



Mecklenburg County, North Carolina

Environmental Sustainability Report

Fiscal Year 2023 (July 1, 2022 - June 30, 2023)



Mecklenburg County at a Glance

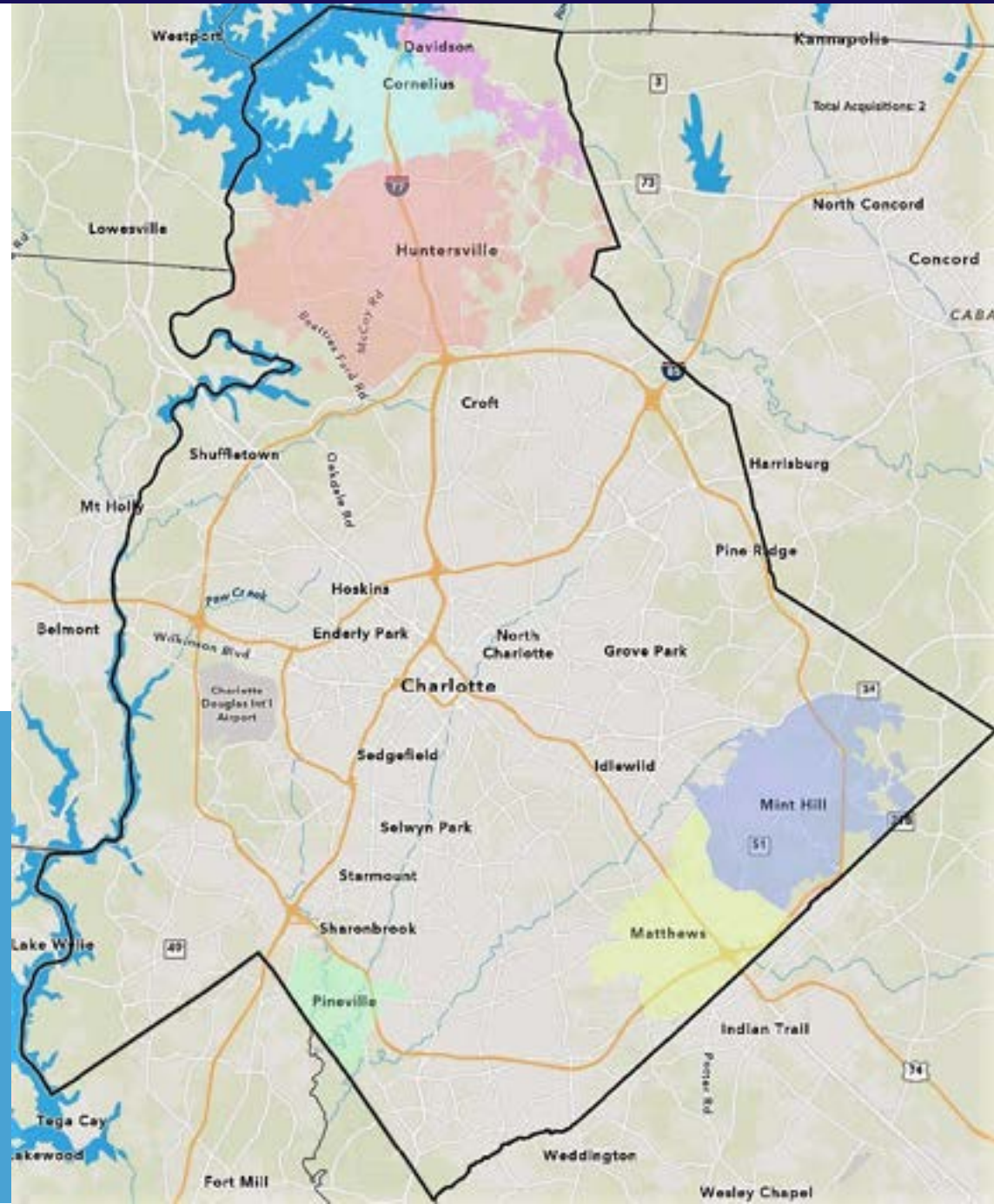
Municipalities: City of Charlotte, Towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville

Population (2020 Census): 1,115,526

Estimated percent change in population from April 2020 — July 2022: Increase of 2.7%

Land area: 523.6 square miles

Parks and Nature Preserves: 144 developed parks, 47 undeveloped parks, 31 nature preserves



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Facilities & Fleet

Mecklenburg County Facilities

Mecklenburg County is dedicated to work toward net-zero facilities carbon energy sources by 2035. The current target for the Energy Reduction Goal for Asset and Facilities Management controlled spaces in FY24 is 5% decrease in kBtu/sq ft. The energy target includes: Courts, Government Buildings and Park & Recreation Facilities, excluding aquatic centers.

