



**Stormwater Management Program  
2012 sMS4 Annual Report  
September 1, 2011 – August 30, 2012**



*North Augusta Stormwater Management Department*



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**City of North Augusta Stormwater Management  
Small Municipal Separate Storm Sewer System (sMS4)  
Permit #SCR030304  
Annual Report  
September 1, 2011 – August 30, 2012**

Submitted to: **South Carolina Department of Health and Environmental Control  
Bureau of Water- Water Pollution Compliance Section  
2600 Bull Street  
Columbia, SC 29201-1708**

**Ownership Update**

Permittee: CITY OF NORTH AUGUSTA

Program Name: STORMWATER MANAGEMENT DEPARTMENT

Check here if you are reporting for more than one Program:  (Prepare copies of this page as needed for each Program and attach to report.)

Permit Coverage Approval # SC SCR030304

Responsible Official Name: TOM ZEASER  
Title: DIRECTOR OF PUBLIC WORKS  
Mailing Address: P. O. BOX 6400, NORTH AUGUSTA, SC 29861-6400  
Telephone Number: (803) 441-4220  
E-mail address: tzeaser@northaugusta.net

Program Manager Name: DAVID CADDELL  
Title: STORMWATER MANAGER  
Mailing Address: 61 CLAYPIT ROAD, NORTH AUGUSTA, SC 29841  
Telephone Number: (803) 441-4295  
E-mail address: dcaddell@northaugusta.net

Ordinance Information: Insert your website address if the ordinance is posted online. If your ordinance is not posted on line, please submit a hard copy of ordinance with this report.

Hard copy attached  website: www.northaugusta.net

**Authorized Signature and Certification**

I certify under the penalty of law that this document and all attachments were prepared under my direction of supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Responsible Official Signature:  Date: 10/31/2012

The responsible official may authorize another person or person occupying a specific position to sign and certify this report if the authorization is made in writing and if the written authorization is submitted to the Department. Please attach a copy of the authorization with this report, if appropriate.

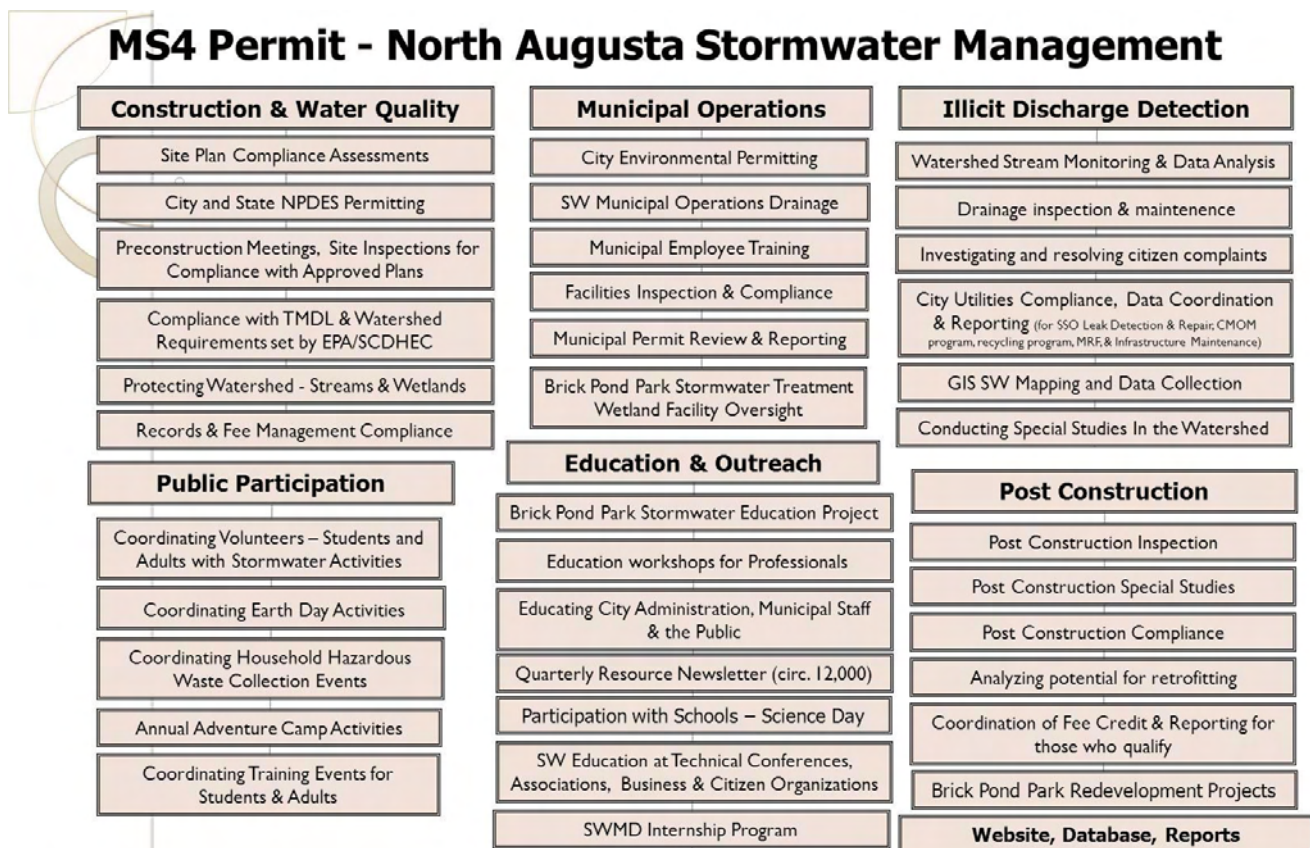
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**Table 1: North Augusta Stormwater Management Department Team**

Name	Title	Role	Certifications
Tom Zeaser	Director of Engineering & Public Works	Plan Reviewer, Policy Administration	P.E., CEPSCI, CSWPR
David Caddell	Stormwater Manager & Superintendent of Streets and Drains	Program Manager, Plan Reviewer, Site Inspector	CPESC, CPSWQ, CEPSCI, CSWPR
Tanya Strickland	Environmental Coordinator	Program Coordinator, Plan Reviewer, Site Inspector	CEPSCI, CSWPR, CHMM
Jeff Davis	Engineering Technician	Site Inspector, Engineering Inspections	CEPSCI
Jerome Mabry	Heavy Equipment Operator	Storm drain maintenance and construction	CDL
Kevin Whaley	GIS Analyst	Storm drain mapping and project support	GISP
Rafael Guerra	Laborer	Storm drain maintenance and construction laborer	

**Figure 1: North Augusta sMS4 “What we do”**



# Minimum Control Measures (MCMs)

## The six minimum control measures that must be included in your Storm Water Management Plan

*Note: For a complete list of activities, measurable goals, and outcomes, see comprehensive table located on pages 25-33 of this report. The Storm Sewer Outfall map is located at the end of this report as Attachment A.*

### MCM #1 Public Education and Outreach on Storm Water Impacts (4.2.1)

**Public Education and Outreach on Storm Water Impacts (4.2.1)** *You must implement a public education program to distribute educational materials or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. Additional information can be obtained from the SCDHEC Storm Water Education Clearinghouse Web Site, <http://www.scdhec.net/water/ms4/index.html>.*

**A.** Report the current stage of development of your education program. Mark one or more that most accurately reflects the current status of your education program as a whole:

- Not started       Research       Development       Implementation

**B.** Which audiences have you targeted? Explain why that particular audience was selected. *Mark all that apply:*

- Residential:**       Improper Disposal of Household Hazardous Waste       Large Pet Population  
 Tendency for Littering       Over-Fertilizing Lawns       Septic Tank Maintenance  
 Leaking Sewer Line/Sanitary Sewer Overflow Reporting Procedures  
 Other-Describe: Yard Waste Each of these outreach targets were selected based on each being a known pollutant contributor.
- Commercial:**       Poor Outdoor Housekeeping       Parking Lot Runoff  
 Concern Related to Specific Business Type. Describe: Landscapers and Painters due to the potential for discharges to the storm sewers from their activities.
- Industrial:**       Poor Outdoor Housekeeping       Parking Lot Runoff  
 Concern Related to Specific Business Type. Describe: Industry staff are contacted during storm pond inspections and ideas to prevent pollution are discussed.
- Institutional:**       Poor Outdoor Housekeeping       Parking Lot Runoff  
 Concern Related to Specific Business Type. Describe: School Parking lots due to the large impervious area and number of cars/sand that can impact our system.

Additional Target Audience: CONTRACTORS, DEVELOPERS, AND ENGINEERING FIRMS DOING WORK IN THE CITY.

Why targeted? TO EDUCATE THEM ON HOW TO PREVENT STORMWATER IMPACTS FROM THEIR ACTIVITIES.

**C.** Which pollutant sources has your public education program targeted? *Mark all that apply:*

- Pet Waste       Human Septic Waste       Litter/Improper Disposal  
 Household Hazardous Waste       Parking Lot Runoff (Petroleum)       Oils/Grease       Sediment  
 Industrial Waste       Business/Commercial Waste/By-products       Other, Name: HOME LANDSCAPING AND REMODELING FIRMS



**D.** Describe your outreach strategy. The city works year round conducting seminars, school visits, tours of the stormwater treatment wetland to educate citizens of all ages about stormwater pollution prevention and ideas to deter future problems.

