



WATER RESOURCES

**2023 Performance Annual Report  
for the Wastewater Systems of the City of Lexington, NC**

The City of Lexington is pleased to report on the performance of its wastewater treatment systems each year. Printed copies of this document are available to the public at the Water Resources Administration Office at 711 S. Talbert Boulevard, Lexington, NC. Notification of the availability of this document is provided to all City wastewater customers within utility billing statements or via first class mail by March 1. This report is on the City’s website at [www.LexingtonNC.gov/2023SystemsPerformanceReport](http://www.LexingtonNC.gov/2023SystemsPerformanceReport).

Each year, the City of Lexington treats around one billion gallons of wastewater and recycles over 6 million pounds of residuals and other waste products at its wastewater treatment plant. It maintains a major wastewater treatment plant; approximately 225 miles of gravity sewer and 38 pump stations. Its treatment standards are among the highest in the State because of its proximity to the High Rock Lake Recreation area.

Federal regulations are placing increased emphasis on preventing overflows from sewer lines. A major cause of sewer line overflows is cooking oils and grease from home kitchens and restaurants which drain to City sewer lines. Once in the sewer line, oils and grease stick to the sewer lines and accumulate until the line is blocked and overflows occur from the nearest manhole. Please help us by disposing of this material properly. For information about Fats, Oils & Grease Control, contact the City of Lexington Water Resources Office at 336-248-3930.

Three copies of the annual reports for Lexington’s six wastewater systems are sent to the NC Department of Environmental Quality in Raleigh each year.

**Lexington Wastewater Collection System**

I. General Information:

- (A) Name of Regulated Entity: City of Lexington Wastewater Collection System
- (B) Responsible person: Thomas Johnson  
Water Resources Utility Director  
City of Lexington  
28 West Center Street  
Lexington, NC 27292
- (C) Applicable Permit: WQCS00042
- (D) Description of treatment process: Wastewater Collection System serving the Lexington Regional WWTP - approximately 225 miles of gravity sewer, 40 miles of pressure sewer, and 38 lift stations

II. Performance:

- (A) Description of overall 12-month performance: in compliance for 2023, with exception of the sanitary sewer overflows below.
- (B) Violations:
  - (1) Permit Limit Violations: none
  - (2) Monitoring and Reporting Violations: none
  - (3) Illegal Bypasses of Treatment Facilities: none
  - (4) Sanitary Sewer Overflows: 6

Sanitary Sewer Overflows 2023					
Date	Location	Volume (gallons)	Cause	Reached surface waters of the State? How many gallons?	Incident #
2/21/2023	521 Adams St.	50	Debris	No	N/A
3/4/2023	Mendota Ave	10	Debris	No	N/A
3/31/2023	Cody St	100	Grease	No	N/A
7/10/2023	146 Industrial Dr	50	Pump Failure	No	202301020
10/19/2023	719 Hargrave St	150	Grease	Yes, 150	202301475
12/27/2023	Homewood Lane	100	debris	No	N/A

- (C) Known Environmental Impact of Violations: No known or observed environmental impacts following cleanup activities.
- (D) Description of corrective measures taken to correct violations or deficiencies:

The first objective to any SSO for Maintenance & Construction staff is to correct the problem and contain the spill as soon as possible. Once the problem has been resolved, cleanup with appropriate materials such as lime, sand and straw are used to absorb the waste. From there, crews use a vacuum truck to collect all contaminated materials on site to haul off to a designated site for processing.

## **Lexington Regional Wastewater Treatment Plant**

### **I. General Information:**

- (A) Name of Regulated Entity: Lexington Regional WWTP  
 (B) Responsible person: Thomas Johnson  
Water Resources Utility Director  
City of Lexington  
28 West Center Street  
Lexington, NC 27292
- (C) Applicable Permit: NC0055786  
 (D) Description of treatment process: The Lexington Regional WWTP is a wastewater treatment facility consisting of influent pump stations; flow measurement; mechanical bar screens; grit collection; primary clarifiers; roughing filters; aeration basins; secondary clarifiers; post aeration basins; chlorination contact chamber; anaerobic digesters; and sludge drying beds with a composting facility located at 500 Glendale Road, south of Lexington in Davidson County. The plant discharges into the Abbott's Creek Arm of High Rock Lake which is classified Class WS-V and B waters in the Yadkin-Pee Dee River Basin.

