

# ONWASA

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## **ONWASA Wastewater Facilities Annual Report 2015**

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 this year's Wastewater Facilities Annual Report. This report is a summary of last year's wastewater facilities performance. Included are monthly descriptions of each facilities 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.

ONWASA manages 7 treatment facilities and 8 collection systems. The facilities are as follows: Northwest Regional Reclamation Facility, Richlands Wastewater Treatment Plant, Holly Ridge Wastewater Treatment Plant, Kenwood Wastewater Treatment Plant, Swansboro Wastewater Treatment Plant, Webb Creek Apt and Hickory Grove Wastewater Treatment Plant for collection and treatment Springdale and Piney Green are only collection systems operated by ONWASA. This report contains a description and snap shot of the monthly activities of each plant and the collection system operated by ONWASA.

ONWASA has removed 2 facilities this year from the system: Richlands Wastewater Treatment Plant was replaced by Northwest Regional Reclamation Facility and Webb Creek Apartment Wastewater Treatment Plant was replaced with a lift station.

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

ONWASA  
228 Georgetown Rd.  
Jacksonville, NC 28540  
[onwasa.com](http://onwasa.com)

## **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 2015 was 0.385 MGD, which is approximately 64 % of the design flow at the wastewater plant. The facility treated a total of 140,813,757 gallons during the year, an average of 11,734,480 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): Allen Rhue

ORC Type / Grade License: WW4, SI, CS2, SS, PC1

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

2015  
Swansboro WWTP  
Annual WW Report

Jan.			
12,260,260	TOTAL GALLONS TREATED		
0.395	AVERAGE FLOW (MGD)		
0.604	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE ( Explanation)		On 4 Dec 15 the application rate to ponds 2A & 3 were exceeded due to EQ going to high level and having to push flows at a higher than normal rate. On 24 Dec 15 the application rate to pond 2A was exceeded due to rain and higher than normal flows.
6.28	TOTAL INCHES RAIN FALL		
12,100,498	GALLONS APPLIED TO PONDS		
0.390	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.			
10,982,419	TOTAL GALLONS TREATED		
0.392	AVERAGE FLOW (MGD)		
0.487	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE		Due to a power failure and the battery charger failed on the emergency generator, a bypass of 750 gals of treated effluent overflowed the effluent basin and flowed to a small creek that flows to Foster's Creek. NCDENR notified.
7.95	TOTAL INCHES RAIN FALL		
11,095,889	GALLONS APPLIED TO PONDS		
0.396	AVERAGE FLOW (PERMIT FLOW 0.6 MGD)		
YES	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
0	COLLECTION SYSTEM PIPE VIDEOED		
YES	COLLECTION SYSTEM OVERFLOWS?		
0	ACRES MOWED		
Mar.			
11,393,185	TOTAL GALLONS TREATED		
0.368	AVERAGE FLOW (MGD)		
0.466	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE ( Explanation)		
7.04	TOTAL INCHES RAIN FALL		
11,393,185	GALLONS APPLIED TO PONDS		
0.368	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.			
10,577,510	TOTAL GALLONS TREATED		
0.353	AVERAGE FLOW (MGD)		
0.450	MAX DAY (MGD)		
YES	WWTP IN COMPLIANCE ( Explanation)		
2.62	TOTAL INCHES RAIN FALL		
10,580,928	GALLONS APPLIED TO PONDS		
0.353	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?		
52.5	ACRES MOWED		
May			
10,721,200	TOTAL GALLONS TREATED		
0.346	AVERAGE FLOW (MGD)		
0.506	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE		Pond 2-A exceeded the daily volume applied due to Tropical Storm Ana on 10 May 15. 2.95" on 10 May. A total of 4.63" of rainfall occurred between 7-12 May 15 due to Ana.
4.9	TOTAL INCHES RAIN FALL		
11,382,330	GALLONS APPLIED TO PONDS		
0.367	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?		
69	ACRES MOWED		
Jun.			
10,626,820	TOTAL GALLONS TREATED		
0.354	AVERAGE FLOW (MGD)		
0.440	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE		On 9 Jun 15, the facility received 2.25" of rain. Due to this event, pond 2-A, exceeded the daily volume applied.
7.95	TOTAL INCHES RAIN FALL		
11,508,821	GALLONS APPLIED TO PONDS		
0.384	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?		
146	ACRES MOWED		

Jul.  
 10,063,514 TOTAL GALLONS TREATED  
 0.325 AVERAGE FLOW (MGD)  
 0.499 MAX DAY (MGD)  
 NO WWTP IN COMPLIANCE  
 8.25 TOTAL INCHES RAIN FALL  
 11,036,847 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?  
 135 ACRES MOWED

On 13 Jul 15, Pond 2A exceeded the daily volume applied due to 2.25" of rainfall. On 23 Jul 15, Ponds 2A, 2B and 3 exceeded the daily volume applied due to 3.80" of rainfall.

Aug.  
 11,224,374 TOTAL GALLONS TREATED  
 0.362 AVERAGE FLOW (MGD)  
 0.619 MAX DAY (MGD)  
 NO WWTP IN COMPLIANCE  
 11.03 TOTAL INCHES RAIN FALL  
 11,224,374 GALLONS APPLIED TO PONDS  
 0.362 AVERAGE FLOW (PERMIT FLOW 0.6 MGD)  
 NO OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 215 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?  
 85 ACRES MOWED

17 Aug 15, failed fecal sample, 33.6 MPN/100m. Collected a fecal sample 18 Aug 15, no report of failure from lab. 31 Aug 15, Pond 2A exceeded the daily volume applied due to 3.16" of rainfall and higher than normal flows.

Sep.  
 10,552,246 TOTAL GALLONS TREATED  
 0.352 AVERAGE FLOW (MGD)  
 0.527 MAX DAY (MGD)  
 NO WWTP IN COMPLIANCE  
 5.28 TOTAL INCHES RAIN FALL  
 10,552,246 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?  
 112 ACRES MOWED

During 22-29 Sep 15, the WWTP received 4.35" of rainfall. The WWTP received the max flow on 28 Sep 15. This resulted in the daily volume applied to Pond 2A to be exceeded.

Oct.  
 15,423,769 TOTAL GALLONS TREATED  
 0.498 AVERAGE FLOW (MGD)  
 1.033 MAX DAY (MGD)  
 NO WWTP IN COMPLIANCE  
 11.19 TOTAL INCHES RAIN FALL  
 15,423,769 GALLONS APPLIED TO PONDS  
 0.498 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?  
 4 ACRES MOWED

Due to 2 weeks of rain from 22 Oct thru 12 Nov 15, 14.27" total ( 8.45" from 1-5 Nov 15 ), the daily flow rate was exceeded from 2-6 Nov 15. The daily volume applied was exceeded on Ponds 1/2B on 2,4 and 5 Nov. Pond 3, 2-6 Nov. Pond 2A, 1-9 and 11-13 Nov 15.

Nov.  
 14,448,161 TOTAL GALLONS TREATED  
 0.482 AVERAGE FLOW (MGD)  
 1,050,128.000 MAX DAY (MGD)  
 NO WWTP IN COMPLIANCE  
 11.61 TOTAL INCHES RAIN FALL  
 14,448,161 GALLONS APPLIED TO PONDS  
 0.482 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

Due to rainfall, 1.80" on 2-3 Nov. 3.05" on 7-10 Nov. 5.94" on 18-19 Nov. .82" on 22-24 Nov. Total of 11.61" for month. The ponds exceeded daily flow as follows; Pond 1, 19 Nov. Pond 2A on 3,4,8,9,10,11,19-23 and 25 Nov. Pond 2B on 9,19,22 Nov. Pond 3 9,10,19,20,22 Nov. This again is the result of no flow meters to ponds, we are doing an average flow divided between the four ponds.

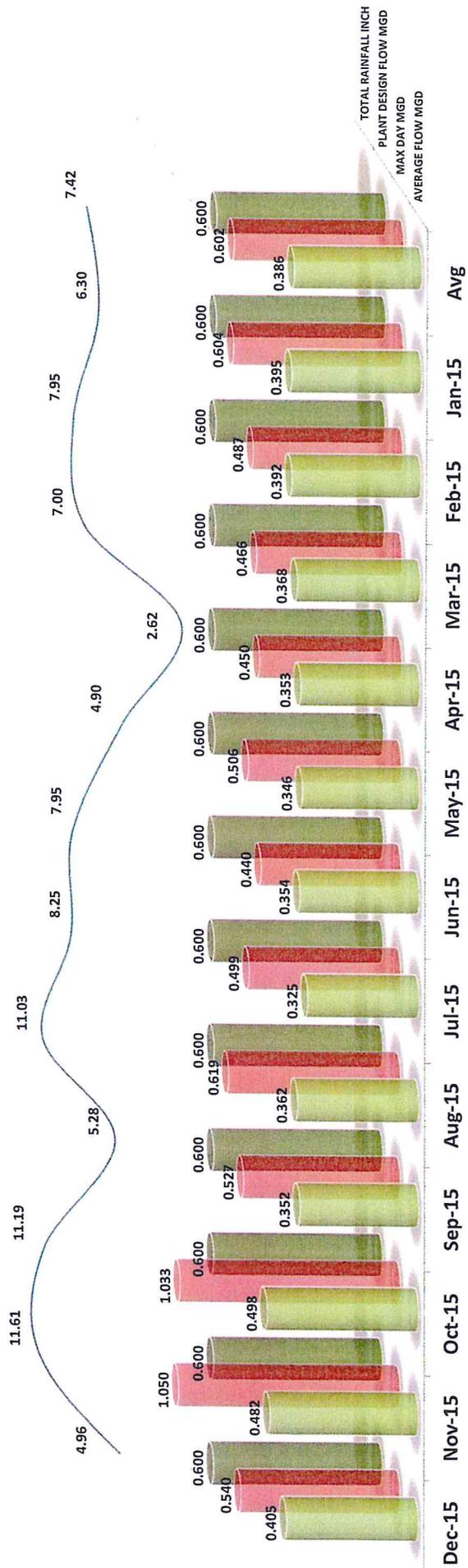
Dec.  
 12,540,299 TOTAL GALLONS TREATED  
 0.405 AVERAGE FLOW (MGD)  
 0.540 MAX DAY (MGD)  
 NO WWTP IN COMPLIANCE ( Explanation)  
 4.96 TOTAL INCHES RAIN FALL  
 12,540,299 GALLONS APPLIED TO PONDS  
 0.405 AVERAGE FLOW (PERMIT FLOW 0.6 MGD)  
 NO OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?  
 0 ACRES MOWED

Pond 2A exceeded the daily volume applied on 7,22 and 31 Dec 15. Received 1.56" of rain on 6-8 Dec. Received 2.46" of rain from 22-31 Dec 15. The excess is more likely due to the way the calculation of flow is figured due to no flow meters.