	FY22	FY23
Energy Use in County Facilities	EUI 87.8 kBTU/sq. ft*	EUI 87.8 kBTU/sq. ft
Water Use in County Facilities: Total	224,840 CCF**	250,670 CCF
Water Use in County Facilities: Buildings (B) Irrigation (I)	185,078 CCF (B) 39,762 CCF (I)	195,538 CCF (B) 55,132 CCF (I)

* EUI: Energy Use Intensity, expressed as energy per square foot, calculated by dividing the total energy consumed by the facility in one year (measured in kBTU) by the total gross floor area of the building (measured in square feet or square meters). kBTU refers to 1,000 British thermal units; this is the amount of heat it takes to raise 1 pound of water from about 39°F to 40°F.

** CCF: Water meters measure the volume of water used in hundreds of cubic feet. 1 CCF of water equals approximately 748 gallons. Figures reported do not include Libraries.

Energy efficiency projects completed in FY23 include:

- The conversion of the 3rd and 4th floors of the Main Courthouse from fluorescent lighting to LED lighting.
- Replacement of some Courthouse courtyard walkway lights with new LED fixtures.
- Completion of the Deep Energy Retrofit Master Plan.
- Completion of the design and bidding phases for the Bette Rae Thomas Recreation Center Deep Energy Retrofit project, which is slated for construction completion in the spring of 2024.
- Completion of the Solar Photovoltaic (PV) Installation Masterplan
- Completion of two solar PV Panel Installation projects, one on the roof of the new Ella B. Scarborough Community Resource Center and one on the roof of the Eastway Regional Recreation Center.

Mecklenburg County Fleet

Mecklenburg County Environmental Leadership Policy Action Plan

Policy Commitment: Net Zero Carbon Fleet

Transition the County fleet to net-zero carbon energy sources by 2035.

	FY22	FY23
Fuel use by Fleet: Diesel	462.37 average gallons/car	334.57 average gallons/car
Fuel use by Fleet: Unleaded	426.58 average gallons/car	506.75 average gallons/car

Total vehicles in fleet: **1,374**

Number of EVs in fleet: **58**
4.2% of fleet

EV charging stations: **120** nearing
completion of installation



Air Quality

OZONE COMPLIANCE VALUE



64 PPB

Ozone pollution in Mecklenburg County meets the federal air quality health standard of **70 ppb or less**

CUMULATIVE POLLUTION REDUCED BY GRADE



1,215 TONS

Pollution reduced through the Grants to Replace Aging Diesel Engines (GRADE) program

ENGAGEMENT ON AIR QUALITY ACTION DAYS (AQAD)



469 EMPLOYEES ENGAGED

9 AQAD

These action days are a way to reduce pollution by County employees on days of poor air quality

CLEAN COMMUTE MILES BY EMPLOYEES



353,488 MILES

Miles logged by County employees utilizing public transit, biking, carpooling, etc. for their work commute

Good

Moderate

Unhealthy for Sensitive Groups

Unhealthy

Very Unhealthy

Air Quality Action Days and WorkGreen

Air Quality Action Days began in FY23 as a way for County employees to reduce pollution during poor air quality days (code orange and above). When County employees clean commute to work, work from home if possible, don't drive at lunch, and/or reschedule non-essential field work, they are eligible for WorkGreen program credits. WorkGreen tracks environmentally conscious activities by full time County employees. Employees with 10+ credits per fiscal year are eligible for up to 8 hours of additional paid time off. Mecklenburg County employees are taking action to reduce air pollution!