### **II. Performance:**

- (A) Description of overall 12-month performance: This treatment system performed in compliance in 2023, with the exception of the following parameters at the effluent sampling location.  
 (B) Violations:  
 (1) Permit Limit Violations: 27

Month	Date	Sampling Location	Parameter	Limit Value	Reported Value	Type of Violation
Mar	3/18/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	15	15.34	Weekly avg. limit exceeded
	3/31/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	2	2.43	Monthly avg. limit exceeded
Apr	4/1/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	7.5	8.62	Weekly avg. limit exceeded
	4/8/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	7.5	8	Weekly avg. limit exceeded
	4/29/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	7.5	7.94	Weekly avg. limit exceeded
	4/29/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	3	3.95	Weekly avg. limit exceeded
	4/30/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	5	6.31	Monthly avg. limit exceeded
	4/30/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	1	1.8	Monthly avg. limit exceeded
May	5/13/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	7.5	13.41	Weekly avg. limit exceeded
	5/13/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	3	4.34	Weekly avg. limit exceeded
	5/20/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	7.5	11.71	Weekly avg. limit exceeded
	5/31/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	5	7.59	Monthly avg. limit exceeded
	5/31/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	1	1.88	Monthly avg. limit exceeded
Jun	6/30/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	5	5.67	Monthly avg. limit exceeded

	6/30/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	1	1.35	Monthly avg. limit exceeded
Jul	7/1/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	7.5	10.53	Weekly avg. limit exceeded
	7/8/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	3	3.84	Weekly avg. limit exceeded
	7/22/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	7.5	8.12	Weekly avg. limit exceeded
	7/22/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	3	4.14	Weekly avg. limit exceeded
	7/29/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	7.5	7.97	Weekly avg. limit exceeded
	7/29/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	3	5.11	Weekly avg. limit exceeded
	7/31/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	5	7.21	Monthly avg. limit exceeded
	7/31/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	1	4	Monthly avg. limit exceeded
Aug	8/5/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	7.5	9.9	Weekly avg. limit exceeded
	8/5/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	3	5.86	Weekly avg. limit exceeded
	8/31/23	001 Effluent	BOD 5-Day (200 C) –Concentration (CO310)	5	5.79	Monthly avg. limit exceeded
	8/31/23	001 Effluent	Nitrogen, Ammonia Total (as N) – Concentration (CO610)	1	1.79	Monthly avg. limit exceeded

(2) Monitoring and Reporting Violations: none

(3) Illegal Bypasses of Treatment Facilities: none

(4) Sanitary Sewer Overflows: none

(C) Known Environmental Impact of Violations: There were no known or observed environmental impacts following sampling and confirmation of limit exceedances.

(D) Description of measures taken to correct violations or deficiencies: Drained Aeration Basins A and B and cleaned out heavy deposit of grit. Replaced air distributors and repaired air piping and mixers.

### **Lexington Regional Wastewater Treatment Plant Compost Facility**

#### **I. General Information:**

(A) Name of Regulated Entity: Lexington Regional WWTP Compost Facility

(B) Responsible person: Thomas Johnson  
Water Resources Utility Director  
City of Lexington  
28 West Center Street  
Lexington, NC 27292

(C) Applicable Permit: WQ0001318

(D) Description of treatment process: This is a wastewater residuals facility for the processing and distribution of Class A exceptional quality bio-solids (compost produced at the Lexington Regional Wastewater Treatment Plant).

#### **II. Performance:**

(A) Description of overall 12-month performance: This system was in compliance for all 12 months of 2023.

(B) Violations:

(1) Permit Limit Violations: none

(2) Monitoring and Reporting Violations: none

(3) Illegal Bypasses of Treatment Facilities: none

(4) Sanitary Sewer Overflows: none

(C) Known Environmental Impact of Violations: none

(D) Description of corrective measures taken to correct violations or deficiencies: not applicable

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## **Lexington Golf Course Wastewater Treatment and Reclaimed Water Utilization System**