140,813,757	Total Treated		
143,287,347	Total Spray	0	Total Footage Pipe Cleaned
0.386	Average MG/day treated	215	Total Footage Pipe Videoed
0.393	Average MG/day to the ponds		

# Swansboro WWTP

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



TOTAL RAINFALL INCH  
 PLANT DESIGN FLOW MGD  
 MAX DAY 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 2015 was 0.234 MGD, which is 89.8 % of the permitted design flow of the wastewater plant. The facility treated a total of 85,471,450 gallons during the past year an average of 7,122,620 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)  
Facility Phone: 910 329-0951  
Operator in Responsible Charge (ORC): Allen W. Rhue  
ORC Type / Grade License: WW4, SI, CS2, SS, PC1  
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

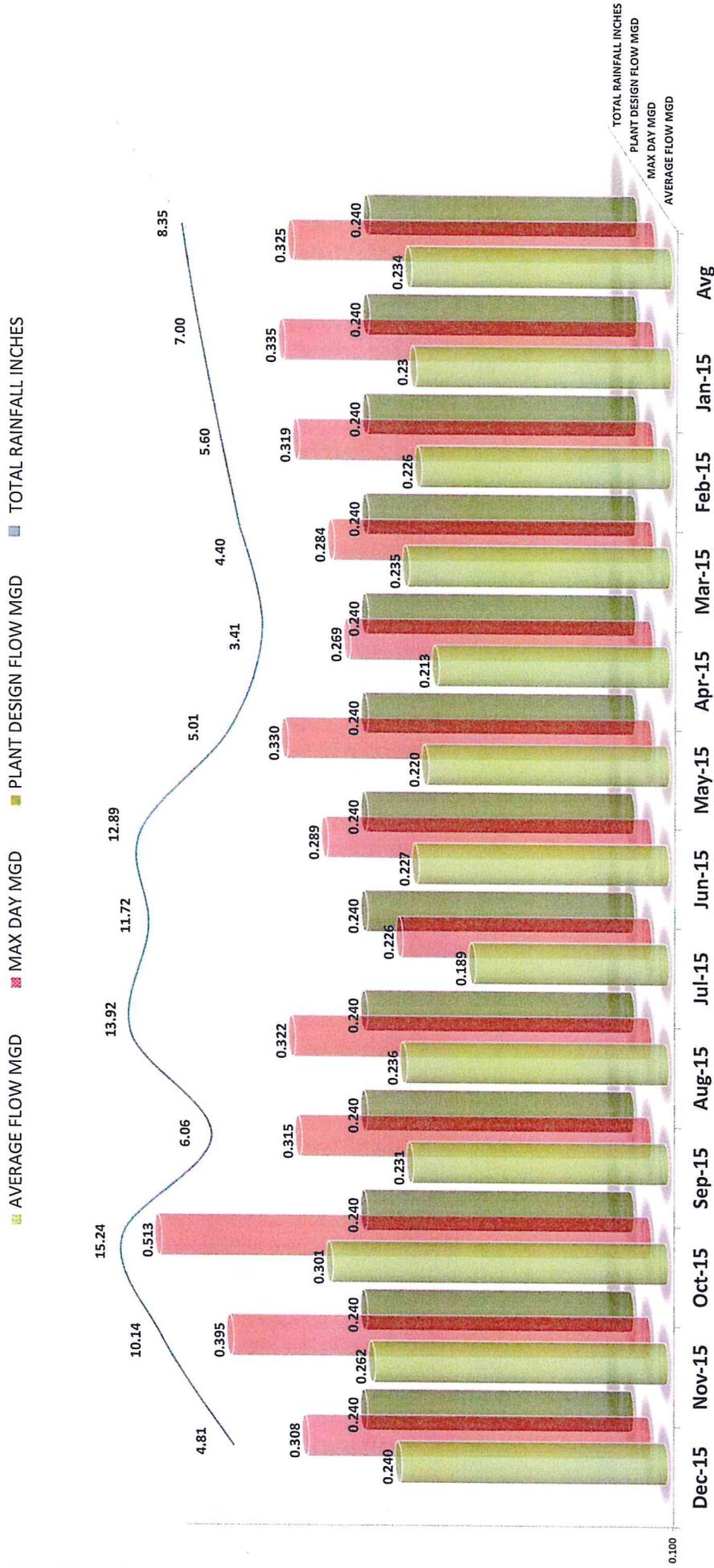
Collection System Name: Town of Holly Ridge Wastewater Collection System  
Collection System Grade/ Type Operation: Grade 1/ Domestic  
Responsible Entity: Onslow Water and Sewer Authority (ONWASA)  
Facility Address Town of Holly Ridge located in the southeast part of Onslow County  
Contact Phone: 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

2015  
Holly Ridge  
Annual WW Report

Jan.			
7,119,950	TOTAL GALLONS TREATED		
0.230	AVERAGE FLOW (MGD)		
0.335	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE		On 24 Jan 15 the 2' freeboard was breached, 1.55'; this was due to 3.90" of rain on 23 and 24 Jan. On 1 Jan 15 the freeboard was 2.2' and increased to 2.6' by 12 Jan 15. On 12 Jan 15 a rain event of 1.71" occurred as well lowering freeboard to 2.2'.
7.01	TOTAL INCHES RAIN FALL		
5,215,345	GALLONS SPRAYED		
0.168	AVERAGE FLOW (PERMIT FLOW 0.24 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
5039	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
0	ACRES MOWED		
Feb.			
6,324,200	TOTAL GALLONS TREATED		
0.226	AVERAGE FLOW (MGD)		
0.319	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE ( Explanation)		The 2' freeboard was not maintained, again, due to 5.60" of rain for month. Freeboard was at 1.95' on 22 and 23 Mar 2015.
5.6	TOTAL INCHES RAIN FALL		
4,967,645	GALLONS SPRAYED		
0.177	AVERAGE FLOW (PERMIT FLOW 0.24 MGD)		
NO	OVERFLOW AT FACILITY?		
0	COLLECTION SYSTEM PIPE CLEANED		
3902	COLLECTION SYSTEM PIPE VIDEOED		
NO	COLLECTION SYSTEM OVERFLOWS?		
0	ACRES MOWED		
Mar.			
7,298,210	TOTAL GALLONS TREATED		
0.235	AVERAGE FLOW (MGD)		
0.284	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE		The 2' freeboard was not maintained, again, due to 4.41" of rain for the month.
4.41	TOTAL INCHES RAIN FALL		
5,801,925	GALLONS SPRAYED		
0.187	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		
Apr.			
6,381,310	TOTAL GALLONS TREATED		
0.213	AVERAGE FLOW (MGD)		
0.269	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE ( Explanation)		The 2' freeboard was less than 2' from 1-7 Apr 15. On 8-9 Apr 15 the 2' was achieved. On 10 Apr 15 the FB was 1.95'. On 11-19 Apr the FB was greater than 2'. On 20-23 Apr the FB was below 2', due to 2.56" of rain. On 24-30 Apr the FB was greater than 2'. Lowest FB was 1.65' on 1 Apr, Highest was 2.3' on 17-18 Apr 15.
3.41	TOTAL INCHES RAIN FALL		
5,422,735	GALLONS SPRAYED		
0.181	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?		
83.09	ACRES MOWED		
May			
6,821,460	TOTAL GALLONS TREATED		
0.220	AVERAGE FLOW (MGD)		
329,600.000	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE ( Explanation)		The 2' freeboard was at 1.9' on 2 May and 1.95' on 3 May 15. The 2' FB was maintained from 4-10 May 15. From 11-30 May 15 the FB was below 2'. This was due to rainfall of 6.58" from T.S. Ana, 7-11 May 15.
5.01	TOTAL INCHES RAIN FALL		
5,426,172	GALLONS SPRAYED		
0.175	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?		
82.84	ACRES MOWED		
Jun.			
6,795,930	TOTAL GALLONS TREATED		
0.227	AVERAGE FLOW (MGD)		
0.286	MAX DAY (MGD)		
NO	WWTP IN COMPLIANCE		From 1-3 Jun 15, the freeboard was 2.1'. On 3 Jun 15, the facility received 5.42" of rain, bringing the freeboard below 2'. From 4-27 Jun 15, the FB was as low as 1.2' on 11 Jun. On 28 Jun the FB was back in compliance. The FB was @ 2.1' on 30 Jun 15.
12.89	TOTAL INCHES RAIN FALL		
5,895,750	GALLONS SPRAYED		
0.197	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?		
138.79	ACRES MOWED		