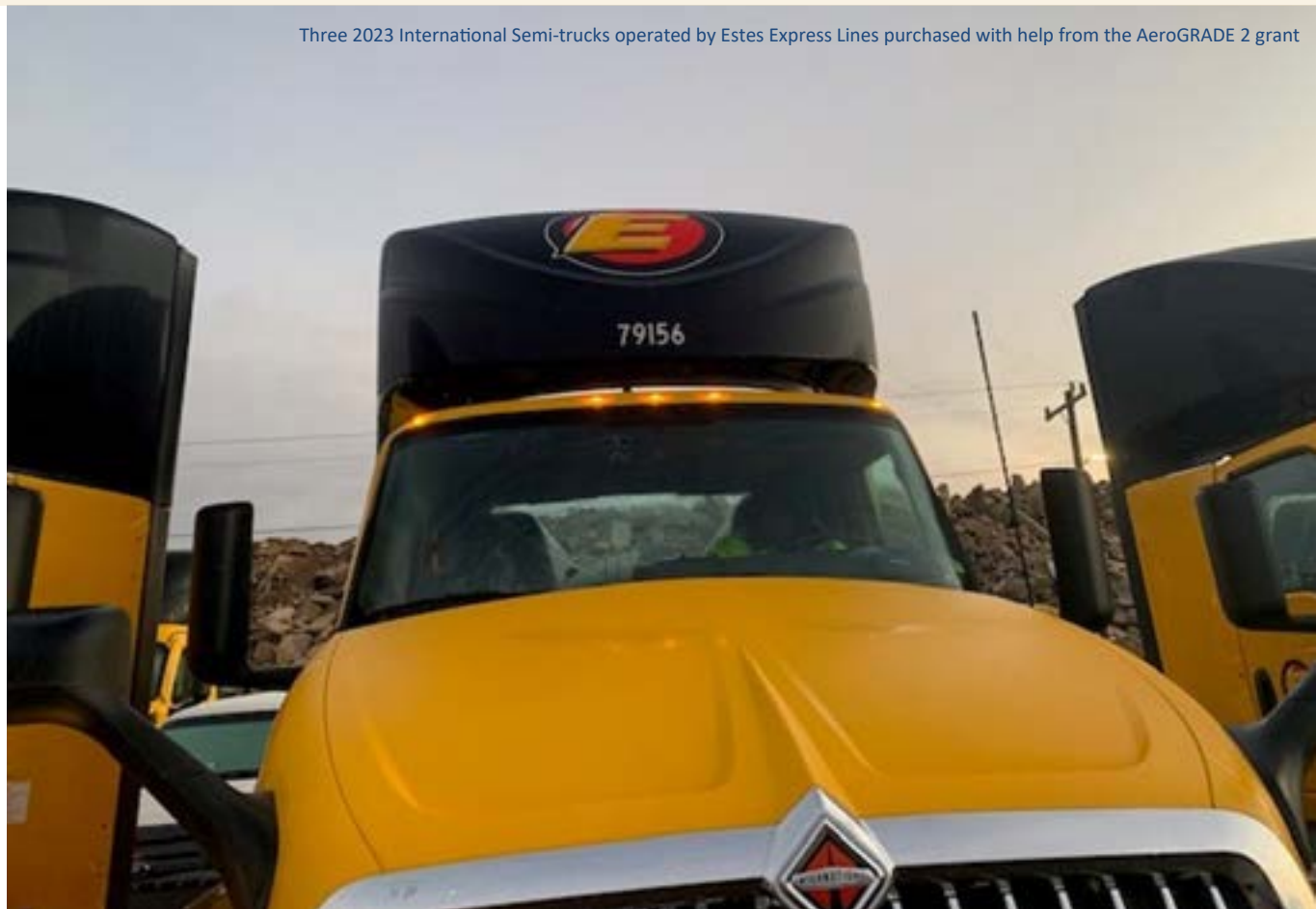
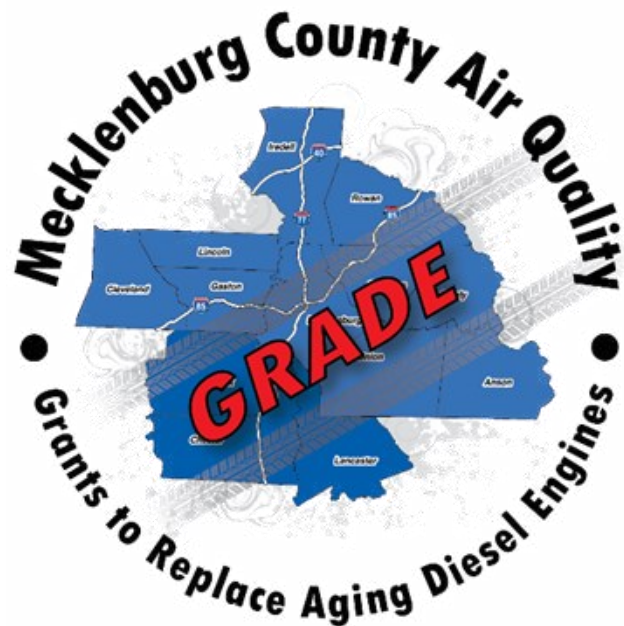


Air Quality: Grants to Replace Aging Diesel Engines

FY23 G.R.A.D.E. Highlight: Estes Express Lines

Estes Express Lines completed replacement of seven International semi-trucks ranging in age from 2004 - 2006 with new 2023 International semi-trucks. These projects will reduce nearly 17 tons of NO_x over their 5-year activity lives.

\$8.8 million in grants have been distributed since the program began in the Mecklenburg County region in 2007. The GRADE program has helped bring about 1,215 tons of NO_x reductions since 2007.



Three 2023 International Semi-trucks operated by Estes Express Lines purchased with help from the AeroGRADE 2 grant

Operations

Waste Management

Mecklenburg County Solid Waste manages a multifaceted Solid Waste Management operation that includes traditional solid waste disposal as well as material diversion and recycling programs and facilities. For diversion and recycling the County owns and operates the Mecklenburg Recycling Facility (curbside recycling processing), a Compost Facility, four full-service drop off centers and five self-service “recycling only” centers are provided for residents and businesses to dispose of garbage and recyclable materials.

The County has interlocal agreements with all the municipalities to provide disposal and recycling processing and engages community partners such as Charlotte Mecklenburg Schools (CMS) and Central Piedmont Community College (CPCC) for waste management and recycling collection and processing.