### I. General Information:

- (A) Name of Regulated Entity: Lexington Golf Course Wastewater Treatment and Reclaimed Water Utilization System
- (B) Responsible person: Thomas Johnson  
Water Resources Utility Director  
City of Lexington  
28 West Center Street  
Lexington, NC 27292
- (C) Applicable Permit: WQ0023213
- (D) Description of treatment process: A 300,000 gallon per day reclaimed water scalping treatment facility and reclaimed water utilization system consisting of an interceptor vault diverting flow to an influent pump station with dual 208 gallon per minute pumps, a 300,000 gallon fine bubble aeration basin with two (2) 1,100 cubic feet per minute centrifugal blowers, one 58,130 gallon clarifier with a 312 gallon per minute return waste sludge pump, one tertiary disc filter, a 1,038 gallon chlorine contact basin, an effluent flow measuring device, an effluent composite sampler, a turbidimeter, and a 500,000 gallon storage tank, and a reclaimed water utilization system consisting of dual 1,100 gallon per minute pumps operating at 312 TDH, approximately 88 acres of spray irrigation with 891 sprinkler heads and all associated piping, valves, controls and appurtenances to serve the Lexington Golf Course with no discharge of wastes to the surface waters.

### II. Performance:

- (A) Description of overall 12-month performance: The system was not in operation in 2023.
- (B) Violations:
- (1) Permit Limit Violations: none
  - (2) Monitoring and Reporting Violations: none
  - (3) Illegal Bypasses of Treatment Facilities: none
- (C) Known Environmental Impact of Violations: none
- (D) Description of corrective measures taken to correct violations or deficiencies: not applicable
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## **Lexington Water Treatment Plants # 1 & #2**

### I. General Information:

- (A) Name of Regulated Entity: City of Lexington Water Treatment Plants # 1 & # 2
- (B) Responsible person: Thomas Johnson  
Water Resources Utility Director  
City of Lexington  
28 West Center Street  
Lexington, NC 27292
- (C) Applicable Permit: NC0028037
- (D) Description of treatment process: Filter backwash & basin wash water from Lexington Water Treatment Plants # 1 & 2 are discharged to a treatment system consisting of the following elements - two 24 hour settling ponds, four sludge drying beds and a concrete sludge storage pad with a drain line located at the Lexington Water Plants No. 1 and No. 2, 2979 Greensboro Street, Lexington, Davidson County. The discharge from these treatment works is into Abbott's Creek, which is classified as Class C waters in the Yadkin-Pee Dee River Basin.

### II. Performance:

- (A) Description of overall 12-month performance: This treatment system performed in compliance for 2023.
- (B) Violations:
- (1) Permit Limit Violations: none
  - (2) Monitoring and Reporting Violations: none
  - (3) Illegal Bypasses of Treatment Facilities: none
- (C) Known Environmental Impact of Violations: none
- (D) Description of corrective measures taken to correct violations or deficiencies: NA.
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## **Lexington Conjunctive-Use Wastewater Spray Irrigation Disposal System**

### I. General Information:

- (A) Name of Regulated Entity: Lexington Conjunctive Use Wastewater Spray Irrigation Disposal System
- (B) Responsible person: Thomas Johnson  
Water Resources Utility Director  
City of Lexington  
28 West Center Street  
Lexington, NC 27292
- (C) Applicable Permit: WQ0016165

(D) Description of treatment process: This is a conjunctive use spray irrigation disposal system with an annual floating average flow of 3,128,174 gal per year. This system consists of 176,000 square foot spray irrigation area; forty sprinkler heads with a maximum 57-foot cast; and all associated piping, valves, and appurtenances to serve the City of Lexington's Regional Wastewater Treatment Plant with no discharge of wastes to the surface waters.

II. Performance:

(A) Description of overall 12-month performance: This treatment system performed in full compliance in 2023.

(B) Violations:

(1) Permit Limit Violations: none

(2) Monitoring and Reporting Violations: none

(3) Illegal Bypasses of Treatment Facilities: none

(C) Known Environmental Impact of Violations: none

(D) Description of corrective measures taken to correct violations or deficiencies: not applicable

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**Certification**

The information in this condensed report for the City of Lexington's Wastewater Treatment Systems was prepared by me, or City staff supervised by me, and is accurate and complete to the best of my knowledge.

\_\_\_\_\_  
Thomas Johnson  
Water Resources Utility Director

Date: \_\_\_\_\_



**NO FOG, NO CLOG**

For more information about Fats, Oils & Grease (FOG) control, logon to:  
[www.lexingtonnc.gov/city-services/public-services/lexington-stormwater/sanitary-sewer-spills](http://www.lexingtonnc.gov/city-services/public-services/lexington-stormwater/sanitary-sewer-spills)