

Stormwater Program

Town of Black Mountain

Council Meeting

October 2022

Jessica Trotman and Anne Phillip



- 1970 EPA Established
- 1972 Clean Water Act – NPDES
- 1973 NPDES Wastewater Permits
- 1974 Safe Drinking Water Act
- 1987 Water Quality Act
- 1990 Phase I Stormwater Rules from EPA
- 1999 Phase II Stormwater Rules from EPA
- 2010 Town of Black Mountain is issued first NPDES permit
- 2020 Town is audited and issued a Notice of Violation (*and so did almost everyone else*!)
- Staff creates stormwater management plan violations are remedied.
- Staff creates stormwater rate study and proposal. Adopted by Council in 2021.
- Utility launches late summer 2021.
- Notice of Violation is resolved
- Anne Phillip joins the town in November 2021.

Select Accomplishments

Utility Administration

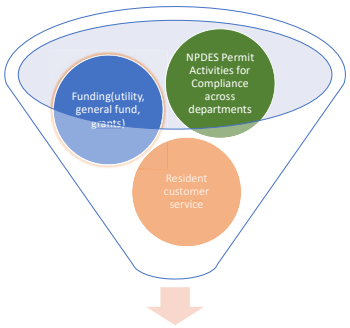
- Fund dedicated staff
- Improved billing process and schedule
- Improved accuracy of assigned tiers
- Streamlined payment methods
- UNC Center for Environmental Finance invited staff to be a panelist to help other communities create stormwater utilities. The center also interviewed staff for a book on the topic as an example of a successful small town stormwater utility.

Funded Program

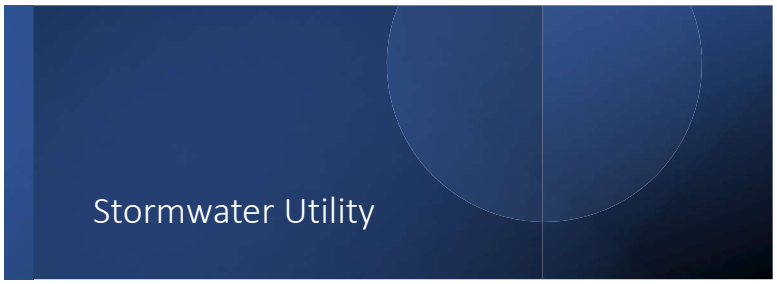
- Resolved notice of violation from NCDEQ successfully.
- Stormwater master plan
- 2 New SCMs underway 1 more to go
- Implement the requirements for year 1 of the permit
- 43 illicit discharge investigations
- 45 people attended Stormwater Workshops since start of program
- 60 contractor bags of litter removed from streams and Swannanoa River

Common misconceptions

- Fee vs Tax
- The stormwater utility fee is only used for infrastructure.
- Utility can cover the cost of large infrastructure improvements.
- Developers don't have to do anything with their stormwater.
- Stormwater system is intended to hold large rain events.
- Stormwater system is failing because it is overwhelmed during large rain events.
- The Town hasn't assessed stormwater drainage issues.
- The Town hasn't assessed condition of open and closed systems.
- Ditches are not appropriate.
- Ditches and/or pipes are possible on every street.
- This is the stormwater department's permit.



Holistic Stormwater Program



Where the money comes from and where it goes.

Requirement

PART 2: STORMWATER MANAGEMENT PROGRAM

2.1 Program Implementation

2.1.1 *The permitee shall maintain adequate **funding** and **staffing** and manage the provisions of the SWMP and meet all requirements of this permit.*

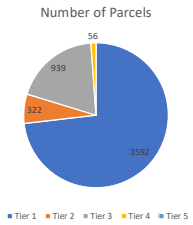


Current Stormwater Utility Fee Structure

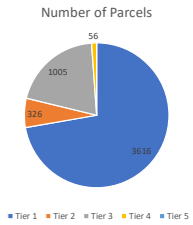
Tier	Annual Amount	Example
1 Minimal	$72	Single family house
2 Moderate	$240	Bank or Office
3 Undeveloped	$0	No structure
4 Exempt	$0	Owned by Federal, State or Local Government
5 Significant	$1,200	Strip mall, grocery store

