



Charlotte-Mecklenburg Utilities Charlotte, NC

FY-2000

Wastewater Performance Report

July 1, 1999 – June 30, 2000

Charlotte-Mecklenburg Utilities

5100 Brookshire Blvd.

Charlotte, NC 28216

Phone: (704)399-2221 Fax: (704)393-2219

www.cmutilities.com

I. General Information

Name of Regulated Entity and Responsible Person:

City of Charlotte
Barry Gullet, Deputy Director
Charlotte-Mecklenburg Utilities
Administration Division
5100 Brookshire Blvd.
Charlotte, NC 28216
(704) 399-2221

Applicable Permits:

There are five wastewater treatment facilities owned and operated by Charlotte-Mecklenburg Utilities. Charlotte-Mecklenburg Utilities also operates one facility that is owned by Mecklenburg County. Below is a list of these facilities and their applicable NPDES (National Pollutant Discharge Elimination System) permit number. Included with the list of facilities is the name of the Operator in Responsible Charge (ORC) at the facilities and the site telephone numbers.

<u>WWTF</u>	<u>Permit Number</u>	<u>ORC</u>	<u>Phone</u>
Irwin Creek WWTP	NC0024945	James T. Hunter	704-357-1344
Mallard Creek WRF	NC0030210	Jerome Lucky	704-547-0680
McAlpine Creek WWMF	NC0024970	Sandy Kim Neely	704-542-0736
McDowell Creek WWTP	NC0036277	Elliot E. Goins, Jr.	704-875-6443
Sugar Creek WWTP	NC0024937	Roy E. Purgason, Jr.	704-553-2124

<u>WW COLLECTION</u>	<u>Permit Number</u>	<u>ORC</u>	<u>Phone</u>
4100 W. Tyvola Road	none	Luis Concha	704-357-6064

The wastewater treatment facility that is owned by Mecklenburg County and operated by Charlotte-Mecklenburg Utilities is:

<u>WWTF</u>	<u>Permit Number</u>	<u>ORC</u>	<u>Phone</u>
McDowell Park WWTP	NC0029220	Robert P. Norris	704-537-1344

Description of collection and treatment systems:

The wastewater collection system currently operates under existing wastewater treatment plant NPDES permits. Charlotte-Mecklenburg Utilities collects wastewater from nearly 169,000 connections to households and businesses throughout the county. Wastewater is collected and directed (mostly using gravity flow) to one of five wastewater treatment plants where it is treated and released. An average of 75.6 million gallons of wastewater is treated daily.

More than 100 employees work to maintain 2,956 miles of sewer pipelines and 62 lift stations throughout the county. The sewer pipes in this system range in size from 8 inches in diameter to 78 inches in diameter.

Wastewater treatment basically works like this:

1. **Primary Treatment** – Larger solid particles and objects are captured in grit screens and primary clarifiers. Solids removed during treatment are safely recycled as part of a land application program.
2. **Aeration** – Wastewater is aerated to encourage growth of specific microscopic organisms that remove pollutants.
3. **Clarification** – Remaining solids settle out in large basins before the water is disinfected.
4. **Discharge** – Disinfectant is removed, then the water is discharged back into creeks to flow downstream.

II. Performance

Summary of System Performance:

Charlotte-Mecklenburg Utilities safely collected, treated and discharged almost 28 billion gallons of wastewater for the fiscal year ending June 30, 2000. Our wastewater collection system safely transported 99.97 percent of all flow into our five wastewater facilities. Our wastewater treatment plants met 99.25 percent of all permitted discharge limits.

Accomplishing this task required a coordinated effort between our Wastewater Collection, Wastewater Treatment, System Protection, Residuals Management and Engineering divisions.