Tour of Metrolina recycling facility



Waste Management



1

LANDFILL TONNAGE

FY 22: 559,376

FY 23: 549,791



2

RECYCLING TONNAGE

FY 22: 265,584

FY 23: 268,401



3

YARD WASTE TONNAGE

FY 22: 130,026

FY 23: 138,770



4

WASTE DIVERSION RATE

FY 22: 47%

FY 23: 48.8%

The Solid Waste program also implemented an enhanced recycling program allowing the community to use the full-service drop-off centers to accept materials that were previously unacceptable. These new materials include white rigid foam, hard and soft back books, shredded paper, and textiles (clothing, linen, bedding).

The County is also in the process of making solid waste management and recycling more convenient for more of Mecklenburg County's residents with the expansion of the North Meck drop center, the redevelopment of the unstaffed drop centers and development of a brand-new full-service recycling center in the Steele Creek area.

A partnership with Park and Recreation was established to start the Monroe Road Recycling Center at Monroe Road Park in East Charlotte. This facility will be a 12 acre park with walking trails along with a special area for collecting residential recyclables near the park's entrance.

Employee Engagement

FY22

559 staff participants
Employees represent **22**
County departments

6,376 credits earned
Participants earned an average of **11.4** credits per person

254 sustainability events held
This includes volunteer opportunities, webinars, special initiatives, and more!

7 active Green Teams
Green Teams are departmental committees focused around sustainability initiatives



FY23

940 staff participants
Employees represent **23**
County departments

12,312 credits earned
Participants earned an average of **13.1** credits per person

403 sustainability events held
This includes volunteer opportunities, webinars, special initiatives, and more!

8 active Green Teams
Green Teams are departmental committees focused around sustainability initiatives



Natural Environment

Storm Water

Successes and challenges throughout the second year of the 15-year Storm Water Services Capital Improvement Program

Storm Water Services is on track to meet the risk reduction and water quality improvement goals identified in the 15-year Capital Improvement Program (CIP). We have adapted to many challenges and continue to build on the successes. These improvements to our natural stream systems in the mapped floodplain would not be possible without the continuing support from the Storm Water Advisory Committee, County leadership, elected officials, and other partners. What we learn from the FY23 challenges and successes will take us into the next fiscal year with confidence that the 15-year CIP is moving in a positive direction.



Little Sugar Creek cleanup






Little Sugar Creek water quality surveying

Storm Water

Successes and challenges throughout the second year of the 15-year Storm Water Services Capital Improvement Program, continued

The greatest challenge for the Flood Mitigation CIP in FY23 was navigating through the changing real estate market. The primary effort to reduce flood risk is directed in two ways; buyouts and private mitigation actions supported through our retroFIT grant program. Specific challenges include soaring prices, lack of replacement property, moving costs and private buyers willing to pay above appraised value. FY24 is setup to be successful with a few key acquisitions already in negotiations






FY22		FY23
4.7 Miles of streams restored		3 Miles of streams restored
6 Flood-prone properties acquired		10 Flood-prone properties acquired
9,425 Flood risk points mitigated		9,972 Flood risk points mitigated

Groundwater

Groundwater is used for drinking water, irrigation and industrial purposes in Mecklenburg County and is the source for most of the streams that flow through the County. Mecklenburg County Groundwater and Wastewater Services (GWS) protects public health and the groundwater resource through administration of local and state well and septic regulations and services offered to the residents of the County.

The Mecklenburg Priority List (MPL) Program

The Mecklenburg Priority List (MPL) Program is a local program established to protect residents from drinking contaminated groundwater. The MPL Program maintains a list of contaminated sites so that Areas of Regulated Groundwater Usage within the County are known and accurately located. The MPL is utilized to sample existing at-risk water supply wells and to evaluate well permit applications for future safe groundwater usage.

		FY22	FY23
	Contamination sites and landfills documented on Mecklenburg Priority List (MPL)	2070	2134
	New water supply well permit applications	133	122
	New water supply well permit application percentage near MPL	42%	51%
	Water supply wells permitted and inspected for proper abandonment	160	101
	Failing septic systems service requests submitted	44	59

Groundwater

To protect groundwater resources, GWS public education and outreach encourages:

- **Well owners** to maintain/protect well heads, properly abandon inactive wells, and not use or store potential contaminants near a well.
- **Septic system users** to maintain/protect septic systems and minimize the use of hazardous chemicals and household cleaning products that are detrimental to septic systems and can end up in groundwater and surface waters.
- **Residents** to increase/maintain natural grassed areas to provide areas for groundwater recharge and report potential sources of pollution like illegal dumping, failing septic systems and leaking storage tanks or containers by calling 311.



