2,158,000 gallons per month.

General Information

Facility Name: Summerhouse Wastewater Reclamation Facility

Facility Type / Operation: Grade 3 MBR WWRF with High-Rate Infiltration Basins

Responsible Entity: ONWASA

Facility Address: 351 Holly Ridge Rd. Holly Ridge, NC 28445

Contact Phone: (910) 937-7575

Operator in Responsible Charge (ORC): Mike Lutz

ORC Type / Grade License: WW4 #1005688, SI #1004666

Applicable Facility Permit Numbers: WQ0029945

Description of Facility: The Summerhouse WWRF is a 400,000 GPD Non-Discharge facility that utilizes two high rate infiltration basins. The headworks consist of two automated bar screens, and cyclone style grit removal system. Post headworks is an 184,373 gallon aerated equalization basin (EQ). The EQ feeds four MBR trains rated at 100,000 gallons per day each. Currently only two of these trains are operational. The effluent from these trains is disinfected using UV, and a sodium hypochlorite back-up system. Treated effluent is then sent to the infiltration basins located in the Summerhouse housing development. If for some reason disinfection is not operational, or some other factor that affects compliance, the effluent is sent to a lined, 2.4 million gallon upset basin. The contents of the upset basin are sent back through plant for retreatment when conditions allow. Waste sludge from the trains is sent to two 129,400 gallon aerated for further digestion, and eventual land application as a Class B sludge. There is an on-site generator capable of fully powering the plant during power outages automatically.

Holly Ridge Collection System

Collection System Name: Summerhouse Wastewater Collection System

Collection System Grade/ Type Operation: Grade 1/ Domestic Responsible

Entity: Onslow Water and Sewer Authority (ONWASA)

Facility Address: Stump Sound area of Onslow County Summerhouse Subdivision

Contact Phone: (910) 937-7560

Operator in Responsible Charge (ORC): Shawn E. Nason

ORC Type / Grade License: CS Grade 4 License #990238

Applicable Collection System Permit Numbers: WQCS00249

**2017
Summerhouse WWRP
Annual WW Report**

Jan.

TOTAL GALLONS TREATED
 AVERAGE FLOW (MGD)
 MAX DAY (MGD)
WWTP IN COMPLIANCE (Explanation)
 TOTAL INCHES RAIN FALL
 GALLONS APPLIED TO PONDS
 AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
 OVERFLOW AT FACILITY?
 NO
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 NO COLLECTION SYSTEM OVERFLOWS?
 0 ACRES MOWED

Feb.

TOTAL GALLONS TREATED
 AVERAGE FLOW (MGD)
 MAX DAY (MGD)
WWTP IN COMPLIANCE
 TOTAL INCHES RAIN FALL
 GALLONS APPLIED TO PONDS
 AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
 OVERFLOW AT FACILITY?
 NO
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 COLLECTION SYSTEM OVERFLOWS?
 0 ACRES MOWED

Mar.

TOTAL GALLONS TREATED
 AVERAGE FLOW (MGD)
 MAX DAY (MGD)
WWTP IN COMPLIANCE (Explanation)
 TOTAL INCHES RAIN FALL
 GALLONS APPLIED TO PONDS
 AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
 OVERFLOW AT FACILITY?
 NO
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 COLLECTION SYSTEM OVERFLOWS?
 0 ACRES MOWED

Apr.

Plant now in FULL operation
 1,349,307 TOTAL GALLONS TREATED
 0.067 AVERAGE FLOW (MGD)
 0.082 MAX DAY (MGD)
 NO **WWTP IN COMPLIANCE (Explanation)**
 4.95 TOTAL INCHES RAIN FALL
 1,349,307 GALLONS APPLIED TO PONDS
 0.067 AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
 NO OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 NO COLLECTION SYSTEM OVERFLOWS?
 5 ACRES MOWED

Multiple excursions on total nitrogen, and phosphate. This is due to just starting the plant and establishing the biomass.

May

2,077,991 TOTAL GALLONS TREATED
 0.067 AVERAGE FLOW (MGD)
 0.080 MAX DAY (MGD)
 NO **WWTP IN COMPLIANCE**
 5.67 TOTAL INCHES RAIN FALL
 2,077,991 GALLONS APPLIED TO PONDS
 0.067 AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
 NO OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 NO COLLECTION SYSTEM OVERFLOWS?
 6 ACRES MOWED

Exceeded monthly average limit on total nitrogen.