Jul.	5,853,460	TOTAL GALLONS TREATED		
	0.189	AVERAGE FLOW (MGD)		
	0.226	MAX DAY (MGD)		
	YES	WWTP IN COMPLIANCE		
	11.72	TOTAL INCHES RAIN FALL		
	5,640,605	GALLONS SPRAYED		
	0.182	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?		
	68.58	ACRES MOWED		
Aug.	7,301,250	TOTAL GALLONS TREATED		
	0.236	AVERAGE FLOW (MGD)		
	0.322	MAX DAY (MGD)		
	NO	WWTP IN COMPLIANCE ( Explanation)		The 2' freeboard was maintained from 1-26 Aug 15. On 27 Aug 15, 5.88" of rain brought the FB below the 2' level. On 31 Aug 15, the FB was at 1.4'. Total of 13.92" of rain for the month.
	13.92	TOTAL INCHES RAIN FALL		
	4,222,842	GALLONS SPRAYED		
	0.136	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?		
	99.86	ACRES MOWED		
Sep.	6,935,710	TOTAL GALLONS TREATED		
	0.231	AVERAGE FLOW (MGD)		
	0.315	MAX DAY (MGD)		
	NO	WWTP IN COMPLIANCE ( Explanation)		From 1-17 Sep 15, the 2' freeboard was not maintained due to rain from previous month. From 18-27 Sep 15, the 2' freeboard was meet. On 28-30 Sep 15, the 2' freeboard was not maintained again due to rain. From 24-28 Sep 15, 4.12" of rain was received.
	6.06	TOTAL INCHES RAIN FALL		
	5,442,980	GALLONS SPRAYED		
	0.181	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?		
	82.29	ACRES MOWED		
Oct.	9,317,240	TOTAL GALLONS TREATED		
	0.301	AVERAGE FLOW (MGD)		
	0.513	MAX DAY (MGD)		
	NO	WWTP IN COMPLIANCE ( Explanation)		The 2' freeboard was not maintained from 1-20 Nov 15 due heavy rains during a 2 week period from the last week of Oct and the first week of Nov 15. The freeboard was achieved on 21 - 31 Nov 15.
	15.24	TOTAL INCHES RAIN FALL		
	6,585,485	GALLONS SPRAYED		
	0.212	AVERAGE FLOW (PERMIT FLOW 0.24 MGD)		
	NO	OVERFLOW AT FACILITY?		
	0	COLLECTION SYSTEM PIPE CLEANED		
	1849	COLLECTION SYSTEM PIPE VIDEOED		
	NO	COLLECTION SYSTEM OVERFLOWS?		
	16.5	ACRES MOWED		
Nov.	7,870,770	TOTAL GALLONS TREATED		
	0.262	AVERAGE FLOW (MGD)		
	394,750.000	MAX DAY (MGD)		
	NO	WWTP IN COMPLIANCE		The 2' freeboard was not maintained from 10-30 Nov 15 due to excessive rainfall and not spraying to avoid runoff from fields. Freeboard was at 2.40' on 2 Nov 15. Received 6.01" of rain from 2-11 Nov and 4.13" from 18-22 Nov 15.
	10.14	TOTAL INCHES RAIN FALL		
	4,896,825	GALLONS SPRAYED		
	0.163	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?		
	9	ACRES MOWED		
Dec.	7,451,960	TOTAL GALLONS TREATED		
	0.240	AVERAGE FLOW (MGD)		
	0.308	MAX DAY (MGD)		
	NO	WWTP IN COMPLIANCE		The 2' freeboard was not maintained for Dec 15. The freeboard on 1 Dec 15 was 1.05' and on 31 Dec 15 the freeboard was at 1.80'.
	4.81	TOTAL INCHES RAIN FALL		
	6,619,410	GALLONS SPRAYED		
	0.214	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?		
	28.5	ACRES MOWED		
	85,471,450	Total Treated		
	66,137,719	Total Spray	0.00	Total Footage Pipe Cleaned
	0.234	Average MG/day treated	10790	Total Footage Pipe Videoed
	0.181	Average MG/day sprayed		

# Holly Ridge WWTP



## **Richlands: Summary**

Richlands Wastewater Treatment Facility is located at 203 Jimmy Powell Lane and is staffed by three operators. The plant is permitted to treat 0.250 million gallons per day (MGD). The average flow at the plant in 2015 was 0.258 MGD, which is 103 % of the permitted design flow of the wastewater plant. The facility treated a total of 30,934,100 gallons during the past year, which averages 7,733,525 gallons per month. This Plant was replaced by the Northwest Regional Reclamation Facility in April 1, 2015.

## **Richlands: General Information**

Facility Name: Richlands WWTP

Facility Type/ Operation: Activated Sludge Extended Air

Responsible Entity: ONWASA

Facility Address: Powell 203 Jimmy Lane Richlands, NC 28574

Facility Phone: (910) 937-7572

Operator in Responsible Charge (ORC): Allen Rhue

ORC Type / Grade License: WW4, CS2, SS, PC1

Applicable Facility Permit Numbers: NC0023230

Description of Facility: The Richlands Wastewater Treatment Plant is a 0.25 mgd activated sludge treatment facility. The plant treats wastewater utilizing preliminary screening and grit removal, secondary treatment using an oxidation ditch and secondary clarifiers, tertiary effluent filtration, followed by chlorine disinfection, de-chlorination and post aeration prior to discharging effluent to Squires Run Creek.

## **Richlands: Collection System**

Collection System Name: Town of 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

2015  
Richlands WWTP  
Annual WW Report

Jan.					
8,987,508	TOTAL GALLONS TREATED				
0.290	AVERAGE FLOW (MGD)				
0.559	MAX DAY (MGD)				
NO	WWTP IN COMPLIANCE ( Explanation)				Exceeded Daily Average Flow and BOD. Flow was to Richlands WWTP.
4.75	TOTAL INCHES RAIN FALL				
No	OVERFLOW AT FACILITY?				
0	COLLECTION SYSTEM PIPE CLEANED				
0	COLLECTION SYSTEM PIPE VIDEOED				
NO	COLLECTION SYSTEM OVERFLOWS?				
N/A	ACRES MOWED				
Feb.					
7,780,155	TOTAL GALLONS TREATED				
0.278	AVERAGE FLOW (PERMIT FLOW 0.25 MGD)				
0.540	MAX DAY (MGD)				
NO	WWTP IN COMPLIANCE				Exceeded permitted flow. Overflow at plant was contained on-site with no flow reaching surface waters. Flow was to Richlands WWTP.
5.3	TOTAL INCHES RAIN FALL				
YES	OVERFLOW AT FACILITY?				
0	COLLECTION SYSTEM PIPE CLEANED				
0	COLLECTION SYSTEM PIPE VIDEOED				
NO	COLLECTION SYSTEM OVERFLOWS?				
N/A	ACRES MOWED				
Mar.					
8,774,979	TOTAL GALLONS TREATED				
0.283	AVERAGE FLOW (MGD)				
0.370	MAX DAY (MGD)				
NO	WWTP IN COMPLIANCE ( Explanation)				
2.8	TOTAL INCHES RAIN FALL				
NO	OVERFLOW AT FACILITY?				
2952	COLLECTION SYSTEM PIPE CLEANED				
0	COLLECTION SYSTEM PIPE VIDEOED				
NO	COLLECTION SYSTEM OVERFLOWS?				
N/A	ACRES MOWED				
Apr.					
5,391,458	TOTAL GALLONS TREATED				
0.180	AVERAGE FLOW (MGD)				
0.249	MAX DAY (MGD)				
Yes	WWTP IN COMPLIANCE ( Explanation)				
2.4	TOTAL INCHES RAIN FALL				
No	OVERFLOW AT FACILITY?				
15203	COLLECTION SYSTEM PIPE CLEANED				
0	COLLECTION SYSTEM PIPE VIDEOED				
NO	COLLECTION SYSTEM OVERFLOWS?				
N/A	ACRES MOWED				
May					
	TOTAL GALLONS TREATED				
	AVERAGE FLOW (MGD)				
	MAX DAY (MGD)				
	WWTP IN COMPLIANCE				Flow was diverted from Richlands to the NWRWRF on 30 Apr 15.
	TOTAL INCHES RAIN FALL				
	GALLONS APPLIED TO PONDS				
	AVERAGE FLOW (PERMIT FLOW 1.0 MGD)				
	OVERFLOW AT FACILITY?				
0	COLLECTION SYSTEM PIPE CLEANED				
0	COLLECTION SYSTEM PIPE VIDEOED				
NO	COLLECTION SYSTEM OVERFLOWS?				
	ACRES MOWED				
Jun.					
	TOTAL GALLONS TREATED				
	AVERAGE FLOW (MGD)				
	MAX DAY (MGD)				
	WWTP IN COMPLIANCE				
	TOTAL INCHES RAIN FALL				
	GALLONS APPLIED TO PONDS				
	AVERAGE FLOW (PERMIT FLOW 1.0 MGD)				
	OVERFLOW AT FACILITY?				
855	COLLECTION SYSTEM PIPE CLEANED				
0	COLLECTION SYSTEM PIPE VIDEOED				
NO	COLLECTION SYSTEM OVERFLOWS?				
	ACRES MOWED				

Jul.

TOTAL GALLONS TREATED  
 AVERAGE FLOW (MGD)  
 MAX DAY (MGD)  
 WWTP IN COMPLIANCE  
 TOTAL INCHES RAIN FALL  
 GALLONS APPLIED TO PONDS  
 AVERAGE FLOW (PERMIT FLOW 1.0 MGD)  
 OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?  
 ACRES MOWED

Aug.

TOTAL GALLONS TREATED  
 AVERAGE FLOW (MGD)  
 MAX DAY (MGD)  
 WWTP IN COMPLIANCE  
 TOTAL INCHES RAIN FALL  
 GALLONS APPLIED TO PONDS  
 AVERAGE FLOW (PERMIT FLOW 1.0 MGD)  
 OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?  
 ACRES MOWED

Sep.

TOTAL GALLONS TREATED  
 AVERAGE FLOW (MGD)  
 MAX DAY (MGD)  
 WWTP IN COMPLIANCE  
 TOTAL INCHES RAIN FALL  
 GALLONS APPLIED TO PONDS  
 AVERAGE FLOW (PERMIT FLOW 1.0 MGD)  
 OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?  
 ACRES MOWED

Oct.

