

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

July 1, 2022 - June 30, 2023



Fayetteville Public Works Commission

The Fayetteville Public Works Commission enjoyed another year of truly excellent performance at both of our treatment plants and the collection systems which they serve. Our plants have been recognized by the NC Department of Environmental Quality as "Exceptionally Performing Facilities." We had 16 events where sewage was released from the collection system, and these occurrences were mostly due to factors beyond our control. At both the treatment plants and in our sewage collection systems, this is an extremely high level of service and system reliability that we will strive to maintain. The following provides a summary of all collection system overflows and treatment plant permit exceedances.

Collections Systems

General Information

Facility/System Name: **Collection System**

Responsible Entity: **Public Works Commission of the City of Fayetteville, Town of Stedman, 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) WQCSD0537, (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 three 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 includes 74 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 92,786 customers in the City of Fayetteville and surrounding Cumberland County area. The PWC serves approximately 17 Industrial, 6 Wholesale, 6,191 Non-Residential, 248 Flat Rate Non-Residential, 77,538 Residential, and 8682 Flat Rate Residential customers. PWC also provides wastewater service to 92 City of Fayetteville sites and to 12 Public Works Commission locations. 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 644 customers (597 residential and 47 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.

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 433 customers (379 residential and 54 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.

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Public Works Commission of the City of Fayetteville WQCS00007 - Summary of Collections System Performance for Fiscal Year (July 2022 – June 2023)

During the Fiscal Year July 2022 – June 2023, approximately 9.17 billion gallons of wastewater were conveyed to the Cross Creek and Rockfish Creek Water Reclamation Facilities. Sanitary sewer overflows totaling 74,852 gallons or .00001% 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	15798
August	4530	February	0
September	0	March	19000
October	465	April	11209
November	0	May	0
December	9150	June	14700

Public Works Commission Collections System Performance for Fiscal Year (July 2022-June 2023)
(continued)

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

Event 1: **Date:** 8/9/22 **Gallons:** 1200

Location:
304 Point Place

Description:
This SSO was the result of damage by a third party. A utility contractor installing fiber optic conduit damaged the sanitary sewer force main during a boring operation. The utility contractor had cut a hole in the pavement to spot the force main, but during the boring operation they hit the pipe. Sewer was released through the hole in the pavement they had cut and entered into a nearby storm drainage system.

Corrective measures:
PWC staff shut off a nearby lift station and combination vacuum/jetter trucks were used to maintain the flow coming into the lift station. PWC maintenance crews repaired the force main and then put the lift station back into service. The wastewater which entered the storm drainage system and subsequently a drainage ditch was able to be reclaimed and nothing reached surface waters. The storm drainage system was cleaned, and water used for cleaning was reclaimed. The drainage ditch was treated with lime after cleanup was completed.

Event 2: **Date:** 8/17/22 **Gallons:** 30

Location:

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5449 Thompson Circle

Description:

This SSO was the result of a third-party damage. Resident reported that wastewater was exiting from the ground around a private driveway. PWC maintenance staff responded and determined that the sewer lateral for the residence had been damaged during a recent boring operation by a utility contractor.

Corrective measures:

PWC maintenance staff repaired the damaged section of sewer lateral. The resident ceased water usage during the repair work which ended the spill incident. Wastewater which exited from the sewer lateral entered into a nearby storm drainage system and mixed with actively flowing groundwater, therefore it could not be reclaimed. Maintenance staff did flush the storm drainage system with potable water and reclaimed the water and wastewater debris generated by the flushing operation.

Event 3: **Date:** 8/23/22 **Gallons:** 3300

Location:

441 Creek Run Trail

Description:

This SSO was the result of a grease blockage. A mainline blockage was reported by City of Fayetteville stormwater staff. Due to the extent of the grease blockage, wastewater exited from consecutive manholes in the street and parking area. The wastewater entered into a nearby storm drainage system.

Corrective measures:

PWC staff were notified and responded to address the situation. The sewer main was jet rodded to eliminate the grease blockage and end the spill incident. The affected roadway and parking area were cleaned to remove wastewater residue and the affected storm drainage system was cleaned. Main cleaning and CCTV inspections upstream and downstream of the blockage confirmed removal of the grease buildup. Sampling at the spill location was conducted and results forwarded to the DWR-FRO.

Event 4: **Date:** 10/13/22 **Gallons:** 460

Location:

2001 Pinelawn Court

Description:

This SSO was the result of a grease and debris blockage in the sewer main coupled with a damaged cleanout stack creating an overflow. The grease and debris blockage was discovered by PWC maintenance staff conducting a scheduled field inspection of the sewer mains in the area. Staff observed wastewater exiting from a broken cleanout stack connecting service piping into a manhole.

Corrective measures:

Maintenance staff immediately notified supervision of the issue and executed repairs on the cleanout stack. The sewer main was jet rodded to clear the grease and debris blockage and end the spill incident. Wastewater exited

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from the cleanout and a portion entered into the unnamed tributary and a portion soaked into the surrounding soil. The area around the cleanout was treated with lime and odor neutralizer. Main cleaning and CCTV inspections were conducted upstream and downstream of the blockage location to verify removal of the grease and debris.

