

**WASTEWATER COLLECTIONS
AND TREATMENT SYSTEMS
ANNUAL PERFORMANCE REPORT**

July 1, 2015 - June 30, 2016



Fayetteville Public Works Commission

**2015-2016 WASTEWATER COLLECTIONS AND TREATMENT SYSTEMS
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Collections Systems

General Information

Facility/System Name: **Collection System**

Responsible Entity: **Public Works Commission of the City of Fayetteville, Town of Stedman, Hoke County, NORCRESS, and Kelly Hills/Slocomb Road Water and Sewer District**

Person in Charge/Contact: **Chris Rainey, PE, (910) 223-4718**

Applicable Permit(s): **(PWC) WQCS00007, (Stedman) WQCS0537, (Hoke Co.) WQCS00352, (Norcross) WQCS00353**

Description of Collection Systems

The following description of collection systems is for the Public Works Commission of the City of Fayetteville and the four permitted entities with which PWC maintains operation and maintenance agreements.

The Public Works Commission of the City of Fayetteville's sanitary sewer collection system is separated into two basins, the Cross Creek and the Rockfish Creek basins. The collection system consists of approximately 1,293 miles of sewer mains varying in size and material and also includes 72 sewer pumping stations. In addition, 12 privately owned pumping stations are operated and maintained per O & M agreements. Main sizes range from 6" to 60". Wastewater is collected from approximately 85,465 customers in the City of Fayetteville and surrounding Cumberland County area. The PWC serves approximately 21 Industrial, 6 Wholesale, 5,671 Non-Residential, 255 Flat Rate Non-Residential, 71,944 Residential, and 7,503 Flat Rate Residential customers. PWC also provides wastewater service to 83 City of Fayetteville sites and to 15 Public Works Commission sites. The wastewater is conveyed to the Cross Creek and Rockfish Creek Water Reclamation Facilities.

Since March 2001, PWC has operated and maintained the Town of Stedman sanitary sewer system, owned by the Town of Stedman. The system serves approximately 583 customers (516 residential and 67 non-residential) and consists of approximately 22.1 miles of sanitary sewer mains and 4 pumping stations. The wastewater from Stedman is conveyed to the Rockfish Creek Water Reclamation Facility.

From October 2002 to April 2016, PWC operated and maintained the Hoke County sanitary sewer system, owned by Hoke County. The system currently serves 1,530 customers (1,517 residential and 13 non-residential) and consists of approximately 23 miles of sewer mains and 5 pumping stations. The wastewater from Hoke County was conveyed to the Rockfish Creek Water Reclamation Facility. As of May 2016, Hoke County assumed operation and maintenance of their collection system and the wastewater from Hoke County was then conveyed to the new Hoke County reclamation facility.

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In September 2005, PWC began operation and maintenance of the NORCRESS (Wade, Godwin, and Falcon) sanitary sewer system, owned by Cumberland County. The system serves 480 customers (418 residential and

62 non-residential) and consists of approximately 35.3 miles of sanitary sewer mains and 4 pumping stations. The wastewater from NORCRESS is conveyed to the Cross Creek Water Reclamation Facility.

PWC also maintains and operates the Kelly Hills / Slocomb Road Water & Sewer District sanitary sewer collection system, owned by Cumberland County. The system serves approximately 101 customers (all residential) and consists of approximately 4.5 miles of sanitary sewer mains. The wastewater from Kelly Hills / Slocomb Road Water & Sewer District is conveyed to the Cross Creek Water Reclamation Facility.

