

UNION COUNTY, NORTH CAROLINA

DEPARTMENT OF PUBLIC WORKS



WASTEWATER SYSTEM PERFORMANCE SUMMARY

(FISCAL YEAR 2014-2015)

Wastewater Plants

Twelve Mile Creek WRF – NC0085359
Crooked Creek WRF – NC0069841
Olde Sycamore WRF – WQ0011928
Tallwood WWTP – NC0069523
Grassy Branch WWTP – NC0085812
Hunley WWTP – NC0072508

Collection System

WQCS00054

BioSolids – Land Application

WQ0007486

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1.0 INTRODUCTION

House Bill 1160, the Clean Water Act of 1999, was ratified by the North Carolina General Assembly on July 20, 1999 and signed into law by the Governor on July 21, 1999. This legislation placed significant reporting requirements on entities that own or operate wastewater systems. This Performance Summary is intended to establish compliance with this rule.

Union County Public Works (UCPW) is charged with the management, operation and maintenance of the County's sanitary sewer system. During the 2014-15 fiscal year the wastewater system was comprised of 5 active wastewater treatment plants (WWTP), approximately 67 wastewater pumping stations, and over 635 miles of pipe with 33,047 connections. In addition to the 5 WWTPs which have a combined rated treatment capacity of 8.15 million gallons per day (MGD), the County, through contractual agreement, has 2.65 MGD and 3.0 MGD of purchased capacity at the City of Monroe WWTP and Charlotte's McAlpine Creek WWTP respectively.

Public Works' Mission Statement is as follows:

Develop water, sewer and solid waste infrastructure that supports residential, commercial, industrial and agricultural needs while meeting Federal/State regulations and providing our customer base with acceptable levels of service at cost effective rates

2.0 DEFINITIONS

For the purposes of this Performance Report the following definitions apply:

- **Aerobic** – A condition in which atmospheric or dissolved molecular oxygen is present in the aquatic environment.
- **Automatic Telephone Dialer or ATD** – A device connected to the telephone system that will call programmed telephone numbers to alert people of equipment status.
- **Biological Nutrient removal** – The process of removing nitrogen and phosphorus from wastewater using biological processes as opposed to chemical means.
- **Biosolids** – A primarily organic solid product, produced by wastewater treatment processes that can be beneficially recycled. The word *biosolids* replaces the word *sludge*.
- **BOD – Biochemical Oxygen Demand** – The rate at which organisms use the oxygen in water or wastewater while stabilizing decomposable organic matter under aerobic conditions. The BOD Test is a procedure that measures the rate of oxygen use under controlled conditions of

time and temperature. BOD is typically used to express the “strength” of wastewater.

- **CL₂ – Chlorine Residual** – The amount of chlorine present in the final effluent after disinfection. Typically measured in micrograms per liter or milligrams per liter.
- **D.O. – Dissolved Oxygen** – Molecular (atmospheric) oxygen dissolved in a liquid.
- **Effluent** – Treated wastewater flowing from the treatment system.
- **Extended Aeration** – A type of wastewater treatment facility in which the wastewater is retained and treated for a minimum of 24 hours at design flow before discharge occurs.
- **Impeller**- A rotating set of vanes in a pump designed to pump or lift water.
- **Inflow and Infiltration (I&I)** - extraneous water that enters the sanitary sewer system through openings and/or defects in the collection system.
- **Fecal Coliform** – The coliform (bacteria) found in the feces of warm blooded animals. The presence of coliform-group bacteria is an indication of possible pathogenic bacterial contamination.
- **MGD – Million Gallons per Day** – Volumetric measurement of flow converted to millions. Example 150,000 gallons per day (gpd) / 1,000,000 = 0.150 MGD.
- **NH₃ – Nitrogen as Ammonia** – A compound found naturally in wastewater. The compound is produced by the deamination of organic nitrogen containing compounds.
- **NPDES Permit – National Pollutant Discharge Elimination System - Permits**, required by the Federal Water Pollution Control Act Amendments of 1972, which regulate discharges to surface waters.
- **pH** – The expression of the intensity of the basic or acidic condition of a liquid.
- **Pump Station** – A holding tank with pumps that forces wastewater uphill when flow by gravity is not possible.
- **Reclaimed Water** – Highly treated wastewater that has undergone advanced treatment processes to remove solids, organics, and pathogens meeting the State’s Health and Safety Standards for Beneficial Reuse.
- **SCADA** – Acronym for “*supervisory control and data acquisition*”, a computer system for gathering and analyzing real-time data.
- **SBR – Sequencing Batch Reactor** – A type of wastewater treatment facility that treats and discharges water in batches as opposed to continuous flow.
- **SSO** – Acronym for “**sanitary sewer overflow**”
- **Telemetry** – A system by which information pertaining to remote equipment status is transmitted via radio waves to a central location.
- **TSS – Total Suspended Solids** – Particles suspended in a liquid.