Well head inspection

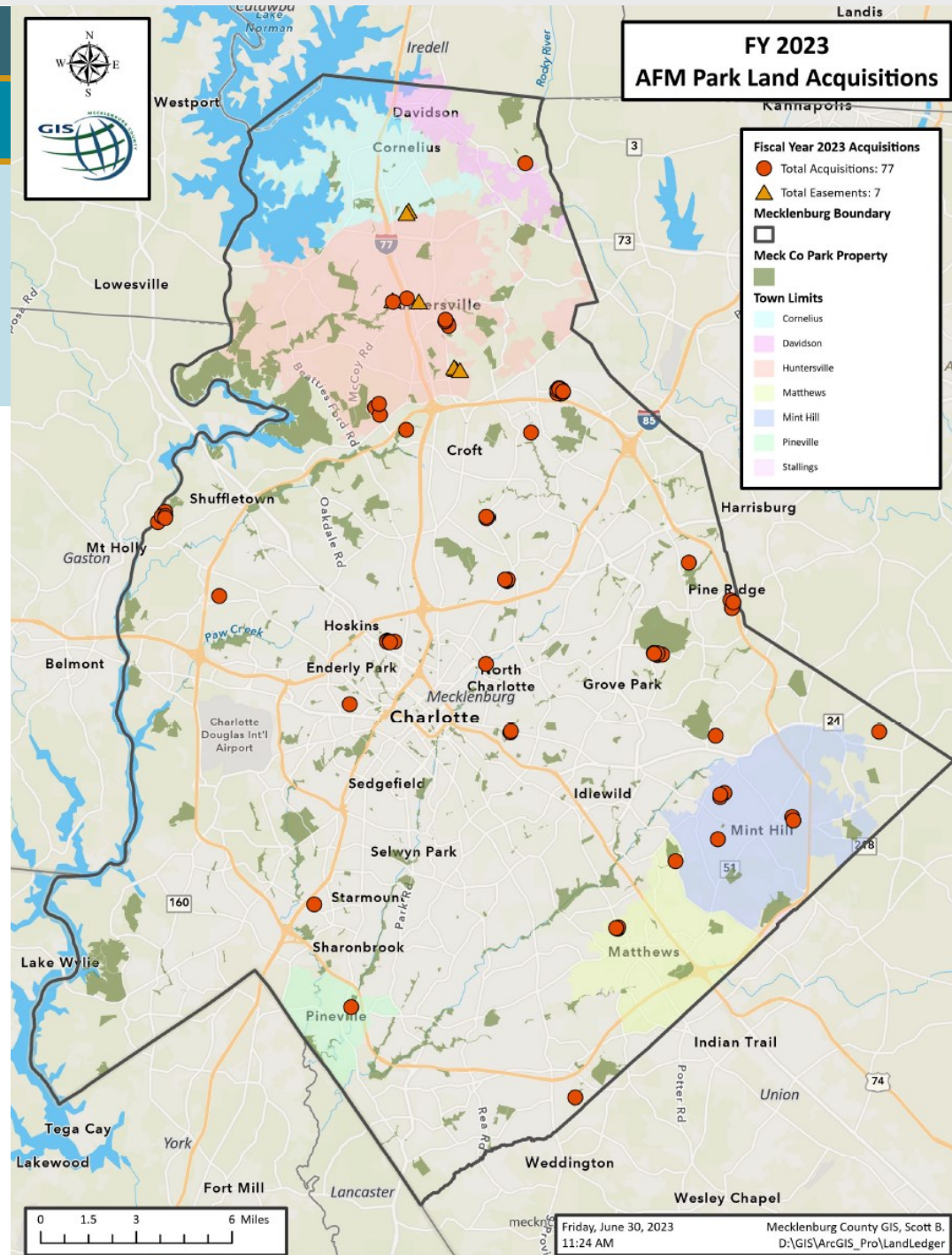
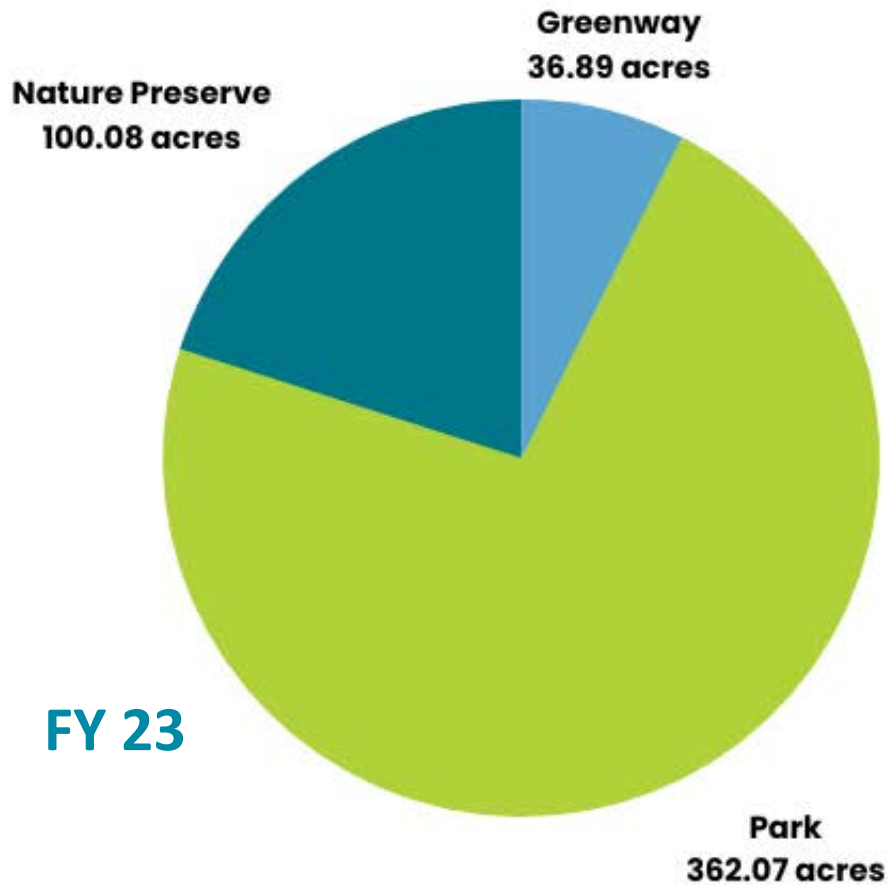