TOTAL GALLONS TREATED  
 AVERAGE FLOW (MGD)  
 MAX DAY (MGD)  
 WWTP IN COMPLIANCE  
 TOTAL INCHES RAIN FALL  
 GALLONS APPLIED TO PONDS  
 AVERAGE FLOW (PERMIT FLOW 1.273 MGD)  
 OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?  
 ACRES MOWED

Nov.

TOTAL GALLONS TREATED  
 AVERAGE FLOW (MGD)  
 MAX DAY (MGD)  
 WWTP IN COMPLIANCE  
 TOTAL INCHES RAIN FALL  
 GALLONS APPLIED TO PONDS  
 AVERAGE FLOW (PERMIT FLOW 1.273 MGD)  
 OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?  
 ACRES MOWED

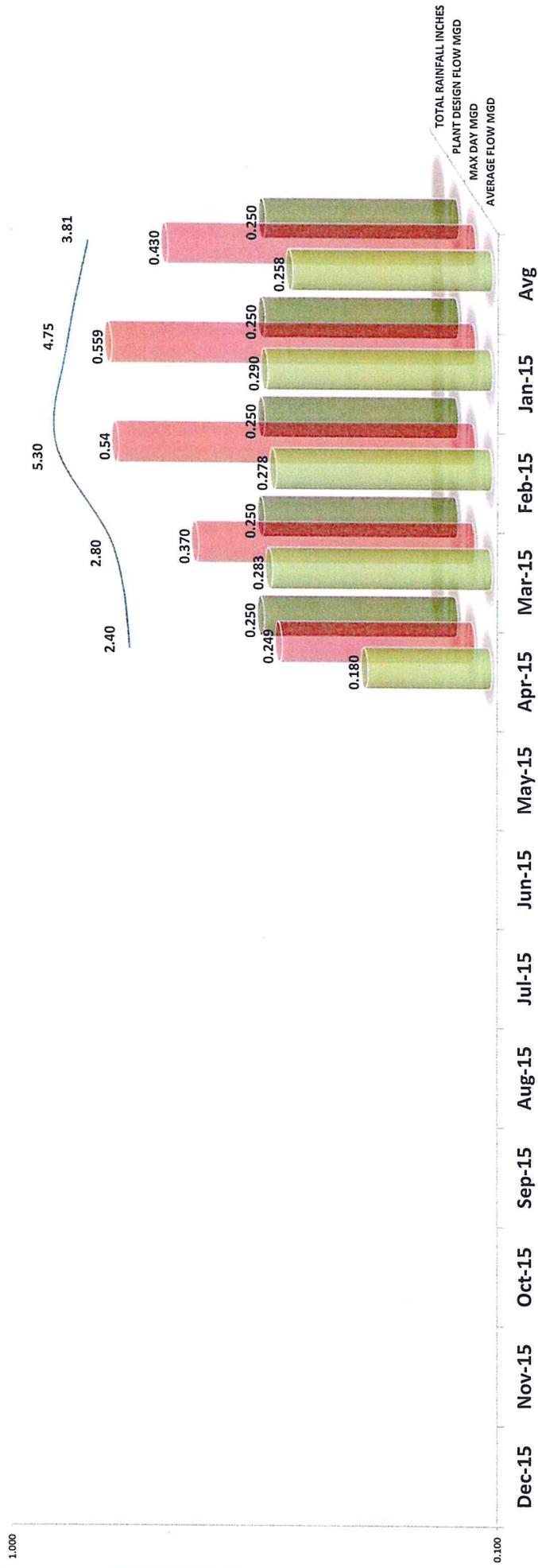
Dec.

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 1.273 MGD)  
 OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?  
 ACRES MOWED

30,934,100	Total Treated	16,058	Total Footage Pipe Cleaned
0.258	Average MG/day treated	0	Total Footage Pipe Videoed
0.000	Average MG/day sprayed		

# Richlands WWTP

■ AVERAGE FLOW MGD    
 ■ MAX DAY MGD    
 ■ PLANT DESIGN FLOW MGD    
 ■ TOTAL RAINFALL INCHES



## **Northwest Regional Reclamation Facility: Summary**

Northwest Regional Reclamation Facility (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 2015 was 0.307 MGD, which is 24 % of the permitted design flow of the wastewater plant. The facility treated a total of 75,295,423 gallons during the past year an average of 8,366,158 gallons per month.

### **General Information**

Facility Name: Northwest Regional Reclamation Facility  
Type/ Operation: Grade 4 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): Allen W. Rhue  
ORC Type / Grade License: WW4, SI, CS2, SS, PC1  
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

2015  
Northwest WRF  
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 0.25 MGD) OVERFLOW AT FACILITY? 0 COLLECTION SYSTEM PIPE CLEANED 0 COLLECTION SYSTEM PIPE VIDEOED NO COLLECTION SYSTEM OVERFLOWS? ACRES MOWED		
Feb.	TOTAL GALLONS TREATED AVERAGE FLOW (PERMIT FLOW 0.25 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? 0 COLLECTION SYSTEM PIPE CLEANED 0 COLLECTION SYSTEM PIPE VIDEOED NO COLLECTION SYSTEM OVERFLOWS? 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? 0 COLLECTION SYSTEM PIPE CLEANED 0 COLLECTION SYSTEM PIPE VIDEOED NO COLLECTION SYSTEM OVERFLOWS? ACRES MOWED		
Apr.	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? 0 COLLECTION SYSTEM PIPE CLEANED 0 COLLECTION SYSTEM PIPE VIDEOED NO COLLECTION SYSTEM OVERFLOWS? ACRES MOWED		
May	4,859,060 0.157 YES 6 0 0.000 NO 0 0 NO 0	TOTAL GALLONS TREATED AVERAGE FLOW (MGD) MAX DAY (MGD) WWTP IN COMPLIANCE TOTAL INCHES RAIN FALL GALLONS APPLIED TO PONDS AVERAGE FLOW (PERMIT FLOW 1.0 MGD) OVERFLOW AT FACILITY? COLLECTION SYSTEM PIPE CLEANED COLLECTION SYSTEM PIPE VIDEOED COLLECTION SYSTEM OVERFLOWS? ACRES MOWED	Flow was diverted from Riclands to the NWRWRF on 30 Apr 15.
Jun.	8,592,947 0.286 0.739 YES 8.4 8,592,947 0.286 No 855 0 NO 0	TOTAL GALLONS TREATED AVERAGE FLOW (MGD) MAX DAY (MGD) WWTP IN COMPLIANCE TOTAL INCHES RAIN FALL GALLONS APPLIED TO PONDS AVERAGE FLOW (PERMIT FLOW 1.0 MGD) OVERFLOW AT FACILITY? COLLECTION SYSTEM PIPE CLEANED COLLECTION SYSTEM PIPE VIDEOED COLLECTION SYSTEM OVERFLOWS? ACRES MOWED	Received rescission letter from NC DENR. Permit #NC0023230 has been redlined on June 26, 2015

Jul.						
5,309,691	TOTAL GALLONS TREATED					
0.171	AVERAGE FLOW (MGD)					
0.455	MAX DAY (MGD)					
NO	WWTP IN COMPLIANCE					
4.8	TOTAL INCHES RAIN FALL					
5,309,691	GALLONS APPLIED TO PONDS					
0.171	AVERAGE FLOW (PERMIT FLOW 1.0 MGD)					
NO	OVERFLOW AT FACILITY?					
0	COLLECTION SYSTEM PIPE CLEANED					
0	COLLECTION SYSTEM PIPE VIDEOED					
NO	COLLECTION SYSTEM OVERFLOWS?					
5	ACRES MOWED					
Aug.						
6,202,374	TOTAL GALLONS TREATED					
0.200	AVERAGE FLOW (MGD)					
0.441	MAX DAY (MGD)					
NO	WWTP IN COMPLIANCE					
6.3	TOTAL INCHES RAIN FALL					
6,202,374	GALLONS APPLIED TO PONDS					
0.200	AVERAGE FLOW (PERMIT FLOW 1.0 MGD)					
NO	OVERFLOW AT FACILITY?					
0	COLLECTION SYSTEM PIPE CLEANED					
0	COLLECTION SYSTEM PIPE VIDEOED					
NO	COLLECTION SYSTEM OVERFLOWS?					
15	ACRES MOWED					
Sep.						
6,764,699	TOTAL GALLONS TREATED					
0.225	AVERAGE FLOW (MGD)					
0.546	MAX DAY (MGD)					
No	WWTP IN COMPLIANCE					
5.7	TOTAL INCHES RAIN FALL					
6,764,699	GALLONS APPLIED TO PONDS					
0.225	AVERAGE FLOW (PERMIT FLOW 1.0 MGD)					
NO	OVERFLOW AT FACILITY?					
0	COLLECTION SYSTEM PIPE CLEANED					
0	COLLECTION SYSTEM PIPE VIDEOED					
NO	COLLECTION SYSTEM OVERFLOWS?					
30	ACRES MOWED					
Oct.						
12,126,011	TOTAL GALLONS TREATED					
0.391	AVERAGE FLOW (MGD)					
1.347	MAX DAY (MGD)					
No	WWTP IN COMPLIANCE					
7.85	TOTAL INCHES RAIN FALL					
12,126,011	GALLONS APPLIED TO PONDS					
0.391	AVERAGE FLOW (PERMIT FLOW 1.273 MGD)					
No	OVERFLOW AT FACILITY?					
0	COLLECTION SYSTEM PIPE CLEANED					
0	COLLECTION SYSTEM PIPE VIDEOED					
NO	COLLECTION SYSTEM OVERFLOWS?					
30	ACRES MOWED					
Nov.						
13,120,838	TOTAL GALLONS TREATED					
0.437	AVERAGE FLOW (MGD)					
0.908	MAX DAY (MGD)					
Yes	WWTP IN COMPLIANCE					
7.9	TOTAL INCHES RAIN FALL					
13,120,838	GALLONS APPLIED TO PONDS					
0.437	AVERAGE FLOW (PERMIT FLOW 1.273 MGD)					
No	OVERFLOW AT FACILITY?					
0	COLLECTION SYSTEM PIPE CLEANED					
0	COLLECTION SYSTEM PIPE VIDEOED					
NO	COLLECTION SYSTEM OVERFLOWS?					
0	ACRES MOWED					
Dec.						
12,928,345	TOTAL GALLONS TREATED					
0.417	AVERAGE FLOW (MGD)					
0.883	MAX DAY (MGD)					
Yes	WWTP IN COMPLIANCE ( Explanation)					
6.71	TOTAL INCHES RAIN FALL					
12,928,345	GALLONS APPLIED TO PONDS					
0.417	AVERAGE FLOW (PERMIT FLOW 1.273 MGD)					
No	OVERFLOW AT FACILITY?					
0	COLLECTION SYSTEM PIPE CLEANED					
0	COLLECTION SYSTEM PIPE VIDEOED					
NO	COLLECTION SYSTEM OVERFLOWS?					
40	ACRES MOWED					
69,903,965	Total Treated					
65,044,905	Total Infiltrated		16,058		Total Footage Pipe Cleaned	
0.286	Average MG/day treated		0		Total Footage Pipe Videoed	
0.266	Average MG/day sprayed					