- **Turbidity** – The measurement of the clearness or cloudiness of a liquid.

3.0 SYNOPSIS OF WASTEWATER TREATMENT FACILITIES (Fiscal Year 2014-2015)

During the 2014-15 fiscal year the Department of Public Works operated and maintained a total of five (5) active wastewater treatment facilities and maintained one (1) inactive facility. Although each Permit requires facility visitation daily, excluding weekends and holidays, Public Works' wastewater treatment facilities are checked 7 days per week, 365 days per year. All treatment facilities are equipped with emergency back-up power generators. In addition to SCADA, each facility has both audible and visual trouble alarms. Wastewater treatment plant staff rotate "call duty" for after hour situations that may arise.

A brief overview of each facility and a performance summary table for each facility is provided herein.

3.1 Twelve Mile Creek Water Reclamation Facility

Permit No. NC0085359. Twelve Mile is an extended aeration facility utilizing biological nutrient removal and tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). Twelve Mile effluent is discharged into Twelve Mile Creek, which is part of the Catawba River Basin. The facility is permitted to discharge up to 6.0 MGD of treated wastewater. Twelve Mile Creek WWTP is located at 8299 Kensington Drive and serves Waxhaw as well as portions of Indian Trail, Stallings and Weddington. Please refer to Table 3-1.

3.2 Crooked Creek Water Reclamation Facility

Permit No. NC0069841. Crooked Creek is an extended aeration facility utilizing tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). Crooked Creek effluent is pumped over 17,000 feet to discharge into the North Fork Crooked Creek which lies in the Yadkin Pee Dee River Basin. This facility is permitted to discharge up to 1.9 MGD of treated wastewater. Crooked Creek is located at 4015 Sardis Church Road and serves the Indian Trail, Lake Park and Stallings areas. Please refer to Table 3-2.

3.3 Hunley Creek Wastewater Treatment Plant

Permit No. NC0072508. The facility was taken out of service May 10, 2006, via a flow diversion project and remains inactive. Hunley Creek is located at 6913 Stevens Mill Road. Due to "Inactive Status" of the Hunley Creek WWTP, there was no data to report to Table 3-3 for fiscal year 2014-15.

3.4 Olde Sycamore Water Reclamation Facility

Permit No. WQ0011928. Olde Sycamore is an extended aeration facility with tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). This facility is permitted to discharge up to .150 MGD of treated wastewater. Olde Sycamore was “up-fitted” in early 2012 to improve operating efficiency (reduced electrical consumption) by implementing usage of fine-bubble diffused aeration versus the former “coarse-bubble” aeration. Olde Sycamore serves the Olde Sycamore Golf Community located off Highway 218 and Rock Hill Church Road. Olde Sycamore effluent is discharged to a man-made impoundment from which it is then pumped onto the Olde Sycamore Golf Course as a source of irrigation. Please refer to Table 3-4.