Enter the number distributed/reached in the spaces provided:

	<b>Number</b>		<b>Number</b>
Brochures/ Newsletters	48,000	Utility Bill Inserts	Newsletters
Workshop/ Seminars	11 seminars	Radio Ads	0
Posters	0	Television Ads	0
Newspaper Articles	4	Other: Education Events	24
Web site (estimated hits)	200		

**E.** Evaluate the success of this MCM:

*Answer each question:*

- a. Does your plan include measurable goals for this MCM?  Yes  No
  
- b. Did you meet the due date listed in your permit schedule for:
  - Full development of this MCM?  Yes  No (Year 1 Reporting only)
  - Full implementation of the MCM?  Yes  No
  
- c. Did you measure the program's success against the selected goals?  Yes  No
  
- d. Rank the program's success as determined by the evaluation:  Successful  Needs Improvement
  
- e. If your evaluation found the program needs improvement, explain why by marking all that apply:
  - No goals were established
  - Goals were not established early enough in the program to provide guidance to staff
  - Unclear, immeasurable, or unrealistic goals
  - Insufficient funding
  - Insufficient staffing
  - 1<sup>st</sup> year report – program was under development
  - Other: Explain

**Table 2: MCM #01 Educational Outreach Summary 2011 – 2012**

<b>Date</b>	<b>Item/Event - Audience</b>	<b>Topic Covered/Discussed</b>	<b>Participants/Group</b>
09/09/2011	Georgia Cyber Academy – Homeschoolers Education Prog	Brick Pond Park Stormwater treatment wetland	120 guests (30 adults, 90 children)
09/21/2011	NA Elementary Career Day – Scott Sterling, City Planner	Planning activities to prevent stormwater pollution	50 children
09/30/2011	USC-Aiken Seminar – T. Strickland	Stormwater MS4 activities and Brick Pond Park Education	75 students
10/12/2011	Belvedere Elem 5 <sup>th</sup> Grade	BPP SW Treatment Wetlands Education	25 adults, 120 children
11/08/2011	Optimist Club Presentation	Brick Pond Park Education	16 adult
11/09/2011	NA Elementary 5 <sup>th</sup> Grade	BPP SW Treatment Wetlands Education	22 adults 114 children
11/10/2011	The Resource	Nov Edition – MS4 Program update	12,000 households
01/19/2012	NA Rotary Club	BPP Education	12 adults
02/24/2012	Midland Valley High	Brick Pond Park Education	25 children 4 adults
03/16/2012	SC Assn. Planners Present – S Sterling/T Strick	Restoration of BPP to Stormwater Treatment System & Tour of Park	100 adults
03/09/2012	Mossy Creek Science Day	Stormwater Education	100 children 4 adults
03/27/2012	Aiken Technical College class	Stormwater monitoring training	15 Students
02/25/2012	The Resource	Feb Edition – Savannah River	12,000 households
04/04/2012	Aiken Tech student	Stormwater Const. inspection training	1 adult student
04/10/2012	NA Master Gardeners	Stormwater education & tour BPP	15 adults
04/14/2012	Kids Earth Day 2012	Held at BPP this year	~100 adults and 300 children
04/21/2012	Earth Day at Phinizy Swamp	Phinizy Swamp – Set up SW education booth	75 adults 100 children
05/04/2012	Envirothon Judging – SW Treatment - T Strickland	Envirothon – Students present SW plan for communities for judging	100 students - HS
05/19/2012	Household Haz. Waste Collection Day	Collecting household chemicals	127 cars
05/20/2012	The Resource Newsletter	May Edition: Trash & Conserving H <sub>2</sub> O	12,000 households
06/05/2012	Adventure Camp at BPP	Kids tour park and conduct activities	29 children 6 adults
06/06/2012	Leadership NA	SW & Ms4 Education – Tour park	14 adults
06/07/2012	SC Assn. of SW Managers – T Strickland Speaker	SCASM – Presentation on Illicit Dischg. Detection - Infrared	200 adults
06/12/2012	Fairview Presb. Youth Group	SW Education – BPP tour and activity	20 kids 5 adults
06/14/2012	Adventure Camp at BPP	SW Education BPP tour and activity	22 kids 5 adults
06/15/2012	Midland Valley Academy	SW Education BPP Tour	29 students 3 adults
06/19/2012	Adventure Camp	SW Education BPP tour and activity	35 kids 5 adults
06/26/2012	Adventure Camp	SW Education BPP tour and activity	35 kids 5 adults
07/10/2012	Adventure Camp	SW Education BPP tour and activity	32 kids 4 adults 1 volunteer
07/19/2012	Ga. Assn. of Homeschoolers	SW Education BPP Tour – AHC	60 kids 30 adults
08/20/2012	The Resource Newsletter	August edition: Awareness, stormwater flow at home	12,000 households
<i>Approx. Total of Individuals reached 9/1/11– 08/30/12 (Newsletter 48K and 2,159 individually)</i>			<b>50,159</b>

**MCM #2 Public Involvement / Participation (4.2.2)**

**Public Involvement / Participation (4.2.2)** *You are required to comply with State, Tribal and local public notice requirements when implementing a public involvement/ participation program. You must document the program development process and the implementation of a storm water public education and outreach program.*

**A.** Indicate how the public was involved in the development and submittal of your Storm Water Management Program (SWMP). The program was developed in 2002-2003 and activities occurred at that time.

- Council Meetings    Public Hearing    Advisory Panel  
 Public Comments    Public Concerns    Other: (Describe) Program development, education program (see C. below)

**B.** Which activities did the public participate in? *Mark all that apply:*

- Program Planning    Stenciling    Stream Cleanup    City Sweep    Monitoring  
 Wetland Planting    Re-Forestation    Other: (Describe) Household Hazardous Waste Collection, Electronics Recycling Program, Workshops, Seminars, Volunteer Efforts at Constructed Wetlands for SW Treatment Project, Public Education Program, Invasive Plant removals

**C.** Describe at least one activity, the participant, and the participant's demographic characteristics that took place during this reporting year. If none, explain why: During this reporting period the City worked the Boy Scouts of America and helped to provide projects to a candidate for both the Hornaday Award and Eagle Scout status, we also worked with younger scouts in stream clean-up, wetlands clean-up and other stormwater initiatives. Joel Farrar conducted three projects in the city; soil stabilization at the Disk Golf Course next to Savannah River, Pretty Run Stream channel inspection and cleanup and removal of Chinese Tallow (popcorn) trees at Brick Pond Park. All three of the projects required coordination and management from Joel to pull together teams of scouts to conduct and complete each project.

**Participant:**

Local schools, Boy Scouts

**Participant Demographic:**

- Residential  
 Commercial  
 Industrial  
 Institutional

**Activity:**

- Program Planning  
 Stenciling  
 Stream Cleanup  
 Street Sweep  
 Wetland Planting  
 Monitoring  
 Re-Forestation  
 Other:(Describe) ONGOING PUBLIC PRIVATE STORMWATER EDUCATION PARTNERSHIP

**D.** Evaluate the success of this MCM:

*Answer each question:*

- a. Does your plan include measurable goals for this MCM?  Yes    No
- b. Did you meet the due date listed in your permit schedule for:  
Full development of this MCM?    Yes    No (Year 1 Reporting Only)  
Full implementation of the MCM?    Yes    No
- c. Did you measure the program's success against the selected goals?  Yes    No
- d. Rank the program's success as determined by the evaluation:  Successful    Needs Improvement

**Table 3: MCM #2 Summary Activities for 2011 & 2012**

<b>Date</b>	<b>Activity</b>	<b>Participants</b>
09/09/2011	Georgia Cyber Academy Visit Brick Pond Park and learn about water quality	120
10/12/2011	Belevedere Elementary 5 <sup>th</sup> graders conduct experiments at BPP to share with classes	145
11/09/2011	NA Elementary 5th graders conduct experiments at BPP to share with classes	136
02/24/2012	Midland Valley High School meet at park to learn about stormwater & experiments	29
03/16/2012	SC Assn. of Planners learn about stormwater and tour the park	100 seminar 30 tour
03/27/2012	Aiken Tech Students visit park and learn how to monitor water quality	1
04/04/2012	Aiken Tech Student conducts inspections in ride-along with city to learn SW BMPs	15
04/10/2012	Boy Scouts along with leader, Pat Dunagan work to clean trash from BPP	5
04/10/2012	NA Master Gardeners host regional meeting and tour Brick Pond Park to learn about SW	15
04/14/2012	City hosts 2012 Kids Earth Day at Brick Pond Park	400
05/11/2011	Joel Farrar – Boy Scouts conducted erosion stabilization project at Riverview Park Disc Golf Course – adjacent to Sav River	10
05/19/2012	Household Hazardous Waste Collection Event – Boy Scouts volunteer conducting research surveys with leader Pat Dunagan	130
06/02/2012	Joel Farrar – Boy Scouts conducted stream cleanup of Pretty Run Creek	12
06/06/2012	NA Leadership Academy BPP Tour	14
06/09/2012	Joel Farrar – Boy Scouts conduct invasive species removal at BPP – Tallow trees	15
06/06/2012	Adventure Camp	27
06/12/2012	Fairview Presb. Youth Center tour of Brick Pond Park and conducts experiments	25
06/19/2012	Adventure Camp	40
06/26/2012	Adventure Camp	40
07/10/2012	Adventure Camp (1 Volunteer from community participated, David Kiser)	37
06/15/2012	Midland Valley Academy (private) toured BPP conducted experiments	32
07/19/2012	Ga Academy Homeschool Assoc BPP Program	90
	<b><i>Total for period</i></b>	<b><i>1,468</i></b>

**MCM #3 Illicit Discharge Detection and Elimination (4.2.3)**

**Illicit Discharge Detection and Elimination (4.2.3)** *The permit requires each MS4 to develop, implement, and enforce a program to detect and eliminate illicit discharges as defined in South Carolina Water Pollution Control Permits Regulation 61-9 122.26(b)(2).*

A. Have you developed a program to detect and eliminate illicit discharge?

Yes  No If "No" what is your target date?