Jun.

2,774,871 TOTAL GALLONS TREATED
 0.092 AVERAGE FLOW (MGD)
 0.099 MAX DAY (MGD)
 YES **WWTP IN COMPLIANCE**
 6.9 TOTAL INCHES RAIN FALL
 2,774,871 GALLONS APPLIED TO PONDS
 0.092 AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
 NO OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 NO COLLECTION SYSTEM OVERFLOWS?
 3 ACRES MOWED

Jul.	
2,824,122	TOTAL GALLONS TREATED
0.091	AVERAGE FLOW (MGD)
0.113	MAX DAY (MGD)
NO	WWTP IN COMPLIANCE
7.2	TOTAL INCHES RAIN FALL
2,824,122	GALLONS APPLIED TO PONDS
0.091	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
15	ACRES MOWED

On the 25th and 26th the application rate for basin 2 was exceeded. This was due to the filtrate pumps overrunning their setpoint. Set points where reduced on the 26th to compensate.

Aug.	
2,776,926	TOTAL GALLONS TREATED
0.090	AVERAGE FLOW (MGD)
0.108	MAX DAY (MGD)
NO	WWTP IN COMPLIANCE
8.29	TOTAL INCHES RAIN FALL
2,776,926	GALLONS APPLIED TO PONDS
0.090	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
0	ACRES MOWED

Daily effluent fecal limit was exceeded on the 28th.

Sep.	
3,541,246	TOTAL GALLONS TREATED
0.118	AVERAGE FLOW (MGD)
0.132	MAX DAY (MGD)
NO	WWTP IN COMPLIANCE
2.13	TOTAL INCHES RAIN FALL
3,541,246	GALLONS APPLIED TO PONDS
0.118	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
5	ACRES MOWED

On 9/18/17 the daily maximum for ammonia was exceeded.

Oct.	
3,565,655	TOTAL GALLONS TREATED
0.115	AVERAGE FLOW (MGD)
0.131	MAX DAY (MGD)
YES	WWTP IN COMPLIANCE
3.73	TOTAL INCHES RAIN FALL
3,565,655	GALLONS APPLIED TO PONDS
0.115	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
5	ACRES MOWED

Nov.	
3,587,497	TOTAL GALLONS TREATED
0.120	AVERAGE FLOW (MGD)
0.130	MAX DAY (MGD)
YES	WWTP IN COMPLIANCE
1.27	TOTAL INCHES RAIN FALL
3,587,497	GALLONS APPLIED TO PONDS
0.120	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
0	ACRES MOWED