3.5 Tallwood Estates Wastewater Treatment Plant

Permit No. NC0069523. Tallwood is an extended aeration facility with tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). This facility is permitted to discharge up to .05 MGD of treated wastewater. Tallwood plant was replaced in 2013 with a new facility. Tallwood is located within and serves the Tallwood Subdivision off Brief Road and Belk Boy Scout Camp. Tallwood effluent is discharged to Clear Creek, which lies in the Yadkin Pee Dee River Basin. Please refer to Table 3-5.

3.6 Grassy Branch Wastewater Treatment Plant

Permit No. NC0085812. Grassy Branch is an extended aeration facility with tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). This facility is permitted to discharge up to .05 MGD of treated wastewater. Grassy Branch is located at 1629 Old Fish Road and currently serves the Unionville Elementary, Piedmont Middle and Piedmont High School as well as one individual residence, Loxdale Farms Subdivision, and Smith Field Subdivision. Grassy Branch effluent is discharged to Crooked Creek which lies in the Yadkin Pee Dee River Basin. Please refer to Table 3-6.

TABLE 3-1

**Twelve Mile Creek Water Reclamation Facility
NPDES Permit #: NC0085359
Fiscal Year: 2014-2015 Effluent Limits and Performance**

PARAMETER	LIMIT	JUL '14	AUG '14	SEP '14	OCT '14	NOV '14	DEC '14	JAN '15	FEB '15	MAR '15	APR '15	MAY '15	JUN '15
FLOW	6.0 MGD	3.20	3.14	3.37	2.98	3.51	4.21	4.60	4.47	4.24	3.88	3.59	3.65
pH	6-9 SU	7.3 – 7.7	7.2 – 7.8	7.1 – 7.8	7.1- 7.8	7.0 – 7.7	7.0 – 7.7	7.0 – 8.2	7.3 – 7.9	6.7 – 7.9	7.0 – 7.8	7.0 – 8.2	7.4 – 7.8
BOD₅	SUMMER (APR.1 - OCT.31)	5 mg/l	2.0	2.1	2.0	2.7					2.2	1.4	1.1
	WINTER (NOV.1 - MAR.31)	10 mg/l					3.2	4.4	5.2	3.0	2.5		
AMMONIA NITROGEN	SUMMER	1 mg/l	0.1	0.0	0.0	0.1					0.1	0.2	1.0
	WINTER	2 mg/l					0.2	0.04	0.0	0.2	0.0		
TOTAL SUSPENDED RESIDUE	30 mg/l	6.7	3.5	5.9	4.9	6.0	8.9	9.9	6.9	8.4	3.1	1.1	0.3
FECAL COLIFORM	200/100 ml	13	47	43	20	12	19	31	10	5	9	30	15
DISSOLVED OXYGEN	≥ 6 mg/l	7.6	7.5	7.7	7.8	8.6	8.8	9.3	9.7	9.0	8.6	7.9	7.2
COPPER	13.2 ug/l	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	175.0 ug/l	52	50	57	34	54	48	45	63	53	69	59	59
TOTAL PHOSPHOROUS	41.7 #/day	8.61	5.51	9.38	8.73	11.49	14.34	26.93	30.12	43.25	14.88	8.09	2.75

March 2015 – Monthly average exceeded on total phosphorus permit limit
June 2015 – Ammonia exceeded permit limit

TABLE 3-2

Crooked Creek Water Reclamation Facility
NPDES Permit #: NC0069841
Fiscal Year: 2014-2015 Effluent Limits and Performance