Public Works Commission of the City of Fayetteville WQCS00007 - Summary of Collections System Performance for Fiscal Year (July 2015 – June 2016)

During the Fiscal Year July 2015 – June 2016, approximately **9.417** billion gallons of wastewater were conveyed to the Cross Creek and Rockfish Creek Water Reclamation Facilities. Sanitary sewer overflows totaling 12,724 gallons or .000002% of total gallons conveyed were reported to the NC Department of Environment and Natural Resources, Water Quality Division. Monthly estimates are as follows:

<u>Month</u>	<u>Gallons</u>	<u>Month</u>	<u>Gallons</u>
July	0	January	0
August	0	February	721
September	4628	March	183
October	72	April	600
November	596	May	3659
December	2265	June	0

Public Works Commission Collections System Performance for Fiscal Year (July 2015-June 2016) (continued)

Sanitary sewer overflow events in which volumes exceeding 1,000 gallons overflowed and reached surface waters are included in the monthly estimates and are shown separately as follows:

Event 1: **Date:** 9/16/15 **Gallons:** 4,624

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Location:

1010 Bramblegate Road

Description:

PWC's sewer main rehabilitation contractor had a failure of the bypass system which was in place while they were cleaning a sewer main in preparation for lining it. The bypass system was installed and maintained by a subcontractor of the sewer main rehab contractor. The failure of the bypass system was a result of the bypass contractor and the rehabilitation contractor not understanding the dynamics of the system and not properly monitoring the pumps and sewer level.

Corrective measures:

PWC and the rehabilitation contractor removed the plug from the sewer main and allowed the sewer system to flow normally. Once the plug was removed the flow returned to normal conditions and relieved the surcharging in the system. Waste residue was removed from spill location and affected area was treated with lime and odor counteractant. No negative environmental impact was associated with this spill. PWC, the sewer main rehabilitation contractor, and the bypass subcontractor met following the correction of the situation to discuss the cause of the overflow and develop a process to eliminate that from occurring again.

Event 2: **Date:** 12/28/2015 **Gallons:** 2,263

Location:

214 Cochran Avenue

Description:

A section of the sewer main collapsed as a result of storm water erosion on the hillside adjacent to the sewer easement. The collapsed sewer main caused the sewer overflow

Corrective measures:

Three combination vacuum/jetter trucks were used upstream of pipe collapse to maintain flow and ending spill incident. A sewer bypass pumping system was installed and the collapsed section of sewer main replaced. No cleanup of the spill site was needed as the volume of the sewer overflow entering the unnamed tributary was heavily diluted due to the passing rainfall event on and after the spill date. Sections of the sewer main in this area were added to the sewer main rehabilitation schedule to prevent future issues with the existing main. No negative environmental impact was associated with this spill.

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Event 3: **Date:** 5/5/2016 **Gallons:** 3,484

Location:

134 Peace Street (Manhole in the street at Hillsboro Street Intersection)

Description:

Blockage in sewer main caused by commercial grade paper towels. The blockage caused wastewater to overflow at nearest upstream manhole.

Corrective measures:

Sewer main was jet-rodded to clear blockage. Waste residue was removed from spill location and affected area in the street was treated with odor counteractant. Sewer main cleaning and CCTV inspections were conducted upstream and downstream of spill location. No negative environmental impact was associated with this spill. A rainfall event occurred this morning which helped dilute the wastewater and flush the storm drainage system. A late evening rain event further diluted the wastewater and flushed the storm drainage system.

Town of Stedman WQCS0537 - Summary of Collections System Performance for Fiscal Year (July 2015 – June 2016)

During the Fiscal Year July 2015 – June 2016, approximately 46.6 million gallons of wastewater were conveyed to the PWC collection system and treated at the Rockfish Creek Water Reclamation Facility. No reportable sanitary sewer overflows were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

Hoke County WQCS00352 - Summary of Collections System Performance for Fiscal Year (July 2015 – June 2016)

During the Fiscal Year July 2015 – June 2016, approximately 76.3 million gallons of wastewater were conveyed to the PWC collection system and treated at the Rockfish Creek Water Reclamation Facility. No reportable sanitary sewer overflows were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

NORCRESS WQCS00353 - Summary of Collections System Performance for Fiscal Year (July 2015 – June 2016)