Have you implemented a program to detect and eliminate illicit discharge?

Yes  No If "No" what is your target date?

Have you enforced a program to detect and eliminate illicit discharge)?

Yes  No If "No" what is your target date?

B. Provide your most up-to-date storm sewer map. Hard copy attached:  Yes  No (Why) Note: ***The storm sewer map is located as Appendix A at the end of this report.***

C. Do you have a mechanism that prohibits illicit discharges?  Yes  No

D. Describe your procedures for locating priority areas.

- Areas with older sanitary sewer lines. Name an area as an example: **Lynnhurst S/D**
- Business concerns. Describe a concern as an example: **Landscapers & Painters disposing of wastes in the stormwater pathway or drains**
- Commercial concerns. Describe a concern as an example: **Landscapers over-applying chemicals**
- Industrial concerns. Describe a concern as an example. **Maintaining detention ponds and infrastructure**
- TMDL Evaluation. Result: **Prioritized Basins by residential or commercial density, inspected, cleaned or repaired 80% of Priority 1 Area drainage system (Pretty Run is a priority one area).**
- Impaired Water Body. Name water body: *Pretty Run Creek*
- Citizen complaints. Give an example: **Flow is causing deterioration of banks in two locations during heavy storms. Met with citizens and designed and implemented emergency repairs.**
- Wetlands/Critical Area, Public Beaches, Shellfish Beds, or other coastal concerns. An assessment of critical areas was completed in July 2011. A total of 208 field assessments were done and a brief report was prepared identifying environmentally sensitive land areas and the potential effects of future development on water quality, wetlands, endangered species and stormwater drainage. Document is being used to help prioritize sub-basins in watershed.
- Other. Describe and/or give example:

E. Describe your procedures for tracing the source of illicit discharges.

- |  |   |  |  |
|--|---|--|--|
| <input checked="" type="checkbox"/> Areas with sanitary sewer lines: | <input type="checkbox"/> Dry weather outfall screenings | <input checked="" type="checkbox"/> Site visit | <input type="checkbox"/> Questionnaire |
| <input checked="" type="checkbox"/> Areas with septic tanks:         | <input type="checkbox"/> Dry weather outfall screenings | <input checked="" type="checkbox"/> Site visit | <input type="checkbox"/> Questionnaire |
| <input checked="" type="checkbox"/> Business concerns:               | <input type="checkbox"/> Dry weather outfall screenings | <input checked="" type="checkbox"/> Site visit | <input type="checkbox"/> Questionnaire |
| <input checked="" type="checkbox"/> Commercial concerns:             | <input type="checkbox"/> Dry weather outfall screenings | <input checked="" type="checkbox"/> Site visit | <input type="checkbox"/> Questionnaire |
| <input checked="" type="checkbox"/> Industrial concerns:             | <input type="checkbox"/> Dry weather outfall screenings | <input checked="" type="checkbox"/> Site visit | <input type="checkbox"/> Questionnaire |
- Citizen complaints: Give an example: A residential complaint that a neighbor was draining mud into Savannah River. Investigation revealed a construction site without permits. Enforced permitting requirements, BMP use, and corrective actions.
- Other: Describe and/or give example: The city has a very active CMOM program. Many lines have been tested throughout the city for leaks. All problems found are repaired.

**F.** Describe your enforcement procedures for removing the source of the illicit discharge. *Mark all that apply:*

- Site inspections
- Record of Findings
- Notice of Findings to Responsible Party
- Notice to Eliminate Discharge
- Notice to Eliminate Pollutant Source
- Written Due Date for Elimination
- Stop Work Order
- Follow-up Site Visit
- Notice to Appear Before Judicial Authority
- Fees/Penalties Maximum Amount: \$500.00
- Corrective Action/Charge to Responsible Party
- Other: Describe. An Enforcement Response Plan has been prepared and implemented for North Augusta.

**G.** What method have you used to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste? *Mark all that apply*

**Public Employees**

**Businesses**

**General Public**

- |   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Training Class                        | <input checked="" type="checkbox"/> Direct Mail                        | <input checked="" type="checkbox"/> Direct Mail   |
| <input type="checkbox"/> Paystub Inserts                                  | <input checked="" type="checkbox"/> Bill Inserts                       | <input checked="" type="checkbox"/> Bill Inserts  |
| <input checked="" type="checkbox"/> Staff Meeting                         | <input checked="" type="checkbox"/> Site Visits                        | <input checked="" type="checkbox"/> Public Meetings   |
| <input checked="" type="checkbox"/> On the Job Training                   | <input checked="" type="checkbox"/> Phone Calls                        | <input type="checkbox"/> Radio  |
| <input checked="" type="checkbox"/> Other: Describe<br>mandatory training | <input checked="" type="checkbox"/> Seminars                           | <input type="checkbox"/> TV   |
|   | <input checked="" type="checkbox"/> Other: Describe Newspaper articles | <input checked="" type="checkbox"/> Other: Describe Volunteer opportunities to assist SWMD projec |

**H.** Evaluate the success of this MCM:

*Answer each question:*

- a. Does your plan include measurable goals for this MCM?  Yes  No
- b. Did you meet the due date listed in your permit schedule for:
- |                                 |   |                             |
|---------------------------------|---|-----------------------------|
| Full development of this MCM?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Full implementation of the MCM? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Enforcement of the MCM?         | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
- c. Did you measure the program's success against the selected goals?  Yes  No
- d. Rank the program's success as determined by the evaluation:  Successful  Needs Improvement
- e. If your evaluation found the program needs improvement, explain why by marking all that apply:
- No goals were established
  - Goals were not established early enough in the program to provide guidance to staff
  - Unclear, immeasurable, or unrealistic goals
  - Insufficient funding
  - Insufficient staffing
  - 1<sup>st</sup> year reporting – program under development
  - Insufficient regulatory mechanism (ordinance)



**Table 4: MCM #3 Total Wastes Removed from Community**

**Storm Drain Cleaning**

Year	Item	Number of Drains Cleaned	Pollutants Removed (tons estimated)
2011 (Sept – Dec)	Storm drains cleaned	89	2.90
2012 (Jan – Aug)	Storm drains cleaned	207	6.73

**Litter Pick-up Program**

Year	Item	Pollutants Removed (tons)
2011 (Sept – Dec)	Litter pickup roadsides	9.11
2012 (Jan – Aug)	Litter pickup roadsides	5.88

**Street Sweeping**

Year	Street Sweeping	Actual Pollutants Removed (tons)
2011 (Sept – Dec)	Street Sweeping (526 miles)	95.16
2012 (Jan – Aug)	Street Sweeping (1721 miles)	211.4

**Household Hazardous Waste Collections**

Year	Types of items collected	Potential Pollutants Removed (not landfilled, tons)
2012	Paint, oils, gasoline, pesticides, herbicides	5.363 (see table next page)

**E-Waste Recycling**

Year	Types of items collected	Waste Removed (not landfilled, tons)
2011 (Sept – Dec)	Computers, monitors, electronics etc.	13.74
2012 (Jan – Aug)	Computers, monitors, electronics etc.	25.31

## Storm Pipe Repairs

Year	Item	(linear ft)
2011 (Sept – Dec)	Storm Pipes repaired or installed	350
2012 (Jan – Aug)	Storm Pipes repaired or installed	265

**Table 5: Household Hazardous Waste collected 05/19/2012**

2012 Household Hazardous Waste Collection Event Totals (from manifest)			
Hazardous Waste Collected	Lbs.	Tons	% of Total
Waste Aerosol	520	0.26	4%
Waste Pesticides liquid	1200	0.6	9%
Waste Propane	77	0.0385	1%
Waste Flam Liquid (Acetone, toluene)	1200	0.6	9%
Waste pest solid	600	0.3	4%
Waste corrosives	270	0.135	2%
Waste Hg	5	0.0025	0%
Waste Caustic	122	0.061	1%
Florescent Light bulbs	15	0.0075	0%
Waste Paint	6968	3.484	52%
Waste Oxidizing liquid	2	0.001	0%
Waste Gasoline	400	0.2	3%
Waste Oil	1500	0.75	11%
Waste Batteries	39	0.02	0%
Waste Fire Extinguishers	8	0.004	0%
Waste Antifreeze	450	0.225	3%
<b>Total</b>	<b>13,376</b>	<b>6.69</b>	<b>100%</b>