PARAMETER	LIMIT	JUL '14	AUG '14	SEP '14	OCT '14	NOV '14	DEC '14	JAN '15	FEB '15	MAR '15	APR '15	MAY '15	JUN '15
FLOW	1.900 MGD	1.14	1.01	1.12	1.04	1.21	1.25	1.32	1.33	1.32	1.47	1.07	1.08
pH	6-9 SU	6.3 – 9.2	6.0 – 7.8	6.8 – 7.9	7.3 – 8.1	6.8 – 7.7	6.6 – 7.7	6.8 – 7.6	6.8 – 7.5	6.9 – 7.8	6.7 – 8.1	7.0 – 7.7	6.5 – 7.9
Cl₂	17 ug/l	–	–	–	–	–	–	–	–	–	–	–	–
BOD₅ SUMMER (APR.1 - OCT.31)	5 mg/l	2.2	1.3	0.8	2.0						2.4	8.1	3.7
WINTER (NOV.1 - MAR.31)	10 mg/l					3.9	6.7	5.9	4.4	4.8			
AMMONIA NITROGEN SUMMER	2 mg/l	0.09	0.02	0.83	0.10						0.24	1.05	0.06
WINTER	4 mg/l					0.3	0.1	0.8	1.5	3.04			
TOTAL SUSPENDED RESIDUE	30 mg/l	6.5	4.7	1.1	9.1	8.9	16.4	14.2	9.8	8.4	4.9	20.4	11.6
FECAL COLIFORM	200/100 ml	34	26	169	1	22	9	3	4	5	31	280	190
DISSOLVED OXYGEN	≥ 6 mg/l	7.7	7.7	7.7	6.6	9.2	9.3	9.3	9.4	9.0	8.8	8.2	7.3

July 2014 – Weekly geometric mean fecal coliform exceeded permit limit
September 2014 – Weekly geometric mean fecal coliform exceeded permit limit
October 2014 – Weekly geometric mean fecal coliform exceeded permit limit
November 2014 - Weekly geometric mean fecal coliform exceeded permit limit
May 2015 – BOD, TSS, and fecal coliform exceeded permit limit
June 2015 – Fecal coliform exceeded permit limit

TABLE 3-3

Hunley Creek Wastewater Treatment Plant
 NPDES Permit #: NC0072508
 Fiscal Year: 2014-2015 Effluent Limits and Performance

PARAMETER	LIMIT	JUL '13	AUG '13	SEP '13	OCT '13	NOV '13	DEC '13	JAN '14	FEB '14	MAR '14	APR '14	MAY '14	JUN '14
FLOW	0.231 MGD	<p>Hunley Creek WWTP is currently not in service. This facility was listed as inactive as of May 2006; therefore, there is no data reported for this fiscal year</p>											
pH	6-9 SU												
Cl ₂	20 ug/l												
BOD ₅ SUMMER (APR.1 - OCT.31)	5 mg/l												
WINTER (NOV.1 - MAR.31)	10 mg/l												
AMMONIA NITROGEN SUMMER	2 mg/l												
WINTER	4 mg/l												
TOTAL SUSPENDED RESIDUE	30 mg/l												
FECAL COLIFORM	200/100 ml												
DISSOLVED OXYGEN	≥ 5 mg/l												

No violations for fiscal year

TABLE 3-4

**Olde Sycamore Water Reclamation Facility
NPDES Permit #: WQ0011928
Fiscal Year: 2014-15 Effluent Limits and Performance**

PARAMETER	LIMIT	JUL '14	AUG '14	SEP '14	OCT '14	NOV '14	DEC '14	JAN '15	FEB '15	MAR '15	APR '15	MAY '15	JUN '15
FLOW	0.150 MGD	0.049	0.049	0.052	0.047	0.051	0.049	0.054	0.046	0.045	0.052	0.049	0.055
pH	6-9 SU	6.7 – 7.5	6.4 – 7.4	6.9 -7.5	7.0 – 7.4	7.0 – 7.5	7.0 – 7.6	6.9 – 7.3	6.9 – 7.6	6.5 – 7.5	6.9 – 7.5	6.8 – 7.6	7.2 – 7.5
BOD₅	10 mg/l	3.8	2.8	3.3	4.5	3.6	6.2	3.7	4.9	3.6	3.1	4.2	2.2
AMMONIA NITROGEN	4 mg/l	0.10	0.0	0.1	0.07	0.10	0.0	0.27	0.0	0.28	0.0	0.92	0.0
TOTAL SUSPENDED RESIDUE	5 mg/l	1.9	0.0	0.0	0.0	2.6	2.5	3.0	5.5	0.0	0.0	2.6	0.0
FECAL COLIFORM	14/100 ml	1	4	1	1	3	3	7	1	2	4	1	3
TURBIDITY	≤ 10 NTU	0.2	0.2	0.2	0.3	0.6	0.7	0.5	1.4	2.7	2.1	1.4	0.6