Distribution of Tiers by Year

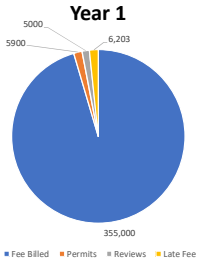
Year 1

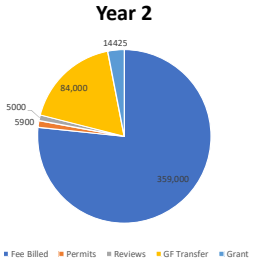


Year 2

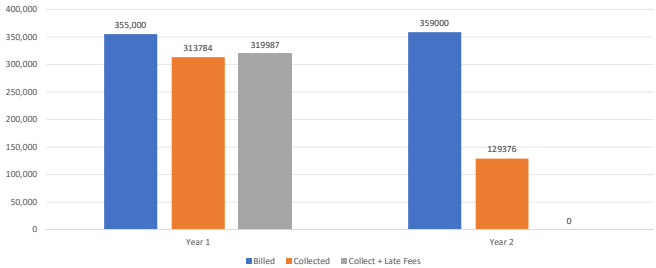


Stormwater Funding by Source





Billed vs Collected



Where is the funding going – examples.

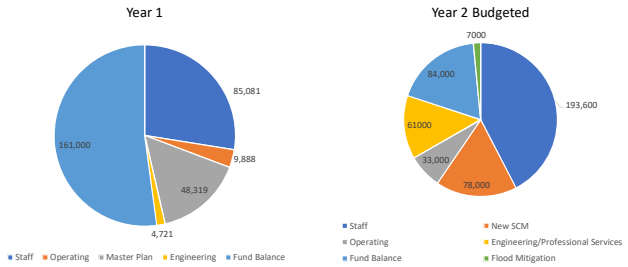
Highest Priority – Regulatory Compliance

- Dedicated staff
- Supplies needs to implement the NPDES permit
  - Water sampling
  - Tools
  - Water testing kits
- Match funding for projects
- Stormwater master plan update
- eDNA Testing

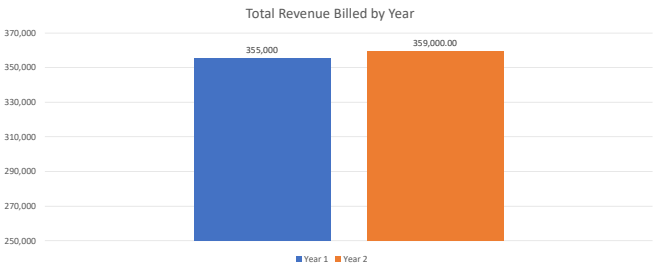
Increasing level of service beyond the NPDES Permit.

- Site visits to assess if action needed within the Town's ROW
- Engineering and construction of 3 new SCMs
- Started Tree Giveaway program to provide resources for private property stormwater mitigation
- Public Works using green infrastructure to improve stormwater conditions

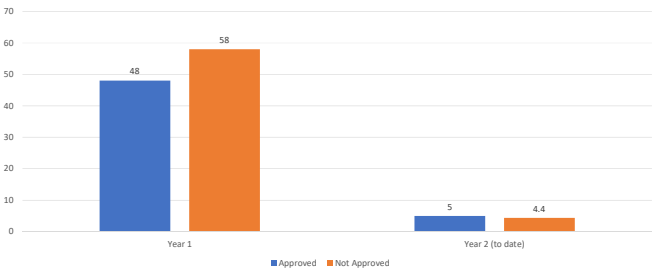
Expenses by Type



Stormwater Utility Billed Revenue



Appeals and Corrections by Year



Things to look forward to.

- Allocating utility fund balance to stormwater master plan projects by matching grant applications, pay as we go projects, or debt service.
- Quantifying indirect investments and benefits from other town departments and non-profit partners.
- Modeling new rate structures options for Council's consideration next budget cycle.
- Proposing a credit program which compliments a modeled rate structures.
- Fiscal gaps analysis as required for NPDES permit compliance vs gaps for infrastructure.
- Transitioning billing to the finance department.

Stormwater Program

Implementing the NPDES permit and responding to the community.

What is the NPDES MS4 permit?