**Figure 2: Household Hazardous- Percentage of Each Type (reporting period)**

**MCM #4 Construction Site Storm Water Runoff Control (4.2.4)**

**Construction Site Storm Water Runoff Control (4.2.4)** *The permit requires each MS4 to develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your regulated SMS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of pollutants in storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.*

A. Does your plan include the following elements? *Mark all that apply:*

- Ordinance or other mechanism to regulate construction site runoff
- Sediment and erosion control Best Management Practices (BMP) requirements
- Record keeping for rainfall and inspections
- Waste controls for discarded building materials
- Waste controls for concrete truck washout
- Waste controls for chemicals
- Waste controls for litter
- Waste controls for sanitary waste
- Procedures for site plan review
- Verification plan includes consideration of potential water quality impacts
- Quantitative & qualitative assessment for Pollutant of Concern for projects >25 acres at 303D waters

Procedures for receipt and consideration of information submitted by the public

**B.** Does your regulatory mechanism have sanctions to ensure compliance, including an enforcement component?

Yes  No If "Yes", which of the following does your MS4 use? *Mark all that apply:*

- Verbal warnings
- Written warnings
- Stop-work orders
- Fines/Penalties Maximum amount \$500
- Performance bonds/forfeiture procedures
- Withholding Certificate of Occupancy
- Permit Denial
- Fee, Explain:
- Other: Magistrates Court, City repair of problem at owners expense, performance guarantees/letter of credit.

**C.** Does your plan include a procedure that describes when specific sanctions listed in Question "B" above are to be used to ensure compliance?  Yes  No

**D.** Describe your procedures for site inspections. *Mark all that apply:*

- Prioritize sites for inspection
- Give notice upon arrival at site
- Verify correct paperwork is on site
- Examine construction entrance
- Check perimeter controls
- Verify temporary vegetation established by due date
- Look for eroded areas
- Verify sediment and erosion control devices installed per plan
- Inspect ponds
- Look for sediment leaving site
- Look for sediment in waters of the state
- Verify land disturbance ends at permit boundaries

**E.** Describe your plan for prioritizing sites for inspection. Mark all that apply by ranking them according to your prioritization plan. *(Click to the left of N/A and Press F1 for help.)*

- 1 TMDL consistency
- 1 Impaired waters concern
- 1 Water quality concern
- 2 Roads/drainage adoption
- 1 Citizen complaints
- 1 Geographical location
- 2 Size of project
- 1 Past performance of Responsible Party
- 2 Project Closeout
- 2 Request from Responsible Party

**F.** Evaluate the success of this MCM.

*Answer each question:*

a. Does your plan include measurable goals for this MCM?  Yes  No

- b. Did you meet the due date listed in your permit schedule for:
- Full development of this MCM?  Yes  No (1<sup>st</sup> Year Reporting)
  - Full implementation of the MCM?  Yes  No (1<sup>st</sup> Year Reporting)
  - Enforcement of the MCM?  Yes  No (1<sup>st</sup> Year Reporting)
- c. Did you measure the program's success against the selected goals?  Yes  No
- d. Rank the program's success as determined by the evaluation:  Successful  Needs Improvement
- e. If your evaluation found the program needs improvement, explain why by prioritizing all that applies:  
(Click to the left of N/A and Press F1 for help.)
- N/A No goals were established
  - N/A Goals were not established early enough in the program to provide guidance to staff
  - N/A Unclear, immeasurable, or unrealistic goals
  - N/A Insufficient funding
  - N/A Insufficient staffing
  - N/A No construction projects took place in the MS4 area to provide an opportunity to evaluate success
  - N/A Insufficient regulatory mechanism (ordinance)
  - N/A Other: Explain

**MCM#4 Details for North Augusta SWMD Activities**

**Permit Approval Records Below include *Partial Details*** (size of disturbance, notes, basin, and other details are recorded but not presented here due to space limitations)

**Table 6: Permits Issued and Fees Collected 9/1/11 – 12/31/11**

date application submitted+ fees received	Permit #	Project Name	Size acres disturbed	Date Approved by SW Dept	DHEC Fee Collected	Sent to DHEC
9/25/2011	Carried over to 2012	Veterinary Healthcare Associates	1.9	pend	\$ pd in 2012	Carried over to 2012
10/23/2011	Carried over to 2012	Greg's Gas Plus renovation	0.5	pend	n/a	Carried over to 2012
10/21/2011	111111	Living History Park	1.6	11/11/2011	\$ 125.00	11/11/2011
12/27/2011	same	Verizon Wireless	0.5	1/20/2012	n/a	n/a

Total fees to DHEC (this period) \$125.00

**Table 7: Permits Issued and Fees Collected 1/1/12 – 08/31/12**

date application submitted+ fees received	Permit #	Project Name	Size acres disturbed	Date Approved by SW Dept.	DHEC Fee Collected	Sent to DHEC
9/16/2010	2222012	Wando Woodlands Ph IIB	14.7	2/15/2012	\$ 125.00	2/15/2012
9/25/2011	12071001	Veterinary Healthcare Associates	1.9	7/11/2012	\$ 125.00	7/11/2012
10/23/2011		Gregs Gas Plus renovation	0.5	pend	n/a	n/a
12/27/2011	n/a	Verizon Wireless	0.5	1/20/2012	n/a	n/a
2/7/2012	exempt	On the way Café (About Thyme)	0.3		n/a	n/a
3/1/2012	12071101	True North Church	9.5	6/22/2012	\$ 125.00	8/2/2012
4/10/2012	Cancelled	Aldi Grocery		Cancelled	Cancelled	n/a
5/1/2012	exempt	McDonalds redevelop	0			n/a
5/1/2012	exempt	Hardees renovation	0		n/a	n/a
6/20/2012	n/a	Mountaineer Pest Control	0.16	6/22/2012	n/a	n/a
6/19/2012	pend	Wando Woodlands Ph 3 & 4	25.7	pend	No check submitted to date	
7/18/2012	n/a	Dr. Havaird Office Bldg.	0.04		n/a	n/a

Totals Fees to DHEC \$ 375.00



Months	SAT	UNSAT	MARG	C&D	Total Insp.	COMP	NONCOMP
September	26	3	0	0	29	26	3
Total 3rd Qtr.	67	10	1	1	79		
<b>Percent</b>	<b>85%</b>	<b>13%</b>	<b>1%</b>	<b>1%</b>		<b>86%</b>	<b>14%</b>
October	21	1	1	0	23	22	1
November	21	2	1	0	24	22	2
December	20	2	1	0	23	21	0
Total 4th Qtr.	62	5	3	0	70		
<b>Percent</b>	<b>89%</b>	<b>7%</b>	<b>4%</b>	<b>0%</b>		<b>93%</b>	<b>7%</b>
<b>Partial Total</b>	<b>129</b>	<b>15</b>	<b>4</b>	<b>1</b>	<b>149</b>	<b>89%</b>	<b>11%</b>

Months	SAT	UNSAT	MARG	C&D	Total Insp.	COMP	NONCOMP
January	18	4	3	0	25	21	4
February	22	2	0	0	24	22	2
March	24	1	0	0	25	24	1
Total 1st Qtr.	64	7	3	0	74		
<b>Percent</b>	<b>86%</b>	<b>9%</b>	<b>4%</b>	<b>0%</b>		<b>91%</b>	<b>9%</b>
April	28	0	0	0	28	28	0
May	25	2	0	0	27	25	2
June	23	8	0	0	31	23	8
Total 2nd Qtr.	76	10	0	0	86		
<b>Percent</b>	<b>88%</b>	<b>12%</b>	<b>0%</b>	<b>0%</b>		<b>88%</b>	<b>12%</b>
July	24	0	0	0	24	24	0
August	16	8	2	3	29	18	11
September	18	2	1	1	22	19	3
Total 3rd Qtr.	58	10	3	4	75		
<b>Percent</b>	<b>77%</b>	<b>13%</b>	<b>4%</b>	<b>5%</b>		<b>81%</b>	<b>19%</b>
<b>Annual Total</b>	<b>198</b>	<b>27</b>	<b>6</b>	<b>4</b>	<b>235</b>		
<b>Annual %Comp</b>	<b>84%</b>	<b>11%</b>	<b>3%</b>	<b>2%</b>		<b>87%</b>	<b>13%</b>