February 2015 – TSS exceeded permit limit

TABLE 3-5

Tallwood Estates Wastewater Treatment Plant
NPDES Permit #: NC0069523
Fiscal Year: 2013-2014 Effluent Limits and Performance

PARAMETER	LIMIT	JUL '14	AUG '14	SEP '14	OCT '14	NOV '14	DEC '14	JAN '15	FEB '15	MAR '15	APR '15	MAY '15	JUN '15
FLOW	0.050 MGD	0.023	0.021	0.017	0.018	0.230	0.028	0.039	0.041	0.043	0.042	0.022	0.018
pH	6-9 SU	6.- 7.4	6..2 – 7.3	6.9 – 7.4	6.5 – 7.4	6.6 – 7.4	6.9 – 7.4	6.7 – 7.3	6.8 – 7.9	6.8 – 7.4	7.0 – 7.6	7.0 – 7.6	7.2 – 7.5
BOD₅	SUMMER (APR 1-OCT 31)	5 mg/l	6.0	0.0	3.2	1.0					0.9	3.2	1.1
	WINTER (NOV.1 - MAR.31)	10 mg/l				0.0	0.9	0.0	0.0	0.0			
AMMONIA NITROGEN	SUMMER	2 mg/l	0.1	0.0	0.17	0.0					0.06	0.76	0.051
	WINTER	4 mg/l				0.0	0.12	0.0	0.0	0.03			
TOTAL SUSPENDED RESIDUE	30 mg/l	1.5	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	2.4	0.0
FECAL COLIFORM	200/100 ml	1	0	2	1	0	1	1	2	2	1	6	1
DISSOLVED OXYGEN	≥ 6 mg/l	7.0	7.6	7.8	7.4	8.0	8.3	8.3	8.7	8.6	8.0	7.3	7.4

July 2014 – BOD exceed permit limit

TABLE 3-6

**Grassy Branch Wastewater Treatment Plant
NPDES Permit #: NC0085812
Fiscal Year: 2014-2015 Effluent Limits and Performance**

PARAMETER	LIMIT	JUL '14	AUG '14	SEP '14	OCT '14	NOV '14	DEC '14	JAN '15	FEB '15	MAR '15	APR '15	MAY '15	JUN '15
FLOW	0.050 MGD	0.023	0.020	0.0345	0.026	0.024	0.036	0.051	0.040	0.047	0.036	0.026	0.018
pH	6-9 SU	7.2 – 7.9	7.0 – 7.6	6.4 – 7.6	6.6 – 7.8	6.2 – 7.8	6.2 – 7.9	6.7 – 7.9	6.6 – 7.7	6.3 – 7.5	6.6 – 7.9	6.4 – 8.2	7.0 – 8.09
Cl₂	17 ug/l	–	–	–	–	–	–	–	–		–	–	–
BOD₅	5 mg/l	1.5	2.0	.5	2.8						3	3.0	2.3
	10 mg/l					2.2	3.7	4.3	5.5	16.6			
AMMONIA NITROGEN	2 mg/l	0.13	0.69	0.97	1.0						1.67	0.33	0.19
	4 mg/l					0.35	1.0	0.45	0.66	2.87			
TOTAL SUSPENDED RESIDUE	30 mg/l	2.5	0.0	3.4	2.3	2.1	3.7	5.1	5.5	17.5	2.3	1.9	1.2
FECAL COLIFORM	200/100 ml	15	6	22	3	4	8	9	23	10	26	3	10
DISSOLVED OXYGEN	≥ 6 mg/l		7.1	7.9	7.8	8.7	9.4	9.6	9.6	8.8	8.4	7.9	7.9