During the Fiscal Year July 2015 – June 2016, approximately 49.2 million gallons of wastewater were conveyed to the PWC collection system and treated at the Cross Creek Water Reclamation Facility. No reportable sanitary sewer overflows were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

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Kelly Hills - Summary of Collections System Performance for Fiscal Year (July 2015 – June 2016)

During the Fiscal Year July 2015 – June 2016, approximately 1.3 million gallons of wastewater were conveyed to the PWC collection system and treated at the Cross Creek Water Reclamation Facility. No reportable sanitary sewer overflows were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

Note: Copies of sanitary sewer overflows are on file at the Public Works Commission's Water Resources Construction Department located at 955 Old Wilmington Road.

Treatment Systems

General Information

Facility/System Name: **Cross Creek Water Reclamation Facility**

Responsible Entity: **Public Works Commission of the City of Fayetteville**

Persons in Charge/Contact: **Michael Scott McCoy - Facilities Supervisor (910) 223-4757**
Wendell "Chuck" Baxley – Facilities Manager (910) 223-4701

Applicable Permit(s): **NPDES NC0023957**
WQ0000527
NCGNE1080

Description of Treatment Process

The Cross Creek facility is permitted to process 25 million gallons per day (MGD) of wastewater. The treatment processes consist of an influent pump station, mechanical bar screens, grit removal, primary clarification, activated sludge system with nitrification, secondary clarification, filtration, disinfection, and de-chlorination. Biosolids generated by these processes are stabilized through anaerobic digestion and recycled as a fertilizer and soil conditioner to various land application sites.

Summary of Treatment System Performance for Fiscal Year (July 2015 – June 2016)

The Cross Creek Water Reclamation Facility consistently met all permit requirements and had no Notices of Violation (NOV) pertaining to the proper return of treated wastewater into the Cape Fear River.

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Treatment Systems

General Information

Facility/System Name: **Rockfish Creek Water Reclamation Facility**

Responsible Entity: **Public Works Commission of the City of Fayetteville**

Persons in Charge/Contact: **Michael Scott McCoy - Facilities Supervisor (910) 223-4757**
Wendell “Chuck” Baxley – Facilities Manager (910) 223-4701

Applicable Permit(s): **NPDES NC0050105**
WQ0000527
NCGNE0613

Description of Treatment Process

The Rockfish Creek facility is permitted to process 21 million gallons per day (MGD) of wastewater. The treatment processes consist of an influent pump station, mechanical bar screens, grit removal, activated sludge system with nitrification, secondary clarification, filtration, disinfection and de-chlorination. Biosolids generated by these processes are stabilized through aerobic digestion and recycled as a fertilizer and soil conditioner to various land application sites.

Summary of Treatment System Performance for Fiscal Year (July 2015 – June 2016)

The Rockfish Creek Water Reclamation Facility consistently met all permit requirements and had no Notices of Violation (NOV) pertaining to the proper return of treated wastewater into the Cape Fear River.

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Notification and Certification

Prevention

During the time from July 2015 - June 2016, PWC made the following efforts to reduce overflows as associated with grease:

- Conducted a public information campaign that included radio & television advertising; information in quarterly customer newsletter; and several customer targeted messages about proper grease disposal.
- Provided 3300 "Fat Trapper" grease disposal containers to customers as part of "Cease the Grease" Education program.
- Conducted priority cleaning and rehabilitation of "targeted problem" sewer lines.
- Conducted ten (10) phone broadcasts targeted to customers in identified grease problem areas.

Notification

The report shall be available on the Public Works Commission's web site (www.faypwc.com) and at the PWC Communications/Community Relations Office (910-223-4009). A statement of availability will be included in customers' billing.

Certification

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify this report has been made available to the users or customers of the named system and those users have been notified of its availability.



M. J. Noland
Chief Operating Officer-Water Resources Division
Public Works Commission of the City of Fayetteville

8/24/2016

Date