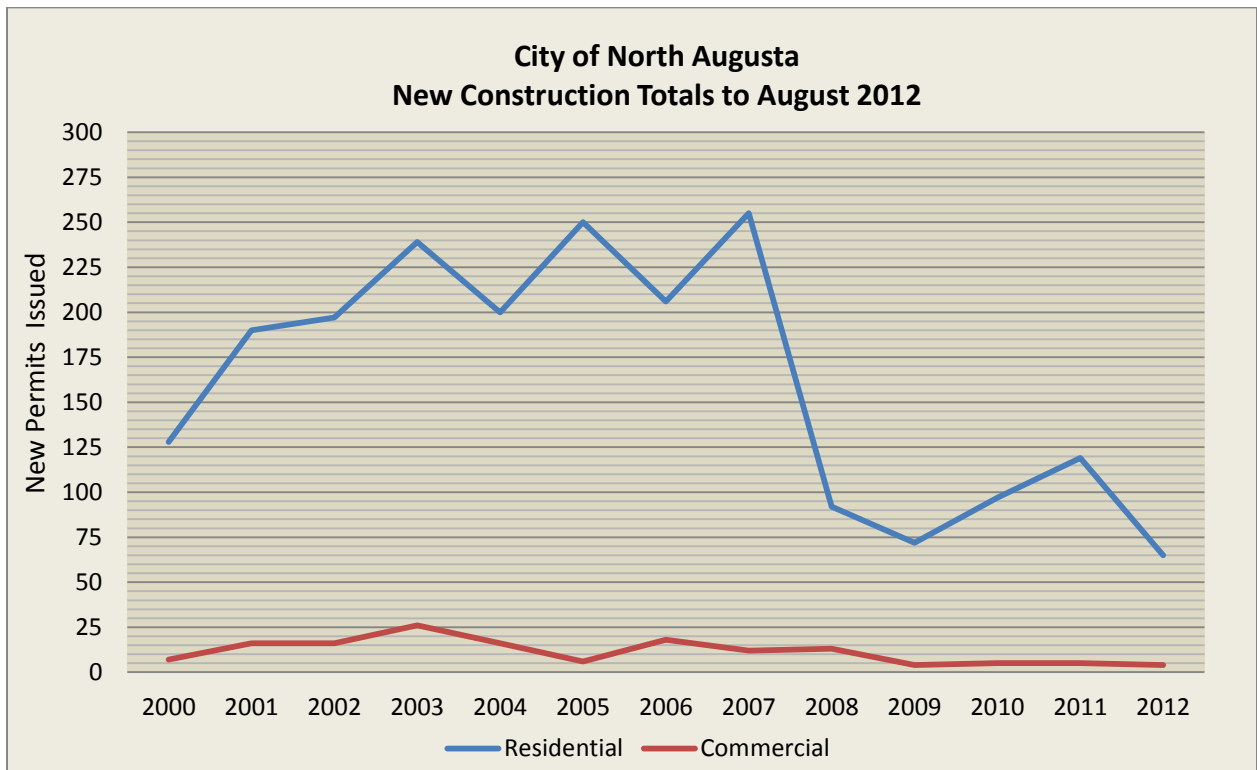
**City of North Augusta Construction BMP Compliance**

In analyzing the compliance rates for this reporting period, our inspection and oversight efforts have continued to be effective. Lower than average rainfall and construction during the reporting period resulted in a good overall compliance rating.

North Augusta continues to see low development rates at the present time (see 2000-2012 Summary below). Active construction projects in the city have picked up over 2011-2012 time-frame for residential building only. Commercial projects remain very low and have centered on re-development of existing facilities or small footprint (less than one acre) buildings being developed.

Drought patterns of rainfall continued throughout the year up until the last few months. During the third quarter, total rainfall in the area was greater than 12 inches. Several rain events were at or near the 100 year rain event. Many project BMPs failed during those events and after the heaviest rain events, smaller rainfalls continued over a few weeks. It was several weeks before sites were able to fully implement or repair BMPs. During the period, staff inspected construction sites and follow-up inspections revealed more issues. This created a drop in compliance rates that included several stop work orders being issued leading to each project being brought back into compliance.

**Figure 3: Annual New Construction - Total New Permits Issued**



**MCM #5 Post-Construction Storm Water Management in New Development and Re-development (4.2.5)**

**Post-Construction Storm Water Management in New Development and Re-development (4.2.5)** *Within 18 months from the effective date of this permit, you must develop, implement, and enforce a program to address storm water run-off from new development and redevelopment projects within your jurisdiction that disturb one acre or greater, including projects less than one acre that are part of a larger common plan of development or sale that discharge into your small MS4. Your program must ensure that controls are in place that would prevent or reduce water quality impacts. You must also select and implement a program of appropriate BMPs and measurable goals for this minimum control measure.*

**A.** Is there an ordinance or other regulatory mechanism in place to control post construction runoff from new development or redevelopment? Yes No If “No”, target date for passage:

**B.** Is your program designed to address the needs of your local community? *Answer all questions:*

- Yes No Does your program address runoff from new Development?
- Yes No Does your program address runoff from Redevelopment?
- Yes No Does your plan include any specific priority areas for this program?
- Yes No Does your plan describe how your program is specifically tailored for your local community?
- Yes No Does your program minimize water quality impacts?
- Yes No Does your program attempt to maintain pre-development runoff conditions?

**C.** Which BMPs are used in your community? *Mark all that apply:*

- Policies or ordinance to direct growth to identified areas.
- Policies or ordinance to protect wetlands and riparian areas.
- Policies or ordinance to maintain or increase open space.
- Funding source to acquire open space.
- Policies or ordinance to provide buffers along sensitive water bodies.
- Policies or ordinance to minimize impervious surfaces.
- Policies or ordinance to minimize disturbance of soils and vegetation.
- Policies or ordinance that encourage infill development in higher density urban areas.
- Policies or ordinance that encourage development in areas with existing storm sewer systems.
- Education programs for developers about project designs that minimize water quality impacts.
- Education programs for the public about project designs that minimize water quality impacts.
- Measures to minimize percentage of impervious area after development.
- Measures to minimize directly connected impervious areas.
- Good housekeeping measures.
- Preventative maintenance measures.
- Spill prevention measures.
- Storage practices such as wet ponds or extended detention outlet structures.
- Filtration practices such as grassed swales, bio-retention cells, sand filters, or filter strips.
- Infiltration practices such as infiltration basins and infiltration trenches.
- Other: Describe

**D.** Describe your plan to ensure long-term operation and maintenance of post construction BMPs. *Mark all that apply:*

- Maintenance agreement between structure owner and MS4 governmental entity (commercial development stormwater ponds only, pond maintenance agreement provided at time of NOI submittal if other than the developer)
- Maintenance agreement between (new) structure owner and developer.
- MS4 enforces agreements between (new) structure owner and developer.

- MS4 assumes maintenance (for all residential subdivision ponds and water quality devices that are dedicated to the city as part of the city storm sewer system).
- MS4 assumes maintenance and bills owner.
- MS4 conducts maintenance and bills owner only if owner fails to maintain through our illicit discharge ordinance.
- Other: Describe: City annually inspects post-construction structures and notifies owner if a problem exists. City conducts follow-up inspection and further contact with owner when necessary.

**Table 10: City Owned Ponds Cleaned/Repaired**

Year	Item	Number of Ponds	Pollutants Removed (tons)
2011 (Sept – Dec)	Stormwater ponds, devices (forebays, cds units) (avg. 65 lbs. each device)	6	0.2
2012 (Jan – Aug)	Stormwater ponds (avg. 65 lbs. each pond)	21	0.68

**E.** Evaluate the success of this MCM.

*Answer each question:*

- a. Does your plan include measurable goals for this MCM?  Yes  No
- b. Did you meet the due date listed in your permit schedule for:
  - Full development of this MCM?  Yes  No (1st Year Report)
  - For full implementation of the MCM?  Yes  No (1<sup>st</sup> Year Report)
  - Enforcement of the MCM?  Yes  No (1<sup>st</sup> Year Report)
- c. Did you measure the program’s success against the selected goals?  Yes  No
- d. Rank the program’s success as determined by the evaluation:  Successful  Needs Improvement
- e. If your evaluation found the program needs improvement, explain why by prioritizing all that apply:
  - No goals were established
  - Goals were not established early enough in the program to provide guidance to staff
  - Unclear, immeasurable, or unrealistic goals
  - Insufficient funding
  - Insufficient staffing
  - No redevelopment projects took place in the MS4 area to provide an opportunity to evaluate success
  - No new development projects took place in MS4 area to provide an opportunity to evaluate success
  - Insufficient regulatory mechanism (ordinance)
  - Other: Explain

**MCM #6 Pollution Prevention / Good Housekeeping for Municipal Operations (4.2.6)**

**Pollution Prevention / Good Housekeeping for Municipal Operations (4.2.6)** *The permit requires each MS4 to develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water maintenance.*

**A.** Do you have an operation and maintenance program currently in place?

No If "No" what is your target date?