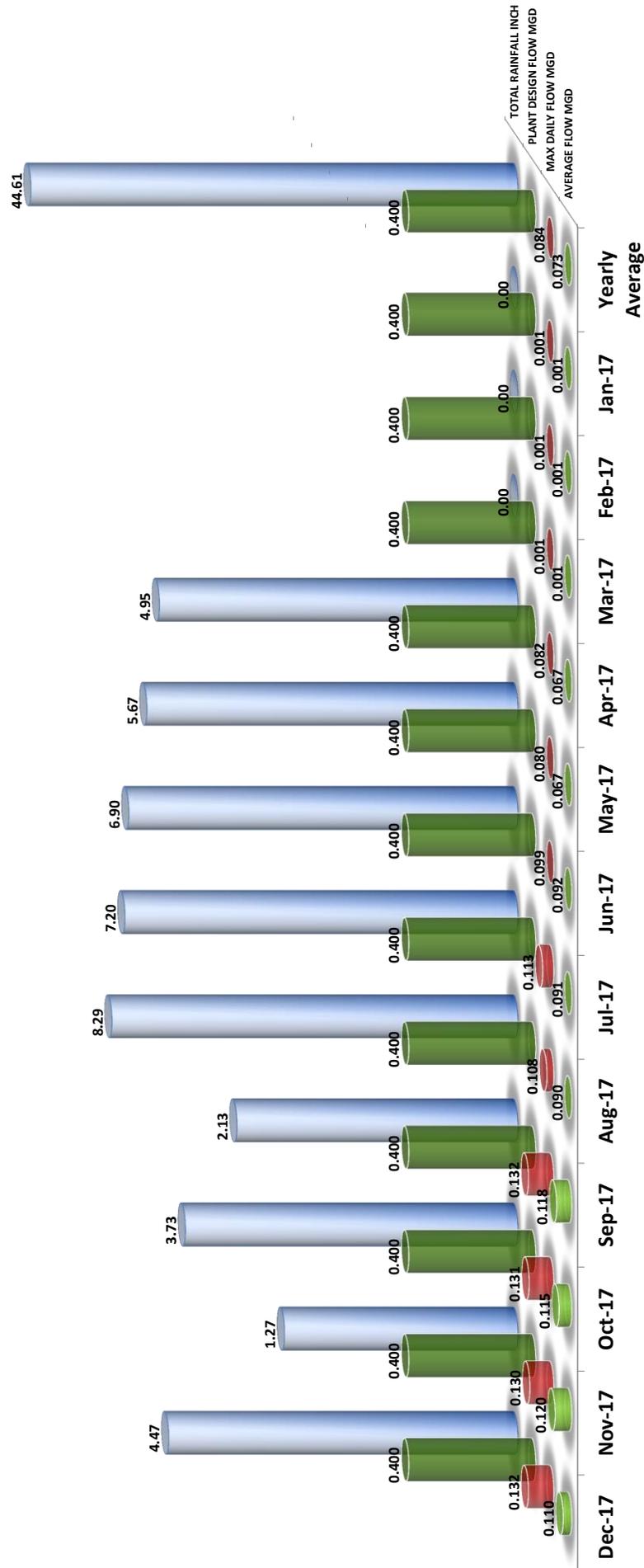
Dec.	
3,398,380	TOTAL GALLONS TREATED
0.110	AVERAGE FLOW (MGD)
0.132	MAX DAY (MGD)
NO	WWTP IN COMPLIANCE (Explanation)
4.47	TOTAL INCHES RAIN FALL
3,398,380	GALLONS APPLIED TO PONDS
0.110	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)
NO	OVERFLOW AT FACILITY?
0	COLLECTION SYSTEM PIPE CLEANED
0	COLLECTION SYSTEM PIPE VIDEOED
NO	COLLECTION SYSTEM OVERFLOWS?
0	ACRES MOWED

Exceeded application rate for basin 2

25,895,995	Total Treated (gallons)		
25,895,995	Total Sprayed (gallons)	0	Total Footage Pipe Cleaned
0.097	Average Flow MG/day treated	0	Total Footage Pipe Videoed
0.097	Average Flow MG/day to the ponds	27.97%	Percentage of design flow
44.61	Total Rainfall (inches)	0.400	Plant Design Flow
0.112	MAX Daily flow (GPD)		

Summerhouse WWTP

■ AVERAGE FLOW MGD
 ■ MAX DAILY FLOW MGD
 ■ PLANT DESIGN FLOW MGD
 ■ TOTAL RAINFALL INCH



Kenwood: Summary

Kenwood Wastewater Treatment Facility is located at 507 OCI Drive in Kenwood Subdivision off Blue Creek Road. The plant had one employee. The plant has a design capacity of 0.049 mgd. The average flow for 2016 was .029 MGD, which is 58 % of the design flow of the wastewater plant. The facility treated a total of 10,364,468 gallons during the year, which averages 863,706 gallons per month. This plant was taken off line in January of 2017 and replaced with a lift station.

Kenwood: General Information

Facility Name: Kenwood Wastewater Treatment Plant
Facility Type/ Operation: Activated Sludge Extend Air
Responsible Entity: ONWASA
Facility Address: 501 OCI Dr. Jacksonville, NC 28540
Facility Phone: (910) 455-0722
Operator in Responsible Charge (ORC): Allen Rhue
ORC Type / Grade License: WW4, CS2, SS, PC1
Applicable Facility Permit Numbers: NC 0030813

Description of Facility: Wastewater Facility is located in the southwest area of Onslow County where it was constructed in 1976. The current plant is a .049 gallons per day, Treatment Facility. The Treatment process consist of, bar screens, flow equalization basin, 2 clarifiers, 2 sand filters, clear well, effluent with gaseous chlorine and sodium bisulfite de-chlorination system.

Kenwood: Collection System

Collection System Name: Kenwood Subdivision
Collection System Grade/ Type Operation: Grade 1/ Domestic
Responsible Entity: Onslow Water and sewer Authority ONWASA
Facility Address: Southwest area of Onslow County
Contact Phone: (910)-937-7560
Operator in Responsible Charge (ORC): Shawn E. Nason
ORC Type / Grade License: CS Grade 4 License # 990238
Applicable Collection System Permit Numbers: WQCS00249

**2017
Kenwood
Annual WW Report**

Jan.

