

BMP Construction Phase



Presented at:

SESWA

Southeast Regional Stormwater Seminar

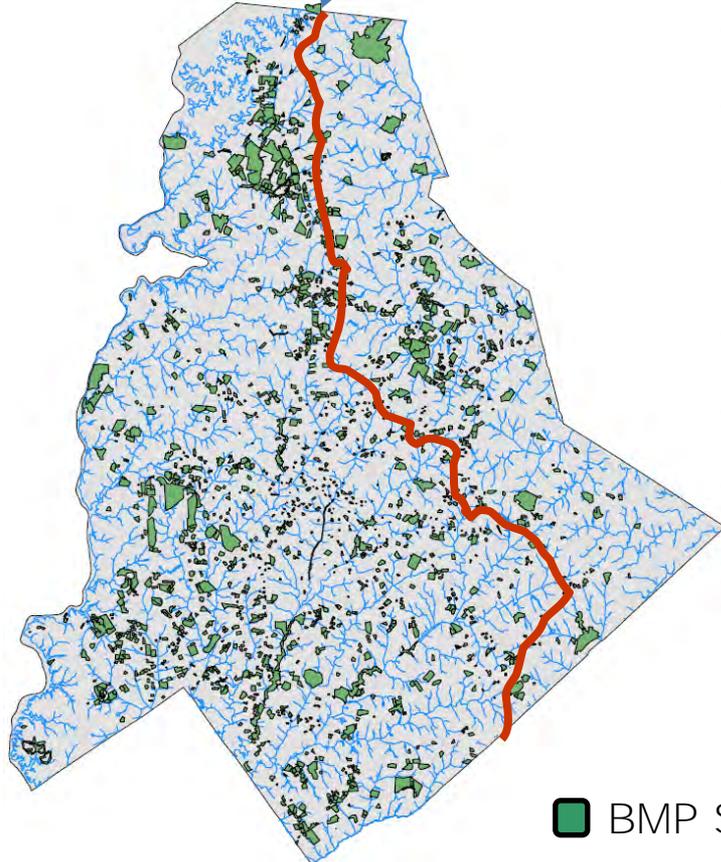
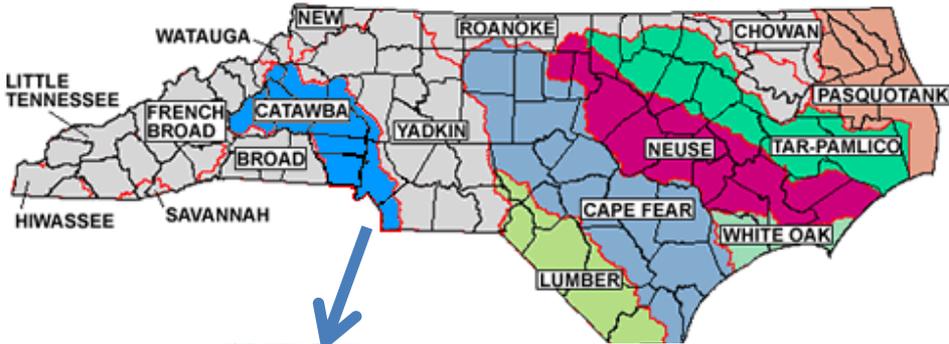
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Importance of BMP Construction



Mecklenburg County



- **Population: 1.1 million (2.5X in 40 yrs)**
- **Phase I Community-Charlotte (840,000)**
- **Phase II Community- Six Towns & County (270,000)**
- **3,452 square miles**
- **Over 3,000 miles of streams**
- **Over 200 miles of lake shoreline**
- **3,065 Storm Water BMPs**

■ BMP Sites

Overview:

- Connect Inspection Staff
- Educate Contractors
- Set Owner Expectations
- Involve the Design Engineer
- Identify Key Inspection Milestones
- Documentation

Connect Inspection Staff

- Inspectors involved review of:
 - BMP Design Standards Manuals
 - Construction Site Plans
 - Educational Programs
 - BMP Operation & Maintenance Plans
- Inspectors during BMP Construction also sign-off on the completed BMPs and conduct annual maintenance inspections.
- Inspection staff maintain BMP projects within a GIS system (CityWorks)

Educate Contractors

- Charlotte-Mecklenburg Certified Site Inspector (CMCSI) program
- One certified person per construction site
- Training on erosion control and BMP construction practices

CHARLOTTE-MECKLENBURG CERTIFIED SITE INSPECTOR TRAINING COURSE



Sponsored by
City of Charlotte Land Development Division
Charlotte-Mecklenburg Storm Water Services
Mecklenburg County Water Quality Program