July 2014 – Weekly geometric mean fecal coliform exceeded permit limit
January 2015 – Fecal coliform exceeded permit limit
March 2015 – BOD & TSS exceeded permit limit

4.0 BIOSOLIDS MANAGEMENT

Biosolids are managed and disposed of in accordance with Permit No. WQ0007486 issued by the North Carolina Department of Environment and Natural Resources. Biosolids are stored at both the Crooked Creek and Twelve Mile Creek WWTPs. The solids are aerobically digested and then applied as “fertilizer” to permitted sites. The solids are considered stabilized and thus suitable for land application when the volatile solids content is reduced by 38%. If this 38% volatile solids reduction can not be achieved, then alkaline stabilization, injection or incorporation is employed to insure permit compliance. Union County Public Works, through its biosolids contractor, land applied approximately 6 million gallons of biosolids.

5.0 SYNOPSIS OF WASTEWATER COLLECTION SYSTEM (Fiscal Year 2014-2015)

Permit No. WQCS00054. UCPW currently operates and maintains over 635 linear miles of sewer mains, including force mains, and 67 wastewater pumping stations providing service to population of approximately 95,836 customers (33,047 wastewater accounts x an average of 2.90 people per account). All pump stations are equipped with both audible and visual alarms as well as either automated telephone dialers (ATD) or telemetry which alert staff when alarm conditions are present. Inspections of all pump stations meet or exceed State requirements. Emergency auxiliary power is provided to all stations via portable or permanent mounted generators. Union County personnel are on call rotation and available 24 hours a day, 7 days a week, and 365 days a year.

Public Works is required by State permit to clean a minimum of 10% of the collection system annually to prevent and/or reduce backups and overflows. Staff has consistently surpassed that requirement, cleaning more than the required 10%. UCPW cleaned approximately 14.2% (80 miles of 563 total gravity miles) of the collection system last year. Staff also conducts inspections of the collection system with the utilization of underground closed-circuit television (CCTV) inspection equipment. These cleaning and inspection efforts allow staff to determine areas in the system that require repairs or increased maintenance to provide the proper service to our customers.

FOG (Fats, Oils, and Grease) program is aimed at reducing grease-related back-ups and overflows by educating the public of the hazards associated with the disposal of grease and grease related by-products into the wastewater system. Union County Public Works, in conjunction with Union County Environmental Health, has developed a comprehensive list of food service establishments and commercial establishments. This effort will assist in development and enforcement of a grease trap inspection program ensuring

that restaurants and other food preparation facilities properly maintain grease traps and interceptors.

LINE MAINTENANCE (min. 10%)		
	FEET	MILES
SEWER LINES CLEANED	420,412	80
CCTV MAIN LINE	10,500	2
SMOKE TESTING	16,613	3

Utility easements and right-of-ways are maintained by UCPW staff to ensure access for staff and equipment to conduct routine maintenance as well as respond to emergencies, such as sanitary sewer overflows. The easements require round-the-clock access and should not be impeded by structures such as pools (above or below ground), buildings, etc. as well as gardens, trees, shrubs, plantings, etc. Public Works staff inspects and conducts necessary maintenance, including mowing, to these easements and right-of-ways once a year, at a minimum.

High priority lines such as aerial creek crossings, lines subject to erosion and/or problematic areas are visually inspected at a minimum semi-annually. High priority lines are inspected more frequently after periods of heavy rain and flooding.

UCPW maintains emergency response equipment in a ready state at all times. This emergency equipment varies in nature from spare electrical parts and plumbing supplies, to vacuum trucks, pumps, and backhoes. Workers safety is of utmost importance. Safety equipment such as night lighting, gas monitors, trenching and shoring equipment, and reflective cones/signs are always readily available.

UCPW has Capital Improvement Projects (CIP) to identify and correct deficiencies associated within the wastewater collection system.