Well photo from GWS files

Land Acquisition

Mecklenburg County Land Acquisition

Fiscal Year	Total Acreage	Total Expenditure
FY21	308.16 acres	\$9.13 M
FY22	295.49 acres	\$19.17 M
FY23	499.04 acres	\$51.73 M

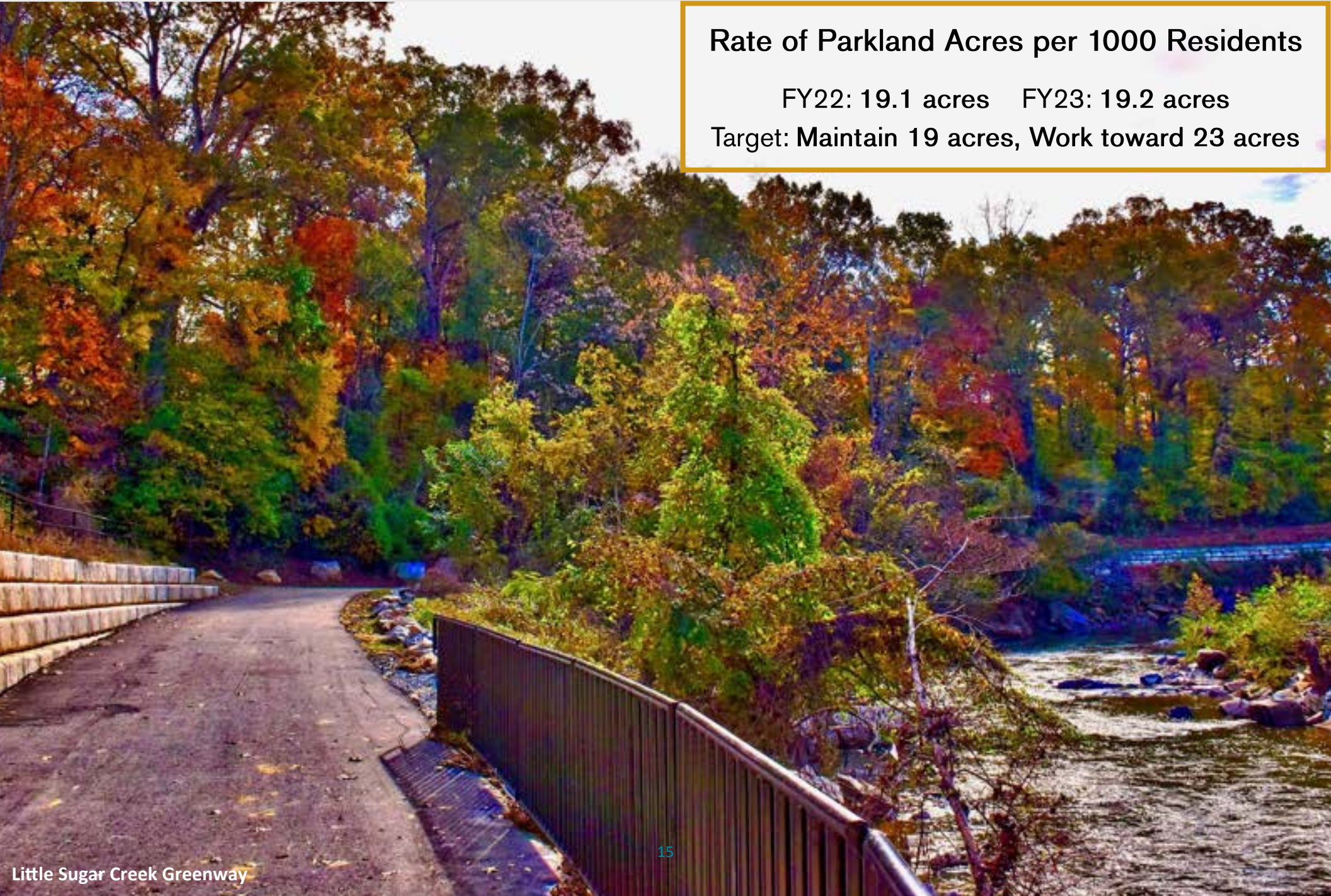


Parkland Access

Rate of Parkland Acres per 1000 Residents

FY22: 19.1 acres FY23: 19.2 acres

Target: Maintain 19 acres, Work toward 23 acres



Natural Environment Management

Invasive Species Removal in Mecklenburg County

In FY23, Mecklenburg County teams focused their energy on properties that showed signs of high density of invasives, multiple species of invasives, and difficult to access areas. While this meant that the number of acres treated dropped from last FY, teams were able to work on heavily infested, high priority properties with great success. This work is crucial to preserve and protect high quality habitat and native species of Mecklenburg County.