Clean Storm Drains



Stabilized Drainage Area



Protecting Slopes



Water Tight



Material Handling



Stabilization

BMP Const. Education – Bad Practices



Contaminated Materials



Over Compaction



Contaminated BMP



Improper Drainage



Work in the Dry and use Sediment and Erosion Control Measures



Setting Expectations

Pre-Construction Meeting Required

- Contractors, Owner and Design Engineer present to set expectations
- Stabilized Site
- Cleaning Storm Drain System
- Review approved plans and materials
- Work in the dry
- Handling of materials
- Erosion and Sediment Control
- Required Inspections
- As-built surveys
- Certificate of Occupancy



Pre-BMP Construction

- Attendance at the Grading Pre-Construction meeting to ensure engineer involvement at key project milestones
- Attendance at the Pre-Installation meeting (prior to BMP construction) to ensure engineer inspections are performed at key BMP installation phases.
- Drainage area properly stabilized and measures in place to prevent sedimentation into the BMP prior to commencement of BMP construction.
- Storm drain system cleaned (lines flushed, catch basins cleaned, and pavement cleaned) prior to commencement of BMP construction.

BMP Construction Inspections



Stabilized Drainage Area



1st Inspection

Storm Drains
Cleaned



BMP Construction Inspections

2nd Inspection



BMP Construction Inspections

3rd Inspection



BMP Construction Inspections

4th and 5th Inspection



BMP Construction Inspections

Engineer Certification

Best Management Practices (BMPs) for Water Quality, Volume & Peak Control

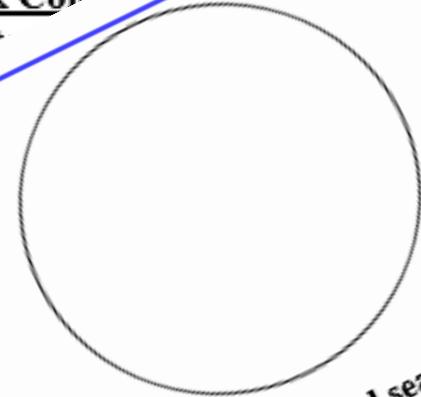
- Off-site total phosphorus mitigation option completed as required per SWMP Permit (SWMP), including installation of BMP(s) in full compliance (field verification required)
- Buy-down total phosphorus mitigation option completed per SWMP (attach a copy of verification of payment)
- Development and redevelopment mitigation
- Two (2) year maintenance bond secured
- Complete the BMP Maintenance Manual in accordance with the ordinance requirements (ftp://ftp1.co.mecklenburg.nc.gov/ftp1/co/mecklenburg/cklists_PC0211)
- For Wetland Construction, ensure compliance with the requirements of the Post-Construction Storm Water Ordinance.

Compliance Certification Statement

I do hereby certify that I have certified that the above items are in compliance with the approved storm water management plans, designs, and the requirements of the Post-Construction Storm Water Ordinance.

Professional's Signature

Date



(Professional seal)

 Approved by the

 Tests of media (minimum
 media installed to demonstrate K

 to ensure appropriate joint sealants and

 required to hold water (or temporarily hold water), ensure
 requirements of Section 4.0.6 of the BMP Design Manual.