177,984 TOTAL GALLONS TREATED
 0.006 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
 0.072 MAX DAY (MGD)
 NO **WWTP IN COMPLIANCE (Explanation)**
 2.6 TOTAL INCHES RAIN FALL
 NO OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 NO COLLECTION SYSTEM OVERFLOWS?

Plant exceeded fecal limit on last day of service. The plant stopped receiving flow due to the new Kenwood Pump Station being put in service on Jan 4, 2017.

Feb.

TOTAL GALLONS TREATED
 0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
 MAX DAY (MGD)
 YES **WWTP IN COMPLIANCE**
 TOTAL INCHES RAIN FALL
 NO OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 COLLECTION SYSTEM OVERFLOWS?

The plant is out of service and decommissioning and cleaning of the facility was performed. Permit recension request should be going to the state soon.

Mar.

TOTAL GALLONS TREATED
 0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
 MAX DAY (MGD)
WWTP IN COMPLIANCE
 TOTAL INCHES RAIN FALL
 OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 COLLECTION SYSTEM OVERFLOWS?

Apr.

TOTAL GALLONS TREATED
 0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
 MAX DAY (MGD)
WWTP IN COMPLIANCE (Explanation)
 TOTAL INCHES RAIN FALL
 OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 COLLECTION SYSTEM OVERFLOWS?

May

TOTAL GALLONS TREATED
 0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
 MAX DAY (MGD)
WWTP IN COMPLIANCE
 TOTAL INCHES RAIN FALL
 OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 COLLECTION SYSTEM OVERFLOWS?

Jun.

TOTAL GALLONS TREATED
 0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
 MAX DAY (MGD)
WWTP IN COMPLIANCE
 TOTAL INCHES RAIN FALL
 OVERFLOW AT FACILITY?
 0 COLLECTION SYSTEM PIPE CLEANED
 0 COLLECTION SYSTEM PIPE VIDEOED
 COLLECTION SYSTEM OVERFLOWS?

Jul.

TOTAL GALLONS TREATED
0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
MAX DAY (MGD)

WWTP IN COMPLIANCE

TOTAL INCHES RAIN FALL

OVERFLOW AT FACILITY?

0 COLLECTION SYSTEM PIPE CLEANED

0 COLLECTION SYSTEM PIPE VIDEOED

COLLECTION SYSTEM OVERFLOWS?

Aug.

TOTAL GALLONS TREATED
0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
MAX DAY (MGD)

WWTP IN COMPLIANCE

TOTAL INCHES RAIN FALL

OVERFLOW AT FACILITY?

0 COLLECTION SYSTEM PIPE CLEANED

0 COLLECTION SYSTEM PIPE VIDEOED

COLLECTION SYSTEM OVERFLOWS?

Sep.

TOTAL GALLONS TREATED
0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
MAX DAY (MGD)

WWTP IN COMPLIANCE

TOTAL INCHES RAIN FALL

OVERFLOW AT FACILITY?

0 COLLECTION SYSTEM PIPE CLEANED

0 COLLECTION SYSTEM PIPE VIDEOED

COLLECTION SYSTEM OVERFLOWS?

Oct.

TOTAL GALLONS TREATED
0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
MAX DAY (MGD)

WWTP IN COMPLIANCE

TOTAL INCHES RAIN FALL

OVERFLOW AT FACILITY?

0 COLLECTION SYSTEM PIPE CLEANED

0 COLLECTION SYSTEM PIPE VIDEOED

COLLECTION SYSTEM OVERFLOWS?

Nov.

TOTAL GALLONS TREATED
0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
MAX DAY (MGD)

WWTP IN COMPLIANCE

TOTAL INCHES RAIN FALL

OVERFLOW AT FACILITY?

0 COLLECTION SYSTEM PIPE CLEANED

0 COLLECTION SYSTEM PIPE VIDEOED

COLLECTION SYSTEM OVERFLOWS?

Dec.

TOTAL GALLONS TREATED
0.000 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)
MAX DAY (MGD)

WWTP IN COMPLIANCE

TOTAL INCHES RAIN FALL

OVERFLOW AT FACILITY?