Yes If "Yes" name the municipal operations that are included in this O&M program. *Mark all that apply:*

- Parks and recreation area maintenance
- Fleet maintenance
- Building maintenance
- New construction/land disturbance (municipal projects)
- Storm water system maintenance
- Other: Describe: Sewer system maintenance

**B.** Do you have procedures/controls to reduce floatables and other pollutants to your storm sewer system?

*Mark all that apply:*

- Maintenance activities
- Maintenance schedules
- Long-term inspection plans
- Street, road, highway maintenance
- Waste transfer station maintenance
- Fleet or maintenance area controls
- Salt/sand storage area maintenance
- Snow disposal area maintenance
- Proper disposal of waste removed from the storm sewer system: dredge spoil, sediments, and debris
- Water quality assessments for new flood management projects
- Assessment of existing flood management projects to determine additional needed controls

**C.** Does your plan contain an employee-training component? *Answer each question.*

Yes  No City employee training designed to reduce polluted runoff from municipal operations.

Yes  No Employee training record retention.

**D.** Does your governmental entity own any industrial facilities that discharge to your storm sewer system?

Yes  No If "Yes" give the name of the facility and list its SCDHEC NPDES permit number, or include a copy of the Notice of Intent (NOI).

Facility Name	Permit Number	Notice of Intent Attached
North Augusta Material Recovery Facility	<u>SCR001252</u>	No
North Augusta Clay Pit	<u>SCG730169</u>	No

**E. Evaluate the success of this MCM.**

*Answer each question:*

- a. Does your plan include measurable goals for this MCM?  Yes  No
- b. Did you meet the due date listed in your permit schedule for:  
Full development of this MCM?  Yes  No (Year 1 Report Only)  
Full implementation of the MCM?  Yes  No
- c. Did you measure the program's success against the selected goals?  Yes  No
- d. Rank the program's success as determined by the evaluation:  Successful  Needs Improvement
- e. If your evaluation found the program needs improvement, explain why by marking all that apply:  
 No goals were established  
 Goals were not established early enough in the program to provide guidance to staff  
 Unclear, immeasurable, unrealistic goals  
 Insufficient funding  
 Insufficient staffing  
 1<sup>st</sup> year reporting – program under development  
 Other, explain

**MCM#6 Activity Examples**

All employees of the city have attended a training seminar in 2008 with handouts describing SW impacts from municipal operations, how to spot stormwater impacts, reporting of impacts, hazardous spill cleanup, and proper operation and maintenance of equipment regarding stormwater impacts. This training has been followed up with department specific training in 2011. In 2012, departments that have the potential to impact water quality with their activities, were giving specific training on how those activities can harm the environment and ways they can minimize or eliminate impacts.

- In this period, departments that directly impact land disturbance, landscape maintenance, or equipment maintenance were presented with a training module and follow-up discussion on stormwater impacts and how to prevent them. Training records are located at the SWMD and on the Information System "Alchemy".
- In 2012, the city Operations Facility stormwater department employees worked to clean and replace filters on inlet protection devices located at the facility (quarterly). The staff routinely clean and continually visually monitor stormwater ponds and other devices to help prevent pollutants from entering the system and impacting local waterways.
- The City is maintaining and conducting a five year study on the constructed stormwater treatment wetlands located below the new Municipal Center and Riverfront development area. Results of the study are used to improve function of the system and provide additional information regarding the system. The Brick Pond Park Stormwater Education partnership is in place, and the City hosted three schools this year.



## Special Conditions

### 1. Discharges to Impaired Water Bodies

Section 3.1 of the permit requires that you describe how implementation of your Storm Water Management Program will provide Reasonable Assurance that discharges will not cause or contribute to violations of water quality standards in Impaired Water Bodies. Answer each question below.

Yes  No Have you determined whether your storm sewer system discharges to an Impaired Water Body? If "No", what is your target date for completing the determination?

Yes  No If the determination has been done: does your storm sewer discharge to an Impaired Water Body?

If yes, list the name(s) of the Impaired Water Bodies and the pollutant of concern for each Water Body.  
Pretty Run Creek - Fecal coliform

If yes: Provide a brief summary of the measures and BMPs that provide Reasonable Assurance that your discharges will not cause or contribute to violations of water quality standards in Impaired Water Bodies. Target outreach to the community regarding animal wastes and septic tank repair and upkeep. Evaluate additional construction within the waterbody area more stringent review for potential impacts to the stream. Working with residents to stabilize banks and minimize impacts in residential neighborhoods.

### 2. Consistency with Total Maximum Daily Load Allocations (TMDL)

Section 3.1 of the permit requires that you incorporate any limitations, conditions and requirements contained in the TMDL applicable to your discharges, if any, including monitoring frequency and reporting required, in order to be eligible for permit coverage. Answer each question.

Yes  No Have you determined whether your storm sewer system discharges to a water body with an established TMDL?

If No, what is your target date for completing the determination?

Yes  No If the determination has been done: Does your storm sewer discharge to a water body with an established TMDL?

a. If Yes, list the name(s) of the Water Body and the pollutant of concern listed in the TMDL for each Water Body.

Pretty Run Creek - Fecal coliform

b. If Yes, list applicable limitations, conditions, and requirements contained in the TMDL implementation plan attributed specifically to your MS4. **TMDL: reduction of FC loads by 31%**

c. If Yes, explain how your plan incorporates those limitations, conditions, and requirements.

In 2012, the Pretty Run stream was walked to determine where all outfalls are located. All found were mapped with GPS and added to our SW Map. Our plan incorporates items specifically to address Pretty Run Creek. Over the next five year period, stormwater discharges directly to Pretty Run Creek will be evaluated and reduced or treated, if needed, prior to discharge into the system specifically to prevent fecal coliform from impacting the stream. Treatment technologies for fecal coliform reduction will be assessed. The city will also continue to inspect and monitor the sanitary sewer system that runs adjacent to the stream. Education and outreach will continue.

In 2012, the Boy Scouts in North Augusta took on a special project to walk the entire reach of Pretty Run stream this year to locate and remove any trash and debris. They also identified several areas that need to be looked at more closely for potential action (identified pipes not on the SW Map). Staff will inspect the pipes.

In 2012, each sub-basin in the watershed was prioritized based on development density, potential for impacts, and whether they were 303d or TMDL sub basins. This year, all priority 1 sub-basin (Pretty Run is included) storm sewers were visited and assessed for maintenance or cleaning needs. All defective drains were put on an action list to repair. Many have been repaired to date. All drains requiring cleaning were cleaned (130 in this basin).

All new developments proposed in the City of North Augusta are required to treat the first one inch of rainfall prior to it being discharged from the site. Projects proposed in this watershed are scrutinized closely to prevent further impacts to the stream. The ability to reduce pollutants from all current and future construction within the watershed will protect Pretty Run Creek. No development occurred in the basin this time period.

### 3. Pollutant Reduction Success Assessment

Section 5.3.2 of the permit requires that you submit the results of monitoring data, if you conducted monitoring. If you conducted monitoring, the results must be submitted on a Discharge Monitoring Report (DMR). Attach any DMRs for Year 1 to this Questionnaire.

Yes  No Did you conduct any monitoring during the reporting year?  
If no, do not answer the question below. No outfall sampling.

Yes  No Have you attached your DMRs to this report?

BMP	2010	2011	2012	Measurable Goal	2011-2012 Measure/Assessment	Met?
<b>1. Public Participation/Involvement</b>						
Volunteer Storm Drain Stenciling/markings	X	x	x	90% of Drains were marked in the first 5 years of the program. The program is ongoing and replacement markers are now being installed.	The city has marked 90% of drains in pedestrian areas through the SWMD internship program. . All new storm drain lids have permanent markings.	yes
City-School Partnership Program	X	x	x	By May 2003, meet with representatives from all public and private schools within the City.	Team has developed 5th grade environmental education initiative at the Brick Pond Park stormwater treatment wetland. Hundreds of students from several schools have participated.	yes
Meet with school representatives	X	x	x	By 2004, meet with each local school representatives to encourage participation with city SW program.	Meeting to discuss environmental education program for 5th graders across the city. Team School Board Member, School Principal, SWMD, and local educators.	yes
Evaluate School Environmental program		x	x	Meet with school representatives yearly to assess and encourage implementation of environmental learning activities.	We have exceeded these goals in the past 2 years.	Yes
Household Hazardous Waste Materials Collection Day	X	x	x	Hold this event yearly and survey participants to quantify volume and type of HHAZ collected annually.	Events held all years, In 2012, Boy Scouts participated by conducting interviews with participants and directed traffic.	Yes
Boy Scout Project - Hornaday Award Attempt			X	NEW Event: During 2012, Joel Farrar a Boy Scout conducted three projects in the SWMD in an attempt to meet the requirements for the Hornaday Award	Brick Pond Park invasive plant eradication, Riverview Park Slope stabilization, and Pretty Run Creek cleanup project. Joel put a team of scouts together to manage and complete all of the projects. His award application was sent in for the award in 2012.	Yes
Boy Scout Project			X	Boy scouts and their leader Brick Pond Park cleanup project.	On two occasions the scouts went to the park and removed trash from the ponds.	Yes