The NWRWRF has had some high effluent total phosphorus results. This has been attributed to a faulty decant valve on SBR #1. DWQ notified. Working on several start up issues to rectify issue.

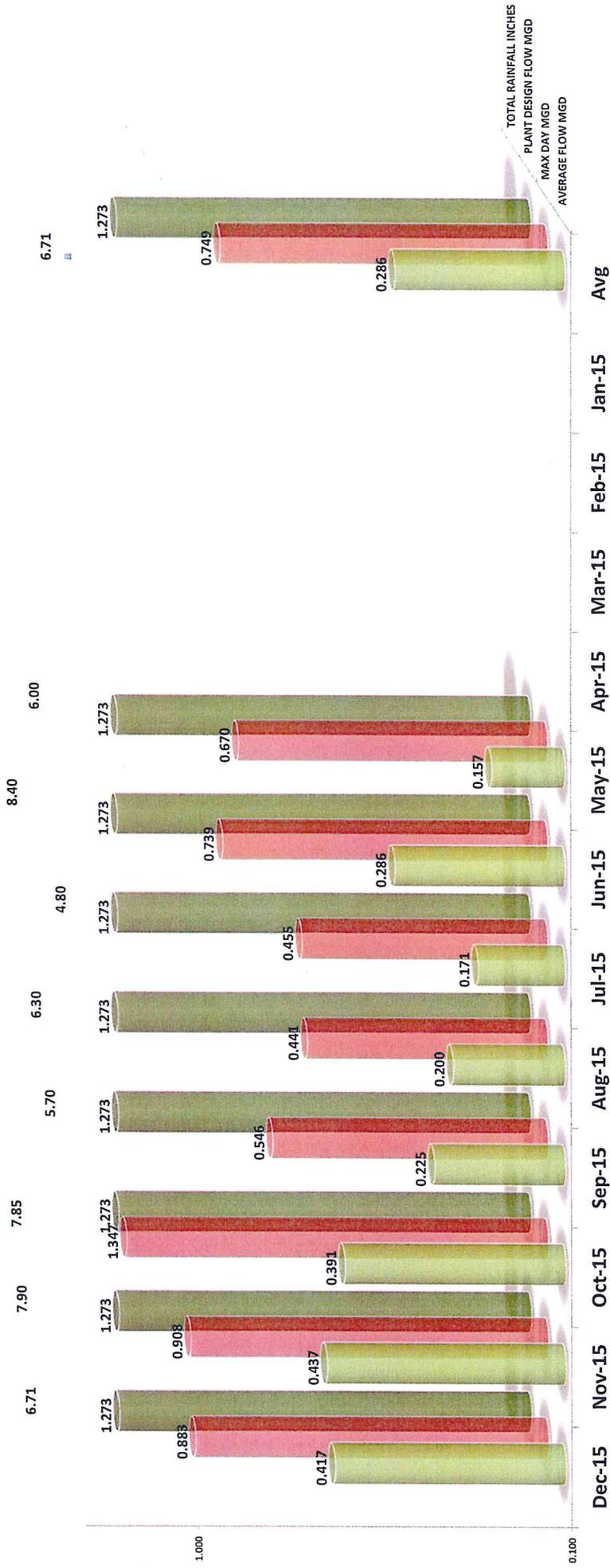
The NWRWRF has had some high effluent total phosphorus results. This has been attributed to a faulty decant valve on SBR #1. DWQ notified. Working on several start up issues to rectify issue.

The NWRWRF continued to have some total phosphorus violation in the effluent. Staff started feeding Alum to the SBR's to help bring the levels down. Adjustments were made to the chemical feed system to insure proper operation and adequate feed rates were being obtained. As a result the phosphorus levels began to come down at the end of the month.	1-Sep-15	4.11
	2-Sep-15	4.09
	8-Sep-15	5.80
	9-Sep-15	4.75
	10-Sep-15	5.41
	14-Sep-15	4.90
	15-Sep-15	4.60
	18-Sep-15	4.40
	21-Sep-15	4.82
	22-Sep-15	3.94
	23-Sep-15	3.55
	28-Sep-15	3.58
	29-Sep-15	3.83
	30-Sep-15	3.53

The plant exceeded its maximum application rate on Oct. 2 and 3 due heavy flows from a storm. The coverage on the 3rd is within the allowable 10% margin the State allows. In addition it was determined that the infiltration valves were not operating correctly per the design. The warranty item was forwarded to Mckim and Creed for repair.

# Northwest Regional Reclamation Facility

■ AVERAGE FLOW MGD    
 ■ MAX DAY MGD    
 ■ PLANT DESIGN FLOW MGD    
 ■ TOTAL RAINFALL INCHES



Dec-15   Nov-15   Oct-15   Sep-15   Aug-15   Jul-15   Jun-15   May-15   Apr-15   Mar-15   Feb-15   Jan-15   Avg

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

## **Kenwood: Summary**

Kenwood Wastewater Treatment Facility is located at 507 OCI Drive in Kenwood Subdivision off Blue Creek Road. The plant currently has one employee. The plant has a design capacity of 0.049 mgd. The average flow for 2015 was .032 MGD, which is 64.9 % of the design flow of the wastewater plant. The facility treated a total of 11,616,436 gallons during the year, which averages 893,803 gallons per month.

## **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

2015  
Kenwood  
Annual WW Report

Jan.  
1,258,200 TOTAL GALLONS TREATED  
0.041 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
0.091 MAX DAY (MGD)  
YES **WWTP IN COMPLIANCE** (Explanation)   
7.4 TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Feb.  
1,187,734 TOTAL GALLONS TREATED  
0.042 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
0.075 MAX DAY (MGD)  
NO **WWTP IN COMPLIANCE** Exceeded permitted fecal coliform limits  
6 TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Mar.  
1,187,641 TOTAL GALLONS TREATED  
0.038 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
0.054 MAX DAY (MGD)  
NO **WWTP IN COMPLIANCE** Failed weekly BOD.  
3.8 TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Apr.  
759,280 TOTAL GALLONS TREATED  
0.025 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
0.036 MAX DAY (MGD)  
Yes **WWTP IN COMPLIANCE** (Explanation)   
2.09 TOTAL INCHES RAIN FALL  
No OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

May  
872,849 TOTAL GALLONS TREATED  
0.028 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
0.093 MAX DAY (MGD)  
NO **WWTP IN COMPLIANCE** On 7-11 May 15, the facility received 5.20" of rainfall from T.S. Ana. On 10-11 May the daily flow was exceeded. 10 May @ .059 MGD and 11 May @ .093 MGD, due to Ana. On 6 May 15 a fecal of >488 was recorded. This was due to the cl2 pump failing. Pump was repaired.  
6.2 TOTAL INCHES RAIN FALL  
No OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Jun.  
781,215 TOTAL GALLONS TREATED  
0.026 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
0.049 MAX DAY (MGD)  
YES **WWTP IN COMPLIANCE** Plant had a High BOD on 6-30. Staff is still looking into the cause of the violation and will edit this report as soon as the cause has been determined.  
7.1 TOTAL INCHES RAIN FALL  
No OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Jul.  
 567,909 TOTAL GALLONS TREATED  
 0.018 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
 0.025 MAX DAY (MGD)  
 NO **WWTP IN COMPLIANCE**  
 2.8 TOTAL INCHES RAIN FALL  
 NO OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Kenwood failed a BOD on 7 and 15 Jul 15. It was found that the cl2 regulator was working intermittently and not chlorinating the filters. The regulator was repaired, filters were chlorinated and flushed several times. BOD have passed since these issue were found and resolved.

Aug.  
 837,650 TOTAL GALLONS TREATED  
 0.027 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
 0.066 MAX DAY (MGD)  
 NO **WWTP IN COMPLIANCE**  
 14.3 TOTAL INCHES RAIN FALL  
 NO OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

On 11 Aug 15, Kenwood failed a BOD, 35.6 mg/l. Plant filters were cleaned and flushed. A weekly thorough clean and backwash of filters has been implimented at facility to try to rectify this issue.

Sep.  
 780,346 TOTAL GALLONS TREATED  
 0.026 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
 42,766.000 MAX DAY (MGD)  
 Yes **WWTP IN COMPLIANCE**  
 4.2 TOTAL INCHES RAIN FALL  
 No OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Oct.  
 1,048,762 TOTAL GALLONS TREATED  
 0.034 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
 0.104 MAX DAY (MGD)  
 No **WWTP IN COMPLIANCE**  
 9.75 TOTAL INCHES RAIN FALL  
 No OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

The Plant had 2 BOD violations this month. 17mg/L on Oct. 7 and 19.8 mg/L on Oct. 20th. The plant received higher than normal flows from the storm at the beginning of the month. Max Day: 104 MGD. Additional sampling is being done to assist with the cause of the BOD violations.