0 COLLECTION SYSTEM PIPE CLEANED

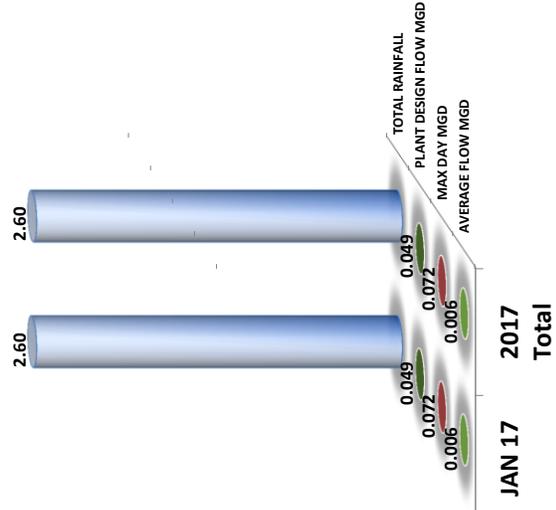
0 COLLECTION SYSTEM PIPE VIDEOED

COLLECTION SYSTEM OVERFLOWS?

177,984 Total Treated
0.000 Average MG/Day
0 Total Footage Pipe Cleaned
0 Total Footage Pipe Videoed

Kenwood WWTP

- AVERAGE FLOW MGD
- MAX DAY MGD
- PLANT DESIGN FLOW MGD
- TOTAL RAINFALL



Hickory Grove: Summary

The Hickory Grove Wastewater Treatment Plant (WWTP) is located off Easy Street in the Hickory Grove Subdivision and is operated by the staff of the Swansboro WWTP. The plant is designed to treat 22,500 gallons per day (GPD). This Plant was taken off line in April of 2015, and replaced by a lift station. The Plant still retains the NPDES permit for discharge. ONWASA is currently working on the closure of the WWTP per the State of NC.

Hickory Grove: General Information

Facility Name: Hickory Grove WWTP
 Facility Type/ Operation: Facultative Lagoon
 Responsible Entity: ONWASA
 Facility Address: Hickory Grove Subdivision
 Facility Phone: (910) 455-0722
 Operator in Responsible Charge (ORC): Mark Young
 ORC Type / Grade License: WW4, SI, SS
 Applicable Facility Permit Numbers: NC 0034991

Description of Facility: The facility is located off NCSR 1406 east of Jacksonville at the Hickory Grove Subdivision. The facility is rated to treat 0.0225 MGD or 22,500 gallons per day of wastewater. The system is comprised of a 2.9 acre lagoon, a tablet chorine system and a chlorine contact chamber with de-chlorination. The discharge point is to the Little Northeast Creek, and is classified C-NSW waters in the White Oak River Basin.

Hickory Grove: Collection System

Collection System Name: Hickory Grove Collection System
 Responsible Entity: Onslow Water and sewer Authority ONWASA
 Facility Address: Hickory Grove Subdivision
 Contact Phone: (910) 937-7560
 Operator in Responsible Charge (ORC): Shawn E. Nason
 ORC Type / Grade License: CS Grade 4 License # 990238
 Applicable Collection System Permit Numbers: WQCS00249

Collection System

Collection System Name: Piney Green Wastewater Collection

System Collection System Grade/ Type Operation: Grade 1/ Domestic

Responsible Entity: Onslow Water and Sewer Authority (ONWASA)

Facility Address: East of the City of Jacksonville, along the Piney Green Corridor