Event 5: **Date:** 10/14/22 **Gallons:** 5

Location:
3014 Ravenhill Drive

Description:
This SSO was the result of a pipe failure on a 4” lateral pipe. The service lateral pipe failure was discovered by PWC maintenance staff conducting a scheduled inspection of priority lines along the nearby outfall which paralleled the stream channel.

Corrective measures:
Additional PWC maintenance staff were dispatched to conduct temporary repairs to the lateral. There was not an active spill occurring at the time of the discovery, but there was evidence there had previously been an overflow. The temporary repairs corrected the issue until the permanent repair could be completed. PWC maintenance staff scheduled and completed permanent repairs which included complete replacement of the lateral piping from the PWC sewer main to the property line.

Event 6: **Date:** 12/12/22 **Gallons:** 3000

Location:
1105 Pamalee Drive

Description:
This SSO was the result of a grease blockage in the sewer main. The overflow was discovered by the PWC night crew who were responding to a nearby water distribution system issue which had been reported by the Fayetteville Fire Department. On call sewer maintenance personnel were immediately dispatched to evaluate and address the sewer issue.

Corrective measures:
The sewer main was jet rodded to clear the grease blockage and end the spill incident. The wastewater which escaped entered into a nearby storm drainage system, which was tributary to an unnamed tributary to Clark’s Pond tributary to the Little Cross Creek. The wastewater which entered the storm drainage system could not be reclaimed as it mixed with actively flowing ground water. The drainage system was flushed with potable water and the water used for cleaning and wastewater residue was reclaimed. The area in and out of the paved area was cleaned and wastewater residue removed. Main cleaning and CCTV inspections upstream and downstream of the blockage were conducted to confirm the removal of the grease buildup.

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Corrective measures:

PWC maintenance staff jet rodded the sewer main to clear the blockage and end the spill incident. Approximately 75% of the exiting wastewater entered the unnamed tributary and was unable to be reclaimed. The remaining 25% of wastewater was held in a low-lying area of the easement. The wastewater and wastewater debris that was ponded in the low-lying area was reclaimed. The surrounding area was treated with lime and odor neutralizer. Main cleaning and cctv inspections were conducted upstream and downstream of the blockage location to confirm removal of the grease and debris.

Event 10: **Date:** 1/31/23 **Gallons:** 8

Location: 521 Bramblegate Road

Description:

This SSO was the result of a pipe failure with a sewer service lateral. The failure was discovered by PWC maintenance staff conducting CCTV inspections of the service laterals in this subdivision. The service laterals in this neighborhood were sub-stream crossings when they were initially installed. Over the years erosion in the stream channel had led to deepening of the channel and exposure of the lateral piping. It is believed that stormwater debris during heavy rain events caused the damage to the lateral piping. There was not an active spill occurring at the time of PWC's identification of the issue. The spill occurred as maintenance staff were removing and replacing the lateral piping.

Corrective measures:

PWC maintenance personnel responded and replaced the lateral piping which was damaged. The wastewater which exited the lateral during the repair entered into the stream and was unable to be reclaimed. PWC engineering staff is evaluating the area, where there are numerous laterals crossing the stream, to determine the best course of action to develop a permanent resolution.

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Event 11: **Date:** 3/19/23 **Gallons:** 19,000

Location:
206 Saxony Place

Description:
This SSO was the result of a grease and debris blockage in the sewer main. A private resident reported the issue to PWC and maintenance staff responded to evaluate and correct the issue. Due to the blockage, wastewater exited from a sewer manhole in the easement area and ponded in a low-lying area and some entered into an unnamed tributary to Blounts Creek.

Corrective measures:
PWC maintenance staff jet rodded the sewer main to clear the grease and debris blockage and end the spill incident. Due to the topography of the spill location, a portion of the wastewater ponded in a low-lying area and the rest of the volume entered the unnamed tributary to Blounts Creek. The wastewater and wastewater debris ponding in the low-lying area was reclaimed by PWC crews. The affected area was treated with lime and odor neutralizer. Main cleaning and CCTV inspections were conducted upstream and downstream of the blockage to ensure that all grease and debris had been removed.

Event 12: **Date:** 4/3/23 **Gallons:** 9

Location:
3206 Kentyre Drive

Description:
This SSO was the result of a sewer service lateral blockage caused by tuberculation of the lateral piping. A PWC collection system inspection team identified the issue while doing nearby priority crossing inspections. PWC supervision was immediately notified, and emergency maintenance personnel were dispatched. At the time of PWC identifying the issue there was not an active overflow occurring, but there was evidence of a previous overflow. The exiting wastewater from the cleanout stack had entered a catch basin which was tributary to Tallywood Lake which is tributary to Branson Creek. It was discovered that the resident had removed the PWC cleanout cap and constructed a small channel to direct the wastewater into the curb line and subsequently the catch basin.