Nov.  
 1,197,753 TOTAL GALLONS TREATED  
 0.040 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
 0.078 MAX DAY (MGD)  
 Yes **WWTP IN COMPLIANCE**  
 9.2 TOTAL INCHES RAIN FALL  
 No OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Dec.  
 1,140,097 TOTAL GALLONS TREATED  
 0.037 AVERAGE FLOW (MGD) (PERMIT FLOW 0.049 MGD)  
 0.067 MAX DAY (MGD)  
 Yes **WWTP IN COMPLIANCE**  
 7.25 TOTAL INCHES RAIN FALL  
 No OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

11,619,436 Total Treated  
 0.032 Average MG/Day  
 0 Total Footage Pipe Cleaned  
 0 Total Footage Pipe Videoed



## **Webb Apartments: Summary**

The Webb Apartments Wastewater Treatment Facility is located at 1906 Piney Green Road, Northeast of Jacksonville in Onslow County. The plant is operated by the staff of the Swansboro WWTP. The system was acquired by ONWASA from the previous owner and operations under ONWASA management began in June 2012. The plant is designed to treat 0.025 Million Gallons per Day (mgd) and is rated a Grade 2 facility. The average daily flow received at the plant in 2015 was 0.005 MGD, which is 21.8% of the design flow at the wastewater plant. The facility treated a total of 322,870 gallons during the year, which averages 161,435 gallons per month. The Plant was taken off line in March of 2015 and replaced with a lift station.

## **Webb Apartments: General Information**

Facility Name: Webb Apartments Wastewater Treatment Plant

Facility Type/ Operation: Activated Sludge Extended Air

Responsible Entity: ONWASA

Facility Address: 1906 Piney Green Road, Jacksonville, NC 28546

Facility Phone: (910)-937-7539 or 7574

Operator in Responsible Charge (ORC): Allen Rhue

ORC Type / Grade License: WW4, SI, CS2, SS, PC1

Applicable Facility Permit Numbers: NC 0023825

Description of Facility: The Wastewater Facility is located northeast of Jacksonville on Piney Green Road. The plant is equipped with (1) Influent Pump Station, (1) Flow Equalization Basin, (1) Manual Bar Screen, (2) Aeration Basins, (1) Secondary Clarifier, (2) High Rate Filters, (1) Post Aeration Basin, (1) Aerobic Digester, (2) Duel Sludge Drying Beds, (1) Gaseous Chlorine System, and (1) Liquid De-chlorination System.

## **Webb Apartments: Collection System**

Collection System Name: Webb Apartments Wastewater Collection System

Collection System Grade/ Type Operation: Grade 1/ Domestic

Responsible Entity: Onslow Water and Sewer Authority (ONWASA)

Facility Address: Webb Apartments Subdivision east of the City of Jacksonville

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

2015  
Webb Apts WWTP  
Annual WW Report

Jan.  
174,010 TOTAL GALLONS TREATED  
0.006 AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
0.009 MAX DAY (MGD)  
YES **WWTP IN COMPLIANCE**  
6.5 TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Feb.  
148,860 TOTAL GALLONS TREATED  
0.005 AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
0.008 MAX DAY (MGD)  
YES **WWTP IN COMPLIANCE**  
7.11 TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Mar.  
FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A **WWTP IN COMPLIANCE**  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Plant is off line and sewer is being pump to Piney Green Pump station

Apr.  
FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A **WWTP IN COMPLIANCE**  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

May  
FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A **WWTP IN COMPLIANCE**  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Jun.  
FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A **WWTP IN COMPLIANCE**  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Jul.

FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A WWTP IN COMPLIANCE  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

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Aug.

FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A WWTP IN COMPLIANCE  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

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Sep.

FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A WWTP IN COMPLIANCE  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

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Oct.

FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A WWTP IN COMPLIANCE  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

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Nov.

FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A WWTP IN COMPLIANCE  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

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Dec.

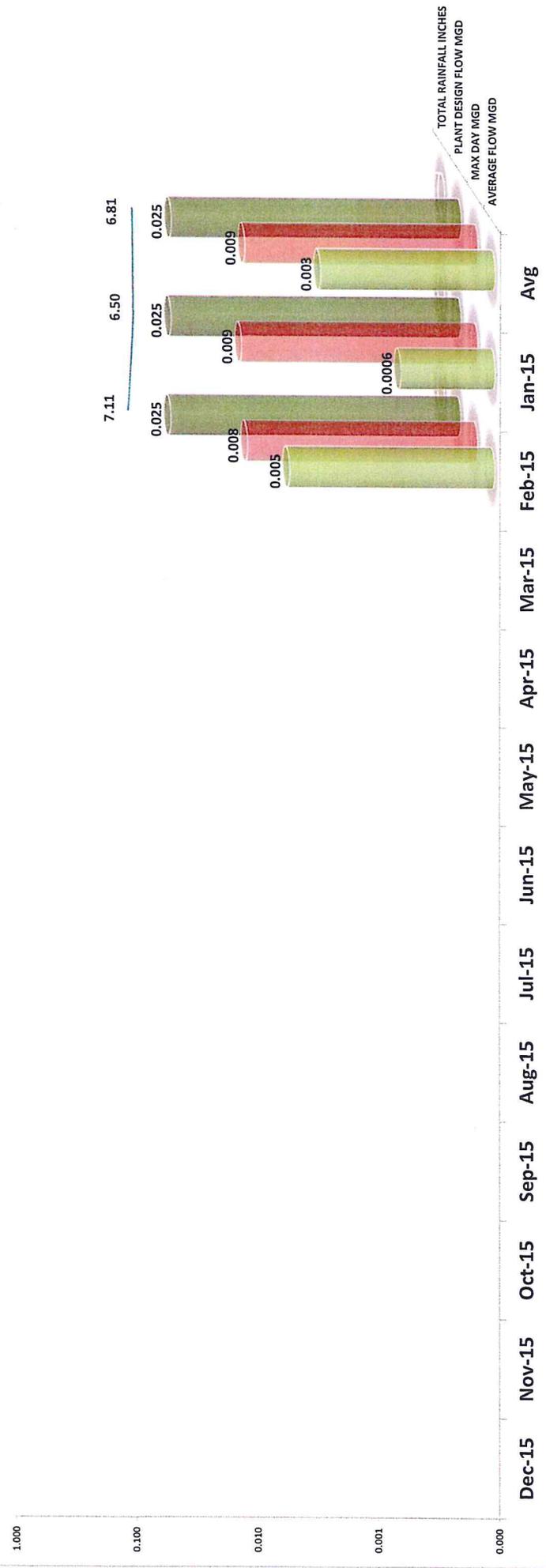
FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.025 MGD)  
N/A MAX DAY (MGD)  
N/A WWTP IN COMPLIANCE  
N/A TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

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322,870 Total Treated  
0.005 Average MG/Day  
0 Total Footage Pipe Cleaned  
0 Total Footage Pipe Videoed

# Webb Apartments WWTP

■ AVERAGE FLOW MGD    
 ■ MAX DAY MGD    
 ■ PLANT DESIGN FLOW MGD    
 ■ TOTAL RAINFALL INCHES



## 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). The average flow at the plant in 2015 was 0.01 MGD, which is 46.7 % of the design flow at the wastewater plant. The facility treated a total of 315,854 gallons during the year which is approximately 10,528 gallons per month. This Plant was taken off line April of 2015, replace by a lift station.

## 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): Allen Rhue  
ORC Type / Grade License: WW4, SI, CS2, SS, PC1  
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 plant discharges to the Little Northeast Creek, 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

2015  
Hickory Grove WWTP  
Annual WW Report

Jan.  
321,700 TOTAL GALLONS TREATED  
0.010 AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
0.100 MAX DAY (MGD)  
YES WWTP IN COMPLIANCE ( If NO Explain -> )  
5.7 TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Feb.  
298,200 TOTAL GALLONS TREATED  
0.011 AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
0.011 MAX DAY (MGD)  
YES WWTP IN COMPLIANCE ( If NO Explain -> )  
7.1 TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Mar.  
21,561 TOTAL GALLONS TREATED  
0.001 AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
0.001 MAX DAY (MGD)  
YES WWTP IN COMPLIANCE ( If NO Explain -> )  
N/A TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Flow is being pumped to Piney Green pump station, Plant is off line.