Invasive Species Removed

FY21: 718 acres

FY22: 1,390 acres

FY23: 1,014 acres

Dominant Invasive Species Present

Autumn Olive (*Elaeagnus umbellata*)

Mimosa (*Albizia julibrissin*)

Chinese Wisteria (*Wisteria sinensis*)

Japanese Privet (*Ligustrum japonica*)

Bradford Pear (*Pyrus calleryana*)

English Ivy (*Hedera helix*)

Poison Hemlock (*Conium maculatum*)

Kudzu (*Pueraria montana*)

Natural Environment Management

The below photo series documents the treatment progression of autumn olive at Latta Nature Preserve from 2020—2023. This is just one example of the positive impact invasive species removal efforts are having on our local ecosystems.



Natural Environment Management



A trail is used as a firebreak at Latta Nature Preserve



Staff member strings fire at Cowan's Ford Wildlife Refuge

Acres Treated with Prescribed Fire

FY23: 696.51 acres

Cowan's Ford Nature Preserve	75.89 acres
McDowell Nature Preserve	99.04 acres
Gar Creek Nature Preserve	119.65 acres
Latta Nature Preserve	401.93 acres

Resilient Ecosystems through Prescribed Fire

With the recent news of massive fires in Canada and Hawaii, the importance of proper land management to help protect people and the urban environment has come to the forefront. Mecklenburg County Park and Recreation's prescribed fire program not only helps control invasive species, but also removes fuel and hazardous conditions from our parklands to help reduce the risk of wildfire and provide a higher level of resilience against the effects of climate change.

Policies & Partnerships

Meaningfully Engaging with Mecklenburg County Residents

We are dedicated to the relationship between residents and County government; building trust within the community by providing public participation services that are inclusive, transparent, and effective; and undertaking and encouraging actions that build trust and credibility for County government among residents.

Mecklenburg County is working to increase resident involvement and awareness of County initiatives, responsibilities and services related to environmental stewardship and sustainability. For example, improved engagement with County residents is one of 17 goals included in Meck Playbook. In FY23, Park and Recreation worked with a third-party consultant to develop a Framework for Engagement All Communities. This plan serves a step by step guide for improved engagement for Park and Recreation to follow for projects at any scale.

Storm Water Outreach

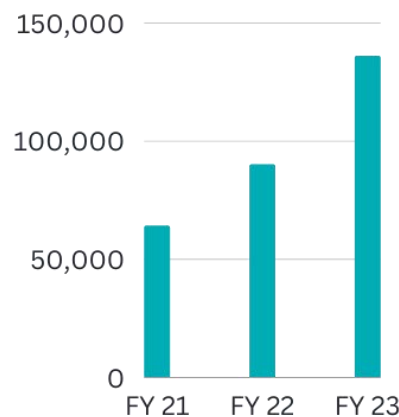
The Charlotte-Mecklenburg Storm Water Services Team sends an annual newsletter to residents who live within the regulated floodplain in Mecklenburg County. This newsletter, *Floodplain Flash*, contains details on flood safety, flood mitigation, floodplain mapping, flood insurance, and other important information.

More than 6,000 property owners and renters living in the floodplain receive this communication annually.

Air Quality Outreach

Air Quality Outreach Impressions

FY21	64,000
FY22	90,000
FY23	136,000



Solid Waste Management Outreach

The Solid Waste Program had a robust online presence during FY23, averaging 3 separate posts per day to various social media accounts.

The program continued to engage the community with TV, Radio and Billboard ads promoting waste reduction, recycling and no-litter messages.

Total Facebook outreach impressions in FY23: 2,442,349. This is a 41.1% increase from FY22.

Recycle Right in FY23

The Solid Waste Management Program continued the Recycle Right message in FY23, attending numerous in-person meetings with community groups across Mecklenburg County. During the Recycle Right meetings, solid waste staff present a program that discusses the nuances of recycling and the reasoning behind why some items can and cannot be included in curbside bins.

Engagement highlights from FY23 include:

- In April, “Recycle the Runway” awarded over \$25,000 to local schools for their entries of recycled fashions.
- Annual holiday parade attendance in Cornelius and Davidson with a mobile/traveling exhibit that is recycling themed.
- Outreach tents at Sustain Charlotte’s Biketoberfest and partnership with Sustain Charlotte to issue an Annual Business Recycling Award at their annual Earth Day Celebration.