Corrective measures:
PWC maintenance personnel jet rodded the sewer lateral to clear the blockage in the tuberculated pipe. PWC crews scheduled and completed the renewal of the sewer lateral to eliminate the tuberculated cast iron piping. Wastewater which had entered the nearby catch basin could not be reclaimed as it mixed with actively moving groundwater in the storm drainage system. The storm drainage system was flushed with potable water and the water used to clean the storm drainage system was reclaimed along with wastewater residue. The affected area was treated with lime.

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Event 13: **Date:** 4/5/23 **Gallons:** 11,200

Location:
206 Saxony Place

Description:
This SSO was the result of a debris blockage in the sewer main as a result of a third-party contractor's activities. The contractor was performing manhole rehabilitation work upstream of the spill location. As part of their work activity they pressure wash the inside of the manhole prior to installing a cured in place liner. The contractor did not capture all of the debris generated by their work activities and pieces of concrete, pieces of bricks, and other aggregate were allowed to enter the sanitary sewer flow. The debris collected at a point downstream and caused the blockage. PWC was notified of the overflow by a private resident in the area.

Corrective measures:
PWC staff jet rodded the sewer main to remove the debris blockage and end the spill incident. Due to the topography of the spill location some of the wastewater ponded in a low-lying area and the rest entered into an unnamed tributary to Blounts Creek. The wastewater which ponded in the low-lying area was reclaimed. The affected area was treated with lime and odor neutralizer. Main cleaning and CCTV inspections were conducted upstream and downstream of the blockage location to verify that all debris had been removed.

Event 14: **Date:** 6/29/23 **Gallons:** 14,700

Location:
698 Ann Street

Description:
This SSO was the result of the failure of an air release valve connection on the ferric sludge line between the PO Hoffer water treatment facility and the Cross Creek WWTP. The ferric sludge was escaping from the air relief valve manhole in an easement area between the two plants. The PWC herbicide contractor treating an electric utility easement discovered the overflow and contacted PWC. PWC maintenance staff was immediately dispatched to evaluate the issue.

Corrective measures:
PWC maintenance staff identified the material escaping the manhole as ferric sludge from the nearby force main sludge line. Staff made contact with the operator at the PO Hoffer plant and requested that the pumps on the ferric sludge line be shut down immediately which ended the spill incident. The ferric sludge material which exited the manhole ponded in a large wooded and heavily vegetated area adjacent to and including the easement area. PWC water facilities maintenance staff responded and repaired the air release valve connection. The pumps at PO Hoffer were restarted to put the force main back into service and to confirm the success of the repairs. The area of the spill was in a very difficult area to access. PWC retained the services of a contractor to do the cleanup of the spill area. PWC maintenance staff and contractor personnel worked together to construct the needed access road to get into the site for removal of the ferric sludge. PWC communicated with DWR-FRO staff to keep them updated on the progress of the cleanup efforts. The contractor hauled the material to the PWC Rockfish Creek WWTP and placed it in the drying beds at the plant to allow the materials to dry out prior to permanent disposal.

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Town of Stedman WQCSD0537 - Summary of Collections System Performance for Fiscal Year (July 2022 – June 2023)

During the Fiscal Year July 2022 – June 2023, 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.

NORCRESS WQCS00353 - Summary of Collections System Performance for Fiscal Year (July 2022 – June 2023)

During the Fiscal Year July 2022 – June 2023, approximately 49.2 million gallons of wastewater were conveyed to the PWC collection system and treated at the Cross Creek Water Reclamation Facility. NORCRESS had one reportable sanitary sewer overflow were reported to the NC Department of Environment and Natural Resources, Water Quality Division.

Event 1: **Date:** 7/15/2022 **Gallons:** 2,485

Location:
6820 Lucas Street – LS #92

Description:
This SSO was the result of a severe natural condition. Regional flooding associated with a rain event on 7/14/22 and 7/15/22 led to the inundation of the upstream collection system. The lift station continued normal operations until the upstream flows inundated the station.

Corrective measures:
PWC maintenance personnel used multiple combination vacuum/jetter trucks to maintain the incoming flow at the lift station in order to end the spill incident. Crews pumped and hauled wastewater until the lift station could maintain the incoming flow on its own. Wastewater which exited the lift station could not be reclaimed as it mixed with actively moving groundwater around the station.

Kelly Hills - Summary of Collections System Performance for Fiscal Year (July 2022 – June 2023)

During the Fiscal Year July 2022 – June 2023, 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.

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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 2022 – June 2023)

The Cross Creek Water Reclamation Facility consistently met all permit requirements in the fiscal year.

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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
NCGNE061**

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 2022 – June 2023)

The Rockfish Creek Water Reclamation Facility consistently met all permit requirements in the fiscal year.

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Notification and Certification

Prevention

During the time from July 2022 - June 2023, 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.
- Provided approximately 1,200 "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 customer targeted messages about proper grease and wipes disposal using mailings, outbound calls, eblast and Nextdoor social media posts in identified grease/wipes problem areas.

Notification

The report shall be available on the Fayetteville 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
Fayetteville Public Works Commission

8/30/23

Date