Apr.  
FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
N/A MAX DAY (MGD)  
N/A WWTP IN COMPLIANCE ( If NO Explain -> )  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

May  
FLOW TO PG TOTAL GALLONS TREATED  
N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
N/A MAX DAY (MGD)  
N/A WWTP IN COMPLIANCE ( If NO Explain -> )  
N/A TOTAL INCHES RAIN FALL  
N/A OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Jun.  
306,100 TOTAL GALLONS TREATED  
0.010 AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
0.010 MAX DAY (MGD)  
YES WWTP IN COMPLIANCE ( If NO Explain -> )  
2.65 TOTAL INCHES RAIN FALL  
NO OVERFLOW AT FACILITY?  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Jul.  
 FLOW TO PG TOTAL GALLONS TREATED  
 N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
 N/A MAX DAY (MGD)  
 N/A WWTP IN COMPLIANCE ( If NO Explain ->)  
 N/A TOTAL INCHES RAIN FALL  
 N/A OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Aug.  
 FLOW TO PG TOTAL GALLONS TREATED  
 N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
 N/A MAX DAY (MGD)  
 N/A WWTP IN COMPLIANCE ( If NO Explain ->)  
 N/A TOTAL INCHES RAIN FALL  
 N/A OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Sep.  
 FLOW TO PG TOTAL GALLONS TREATED  
 N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
 N/A MAX DAY (MGD)  
 N/A WWTP IN COMPLIANCE ( If NO Explain ->)  
 N/A TOTAL INCHES RAIN FALL  
 N/A OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Oct.  
 FLOW TO PG TOTAL GALLONS TREATED  
 N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
 N/A MAX DAY (MGD)  
 N/A WWTP IN COMPLIANCE ( If NO Explain ->)  
 N/A TOTAL INCHES RAIN FALL  
 N/A OVERFLOW AT FACILITY?  
 1,900 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

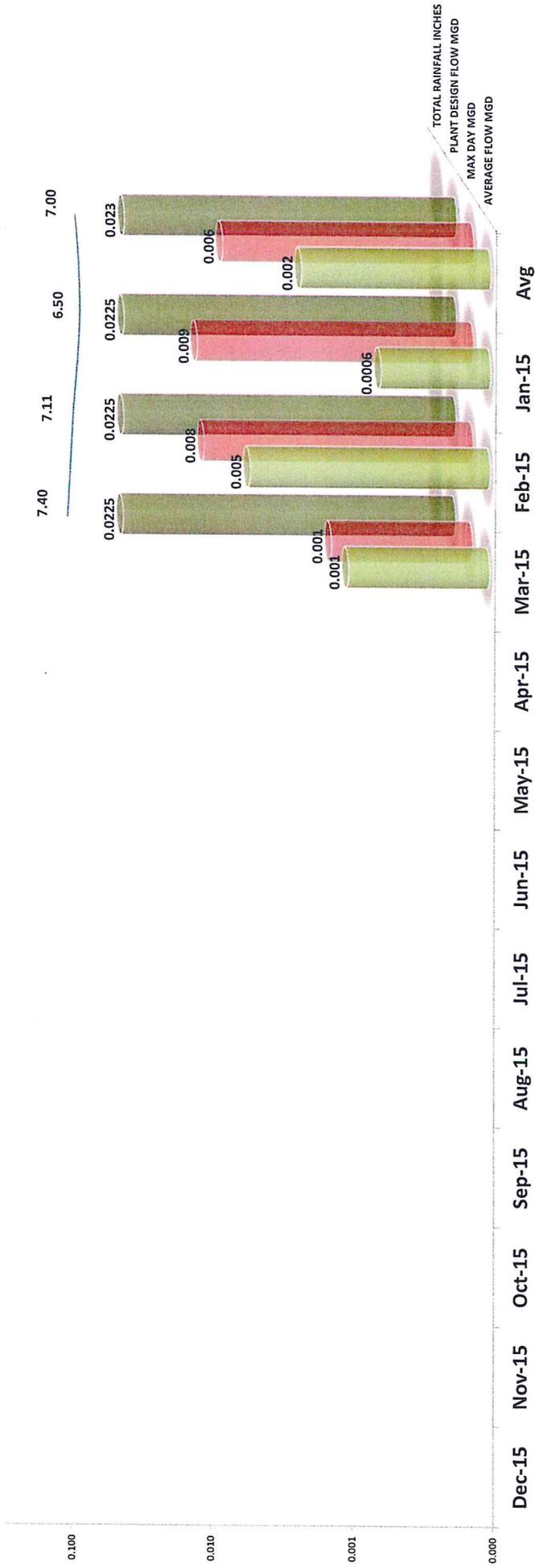
Nov.  
 FLOW TO PG TOTAL GALLONS TREATED  
 N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
 N/A MAX DAY (MGD)  
 N/A WWTP IN COMPLIANCE ( If NO Explain ->)  
 N/A TOTAL INCHES RAIN FALL  
 N/A OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Dec.  
 FLOW TO PG TOTAL GALLONS TREATED  
 N/A AVERAGE FLOW (MGD) (PERMIT FLOW 0.0225 MGD)  
 N/A MAX DAY (MGD)  
 N/A WWTP IN COMPLIANCE ( If NO Explain ->)  
 N/A TOTAL INCHES RAIN FALL  
 N/A OVERFLOW AT FACILITY?  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

947,561 Total Treated  
 0.008 Average MG/Day  
 1,900 Total Footage Pipe Cleaned  
 0 Total Footage Pipe Videoed

# Hickory Grove WWTP

■ AVERAGE FLOW MGD    
 ■ MAX DAY MGD    
 ■ PLANT DESIGN FLOW MGD    
 ■ TOTAL RAINFALL INCHES



## Collection Systems

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 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 consist of fifty one thousand four hundred and forty nine feet (51,449') of gravity sewer ranging from eight inch (8") to fifteen inch (15"), sixty three thousand nine hundred and ninety-three feet (63993') of force mains ranging from four inch (4") to six inch (24"). The system has a total of 10 pump stations; Piney Green is the main pump station that sends the flow directly to the French Creek WWTP on Camp Lejeune.

2015  
Piney Green Collection System  
Annual WW Report

Jan.		
9,294,331	TOTAL GALLONS TO FRENCH CREEK WWTP	
0.300	AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)	
0.840	MAX DAY (MGD)	
6.26	TOTAL INCHES RAIN FALL	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
NO	COLLECTION SYSTEM OVERFLOWS?	

Feb.		
8,652,182	TOTAL GALLONS TO FRENCH CREEK WWTP	
0.309	AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)	
0.422	MAX DAY (MGD)	
5.46	TOTAL INCHES RAIN FALL	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
NO	COLLECTION SYSTEM OVERFLOWS?	

Mar.		
9,308,627	TOTAL GALLONS TO FRENCH CREEK WWTP	
0.300	AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)	
0.402	MAX DAY (MGD)	
3.17	TOTAL INCHES RAIN FALL	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
NO	COLLECTION SYSTEM OVERFLOWS?	

Apr.		
7,993,281	TOTAL GALLONS TO FRENCH CREEK WWTP	
0.266	AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)	
0.297	MAX DAY (MGD)	
2.13	TOTAL INCHES RAIN FALL	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
NO	COLLECTION SYSTEM OVERFLOWS?	

May		
8,361,319	TOTAL GALLONS TO FRENCH CREEK WWTP	The Webb Apts. and Hickory Grove WWTP's are now part of the flow to French Creek WWTP.
0.270	AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)	
0.390	MAX DAY (MGD)	
3.81	TOTAL INCHES RAIN FALL	
0	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
NO	COLLECTION SYSTEM OVERFLOWS?	

Jun.		
9,543,900	TOTAL GALLONS TO FRENCH CREEK WWTP	
0.318	AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)	
0.445	MAX DAY (MGD)	
9.71	TOTAL INCHES RAIN FALL	
1170	COLLECTION SYSTEM PIPE CLEANED	
0	COLLECTION SYSTEM PIPE VIDEOED	
NO	COLLECTION SYSTEM OVERFLOWS?	

Jul.  
 8,064,974 TOTAL GALLONS TO FRENCH CREEK WWTP  
 0.260 AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)  
 0.341 MAX DAY (MGD)  
 0.04 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Aug.  
 9,887,320 TOTAL GALLONS TO FRENCH CREEK WWTP  
 0.319 AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)  
 0.356 MAX DAY (MGD)  
 0.09 TOTAL INCHES RAIN FALL  
 11410 COLLECTION SYSTEM PIPE CLEANED  
 388 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Sep.  
 9,197,274 TOTAL GALLONS TO FRENCH CREEK WWTP  
 0.307 AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)  
 0.970 MAX DAY (MGD)  
 3.8 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Oct.  
 6,096,279 TOTAL GALLONS TO FRENCH CREEK WWTP  
 0.197 AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)  
 0.808 MAX DAY (MGD)  
 9.8 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

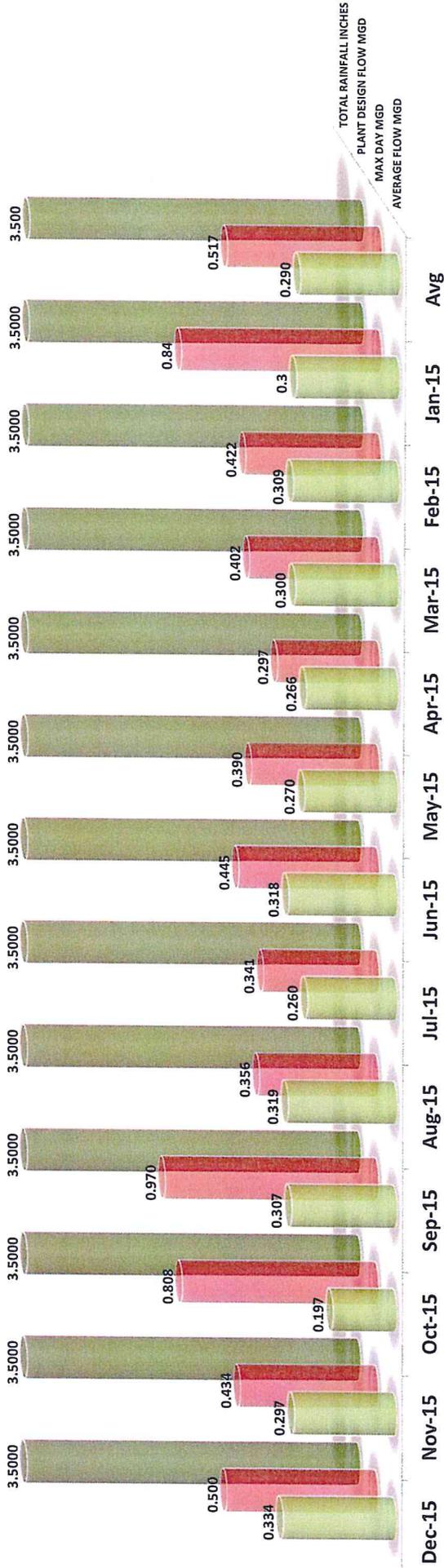
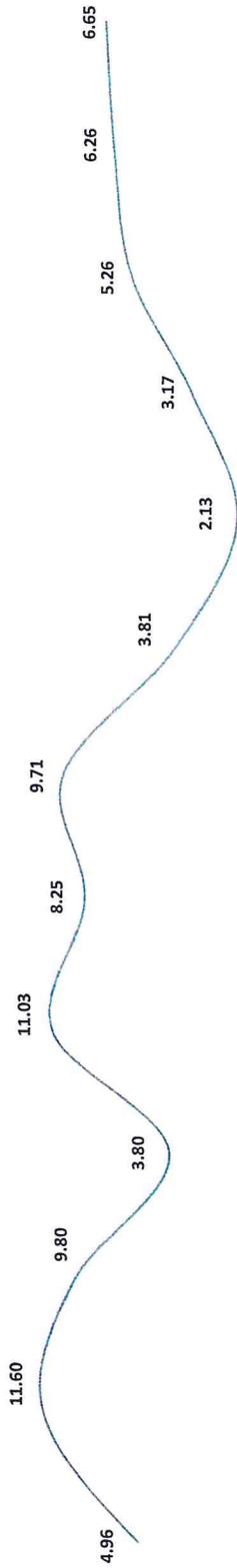
Nov.  
 8,922,579 TOTAL GALLONS TO FRENCH CREEK WWTP  
 0.297 AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)  
 0.434 MAX DAY (MGD)  
 11.6 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Dec.  
 10,356,272 TOTAL GALLONS TO FRENCH CREEK WWTP  
 0.334 AVERAGE FLOW (MGD) (PERMIT FLOW 0.5 MGD)  
 0.500 MAX DAY (MGD)  
 0.5 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