NPDES

National **P**ollutant **D**ischarge **E**limination **S**ystem



MS4

Municipal **S**eparate **S**torm **S**ewer **S**ystem

Town-owned or operated system of conveyances discharging to waters of US or State designed for collecting or conveying stormwater (ditches, man-made channels, storm drains, curbs, gutters)

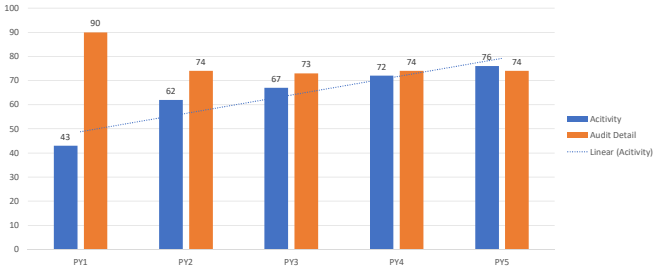
Required for every MS4 owner or operator in a U.S. Census Bureau designated Urbanized Area

https://deq.nc.gov/about/divisions/energy-mineral-and-land-resources/stormwater/stormwater-program/npdes-ms4-program-2
Image: https://deq.nc.gov/about/divisions/water-resources/water-resources-permit-guidance/npdes-phase-i-phase-ii-stormwater-guidance

NPDES Small MS4 Permit

- The permit period is five years.
- There are **96** items included.
- The permit requires a stormwater management plan to implement the permit requirements for year of the permit cycle.

Number of Required Permit Activities and Audit Actions by Year



Audit and Risk

For the purpose of the audit compliance is required for the duration of the permit period.

Risk associated with failure to comply are:

Federal fines of up to $37,500 per day per violation	Federal fines up to $25,000 per day of violation related to negligence	Additional state finds of up to $25,000 per violation	Criminal and civil laws can be applied

Six Minimum Control Measures of NPDES

Public Education & Outreach	Public Involvement & Participation	Illicit Discharge Detection & Elimination
Construction Site Runoff Controls	Post-Construction Site Runoff Controls	Pollution Prevention & Good Housekeeping for Municipal Operations







Public Education and Outreach

- A workshop for residential stormwater management
  - Rain Barrel
  - Rain Garden
- A workshop for care of riparian private property
- Live stake giveaways
- Live stake workshops

Public Involvement & Participation

Examples:

- Annual stormwater community survey
- Stream cleanup: 9 events with 65 volunteers
- Collaboration with 34 WWC and WCU students to support the Stormwater Program
- Public participation in the stormwater master plan process
- Site visits to businesses and residences.



Illicit Discharge Detection & Elimination

- 43 reports and investigations since November 2021.
- Swannanoa River impairments include benthos and fecal coliform. Partnering with Mountain True for eDNA testing and learned the source is human waste. This informs our IDDE program effort to isolate and eliminate the source(s).





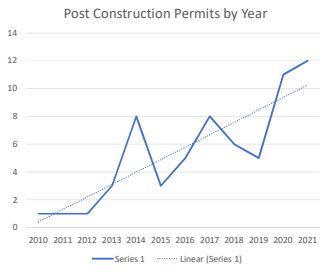
Construction Site Runoff Controls

- Delegated to Buncombe County for enforcement.
- Additional land disturbance ordinance
- NC Building Code
- Collaborating with Buncombe County
- Contractor Education



Post-Construction Site Runoff Controls

- 5,000 square feet of impervious requires a *post-construction* stormwater permit.
- Black Mountain has one of the most stringent post-construction ordinances in the State.
- There are 100 post-construction stormwater permit sites since 2010.
  - 17 Non-residential
  - 55 Residential development (shared SCMs or Subdivision with HOA)
  - 28 One- or Two-Family dwellings



Pollution Prevention & Good Housekeeping for Municipal Operations

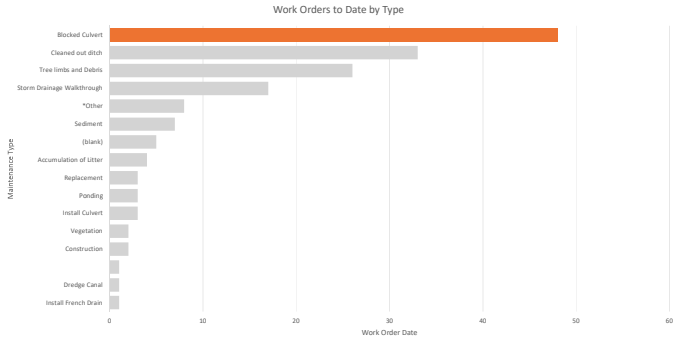
- Inspections of town-owned facilities
- Monitoring outfalls
- Dry weather outfall monitoring
- Leaf collection programs
- Street sweeping
- Proper storage and secondary containment
- Spill kits in buildings
- Maintenance of MS4