Solid Waste Management staff attended holiday parades with a recycling themed exhibit

Recycle the Runway fashion show entry

Storm Water Services in FY23: Engaging Communities



4,848

Volunteers with Storm Water Services



2,137

Storm drains marked



81,018

Pounds of trash removed from streams



472

Trees planted by Storm Water Services volunteers



Livable Meck

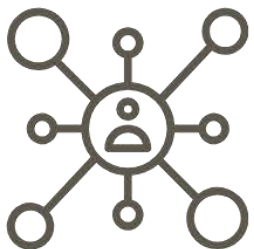
Livable Meck's mission is to ensure that our community's strengths, rather than its weaknesses, will dominate the story of this remarkable growth. Livable Meck is bringing together residents, local governments, non-profits and businesses in Mecklenburg County to give voice to our commonly-held aspirations.

FY23



Formed 25 new partnerships with community organizations

**6 events hosted
60 community partners in attendance**



Evolving to build connections between Mecklenburg County & community partners



David Williamson Jr. Indoor Pavilion at Hornets Nest Park

Livable Meck partnered with a local community group to bring seniors together and provided technology and assistance for them to submit their input for the county's participatory budget process.



Board Bulletin: Increasing Public Participation



Board Bulletin

January 9, 2023

Clerk's Office Seeks Applicants for Air Quality Commission and Groundwater Advisory Board

The County Clerk's Office is encouraging residents to apply to fill vacancies on both the Air Quality and Groundwater Advisory Board.

The Air Quality Commission is responsible for reviewing and recommending air pollution management policies, long-range plans, operations, and their budgetary impacts as part of its mission to promote the protection, preservation, and enhancement of air resources in the County.

Members of the County's Groundwater Advisory Board review and make recommendations to the Board of Commissioners regarding groundwater management policies, policy changes, long-range plans, and their budgetary and rate impacts. In addition, members hear appeals and reach decisions on denials, modifications, revocations, or issuance of well permits and notices of violations.

To submit an application, visit MeckNC.Gov/Clerk or contact the County Clerk's Office, at 980-314-2939, or clerk@mecknc.gov. Applicants must reside in Mecklenburg County to qualify for an appointment.

The Board Bulletin publication is one of the many tools that the County utilizes to encourage residents to serve on various advisory committees that have been established to influence Mecklenburg County policies and procedures related to the environment. This bi-weekly publication, along with production, marketing, and social media efforts, has been instrumental in increasing and diversifying advisory committee application pools.

Over the last year, awareness and recruitment efforts have helped to fill 10 vacancies distributed throughout the Air Quality Commission, Waste Management Advisory Board, Storm Water Advisory Committee, and Ground Water Advisory Board.



Farmland Preservation Plan

Mecklenburg County is committed to preserving open and green space throughout our community. In March of 2023, our Board of County Commissioners endorsed Mecklenburg County's Farmland Preservation Plan.

This Plan, while comprehensive in nature, commits the County to the following four strategies:

- Protect farmland through voluntary programs that incentivize land preservation, conservation and succession planning
- Promote agricultural workforce development of next generation farmers
- Promote agricultural economic development
- Promote farmland preservation, conservation and equity through innovative public private partnership programs



To support the implementation of this plan, the County Managers Office has requested and received funding for a Farmland Preservation Coordinator. This position will be filled in late 2023. We look forward to reporting on progress made on the Farmland Preservation Plan in our next Environmental Sustainability Report.

Unified Development Ordinance

The Unified Development Ordinance (UDO) is a set of city rules to make sure the growth of Charlotte fits the community's goals. The Charlotte UDO takes input from the public to decide how the city should grow and where the city government should focus resources. The UDO covers the following projects and development areas:

Affordable housing

Parking

Environment

Public open space

Transportation

Drainage*

Beginning in 2021, the City of Charlotte began work toward combining multiple ordinances in their planning department. The City of Charlotte approached County staff for input on the first Unified Development Ordinance in mid-2021. The UDO was released for public comment in late 2021 and was passed by Charlotte City Council in early-2023.

*<https://www.charlottenc.gov/Growth-and-Development/Planning-and-Development/Planning/Unified-Development-Ordinance>

The following County departments provided feedback and comments to the UDO, which were received and accepted into the UDO by City staff:

- Air Quality
- Asset & Facilities Management
- Groundwater
- Park & Recreation
- Solid Waste
- Storm Water





MECKLENBURG COUNTY

North Carolina

Report prepared by the Mecklenburg County Manager's Office Sustainability & Resiliency Team

Many thanks to all who contributed to this report and who work throughout the year to collect this data and support Mecklenburg County's communities and ecosystems.

DATA, NARRATIVES, AND PHOTOS PROVIDED BY MECKLENBURG COUNTY:

Asset & Facilities Management

Land Use & Environmental Services Agency

Park & Recreation

Public Health

Public Information Department

Strategic Planning & Evaluation

*Questions about this report can be directed to Sustainability & Resiliency Manager, Erin Stanforth
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