105,678,338 Total Treated  
 0.290 Average MG/Day  
 12580 Total Footage Pipe Cleaned  
 388 Total Footage Pipe Videod

# Piney Green Collection System

█ AVERAGE FLOW MGD    
 █ MAX DAY MGD    
 █ PLANT DESIGN FLOW MGD    
 █ TOTAL RAINFALL INCHES



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

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")

2015  
Springdale Collection System  
Annual WW Report

Jan.  
2,430,615 TOTAL GALLONS TREATED  
0.078 AVERAGE FLOW (MGD)  
0.273 MAX DAY (MGD)  
4.66 TOTAL INCHES RAIN FALL  
734 COLLECTION SYSTEM PIPE CLEANED  
734 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Feb.  
2,239,019 TOTAL GALLONS TREATED  
0.080 AVERAGE FLOW (MGD)  
0.136 MAX DAY (MGD)  
4.79 TOTAL INCHES RAIN FALL  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Mar.  
3,758,684 TOTAL GALLONS TREATED  
0.121 AVERAGE FLOW (MGD)  
0.177 MAX DAY (MGD)  
3.04 TOTAL INCHES RAIN FALL  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Apr.  
1,439,016 TOTAL GALLONS TREATED  
0.048 AVERAGE FLOW (MGD)  
0.055 MAX DAY (MGD)  
2.71 TOTAL INCHES RAIN FALL  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

May  
1,630,914 TOTAL GALLONS TREATED  
0.053 AVERAGE FLOW (MGD)  
0.088 MAX DAY (MGD)  
4.41 TOTAL INCHES RAIN FALL  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Jun.  
1,717,744 TOTAL GALLONS TREATED  
0.057 AVERAGE FLOW (MGD)  
0.078 MAX DAY (MGD)  
3.2 TOTAL INCHES RAIN FALL  
0 COLLECTION SYSTEM PIPE CLEANED  
0 COLLECTION SYSTEM PIPE VIDEOED  
NO COLLECTION SYSTEM OVERFLOWS?

Jul.  
 1,428,191 TOTAL GALLONS TREATED  
 0.046 AVERAGE FLOW (MGD)  
 0.058 MAX DAY (MGD)  
 3.54 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Aug.  
 1,621,379 TOTAL GALLONS TREATED  
 0.052 AVERAGE FLOW (MGD)  
 0.075 MAX DAY (MGD)  
 6.32 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 456 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Sep.  
 1,626,735 TOTAL GALLONS TREATED  
 0.054 AVERAGE FLOW (MGD)  
 0.068 MAX DAY (MGD)  
 3.08 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Oct.  
 2,053,663 TOTAL GALLONS TREATED  
 0.066 AVERAGE FLOW (MGD)  
 0.012 MAX DAY (MGD)  
 9.8 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

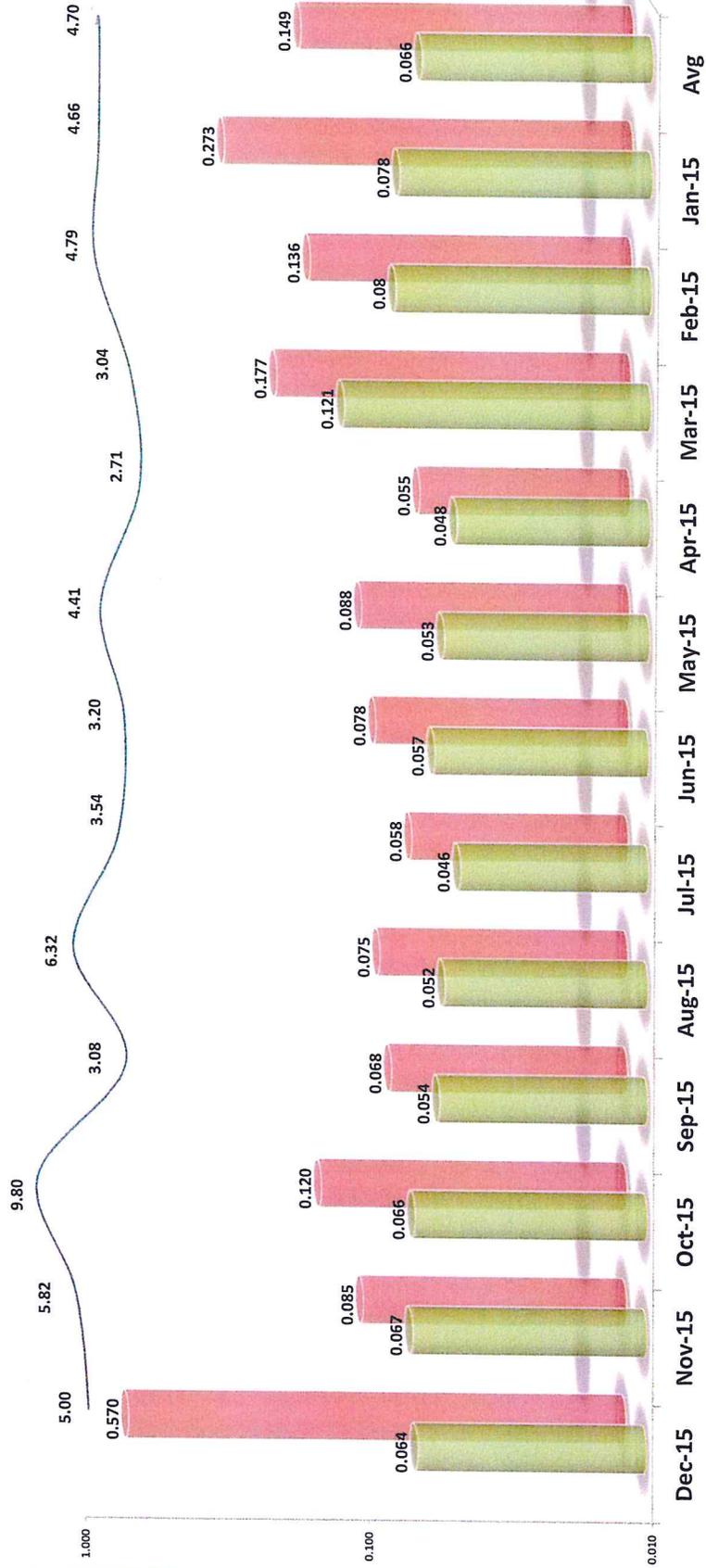
Nov.  
 2,002,084 TOTAL GALLONS TREATED  
 0.067 AVERAGE FLOW (MGD)  
 0.085 MAX DAY (MGD)  
 5.82 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

Dec.  
 1,993,715 TOTAL GALLONS TREATED  
 0.064 AVERAGE FLOW (MGD)  
 0.570 MAX DAY (MGD)  
 5 TOTAL INCHES RAIN FALL  
 0 COLLECTION SYSTEM PIPE CLEANED  
 0 COLLECTION SYSTEM PIPE VIDEOED  
 NO COLLECTION SYSTEM OVERFLOWS?

23,941,759 Total Treated  
 0.066 Average MG/Day  
 734 Total Footage Pipe Cleaned  
 1190 Total Footage Pipe Videoed

# Sprindale Collection System

■ AVERAGE FLOW MGD    
 ■ MAX DAY MGD    
 ■ PLANT DESIGN FLOW MGD    
 TOTAL RAINFALL INCHES



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

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

Description of Facility: This system consist of five (5) pump stations, thirty seven thousand and twenty-eight (37,028') 8" gravity sewer, nineteen thousand eight hundred and forty-two feet (19,842') of force mains ranging from four inch (4") to six inch (8") . Currently the system operates under a Pump and Haul permit issued by NC DENR. The permit number is WQ0036955. This permit allows ONWASA to haul wastewater to either the Holly Ridge treatment plant or the Piney Green collection system for disposal.

## **Collection Systems**

This year ONWASA has added gravity lines and force main to the Piney Green Wastewater Collection System in the amount of: 344 feet of 4 inch force main, 1970 feet of 6 inch force main and 204 feet of 8 inch of gravity sewer. At Hickory Grove the Wastewater Plant has been closed and the Hickory Lift Station was installed to take the flow to Camp Lejeune.

ONWASA also install 56325 feet of 12 inch force main from Burton Park to a New Lift Station on Hwy 258 in Richlands, this flow is sent to the Northwest Regional Reclamation Facility. In this Project the old pump station was taking out of service and 1206 feet of gravity sewer was installed to the new Hwy 258 Pump Station.