Contact Phone: (910) 937-7560

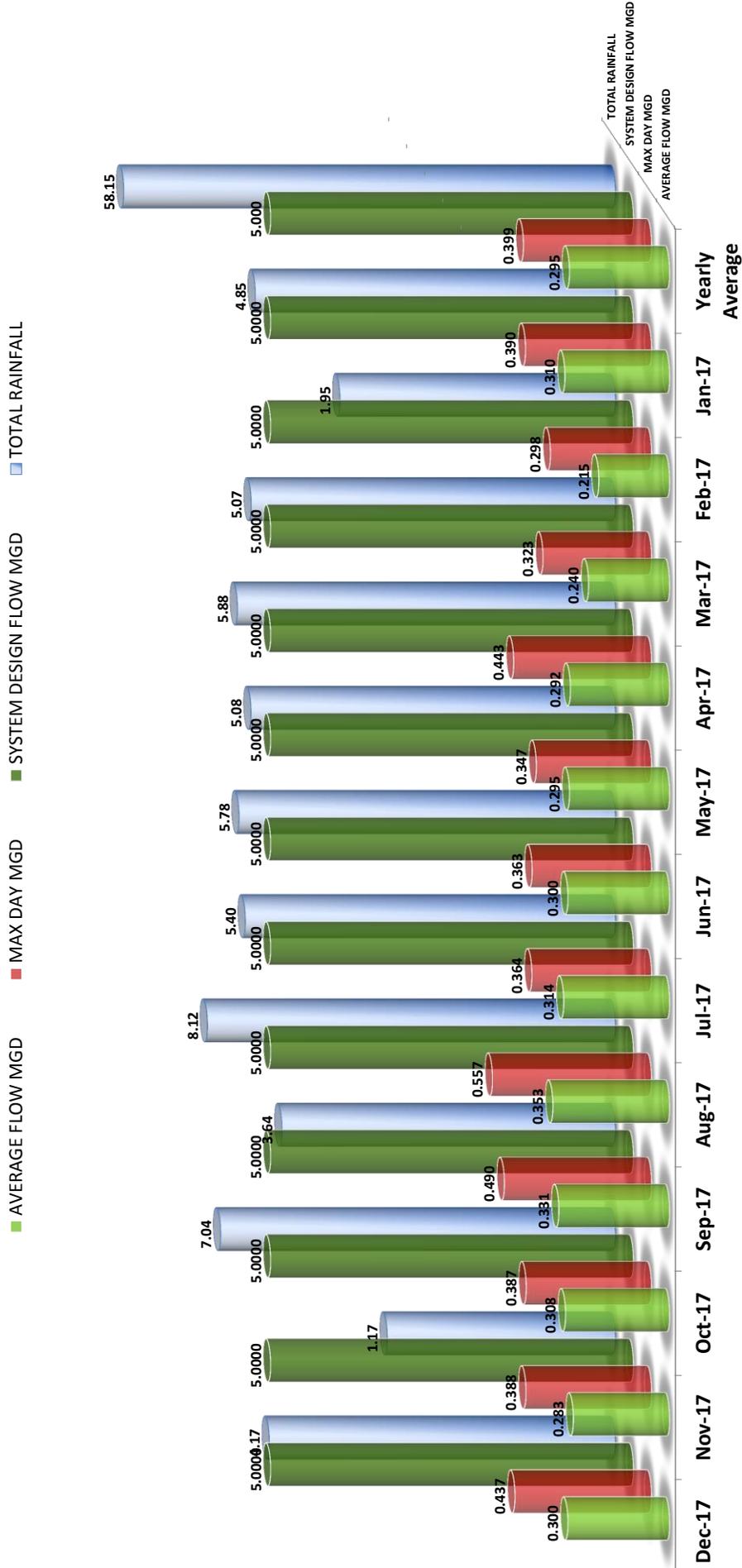
Operator in Responsible Charge (ORC): Shawn E. Nason

ORC Type / Grade License: CS Grade 4 License # 990238

Applicable Collection System Permit Numbers: WQCS00249

Description of Collection System: This system consists of fifty-one thousand, four hundred and forty-nine feet (51,449') of gravity sewer ranging from eight inch (8") to fifteen inch (15") and sixty-three thousand, nine hundred and ninety-three feet (63,993') of force mains ranging from four inch (4") to twenty four inch (24"). The system has a total of 10 pump stations. The Piney Green pump station is the main pump station that sends the flow directly to the French Creek WWTP on Camp Lejeune.