BMP	2010	2011	2012	Measurable Goal	2011-2012 Measure/Assessment	Met?
<b>2. Education and Outreach</b>						
City-School Partnership	x	x	x	By May 2003 meet with representatives from all public and private schools within the City. Created partnership in 2008, started program in 2009. Fourth year of operation of program.	Brick Pond Park outdoor education program. (see <i>details</i> in education/outreach Table 2)	yes
Establish Internship program with Universities.	X	x	x	Provide educational opportunities to local college students through an internship program in the SWMD.	To date, there have been 10 SWMD interns involved in all aspects of SW management in NA including GIS mapping, storm drain construction, maintenance, BMP implementation, stream bank stabilization, and research at the sub basin level.	yes
Water Quality Brochures	X	x	x	Develop WQ brochures and education materials for public and professional use.	Stream type brochure completed in 2007. Available to Developers, Engineers, Citizens. A field guide to Brick Pond Park will be completed in 2011. In 2012, Landscapers and Lawn Maintenance Contractors BMP and Masonry Contractors BMP guides were developed and mass mailed to all city licensed contractors in those fields.	yes
Stormwater Fact Sheets	X	x	x	Create stormwater fact sheets to give out at meetings, seminars, and mailings.	Stormwater Brochures available at city offices and all events.	yes
Water Quality Poster Series	X	x	x	Display posters in public buildings and offer copies to businesses. (begin 2003)	Stormwater posters developed in 2010 and distributed to all local schools for display.	yes
Pollution Prevention Guides for Businesses	X	x	x	Develop an automotive shop stormwater pollution prevention guide for dissemination to all shops within the City in 2003. Develop a similar guide for restaurants in 2004	Pollution prevention guides are available and distributed during inspections (DHEC guides).	yes

BMP	2010	2011	2012	Measurable Goal	2011-2012 Measure/Assessment	Met?
Stormwater Internet Web Pages	X	x		Comprehensive stormwater management internet pages are located on the city website.	All data at the stormwater management pages has been updated in 2011-2012 timeframe.	yes
Storm Drain Stenciling/Curb Marking	X	x	x	Install markers on 90% of the storm drains exposed to pedestrian traffic by 2007. Begin by installing 165 markers in 2003.	Storm drain marking program ongoing. Completed 90% of marking in pedestrian areas.	yes
Water Quality Seminars	X	x	x	Low impact development seminar (2004 & 2006)	Item completed. Ongoing outreach efforts.	yes
Pollution Reduction Documentation	X	x	x	Identify and estimate the percentage reduction attained in the area of floatables discharged into local waterways and document findings.	Documentation on street sweeping, drain cleaning, and street vacuuming are being collected through the scales facility at the recycling facility. The data is being presented in this report.	yes
North Augusta Forward Newsletter	X	x	x	Include SW educational information in NA Forward newsletter. (quantify number of copies delivered to residents)	The NA Forward ran two articles regarding the SWMD program in 2008. This newsletter reaches all citizens and continues to provide updates on SWMD issues when necessary. This newsletter is going to become an electronic publication in 2012.	yes
The Resource (stormwater Newsletter)	X	x	x	Develop newsletter to inform the public about water quality issues. Conduct 2 mailings per year to all households and businesses. Two additional mailings per year may be used for event notification (e.g. Hazardous Materials Collection Day, Composting Seminar, etc...) for a total of 4 yearly mail-outs. (2003-2007)	Newsletter published 4 times per year and is distributed to all households and businesses that receive a utility bill. 12,000+ per quarter	yes
Household Hazardous Waste Materials Collection Day	X	x	x	This will be a yearly event. The initial event will be held by fall 2003.	This event has been held every year as an annual event. Participation has been exceptional. Data included in this report.	yes

BMP	2010	2011	2012	Measurable Goal	2011-2012 Measure/Assessment	Met?
Kids Earth Day	X	x	x	Participate in Kids Earth Day annually. Determine number of kids participating in stormwater model demonstration.	2012 Event was held at the Brick Pond Park Stormwater Treatment Wetlands. Over 300 participants attended.	yes
<b>3. Discharge Detection and Elimination</b>						
Initial Identification of Illicit Discharge Sources	X	x	x	Number and type of illicit discharges will be documented for each year.	Documentation is kept on CATS information management system.	yes
Implement an Information management System for Tracking	x	x	x	This information will be included in annual reports and will detail the following:# of outfalls screened, #of IDs discovered during screening, #of IDs resolved	Implemented Alchemy in 2007 to store all SWMD data collected for the department. Implemented Track IT for SW Plan Review in 2009. In 2012, all databases are in full use and all information can be pulled from the IS systems in place.	yes
Household Hazardous Materials Collection Day	X	x	x	This will be a yearly event. The initial event will be held by fall 2003.	This event has been held every year as an annual event. Participation has been exceptional. Data included in this report.	yes
Storm Sewer System Map	X	x	x	The City will submit a topographical map listing primary outfalls and watersheds to SCDHEC with the NPDES permit NOI. A complete map, meeting all permit requirements, will be submitted in the fall of 2003.	In 2011 we began our QA/QC of the current map. Problems have been identified and certain streams "TMDL" have been mapped more extensively during this period. The map is updated to reflect field verifications. Work is ongoing. (see Figure 3: Appendix A)	yes
Water Resources Ordinance	X	x	x	The Water Resources Ordinance will be placed in effect in 2004.	The 2008 Development Code was adopted by City Council and includes comprehensive strategies to protect water quality and preserve sensitive space in the city through codes, planning, permitting, and enforcement. The SWMD continues to work to protect water quality.	yes

BMP	2010	2011	2012	Measurable Goal	2011-2012 Measure/Assessment	Met?
Used Oil Collection	X	x	x	Yearly notices will be sent to City residents via utility bills to remind them of this service.	Used oil is collected at the MRF in North Augusta. The oil is collected by utility companies for recycling. The waste oil facility is no longer in service at the MRF.	yes
Sanitary Sewer System Inflow and Infiltration Detection/Repair	X	x	x	By summer 2003 the Stormwater Management Department (SWMD) will, in conjunction with the Public Utilities Department develop an information sharing system.	This program is ongoing and all information is available via monthly reports posted on line.	yes
Storm Drain Curb Markers	X	x	x	City's effort to mark 90% of all storm drains exposed to pedestrian traffic within the first five-year permit term.	Storm drain marking program ongoing. Completed 93% of marking in pedestrian areas.	yes
Stormwater Management Guide for Businesses	X	X	x	Create a guide for businesses to help them understand stormwater management.	Ongoing activity. Fully implemented.	yes
Water quality monitoring	X	x	x	The list of outfalls of concern will be dynamic and will not be represented as permanent quarterly screening points on the storm sewer map. Secondary outfalls will be screened yearly.	In 2011-2012, all streams were studied during drought conditions and one event during rainfall. Data is being compiled to determine next steps.	yes
<b>4. Pollution Prevention/Good Housekeeping</b>						
Develop Pollution Prevention Plan	X	x	x	Complete this plan in 2003.	completed and routinely updated and kept in the SWMD Department files and on Information System Alchemy	yes





BMP	2010	2011	2012	Measurable Goal	2011-2012 Measure/Assessment	Met?
Employee Training Materials	X	x	x	Maintenance Schedules (City equipment and infrastructure maintenance policies and schedules)	Follow-up training occurs on a department basis during monthly meetings. In 2012 modules were created for department activity can directly impact stormwater. Each module was reviewed during safety meetings and staff signed documentation at the end of the meeting.	yes
Recycling	X	x	x	Recycling Efforts (City recycling policies and procedures)	Recycling data is compiled and recorded in monthly reports and is reported here in Table 4.	yes
Information Management System	X	x	x	Waste Disposal Guidelines (Addresses disposal of wastes such as vehicle service wastes, sediment removed from catch basins, landscaping debris, etc... from City operations). Areas of concern prioritized for correction.	Alchemy has been developed and is now in use at the City. All data collected in the SWMD program is available in that system and is available on line under the "documents library" of the website. Monthly reports reflect operations.	yes
Maintenance Schedule	X	x	x	Document and analyze program effectiveness	Storm box cleaning, street sweeping, storm pipe maintenance, and other SW infrastructure within the city are ongoing. Information regarding location of problems and repair schedules are logged. (see Table 4)	yes
Pollution Reduction	X	x	x	Yard waste composting seminar (2003, 2005, & 2007)	Street sweeping, litter pickup, and conducting education and outreach is ongoing.	yes
Street Sweeping	X	x	x	Quantity of trash collected per unit effort under the Adopt a Stream program for each year. Document volume of waste removed from streets annually.	Street sweeping data is being collected and is presented in this report (Table 4)	yes
Storm sewer Maintenance	X	x	x	By 2007, purchase equipment and hire staff to begin a storm sewer maintenance program. Document number of drains cleaned and volume of waste removed from storm drains annually.	Equipment was purchased (street vacuum and Jetter Vacuum truck). Storm drain box cleaning is being conducted and the data is being presented in this report (Table 4)	yes