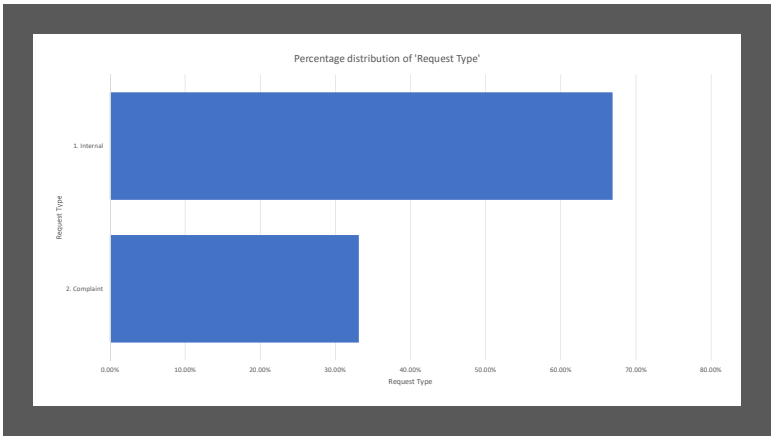


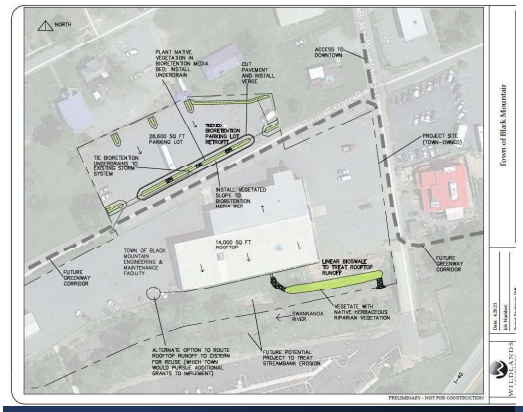
Asset Type	Inspection Type	Count of Asset Type	Number of inspections
NCG08 Permit	NCG08 Facility Inspection	2	6
NCG08 Permit	Visual Water Quality Assessment	2	6
Town-owned SCMs	SCM Inspection	11	33
Facility	Town-owned facility inspection	39	Annual, beginning year 2 of permit
Grand Total		52	45

Site Visits by Type (excluding regular inspections)

Type	Count of Date
Site visits to residents	60
Illicit Discharge Violation	43
Grand Total	**103**



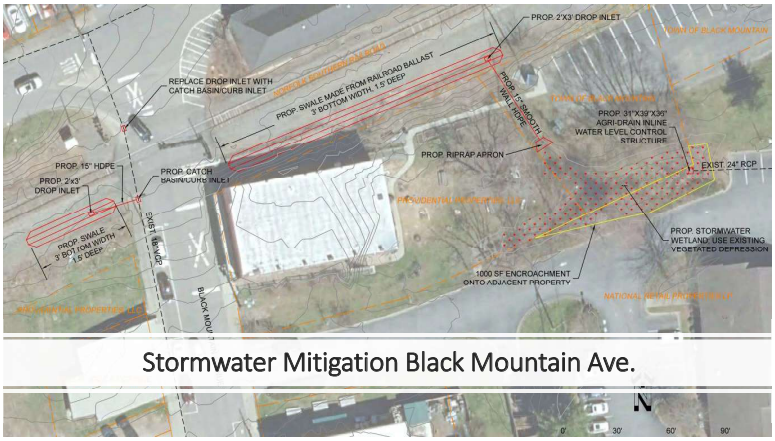




Terry Estates Stormwater Project – Ongoing

- This project is an excellent example of how funding generated by the utility can be "turned into" a larger amount by using it as match to a state funded water quality grant program.

- FY21-22 $4,950
- FY22-23 $24,444
- FY23-24 $21,804
- **Total: $51,198 from utility**
- **Total Project :130,000**

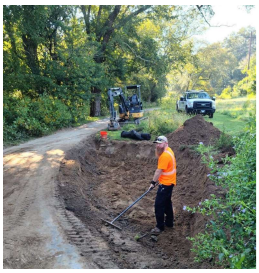


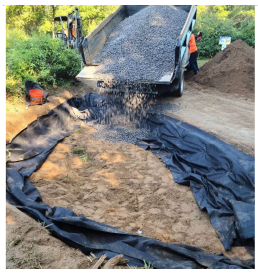
Stormwater Mitigation Black Mountain Ave.