Piney Green Collection System

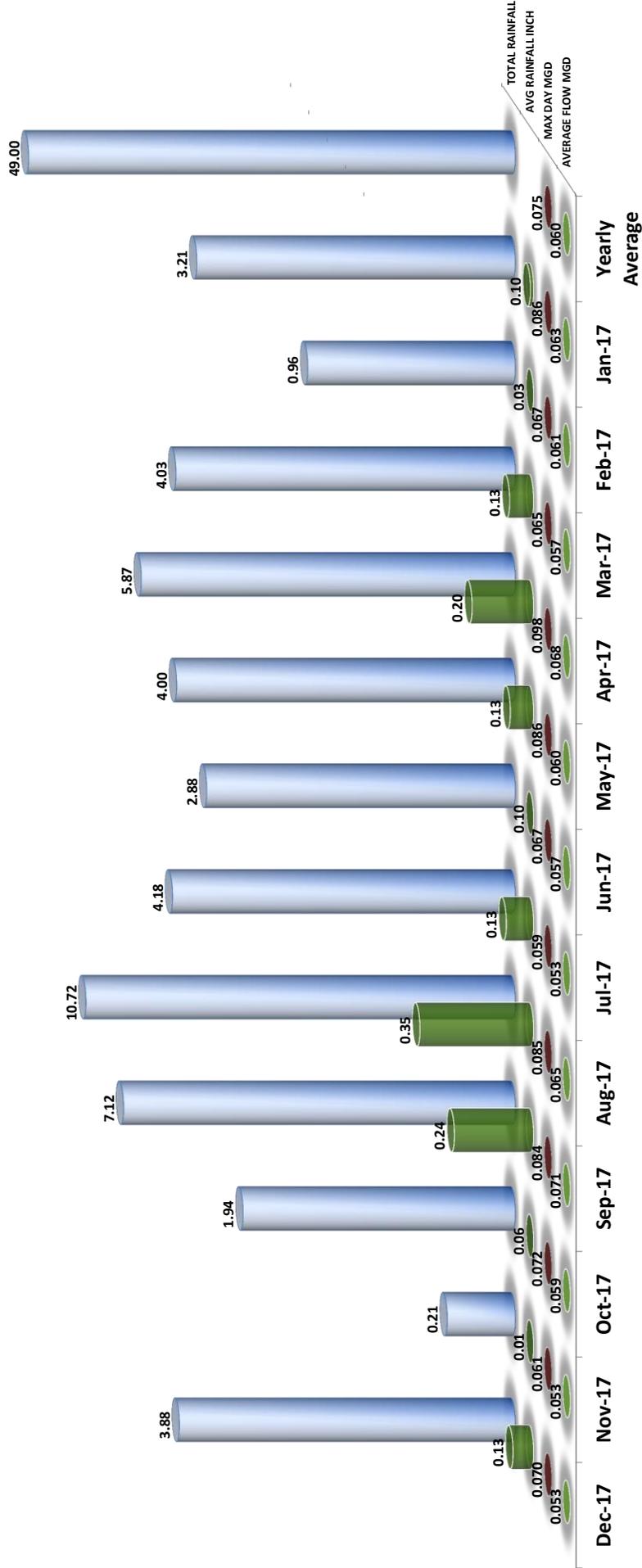


Collection System Name: Springdale Wastewater Collection
System Collection System Grade/ Type Operation: Grade 1/ Domestic
Responsible Entity: Onslow Water and Sewer Authority (ONWASA)
Facility Address: Southwest area of Onslow County
Contact Phone: (910) 937-7509
Operator in Responsible Charge (ORC): Shawn E. Nason
ORC Type / Grade License: CS Grade 4 License # 990238
Applicable Collection System Permit Numbers: WQCS00249

Description of Facility: This system consist of eighteen thousand six hundred and seventy seven feet (18,677') of gravity sewer ranging from eight inch (8") to twelve inch (12"), ten thousand four hundred and twenty-four feet (10,424) of force mains ranging from four inch (4") to six inch (6")

Sprindale Collection System

■ AVERAGE FLOW MGD
 ■ MAX DAY MGD
 ■ AVG RAINFALL INCH
 ■ TOTAL RAINFALL



New Collection Systems

This year ONWASA has added additional pump stations, gravity lines and force main to the Collection system in various projects:

Shadow Creek Estates: One pump station with 2,480 feet of 8 inch gravity line and 2,000 feet of 4" force main.

Camden Woods Subdivision, Phase I-B: One pump station with 1,825 feet of 8 inch gravity line and 5,340 feet of force main.

Boyington Place: One pump station with 1,825 of 8" gravity line and 5,340 feet of force main.

Burton IDF Project: One pump station with 906 feet of 8" gravity line, 764 feet of 10" gravity line, and 1,326 feet of 6" force main.

Holly Ridge Townhomes: 100 feet of 8" gravity line.

Paradise Point at Onslow Bay Sec. II: 847 feet of 8" gravity line.

Park Place Phase III: 622 feet of 8" gravity line

Walmart Store, Swansboro, NC: 1,226 feet of 8" gravity line.

The Farm at Hunters Creek Sec. II: 1,497 feet of 8" gravity line.

Stones Landing at Onslow Bay Section I-B: 285 feet of 8" gravity line.