BMP	2010	2011	2012	Measurable Goal	2011-2012 Measure/Assessment	Met?
Acquire leaf vacuum machine and train two operators.	X	x	x	May 2008 machine purchased and a training event was held on May 22, 2008. Two employees (1 S&D, 1 SWMD)	Machine has been acquired (2008) and staff are trained on its operation. The machine is being used routinely on city streets.	Yes
<b>5. Construction Site Runoff Control</b>						
Perennial Stream Habitat/Ecological Assessment	X	x	x	Stream habitat/ ecosystem assessments will be conducted for the primary stream in each watershed at a point close to the City perimeter during 2003. Follow-up assessments will be conducted years the next four years for comparison.	Assessments are ongoing. A water quality report describing the assessments to date has been completed. The data is available on our public website at <a href="http://www.northaugusta.net">www.northaugusta.net</a> . A new website launch in Oct 2009 has been completed. The report is posted in the document library. A second report is currently being completed with results from most recent data for comparison to baseline assessments, expected completion date December 2012.	yes
Information Management System	X	x	x	An IS system is installed and being utilized by SWMD on the city's network.	Data management system is Alchemy and Permit Tracking through Trak-it software. All citizen complaints are maintained in the citywide action tracking system (CATs)	yes
Constr. Site Erosion and Sediment Control Ordinance		x	x	This system will be put into place in 2003.	completed	yes
Construction Site Inspection Program	X	x	x	Data will be collected on permitted construction site compliance rates for years 2004 – 2009.	In 2009, compliance tracking has shown a marked improvement in construction site BMP maintenance. The percentage increase reflects a substantially lower number of building sites due to the economic downturn and also less rainfall during the year. The compliance rate to date for 2011-2012 averages to 86%.	yes

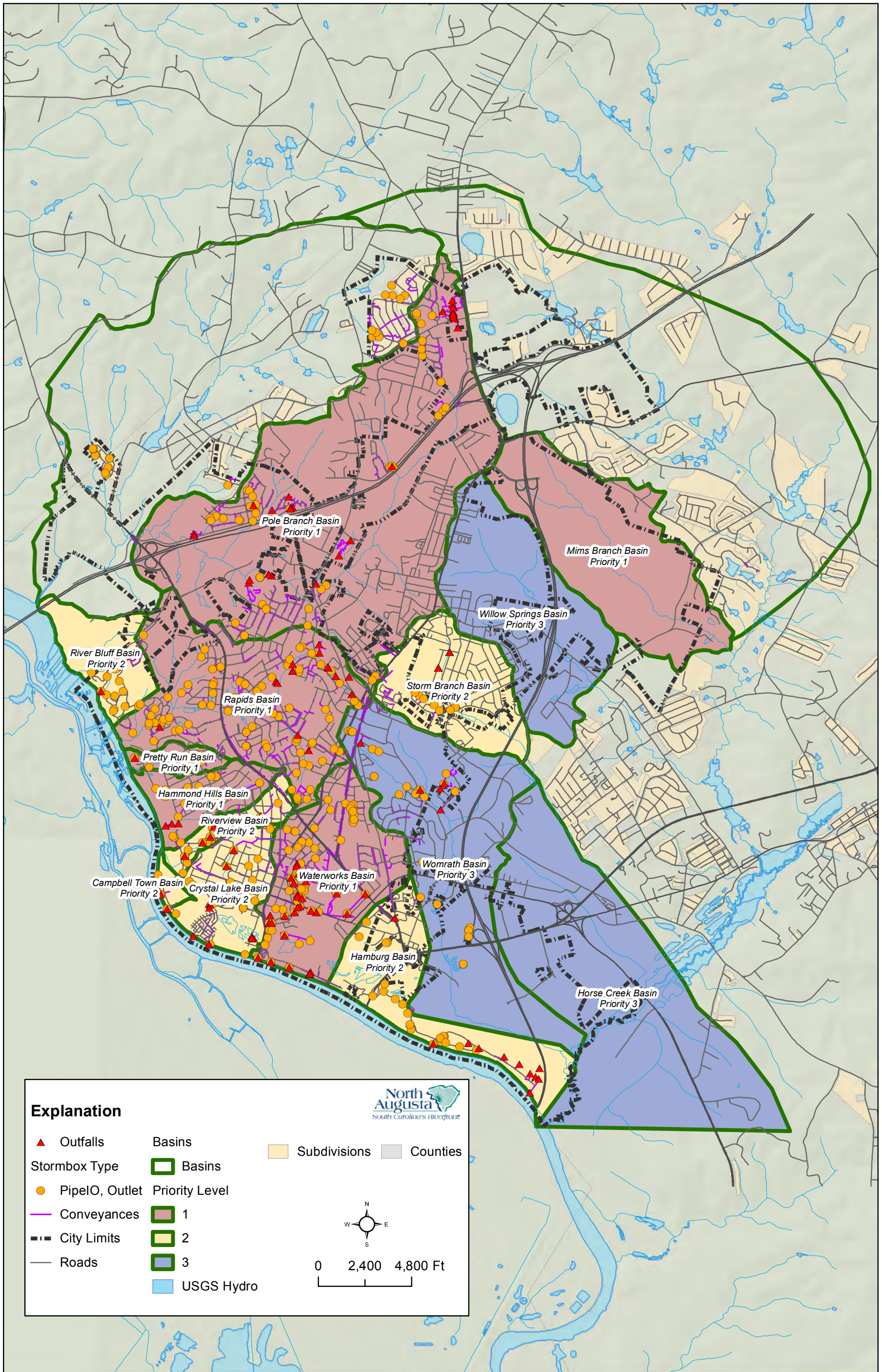
BMP	2010	2011	2012	Measurable Goal	2011-2012 Measure/Assessment	Met?
Water Quality Monitoring	X	x	x	Streams that discharge to Savannah River will be sampled at the lowest point in the sub-basin they represent. Primary outfalls will be designated as such on the storm sewer map. Outfalls of concern are non-primary outfalls that based on initial screening, historical information that the Stormwater Management Department feels that frequent screening is warranted. The list of outfalls of concern will be dynamic and will not be represented as permanent quarterly screening points on the storm sewer map.	A baseline water quality report has been compiled and distributed to the community through workshops, seminars, media coverage, and web site accessibility. The report is a compilation of all data collected to date at the lowest point in each basin. Sampling at specific outfalls has not been done. Priority has been focused on stream water quality overall for the baseline report. A second report is currently being completed with results from most recent data for comparison to baseline assessments, expected completion date December 2012.	yes
Constr. Site Runoff Pollution Control Seminar		x	x	Construction site runoff pollution control seminar (Year 2004 & 2006)	See Education & Outreach Efforts listed 2010/2011 submitted in this report Table 2.	yes
Stormwater Management Manual	X	x	x	The Stormwater Management Manual will be completed in 2003. The manual will be updated periodically to document progress made in achieving each goal.	Complete and updated to 2010.	yes
Sediment & Erosion Control Manual	X	x	x	The Sediment & Erosion Control Manual will be completed in 2004. The manual will be updated periodically to document progress made in achieving each goal.	Complete and available on line and/or is available in hard copy format.	yes
Water Quality Manual	X	x	x	The Water Quality Manual will be completed in 2005. The manual will be updated periodically to document progress made in achieving each goal.	Complete and available on line and/or is available in hard copy format.	yes
Water Quality Design Seminar	-	x	x	Conduct WQ design seminar bi-annually.	Accomplished - see details in Education and Outreach details in report. A rain garden workshop was held in 2009.	yes
Residential Lot BMP Guidance Pamphlet	X	x	x	Create pamphlet for all builders working in the city.	Completed and distributed to all contractors within the city at time they pull permits	yes
Conduct Constr. Site Pollution control seminars.			x	Conduct one training event in 2004 and one in 2006 geared towards contractors, developers and engineers.	Completed and ongoing on as needed basis. Engineering seminar 12/01/2010. Next event planned for 2012.	yes

BMPs	2010	2011	2012	Measureable Goals	2011-2012 Measure/Assessment	Met?
<b>6. Post-Construction Runoff Control</b>						
Identif. of Developed Property WQ BMPs	X	x	x	Include BMPs in the City Stormwater Management Manual that will be completed in 2003.	All developed property BMPs are compiled within a report in the SWMD. The report is used for yearly evaluations of the systems.	yes
Implement Development WQ BMPs Ordinance	X	x	x	The Water Quality BMP Ordinance will be placed in effect in 2004.	completed	yes
Water Quality Incentives Program		x	x	Track number of customers utilizing the credit program to determine outreach efforts.	completed	yes
Stormwater Management Facility Inspection Program	X	x	x	Conduct yearly inspections of Stormwater Management facilities to ensure compliance with the SWM Ordinance and any written agreement between city and customer.	Post construction BMPs are inspected annually. Reports of maintenance needs are sent to owners.	yes
Storm sewer Maintenance (jet/vac trailer and operator)	X	x	x	By 2007, purchase equipment and hire staff to begin a storm sewer maintenance program. Document number of drains cleaned and volume of waste removed from storm drains annually.	Completed goal, data available in this report.	yes

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Appendix A**

**Figure 4: CNA Storm Sewer & Outfall Map with Priority Designations**





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Appendix B**

**Figure 5: CNA Stormwater Management Activity Organization Chart**



**Figure 5:  
2012 City of North Augusta (CNA)  
Comprehensive Organization Chart for  
Stormwater Activities, Training and  
Reporting**

2012 City of North Augusta SWMD Annual Report