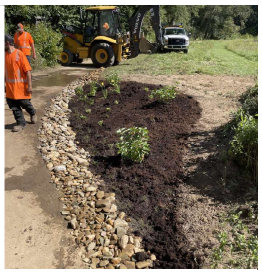
Woody Debris Removal Grant

- NC Dept of Ag
- StRAP Funding
- $7,000 awarded
- Zero match required

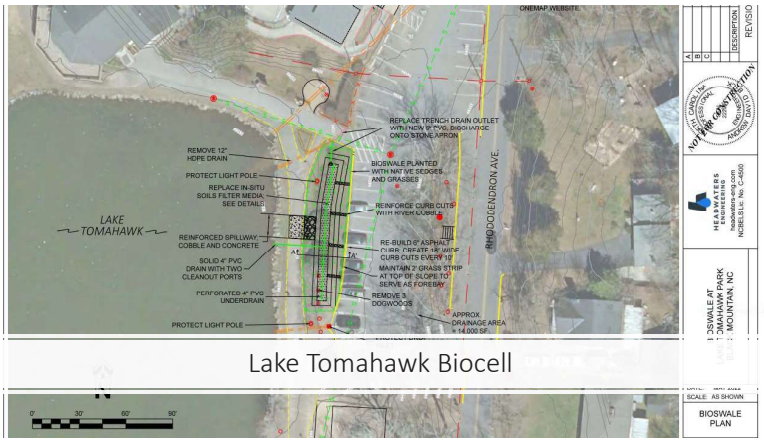








Greenway Rain Garden



Lake Tomahawk Biocell

Stormwater Program Tree Giveaway

- One free tree per Black Mountain household to assist with stormwater mitigation in wet areas and to prevent erosion.

- Native trees adapted to wet, well-drained soils or wet, boggy conditions:
  - Tag Alder (*Alnus serrulata*)
  - Serviceberry (*Amelanchier laevis*)
  - River birch (*Betula nigra*)
  - Red twig dogwood (*Cornus sericea*)
  - American fringetree (*Chionanthus virginicus*)

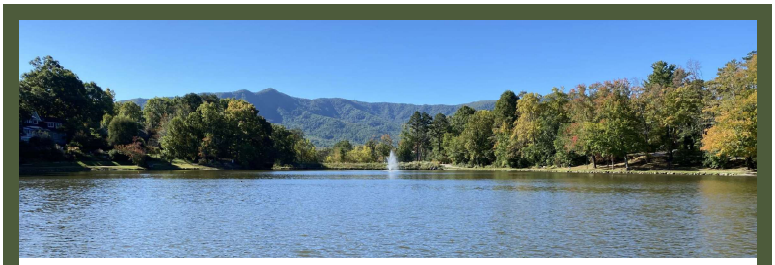


Things to look forward to (there's a lot!)

- Advancing projects from the new stormwater master plan.
  - Utility funded
  - At least three water quality grant applications
  - Begin capital planning with available utility funding and explore options for large capital items which exceed the utility funding
- Investigating and making progress toward solving source of fecal coliform in the Swannanoa River.
- Developing innovating stormwater treatment and conveyance projects
- Expanding community-based activities to improve water quality and with particular focus on high school and college students.
- Developing additional programs in partnership with Parks & Recreation
- Have engineer plans created for older town-owned SCMs and create/implement maintenance and rehab of these water quality structures.
- And maybe less exciting, the 62 requirement activities of Permit Year 2 of permit requirements.

Partnering Agencies

- RiverLink
- Land of Sky Regional Council of Governments
- NC Department of Environmental Quality
- NC Department of Water Quality
- NC Department of Agriculture
- MountainTrue
- WNC Community Foundation
- Buncombe County Stormwater and Erosion Control
- Buncombe County Environmental Health
- Clean Water Trust Fund
- Private property owners
- Norfolk Southern Railroad
- NC Department of Transportation
- Warren Wilson College
- Western Carolina University
- Black Mountain Beautification Committee
- NCSU Extension Office
- MSD
- US Army Corps of Engineers



Thank You

Stormwater Helpline 828-419-9300, ext. 680

stormwater@tobm.org