This teamwork resulted in several highlights:

- Three wastewater plants – McAlpine, Sugar and McDowell – earned Silver Performance Awards from the Association of Metropolitan Sewerage Agencies
- 714 miles of sewer lines were cleaned
- 8.5 miles of sewer lines were restored or replaced
- Expansion of the McAlpine plant was completed to increase treatment capacity to 64 million gallons per day; other upgrades are continuing.
- Sugar Creek, Mallard, McDowell and Irwin plants are also being upgraded.
- Utilities successfully competed against private agencies to win a 5-year operating & maintenance contract of Sugar and Irwin Creek plants. This means Utilities was selected as the most suitable provider based on cost and services.
- An Oil & Grease prevention program was started to educate businesses and residential customers about proper disposal to reduce sewage blockages and overflows; and
- A U.S. Environmental Protection Agency self-audit was begun to enhance future wastewater planning and performance.

This year's performance was not without challenges. The greatest continuing wastewater challenge in this community – and in others across the U.S. – are sewage spills and overflows. During the fiscal year ending June 30, 1999, Utilities reported 251 sewage spills from the collection system. This is equivalent to one incident per every 11.8 miles of pipe.

Most spills were due to blockages in the line caused by a buildup of grease, rocks, sand, or roots. Vandalism is also a problem, with tree stumps, logs, bricks, rags, and other miscellaneous items

being dumped into manholes or forced into lines to cause a blockage. Leaking joints and crushed or broken lines caused overflows, and so did accidental damage to manholes or pipes and surcharges from heavy rains.

Our single largest spill this year occurred during June 2000 at the Long Creek lift station, when a power surge led to a pump failure and 3.7 million gallon overflow. This single incident accounted for more than half of total gallons spilled during the year. While all 62 lift stations have high water alarms and the larger ones have backup power and pumps, this large spill has led to a review and some positive changes in lift station monitoring procedures.

Charlotte-Mecklenburg Utilities has an excellent sewage spill response record. Our wastewater collection staff averaged a 27-minute response time to all overflows as of June 30, 2000. This represents less than 25 percent of the state's two-hour standard.

Generally, clean-up of sewage spills involves raking up all solids, vacuuming the sewage, flushing with water, and spreading lime and straw over the affected spill area. The spilled sewage can be pumped back into the sewer system, the pumps reset, the lines cleaned or repaired, and the manhole covers replaced.

At the treatment plants, we met 99.25 percent of all discharge limits set forth by our NPDES permits but our commitment is 100 percent compliance. To achieve this we have increased predictive and preventative maintenance. We are currently upgrading all five plants to enhance our treatment capabilities under existing and future permit limits.

Utilities also continues its goal of meeting all reporting requirements. While not a threat to water quality, reporting violations happen when a required test sample is either missed, testing equipment fails, or a testing and recording procedure error occurs. To minimize reporting errors in the future, we have installed a Laboratory Information Management System (LIMS) to track, process and inform lab staff of any potential oversights.

Finally, our pretreatment program has identified, permitted and is regulating all large industrial users to keep unsuitable discharges out of the wastewater system. While industrial compliance is extremely high in Charlotte-Mecklenburg, identifying other potentially hazardous discharge sources is an ongoing challenge. This year's startup of an intensive monitoring program for large sewer lines will take our pretreatment efforts to new levels.

The following pages are a detailed list of all permit limit violations, monitoring and reporting violations and sanitary sewer overflows. The list is separated by month for the collection system and for each individual treatment plant. These include descriptions of any known environmental impact of violations, and corrective measures taken.

III. Notification

This report is available to the users or customers of this system on Charlotte-Mecklenburg Utilities' web page at www.cmutilities.com. There are also hard copies available at the Charlotte – Mecklenburg Utilities Administration Building at 5100 Brookshire Blvd., Charlotte, NC 28216, and at the City/County Customer Service and Information Center at 600 East Fourth Street, Charlotte, NC 28202. The users or customers of this system have been notified of the availability of this report through a bill insert in the September 2000 water/sewer bill. A news release was also issued about this report.

IV. Certification

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

Barry Gullet, Deputy Director
Charlotte – Mecklenburg Utilities

Date