- ❖ **Grassy Branch and Twelve Mile Creek Manhole Rehabilitation** project began in January 2014. The project will reduce storm water entry (inflow & infiltration – “I&I) into the sanitary sewer system reducing increased treatment and maintenance costs. This project is a part of a comprehensive “rehabilitation and repair” program in the Public Works’ CIP plan to conduct necessary repairs to the collection system on an annual basis. YTD approximately \$225,000 has been spent on rehabilitation efforts to over 215 manholes.

- ❖ **East Fork 12 Mile Interceptor** project began in fall 2014. This project will increase capacity in the 12 Mile trunk sewer system resolving capacity concerns regarding current wastewater flows, while allowing for future growth.
- ❖ **Davis Mine Creek Interceptor** project began in winter 2014. This project will also increase capacity in the Davis Mine trunk sewer to handle current wastewater flows, as well as future growth.
- ❖ **Helmsville Road Pump Station** upgrade project began its design phase in early 2015. The anticipated start date for construction is December 2015, with project completion estimated in May 2016. This project consists of a new, larger wet well, new pumps, generator, and control equipment.
- ❖ **Community Park Pump Station** rehabilitation project began its design phase in late 2014. This project is to completely rebuild the Community Park pump station due to age and material concerns, as well as site accessibility.
- ❖ **Ongoing sanitary sewer evaluation studies (SSES)** throughout the collection system to identify problems and need for rehabilitation.

During the Fiscal Year 2014-2015, Union County's wastewater system collected and conveyed approximately 3.05 billion gallons of wastewater. There were sixteen (16) sanitary sewer overflows with a combined estimated volume of 76,520 gallons that occurred within the collection system. Union County Public Works conveyed 99.998% of the total volume of wastewater without incident.

Sanitary Sewer Overflows – Fiscal Year 2014-2015

DATE	LOCATION/ADDRESS	CAUSE	SURFACE WATER		TOTAL VOLUME
			WATER BODY	VOLUME	
7/21/2014	MH 5206, 5223, 5231	Severe Natural Condition, I&I	North Fork Crooked Creek	4920	4920
7/26/2014	9188, 9187	Grease, Debris in Line	Price Mill Creek	1000	1000
9/15/2014	1913 Thorncrest Drive	Roots, Other (Third Party)	12 Mile Creek	500	1440
10/14/2014	2706 Bobwhite Circle (MH 4534)	Grease	Rays Fork	30	30
11/2/2014	3826 Monroe-Ansonville Rd	Pipe Failure (Break)	Rays Fork	0	3050
12/24/2014	4004 Sardis Church Rd (MH 5231)	Inflow/Infiltration	North Fork Crooked Creek	9000	9680
12/24/2014	3005 Ashcroft Drive (MH 5166)	Inflow/Infiltration	North Fork Crooked Creek	7000	7320
12/29/2014	4004 Sardis Church Rd (MH 5231)	Inflow/Infiltration	North Fork Crooked Creek	4500	4500
4/2/2015	305 Waterlemon Way	Roots/Grease	None	0	120
4/6/2015	6215 Unionville - Indian Trail Rd	Bell leak on force main	None	0	500
4/15/2015	MH 5221-5226, 5206, 5231	Inflow/Infiltration	North Fork Crooked Creek	23850	23850
4/19/2015	MH 5221-5226, 5206, 5232	Inflow/Infiltration	North Fork Crooked Creek	18860	18860
4/19/2015	14004 Woodfern Place	Lift Station Failure	Un-named Tributary	500	500
4/21/2015	6722 Olde Sycamore Drive	Pipe Failure (Break)	Duck Creek	150	150
6/1/2015	7801 Avanti Drive (MH 8378)	Debris	12 Mile Creek	100	100
6/23/2015	MH 8944-8945	Third Party (Contractor)	Davis Mine Creek	0	500
			Total	70,410	76,520

For questions concerning this Wastewater System Performance Summary or additional information please contact UCPW:
(704) 296-4210

Or write to:

Union County Public Works
500 North Main Street, Suite 600
Monroe, NC 28112-4730

This document can also be viewed at:

<http://www.co.union.nc.us/LivingHere/PublicWorks.aspx>