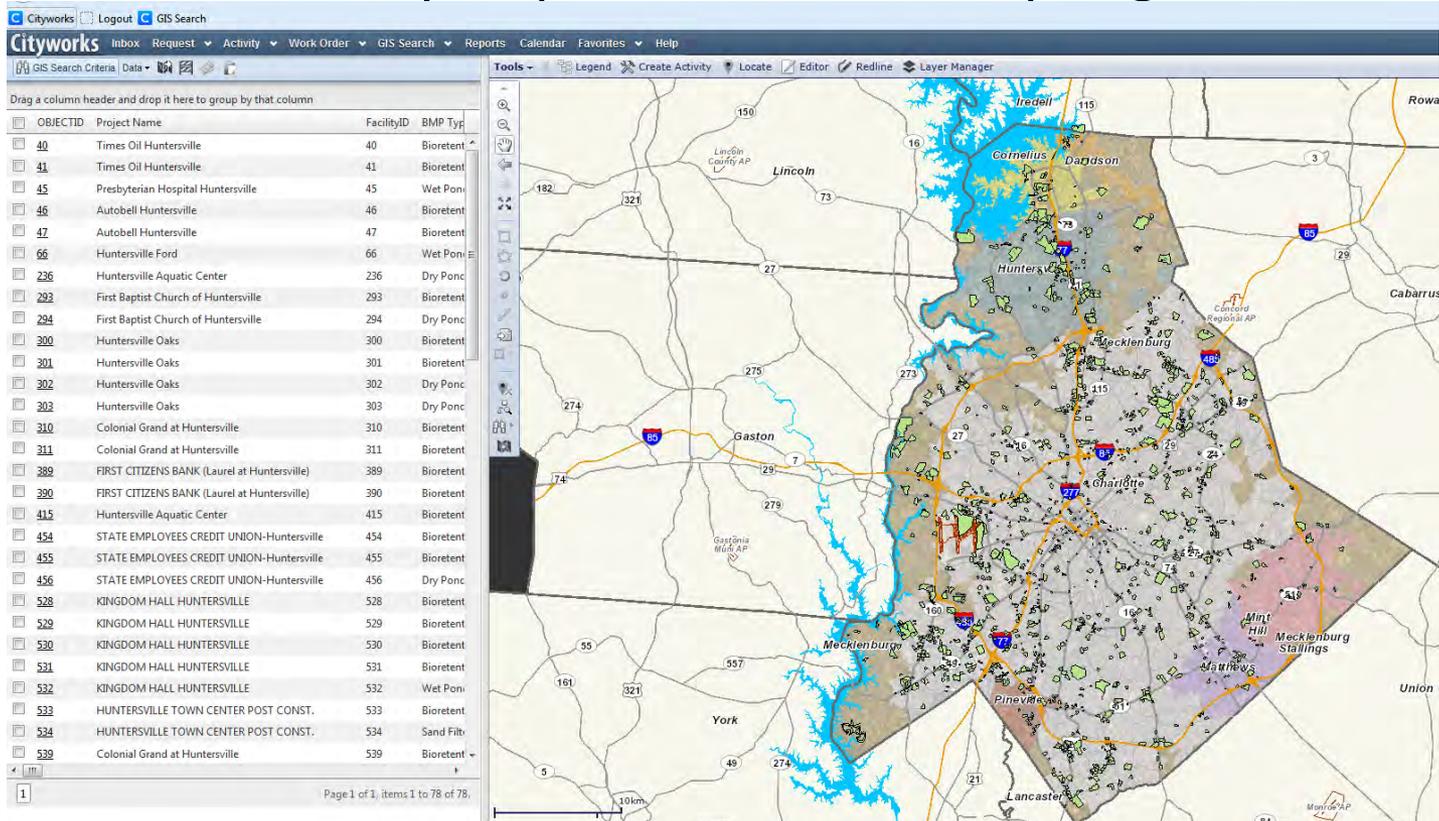
BMP Construction Inspections

Final Inspection



BMP Database (CityWorks)

- GIS capability
- Digital Inspection Records (photos, checklists)
- Digital Plans and Documents
- Available to 3rd Party Inspectors/owners - Spring 2018



The screenshot displays the CityWorks GIS application interface. On the left, a table lists various BMP projects with columns for OBJECTID, Project Name, FacilityID, and BMP Type. The table contains 30 rows of data. On the right, a map shows the Huntersville area with various colored overlays representing different BMP types and facility locations. The map includes labels for nearby towns like Lincoln, Gaston, and Mecklenburg, as well as major roads like I-85 and I-77.

OBJECTID	Project Name	FacilityID	BMP Type
40	Times Oil Huntersville	40	Bioretent
41	Times Oil Huntersville	41	Bioretent
45	Presbyterian Hospital Huntersville	45	Wet Pon
46	Autobell Huntersville	46	Bioretent
47	Autobell Huntersville	47	Bioretent
66	Huntersville Ford	66	Wet Pon
236	Huntersville Aquatic Center	236	Dry Ponc
293	First Baptist Church of Huntersville	293	Bioretent
294	First Baptist Church of Huntersville	294	Dry Ponc
300	Huntersville Oaks	300	Bioretent
301	Huntersville Oaks	301	Bioretent
302	Huntersville Oaks	302	Dry Ponc
303	Huntersville Oaks	303	Dry Ponc
310	Colonial Grand at Huntersville	310	Bioretent
311	Colonial Grand at Huntersville	311	Bioretent
389	FIRST CITIZENS BANK (Laurel at Huntersville)	389	Bioretent
390	FIRST CITIZENS BANK (Laurel at Huntersville)	390	Bioretent
415	Huntersville Aquatic Center	415	Bioretent
454	STATE EMPLOYEES CREDIT UNION-Huntersville	454	Bioretent
455	STATE EMPLOYEES CREDIT UNION-Huntersville	455	Bioretent
456	STATE EMPLOYEES CREDIT UNION-Huntersville	456	Dry Ponc
528	KINGDOM HALL HUNTERSVILLE	528	Bioretent
529	KINGDOM HALL HUNTERSVILLE	529	Bioretent
530	KINGDOM HALL HUNTERSVILLE	530	Bioretent
531	KINGDOM HALL HUNTERSVILLE	531	Bioretent
532	KINGDOM HALL HUNTERSVILLE	532	Wet Ponc
533	HUNTERSVILLE TOWN CENTER POST CONST.	533	Bioretent
534	HUNTERSVILLE TOWN CENTER POST CONST.	534	Sand Filtr
539	Colonial Grand at Huntersville	539	Bioretent